

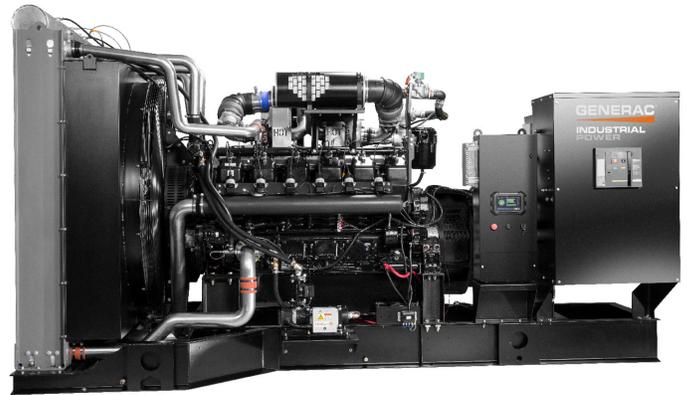
**DEMAND RESPONSE READY**

**Standby Power Rating**  
 625 kW, 781 kVA, 60 Hz

**Demand Response Rating**  
 625 kW, 781 kVA, 60 Hz



\*Assembled in the USA using domestic and foreign parts



## Codes and Standards

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



UL2200, UL6200, UL1236, UL489



CSA C22.2, B149



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



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 they can be found 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 owners 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 more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

# SG625 | 33.9L | 625 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

**GENERAC** | INDUSTRIAL  
POWER

### STANDARD FEATURES

### DEMAND RESPONSE READY

#### ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Level 1 Fan and Belt Guard (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer/Catalyst
- Coolant Heater Ball Valves
- Factory Filled Oil and Coolant
- Oil Temperature Sender with Indication Alarm

#### FUEL SYSTEM

- Primary and Secondary Fuel Shutoff

#### COOLING SYSTEM

- Closed Coolant Recovery System
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze

#### ELECTRICAL SYSTEM

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

#### ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation
- Sealed Bearings
- Amortisseur Winding
- Low Temperature Rise < (120 °C)

#### GENERATOR SET

- Spring Isolators Under Frame
- 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 and Demand Response Rated Units)
- Ready to Accept Full Load in <10 Seconds

#### ENCLOSURE (If Selected)

- Structural Steel Sub-Base
- Sub-Base Lifting Eyes
- Enamel Finish
- Zinc Plated Fasteners
- Zinc Plated Cast Aluminum Keylock Door Handles
- Heavy Duty Stainless Steel Hinges with Removable Brass Pins
- Modular Construction
- RhinoCoat™ - Textured Polyester Powder Coat Paint

#### CONTROL SYSTEM



#### Power Zone® Pro Sync Controller

- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, and Ethernet 10/100
- Alarm and Event Logging with Real Time Stamping
- Expandable Analog and Digital Inputs and Outputs

- Remote Wireless Software Update Capable
- BMS and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics
- Arc Flash Maintenance Mode (When Correctly Equipped)

#### Alarms and Warnings

- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Sensor Failure
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I<sup>2</sup>T Algorithm)

#### 7 Inch Color Touch Screen Display

- Resistive Color Touch Screen
- Sunlight Readable (1400 NITS)
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring

#### Key Function Monitoring

- Three Phase Voltage, Amperage, kW, kVA, and kVAR
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information

# SG625 | 33.9L | 625 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

### CONFIGURABLE OPTIONS

### DEMAND RESPONSE READY

#### ENGINE SYSTEM

- Engine Coolant Heater
- Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Two Stage Air Cleaner
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Shipped Loose Catalyst Silencer (Enclosed Units Only)

#### ELECTRICAL SYSTEM

- 20A UL Listed Battery Charger
- Battery Warmer

#### FUEL SYSTEM

- NPT Flexible Fuel Line

#### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater

#### CIRCUIT BREAKER

- Main Line Circuit Breaker
- 2<sup>nd</sup> Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breaker

#### GENERATOR SET

- Spring Vibration Isolator
- Extended Factory Testing
- 24 Position Load Center

#### CONTROL SYSTEM

- NFPA 110 Level 1 Compliant 21-Light Remote Annunciator
- Remote Output Relays (8 or 16)
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- 10A Engine Run Relay
- Ground Fault Annunciator
- Damper Alarm Contacts (With Motorized Dampers Only)
- 100 dB Alarm Horn
- 120V GFCI and 240V Outlets

#### ENCLOSURE

- Level 0 Sound Attenuated
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 1 Sound Attenuated with Motorized Dampers
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- AC Enclosure Lighting Kit
- Enclosure Heaters (Motorized Dampers Only)
- Up to 200 mph Wind Load Rating (Contact Factory for Availability)

#### WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

### ENGINEERED OPTIONS

#### CONTROL SYSTEM

- Additional Spare Inputs/Outputs
- Battery Disconnect Switch

#### ALTERNATOR SYSTEM

- 3<sup>rd</sup> Main Line Circuit Breakers
- 4<sup>th</sup> Main Line Circuit Breakers
- Unit Mounted Load Banks
- Medium Voltage Alternators

#### GENERATOR SET

- Special Testing
- Battery Box

#### ENCLOSURE

- Door Open Alarm Horn

**APPLICATION AND ENGINEERING DATA**

**DEMAND RESPONSE READY**

**ENGINE SPECIFICATIONS**

**General**

Make	Generac
Cylinder #	12
Type	4 cycle
Displacement - in³ (L)	2,068 (33.9)
Bore: in (mm)	5.9 (150)
Stroke: in (mm)	6.30 (160)
Compression Ratio	10.0:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Cylinder Head	4 Valve
Ignition	Electronic
Piston Type	Cast Aluminum Alloy
Crankshaft Type	Chromium Molybdenum Steel
Lifter Type	Solid
Intake Valve Material	Proprietary Alloy
Exhaust Valve Material	Proprietary Alloy
Hardened Valve Seats	Proprietary Alloy

**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
Engine Oil Capacity with filter: qt (L)	126.8 (120)

**Cooling System**

Cooling System Type	Forced Circulation by Centrifugal Pump
Fan Type	Pusher
Fan Speed (rpm)	1,080
Fan dDiameter - in (mm)	64 (1,626)

**Fuel System**

Fuel type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shutoff Solenoid	Standard
Operating Fuel Pressure - in H <sub>2</sub> O (kPa)	14–20 (3.5–5.0)

\*Operating fuel pressure measured at the generator fuel inlet located on the frame rail.

**Engine Electrical System**

System Voltage	24 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(4) – 12 VDC
Ground Polarity	Negative

**ALTERNATOR SPECIFICATIONS**

Standard Model	K0732124Y22
Poles	4
Field type	Rotating
Insulation class - Rotor	H
Insulation class - Stator	H
Total harmonic distortion	<5%
Telephone Interference Factor (TIF)	<50

Standard excitation	Permanent Magnet
Bearings	Single
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%

EPA Certified Stationary Emergency and Non-Emergency

**OPERATING DATA**

**DEMAND RESPONSE READY**

**POWER RATINGS — NATURAL GAS**

	Standby/Demand Response	
Three-Phase 120/208 VAC @0.8pf	625 kW/781 kVA	Amps: 2,171
Three-Phase 120/240 VAC @0.8pf	625 kW/781 kVA	Amps: 1,882
Three-Phase 277/480 VAC @0.8pf	625 kW/781 kVA	Amps: 941
Three-Phase 346/600 VAC @0.8pf	625 kW/781 kVA	Amps: 753

**MOTOR STARTING CAPABILITIES (SKVA)**

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0732124Y22	2,450	K0820124Y22	2,560
K0912124Y22	3,250	K0912124Y22	3,250
		K1000124Y22	3,900

**FUEL CONSUMPTION RATES\***

Natural Gas – scfh (m³/hr)	
Percent Load	Standby/Demand Response
25%	2,725 (77.2)
50%	3,923 (111.1)
75%	5,294 (149.9)
100%	6,847 (193.9)

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

**COOLING**

		Standby/Demand Response
Air Flow (Fan Air Flow Across Radiator) — Open Set	cfm (m³/min)	34,000 (962.8)
Coolant Flow	gpm (Lpm)	291 (1,101)
Coolant System Capacity	gal (L)	55 (208)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 0199270SSD
Maximum Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.5 (0.12)

**COMBUSTION AIR REQUIREMENTS**

	Standby/Demand Response
Flow at Rated Power cfm — (m³/min)	1,394 (39.5)

**ENGINE**

		Standby
Rated Engine Speed	rpm	1,800
Horsepower at Rated kW**	hp	941
Piston Speed	ft/min (m/min)	1,890 (576)
BMEP	psi (kPa)	188 (1,301)

\*\* See "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

**EXHAUST**

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	4067 (115)
Maximum Allowable Back Pressure (Post Silencer)	in H <sub>2</sub> O (kPa)	0.75 (2.5)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,166 (63)

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

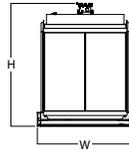
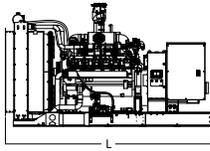
Demand Response - See Bulletin 10000018250

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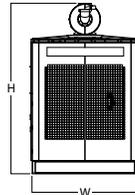
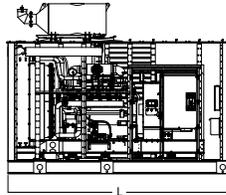
**DIMENSIONS AND WEIGHTS\***

**DEMAND RESPONSE READY**



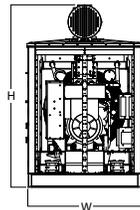
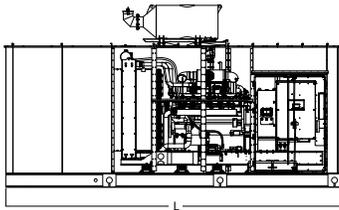
**OPEN SET**

L x W x H - in (mm)	178.3 (4,528) x 82.6 (2,098) x 110.3 (2,801)
Weight lbs (kg)	14,352 - 14,932 (6,510 - 6,733)



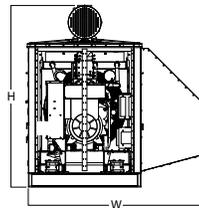
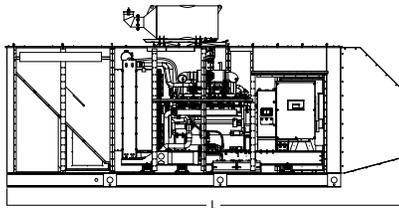
**WEATHER PROTECTED ENCLOSURE**

L x W x H - in (mm)	201.0 (5,105) x 96.0 (2,438) x 155.2 (3,941)
Weight lbs (kg)	Steel: 18,051 - 18,631 (8,188 - 8,451) Aluminum: 17,220 - 17,800 (7,811 - 8,074)



**LEVEL 1 SOUND ATTENUATED ENCLOSURE**

L x W x H - in (mm)	287.0 (7,290) x 96.0 (2,438) x 153.0 (3,886)
Weight lbs (kg)	Steel: 21,876 - 22,456 (9,923 - 10,186) Aluminum: 19,193 - 19,773 (8,706 - 8,969)



**LEVEL 2 SOUND ATTENUATED ENCLOSURE**

L x W x H - in (mm)	340.0 (8,636) x 151.4 (3,845) x 153.0 (3,886)
Weight lbs (kg)	Steel: 22,901 - 23,481 (10,388 - 10,651) Aluminum: 19,634 - 20,214 (8,906 - 9,169)

\* All measurements are approximate and for estimation purposes only.

<b>YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER</b>
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Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings