

SG/PG Series

GENERAC®

**INDUSTRIAL
POWER**

400 kVA

21.9L

Industrial Spark-Ignited Generator Set

Generac International Products

50 HZ



*Built in the USA using domestic
and foreign parts

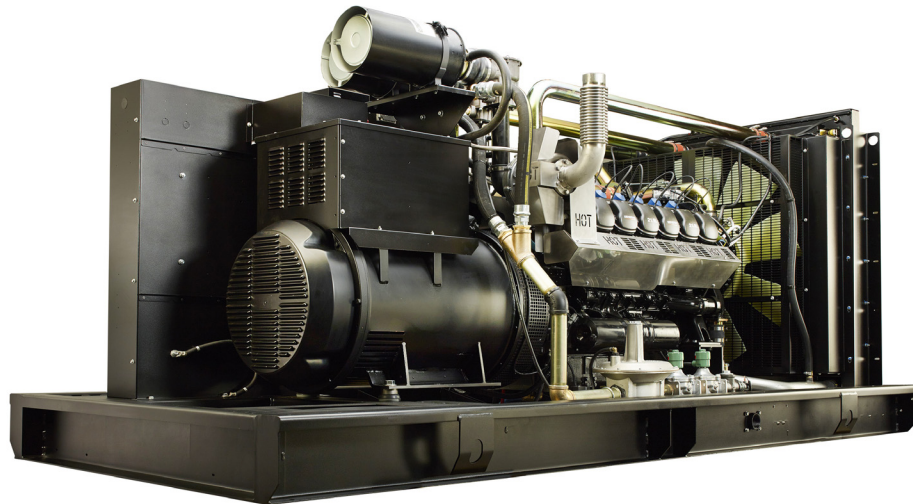


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Power Ratings		
Standby	SG320	400 kVA / 320 KW
Prime	PG288	360 kVA / 288 kW

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.

SG/PG Series

Standard Features

ENGINE SYSTEM

- General
- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer
- Factory Filled Oil and Coolant
- Radiator duct adapter (Open Set Only)

Fuel System

- Primary and Secondary Fuel Shutoff

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
- 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 Only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated units)
- 1 Year Limited 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
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - 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
- 3 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)
- E-Stop (Red Mushroom-Type)

- Auto/Off/Manual Switch
- 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
- 0.2msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- 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

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure Alarm
- Engine Overspeed
- Battery Voltage
- Alarms & Warnings Time and Date Stamped
- 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 Coolant Heater with ball valves
- ☐ Air filter Restriction Indicator
- ☐ Stone Guard (Open Set Only)
- ☐ Oil Heater
- ☐ Flexible Fuel Line — NPT Connection

Electrical System

- ☐ 10A battery charger
- ☐ Battery Warmer

ALTERNATOR SYSTEM

- ☐ Alternator Upsizing
- ☐ Anti-Condensation Heater
- ☐ Tropical coating (231/400 V non-upsized only)

GENERATOR SET

- ☐ GenLink® Communications Software (English Only)
- ☐ Extended Factory Testing (3 Phase Only)
- ☐ 8 Position Load Center

CIRCUIT BREAKER OPTIONS

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

ENCLOSURE

- ☐ Standard Enclosure
- ☐ Level 1 Sound Attenuation
- ☐ Level 2 Sound Attenuation
- ☐ Steel Enclosure
- ☐ Aluminum Enclosure
- ☐ AC/DC Enclosure Light Kits
- ☐ Up to 200 MPH Wind Load Rating*

CONTROL SYSTEM

- ☐ 21-Light Remote Annunciator
- ☐ Remote Relay Assembly (8 or 16)
- ☐ Oil Temperature Indicator 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
- ☐ Remote Communication - Ethernet
- ☐ 10A Run Relay
- ☐ Ground fault indication and protection functions

Engineered Options

ENGINE SYSTEM

- ☐ Coolant heater ball valves
- ☐ Fluid containment pan
- ☐ Low fuel pressure system (7"-11" H₂O)

ALTERNATOR SYSTEM

- ☐ 3rd Breaker Systems

GENERATOR SET

- ☐ Special Testing
- ☐ Battery Box

ENCLOSURE

- ☐ Motorized Dampers
- ☐ Enclosure Ambient Heaters
- ☐ Door Alarm Switch

CONTROL SYSTEM

- ☐ Spare inputs (x4) / outputs (x4)
- ☐ Battery Disconnect Switch

Rating Definitions

Standby – See Bulletin 0187500SSB

Prime – See Bulletin 0187510SSB

*Consult factory for availability

SG/PG Series

application and engineering data

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	12
Type	V12
Displacement - L (Cu In)	21.9 (1336.42)
Bore - mm (in)	128 (5.03)
Stroke - mm (in)	142 (5.6)
Compression Ratio	10:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Alloy Steel
Cylinder Head	Cast Iron - OHV
Cylinder Liners	Cast Alloy Steel
Ignition	Altronic CD200D
Pistons	Aluminum Alloy
Crankshaft	Forged Alloy Steel
Lifter Type	Solid
Intake Valve Material	High Temp Alloy Steel
Exhaust Valve Material	High Temp Alloy Steel
Hardened Valve Seats	High Temp Alloy Steel

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	+/- 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Twin Full flow with intercooler
Crankcase Capacity - L (qts)	30 (31.7)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Water Pump Flow - gpm (lpm)	169 (640)
Fan Type	Pusher
Fan Speed (rpm)	1123
Fan Diameter - mm (in)	44

Fuel System

Fuel Type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard (Dual)
Operating Fuel Pressure	11" - 15" H ₂ O
Operating Fuel Pressure (Optional)	7" - 11" H ₂ O

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) 12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520
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
Bearings	Sealed Ball
Coupling	Direct, 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

50 HZ

POWER RATINGS – NATURAL GAS

Three-Phase 231/400 VAC @1.0pf	Standby		Prime	
	400 kVA / 320 kW	577 Amps	360 kVA / 288 kW	520 Amps

STARTING CAPABILITIES (sKVA)

Alternator		sKVA vs. Voltage Dip					
		231/400 VAC					
		10%	15%	20%	25%	30%	35%
Standard	400	323	484	646	807	968	1130
Upsize 1	555	381	572	762	953	1143	1333
Upsize 2	642	393	589	786	983	1178	1375

FUEL CONSUMPTION RATES*

Natural Gas – ft ³ /hr (m ³ /hr)		
Percent Load	Standby	Prime
25%	1485 (42.1)	1336 (37.9)
50%	2276 (64.4)	2048 (58.0)
75%	3066 (86.8)	2760 (78.1)
100%	3858 (109.3)	3473 (98.4)

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

COOLING

		Standby	Prime
Air Flow (inlet air combustion and radiator)	ft ³ /min (m ³ /min)	20,360 (577)	20,290 (575)
System Coolant Capacity	Gal (Liters)	23 (87)	23 (87)
Heat Rejection to Coolant	BTU/hr	1,102,122	1,102,122
Maximum Additional Radiator Backpressure	in H ₂ O	0.5	0.5

COMBUSTION AIR REQUIREMENTS

Flow at Rated Power		Standby	Prime
		cfm (m ³ /min)	cfm (m ³ /min)
		560 (15.9)	504 (14.3)

ENGINE

		Standby	Prime
Rated Engine Speed	rpm	1500	1500
Horsepower at Rated kW	hp	509	458
Piston Speed	ft/min (m/min)	--	--
BMEP	psi	168	151

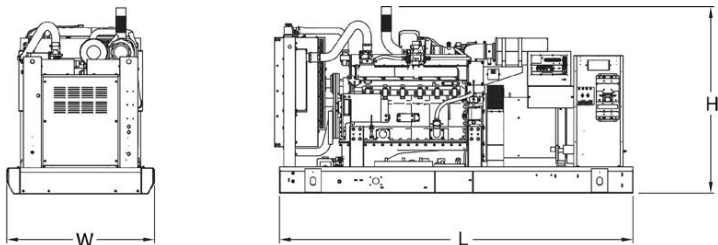
EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	cfm (m ³ /min)	2818 (79.8)	2659 (75.3)
Maximum Exhaust Back Pressure	inHg	2.5	2.5
Exhaust Temp (Rated Output)	°F (°C)	1027 (553)	925 (496)
Exhaust Outlet Size (Open Set)	in	3.5" I.D. Flex (No Muffler)	

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.

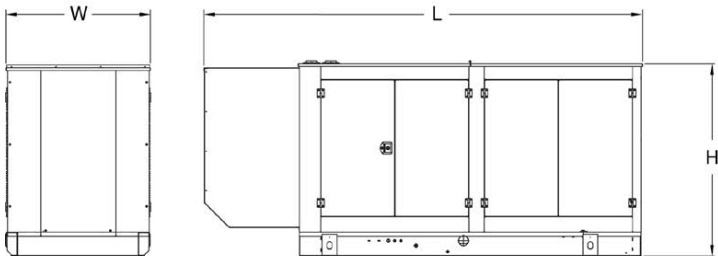
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dimensions and weights*



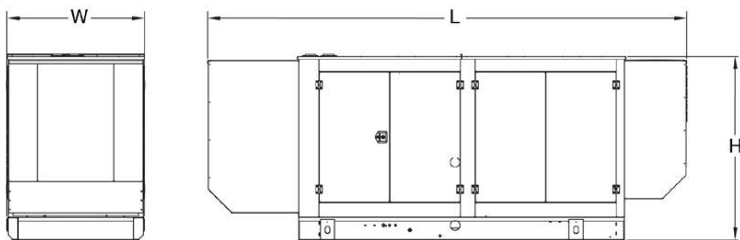
OPEN SET (Includes Exhaust Flex)

L x W x H (in (mm))	154.4 (3923) x 71 (1803) x 67 (1702)
Weight lbs (kg)	8429 (3823)



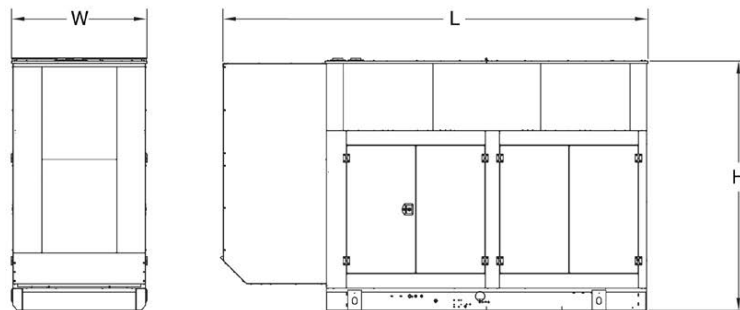
STANDARD ENCLOSURE

L x W x H (in (mm))	207.4 (5268) x 71 (1803) x 80 (2032)
Weight lbs (kg)	Steel: 10428 (4730) Aluminum: 9298 (4217)



LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H (in (mm))	247.5 (6285) x 71 (1803) x 80 (2032)
Weight lbs (kg)	Steel: 11211 (5085) Aluminum: 9720 (4409)



LEVEL 2 ACOUSTIC ENCLOSURE

L x W x H (in (mm))	207.4 (5268) x 71 (1803) x 114 (2899)
Weight lbs (kg)	Steel: 11759 (5333) Aluminum: 9951 (4513)

*All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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