SG400/PG360 | 25.8L | 500 kVA

INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

Standby Power Rating - SG400
500 kVA, 400 kW, 50 Hz

Prime Power Rating - PG360
450 kVA, 360 kW, 50 Hz

*Assembled in the USA using domestic and foreign parts

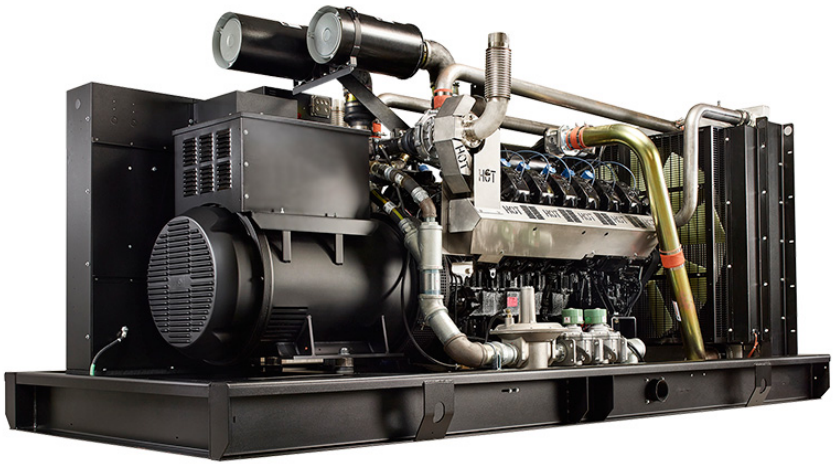

Image used for illustration purposes only

Codes and Standards

Generac products are designed to the following standards:

- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- 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 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.

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INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Ship Loose Catalyst Silencer (Open Set Only)

Fuel System

- Fuel Line - NPT Connection
- 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 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 Limited Warranty (Prime Rated Units)
- Catalyst 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 (Sound Attenuation 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 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)
- 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
- Low Fuel Pressure Alarm
- 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

Generac International Products

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Engine Coolant Heater
- ○ Oil Heater
- ○ Air Filter Restriction Indicator
- ○ Stone Guard (Open Set Only)
- ○ Fan and Belt Guards

ELECTRICAL SYSTEM

- ○ 10A Battery Charger
- ○ Battery Warmer

FUEL SYSTEM

- ○ Flex Fuel Line

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ 3rd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contacts
- ○ Electronic Trip Breakers

GENERATOR SET

- ○ GenLink® Communications Software (English Only)
- ○ Extended Factory Testing
- ○ 12 Position Load Center
- ○ 100dB Alarm Horn

ENCLOSURE

- ○ Standard Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ AC/DC Enclosure Lighting Kit
- ○ Door Alarm Switch
- ○ Enclosure Ambient Heaters

CONTROL SYSTEM

- ○ 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature 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 Run Relay
- ○ Ground Fault Indication and Protection Functions
- ○ Damper Alarm Contacts

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pan

CONTROL SYSTEM

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

GENERATOR SET

- ○ Special Testing
- ○ Battery Box
- ○ IBC Seismic Certification
- ○ Up to 200 MPH Wind Load Rating*

*Contact factory for availability

ENCLOSURE

- ○ Motorized Dampers

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INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	12
Type	V12
Displacement - L (in^3)	25.8 (1,574.4)
Bore - mm (in)	132 (5.19)
Stroke - mm (in)	160 (6.30)
Compression Ratio	10.0:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Alloy Steel
Cylinder Head	Cast Iron GJL-280
Cylinder Liners	Cast Alloy Steel
Ignition	Electronic
Piston Type	Cast Alloy Aluminum
Crankshaft Type	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 (qt)	90 (95)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed - rpm	1,366
Fan Diameter - mm (in)	1,117 (44)

Fuel System

Fuel Type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard (Dual)
Operating Fuel Pressure - kPa (in H_2O)	2.7 - 3.7 (11 - 15)
Optional Operating Fuel Pressure - kPa (in H_2O)	1.7 - 2.7 (7 - 11)

Engine Electrical System

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

ALTERNATOR SPECIFICATIONS

Standard Model	WEG
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	Single Sealed
Coupling	Direct via 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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INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

OPERATING DATA

POWER RATINGS - NATURAL GAS

	Standby		Prime	
Three-Phase 231/400 VAC @0.8pf	500kVA/400kW	Amps: 722	450kVA/360kW	Amps: 650

STARTING CAPABILITIES (sKVA)

KVA vs. Voltage Dip

231/400 VAC

Alternator	kVA	10%	15%	20%	25%	30%	35%
Standard	642	400	700	1,000	1,300	1,650	2,150
Upsize 1	832	500	800	1,150	1,550	2,000	2,800

FUEL CONSUMPTION RATES*

Natural Gas – m^3/hr (ft^3/hr)

Percent Load	Standby	Prime
25%	51.9 (1,836)	49.4 (1,746)
50%	76.1 (2,688)	71.1 (2,514)
75%	102.8 (3,630)	94.8 (3,348)
100%	128.4 (4,536)	118.0 (4,170)

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

COOLING

		Standby	Prime
Air Flow (Inlet Air Combustion and Radiator)	m^3/min (ft^3/min)	557.8 (19,700)	557.8 (19,700)
Coolant Flow	lpm (gpm)	709.4 (187.4)	709.4 (187.4)
Coolant System Capacity	L (gal)	77.6 (20.5)	77.6 (20.5)
Heat Rejection to Coolant	BTU/hr (kW)	975,000 (285.5)	877,500 (256.9)
Maximum Operating Ambient Temperature	°C (°F)	50 (122)	50 (122)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 019927ASSD	
Maximum Radiator Backpressure	kPa (in H_2O)	0.12 (0.5)	0.12 (0.5)

COMBUSTION AIR REQUIREMENTS

	Standby	Prime
Flow at Rated Power m^3/min (cfm)	21.8 (772)	21.1 (746)

ENGINE

		Standby	Prime
Rated Engine Speed	rpm	1,500	1,500
Horsepower at Rated kW**	hp	536	482
Piston Speed	m/min (ft/min)	480 (1,575)	480 (1,575)
BMEP	kPa (psi)	1,186 (172)	1,069 (155)

EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	m^3/min (cfm)	74.8 (2,645)	66.5 (2,348)
Max. Allowable Backpressure	kPa (inHg)	2.54 (0.75)	2.54 (0.75)
Exhaust Temp (Rated Output)	°C (°F)	685 (1,265)	671 (1,240)

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.
Standby - See Bulletin 0187500SSB
Prime - See Bulletin 0187510SSB

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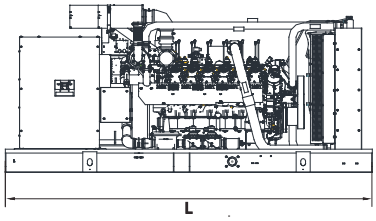
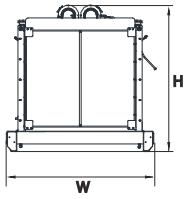
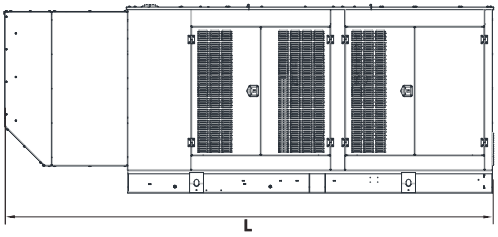
DIMENSIONS AND WEIGHTS*

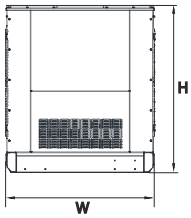




OPEN SET (Includes Exhaust Flex)

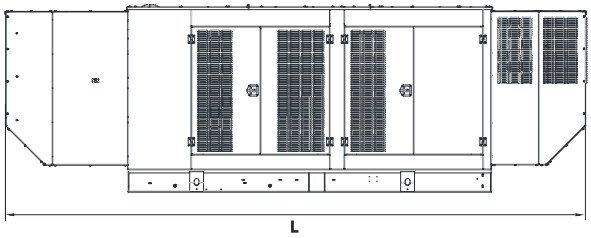
L x W x H - mm (in)	3,923 (154.4) x 1,803 (71.0) x 1,702.0 (67.0)
Weight - kg (lbs)	4,256 (9,386)

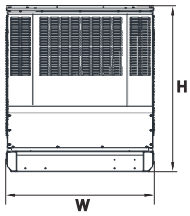




STANDARD ENCLOSURE

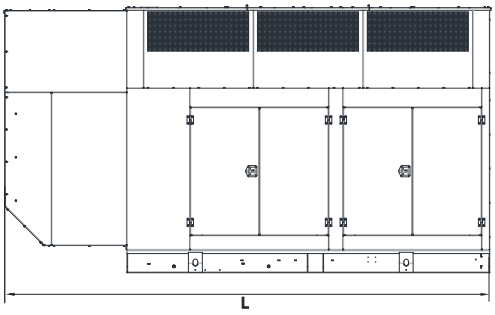
L x W x H - mm (in)	5,268 (207.4) x 1,803.0 (71.0) x 2,032.0 (80.0)
Weight - kg (lbs)	Steel: 5,250 (11,576) Aluminum: 4,757 (10,489)

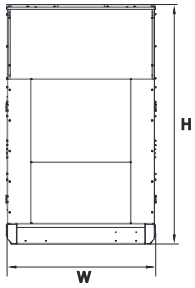




LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H - mm (in)	6,285 (247.5) x 1,803.0 (71.0) x 2,032.0 (80.0)
Weight - kg (lbs)	Steel: 5,707 (12,583) Aluminum: 4,953 (10,921)





LEVEL 2 ACOUSTIC ENCLOSURE

L x W x H - mm (in)	5,268 (207.4) x 1,803.0 (71.0) x 2,899.0 (114.0)
Weight - kg (lbs)	Steel: 5,860 (12,921) Aluminum: 5,019 (11,066)

* 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.

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189
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Part No 10000012690
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