GENERAC® | INDUSTRIAL POWER

SG350 350 kW

SG350

21.9L

Industrial Spark-Ignited Generator Set

EPA Certified Stationary Emergency

Standby Power Rating
350 kW 438 kVA 60 Hz

Prime Power Rating**
315 kW 394 kVA 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT*

*Built in the USA using domestic and foreign parts

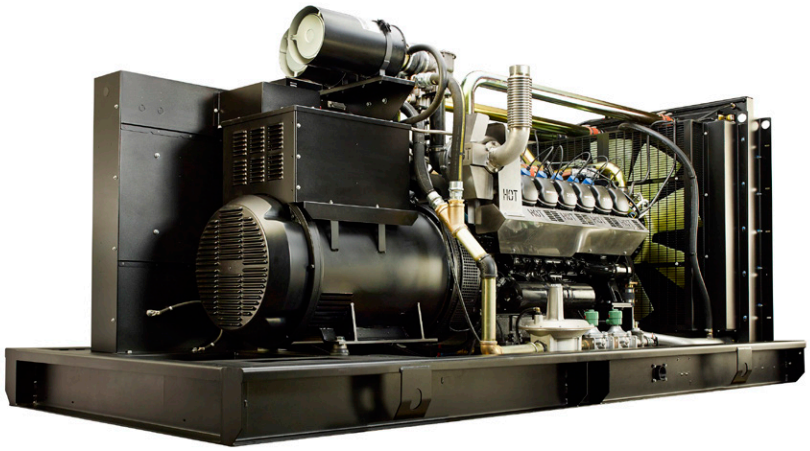

Image used for illustration purposes only

**EPA Certified Prime ratings are not available in the U.S. or its Territories

Codes and Standards

Generac products are designed to the following standards:

cULus	UL2200, UL508, UL142, UL498
NFPA	NFPA70, 99, 110, 37
nec	NEC700, 701, 702, 708
ISO 9001:2008	ISO9001, 8528, 3046, 7637, Pluses #2b, 4
NEMA	NEMA ICS10, MG1, 250, ICS6, AB1
ANSI American National Standards Institute	ANSI C62.41
ICC oshpd	IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

For over 50 years, Generac has led the industry with 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 application under adverse conditions.

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

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SG350

Standard Features

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer
- Factory Filled Oil
- 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

Engine 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 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 rated Units)
- 1 Year Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (if selected)

- 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
- Utility Monitoring
- 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)
- 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
- 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)

SG350

Configurable Options

ENGINE SYSTEM

General

- ○ Engine Block Heater with ball valves
- ○ Flexible Fuel Line - NPT Connection
- ○ Oil Heater
- ○ Air Filter Restriction Indicator
- ○ Stone Guard (Open Set Only)

Engine Electrical System

- ○ 10A UL battery charger
- ○ Battery Warmer

GENERATOR SET

- ○ Gen-Link Communications Software (English Only)
- ○ Extended Factory Testing (3 Phase Only)
- ○ 8 Position Load Center
- ○ 2 Year Extended Warranty
- ○ 5 Year Warranty
- ○ 5 Year Extended Warranty

ENCLOSURE

- ○ Standard Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ 180 MPH Wind Kit
- ○ 12 VDC Enclosure Lighting Kit
- ○ 120 VAC Enclosure Lighting Kit
- ○ AC/DC Enclosure Lighting Kit

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical coating (480/600 V non-upsized only)

CIRCUIT BREAKER OPTIONS

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

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
- ○ Remote Communication - Ethernet
- ○ 10A Run Relay
- ○ Ground fault indication and protection functions

Engineered Options

ENGINE SYSTEM

- ○ Coolant heater ball valves
- ○ Fluid containment pans

GENERATOR SET

- ○ Special Testing
- ○ Battery Box

CONTROL SYSTEM

- ○ Spare inputs (x4) / outputs (x4) - H Panel Only
- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker Systems

ENCLOSURE

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

Rating Definitions

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.
Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. 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).

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SG350 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)	211 (800)
Fan Type	Pusher
Fan Speed (rpm)	1404
Fan Diameter mm (in)	44
Coolant Heater Wattage	2500
Coolant Heater Standard Voltage	240 V

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_2O

Engine Electrical System

System Voltage	24 VDC
Battery Charging 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	5
Regulation Accuracy (Steady State)	+/- 0.25%

SG350 operating data

POWER RATINGS

	Natural Gas	
Three-Phase 120/208 VAC @0.8pf	350 kW	Amps: 1216
Three-Phase 120/240 VAC @0.8pf	350 kW	Amps: 1053
Three-Phase 277/480 VAC @0.8pf	350 kW	Amps: 527
Three-Phase 346/600 VAC @0.8pf	350 kW	Amps: 421

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480 VAC						208/240 VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	350	387	581	775	968	1162	1356	345	570	835	1100	1450	1710
Upsize 1	555	457	686	914	1143	1371	1600	-	-	-	-	-	-
Upsize 2	642	471	707	943	1179	1414	1650	543	814	1086	1357	1629	1900

FUEL CONSUMPTION RATES*

Natural Gas – ft^3/hr (m^3/hr)

Percent Load	Standby
25%	1732 (49)
50%	2598 (73.6)
75%	3463 (98.1)
100%	4328 (122.6)

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

COOLING

		Standby
Cooling Fan Air Flow (Open Set)	ft^3/min (m^3/min)	25,100 (711)
Coolant Flow per Minute	gpm (lpm)	211 (800)
Coolant System Capacity	gal (L)	23 (87)
Heat Rejection to Coolant	BTU/hr	1,102,122
Max. Ambient Temp (before derate)†	°F (°C)	104 (40)
Maximum External Static Resistance	in H_2O	0.5

COMBUSTION AIR REQUIREMENTS

		Standby
Flow at Rated Power	cfm (m3/min)	750 (21)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Engine Horsepower**	hp	620
Piston Speed	ft/min (m/min)	-
BMEP	psi	123

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

EXHAUST

		Standby
Total Exhaust Flow (Rated Output)	cfm (m^3/min)	2720 (77)
Maximum Additional Backpressure (Post Silencer)	inHg	0.75
Exhaust Temp (Rated Output - post silencer)	°F (°C)	1350 (732)
Exhaust Outlet Size (Open Set)	in	3.5" O.D. Flex

† 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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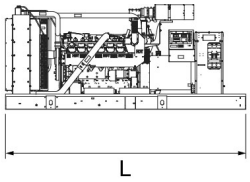
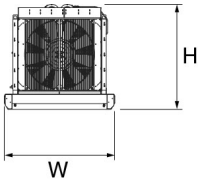
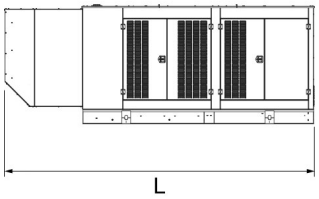
SG350 dimensions, weights, and sound levels

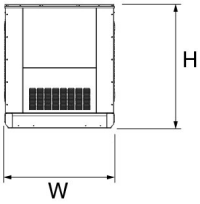




OPEN SET (Includes Exhaust Flex)

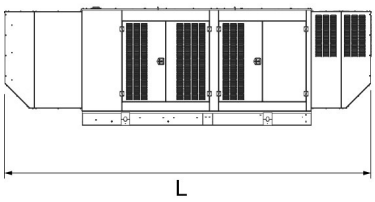
L x W x H in (mm)	154.4 (3923) x 71 (1803) x 67 (1702)
Weight lbs (kg)	8429 (3823)
Sound Level (dBA*)	93

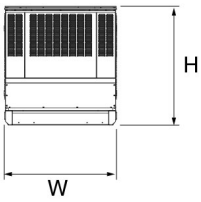




STANDARD ENCLOSURE

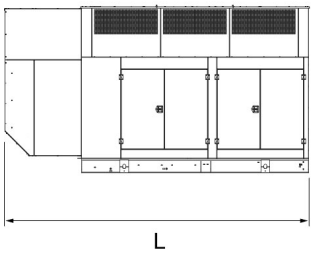
L x W x H in (mm)	207.4 (5268) x 71 (1803) x 80 (2032)
Weight lbs (kg)	Steel: 10428 (4730) Aluminum: 9298 (4217)
Sound Level (dBA*)	92

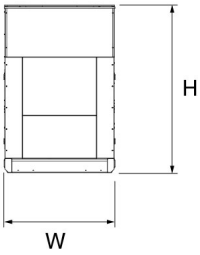




LEVEL 1 ACOUSTIC ENCLOSURE

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)
Sound Level (dBA*)	84





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)
Sound Level (dBA*)	75

*All measurements are approximate and for estimation purposes only. Sound levels measured at 23 ft (7 m) and does not account for ambient site conditions.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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