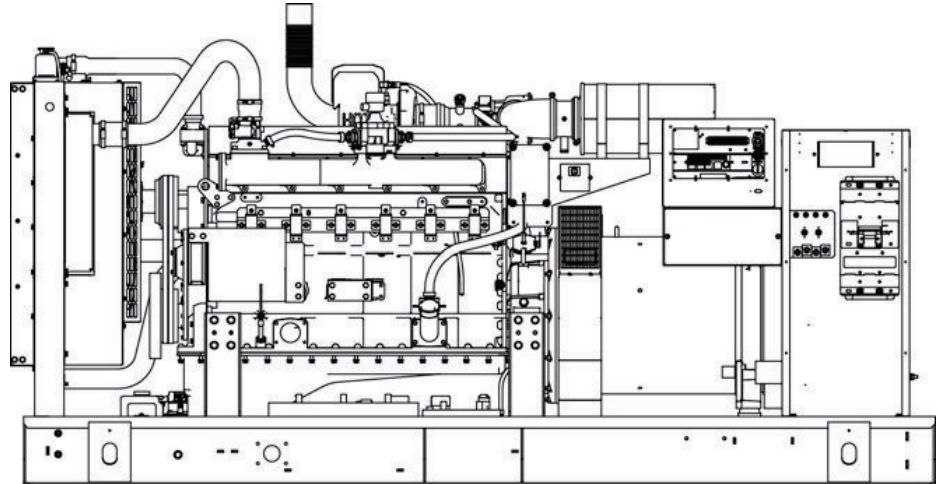


**STANDBY POWER RATING**

250 kW, 313 kVA, 60 Hz

**PRIME POWER RATING\***

225 kW, 281 kVA, 60 Hz



\*Built in the USA using domestic and foreign parts


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

Image used for illustration purposes only


**CODES AND STANDARDS**


Generac products are designed to the following standards:

 UL2200, UL508, UL142, UL498


 NFPA70, 99, 110, 37

 NEC700, 701, 702, 708

 ISO9001, 8528, 3046, 7637, Pluses #2b, 4

 NEMA ICS10, MG1, 250, ICS6, AB1

 ANSI C62.41  
American National Standards Institute

 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.

## STANDARD FEATURES

### ENGINE SYSTEM

#### General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Factory Filled Oil & Coolant
- Radiator Duct Adapter (open set only)
- Critical Exhaust Silencer

#### Fuel System

- Flexible fuel line - NPT Connection
- Primary and secondary fuel filters

#### Cooling System

- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-Installed Radiator
- 50/50 Ethylene glycol antifreeze
- Radiator drain extension

#### Engine 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
- 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 (L1 & L2)
- 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)

EPA Certified Stationary Emergency

## CONFIGURABLE OPTIONS

### ENGINE SYSTEM

General

- Engine Block Heater
- Oil Heater
- Air Filter Restriction Indicator
- Stone Guard (Open Set Only)
- Critical Exhaust Silencer (Open Set Only / Standard on Ultra Low Emissions Option)

Electrical System

- 10A UL battery charger
- Battery Warmer

### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

### CIRCUIT BREAKER OPTIONS

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

## ENGINEERED OPTIONS

### ENGINE SYSTEM

- Fluid containment Pans
- Coolant heater ball valves

### ALTERNATOR SYSTEM

- 3rd Breaker Systems

### CONTROL SYSTEM

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

### GENERATOR SET

- Gen-Link Communications Software (English Only)
- Extended Factory Testing
- 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
- 150 MPH Wind Kit
- 12 VDC Enclosure Lighting Kit
- 120 VAC Enclosure Lighting Kit
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch

### GENERATOR SET

- Special Testing
- Battery Box

### ENCLOSURE

- Motorized Dampers
- Enclosure Ambient Heaters

### CONTROL SYSTEM

- 21-Light Remote Annunciator
- Remote Relay Board (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 - Bridge
- Remote Communication - Ethernet
- 10A Run Relay
- Ground Fault Indication and Protection Functions

## 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

# SG250 | 14.2L | 250 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

### APPLICATION AND ENGINEERING DATA

#### ENGINE SPECIFICATIONS

##### General

|                          |                              |
|--------------------------|------------------------------|
| Make                     | Generac                      |
| Cylinder #               | 6                            |
| Type                     | In-line                      |
| Displacement - L (cu In) | 14.17 (864.71)               |
| Bore - mm (in)           | 135 (5.31)                   |
| Stroke - mm (in)         | 165 (6.50)                   |
| Compression Ratio        | 9.5:1                        |
| Intake Air Method        | Turbocharged/Aftercooled     |
| Number of Main Bearings  | 7                            |
| Connecting Rods          | Carbon Steel                 |
| Cylinder Head Type       | Cast Iron GT250, OHV         |
| Cylinder Head            | Ductile Iron                 |
| Cylinder Liners          | Altronic CD1                 |
| Piston Type              | Aluminum                     |
| Crankshaft Type          | Ductile Iron                 |
| Lifter Type              | Solid                        |
| Intake Valve Material    | Special Heat-Resistant Steel |
| Exhaust Valve Material   | Alloy Steel, High Temp       |
| Hardened Valve Seats     | Alloy Steel, High Temp       |

##### Engine Governing

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

##### Lubrication System

|                              |                     |
|------------------------------|---------------------|
| Oil Pump Type                | Gear                |
| Oil Filter Type              | Full-Flow Cartridge |
| Crankcase Capacity - L (qts) | 34.3 (36.2)         |

##### Cooling System

|                                  |                             |
|----------------------------------|-----------------------------|
| Cooling System Type              | Pressurized Closed Recovery |
| Water Pump Flow -gal/min (l/min) | 94 (356)                    |
| Fan Type                         | Pusher                      |
| Fan Speed (rpm)                  | 1894                        |
| Fan Diameter mm (in)             | 762 (30)                    |
| Coolant Heater Wattage           | 2000                        |
| Coolant Heater Standard Voltage  | 240 V                       |

##### Fuel System

|                                    |                           |
|------------------------------------|---------------------------|
| Fuel Type                          | Natural Gas               |
| Carburetor                         | Down Draft                |
| Secondary Fuel Regulator           | Standard                  |
| Fuel Shut Off Solenoid             | Standard                  |
| Operating Fuel Pressure (Standard) | 7" - 11" H <sub>2</sub> O |

##### Engine Electrical System

|                             |                                 |
|-----------------------------|---------------------------------|
| System Voltage              | 24 VDC                          |
| Battery Charging Alternator | Standard                        |
| Battery Size                | See Battery Index<br>0161970SBY |
| Battery Voltage             | (2)12 VDC                       |
| Ground Polarity             | Negative                        |

#### ALTERNATOR SPECIFICATIONS

|                                     |           |
|-------------------------------------|-----------|
| Standard Model                      | 520mm     |
| 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            | 3                     |
| Regulation Accuracy (Steady State) | ±0.25%                |

# SG250 | 14.2L | 250 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

### OPERATING DATA

#### POWER RATINGS

|                                |        | Natural Gas |
|--------------------------------|--------|-------------|
| Three-Phase 120/208 VAC @0.8pf | 250 kW | Amps: 867   |
| Three-Phase 120/240 VAC @0.8pf | 250 kW | Amps: 752   |
| Three-Phase 277/480 VAC @0.8pf | 250 kW | Amps: 376   |
| Three-Phase 347/600 VAC @0.8pf | 250 kW | Amps: 301   |

#### STARTING CAPABILITIES (sKVA)

##### sKVA vs. Voltage Dip

| Alternator | kW  | 480 VAC |     |     |     |     |      | 208/240 VAC |     |     |     |     |     |
|------------|-----|---------|-----|-----|-----|-----|------|-------------|-----|-----|-----|-----|-----|
|            |     | 10%     | 15% | 20% | 25% | 30% | 35%  | 10%         | 15% | 20% | 25% | 30% | 35% |
| Standard   | 250 | 263     | 395 | 527 | 658 | 790 | 922  | 197         | 296 | 395 | 494 | 593 | 692 |
| Upsize 1   | 300 | 303     | 454 | 605 | 757 | 908 | 1059 | 227         | 341 | 454 | 51  | 681 | 794 |

#### FUEL CONSUMPTION RATES\*

##### Natural Gas - ft<sup>3</sup>/hr (m<sup>3</sup>/hr)

| Percent Load | Standby     |
|--------------|-------------|
| 25%          | 1044 (29.6) |
| 50%          | 1790 (50.7) |
| 75%          | 2417 (68.4) |
| 100%         | 2983 (84.5) |

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

#### COOLING

|  |   | Standby        |
|--|---|----------------|
| Air Flow (inlet air combustion and radiator)       | ft <sup>3</sup> /min (m <sup>3</sup> /in) | 10,078 (285.4) |
| Coolant System Capacity                            | gal (l)                                   | 19 (71.9)      |
| Heat Rejection to Coolant                          | BTU/hr                                    | 788,204        |
| Max. Operating Air Temp on Radiator                | °F (°C)                                   | 122 (50)       |
| Max. Operating Ambient Temperature (before derate) | °F (°C)                                   | 104(40.0)      |
| Maximum Radiator Backpressure                      | in H <sub>2</sub> O                       | 0.5            |

#### COMBUSTION AIR REQUIREMENT

|   | Standby    |
|---|------------|
| Flow at Rated Power cfm (m <sup>3</sup> /min) | 453 (12.8) |

#### ENGINE

|                          |        | Standby    |
|--------------------------|--------|------------|
| Rated Engine Speed       | rpm    | 1800       |
| Horsepower at Rated kW** | hp     | 374        |
| Piston Speed             | ft/min | 1949 (594) |
| BMEP                     | psi    | 190        |

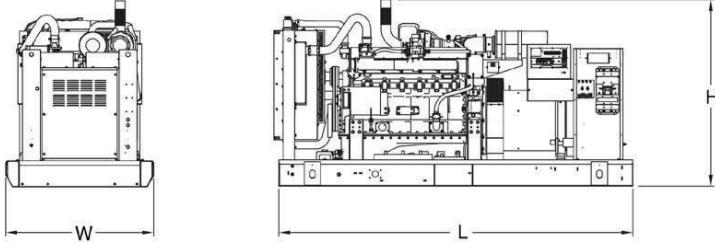
#### EXHAUST

|   |                           | Standby                      |
|---|---------------------------|------------------------------|
| Exhaust Flow (Rated Output)                 | cfm (m <sup>3</sup> /min) | 1602 (45.4)                  |
| Max. Backpressure (Post Silencer)           | inHg (Kpa)                | 0.75                         |
| Exhaust Temp (Rated Output - post silencer) | °F (°C)                   | 1350 (732)                   |
| Exhaust Outlet Size (Open Set)              | mm (in)                   | 3.5" I.D. Flex (No Silencer) |

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

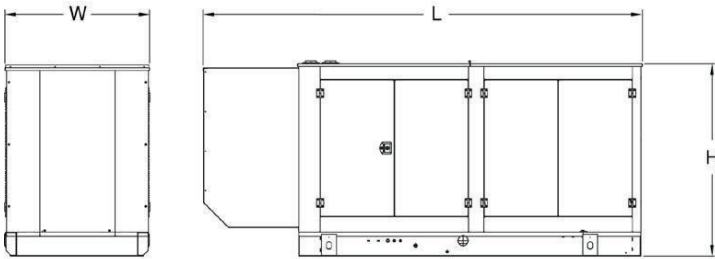
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.

**DIMENSIONS AND WEIGHTS\***



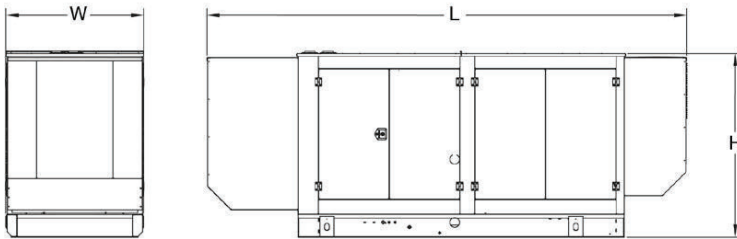
**OPEN SET (Includes Exhaust Flex)**

|                   |  |
|-------------------|--|
| L x W x H in (mm) | 138.74 (3524) x 57.6 (1463.1) x 68.04 (1728.3) |
| Weight lbs (kg)   | 6031 (2736)                                    |



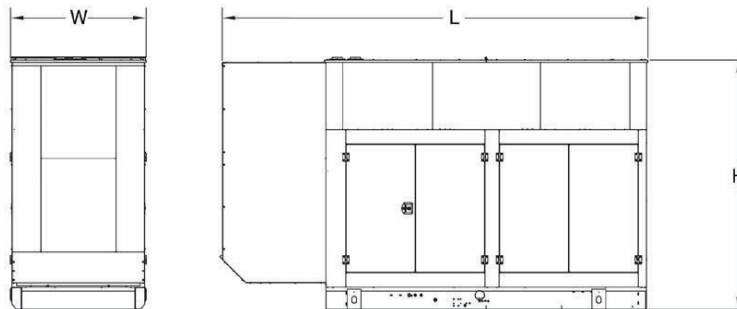
**STANDARD ENCLOSURE**

|                   |   |
|-------------------|---|
| L x W x H in (mm) | 174.7 (4437.4) x 52.98 (1345.7) x 77.8 (1976.1) |
| Weight lbs (kg)   | Steel: 7596 (3445)<br>Aluminum: 6801 (3085)     |



**LEVEL 1 ACOUSTIC ENCLOSURE**

|                   |   |
|-------------------|---|
| L x W x H in (mm) | 200.19 (5084.7) x 57.49 (1460.4) x 77.80 (1976.1) |
| Weight lbs (kg)   | Steel: 8059 (3655)<br>Aluminum: 7000 (3175)       |



**LEVEL 2 ACOUSTIC ENCLOSURE**

|                   |   |
|-------------------|---|
| L x W x H in (mm) | 180.65 (4588.4) x 57.49 (1460.4) x 107.3 (2725.4) |
| Weight lbs (kg)   | Steel: 8632 (3915)<br>Aluminum: 7247 (3287)       |

\*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.