

# SG150 | 14.2L | 150 kW

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

**GENERAC** | INDUSTRIAL  
POWER

**DEMAND RESPONSE READY**

### Standby Power Rating

150 kW, 188 kVA, 60 Hz

### Demand Response Rating

150 kW, 188 kVA, 60 Hz

### Prime Power Rating

135 kW, 169 kVA, 60 Hz

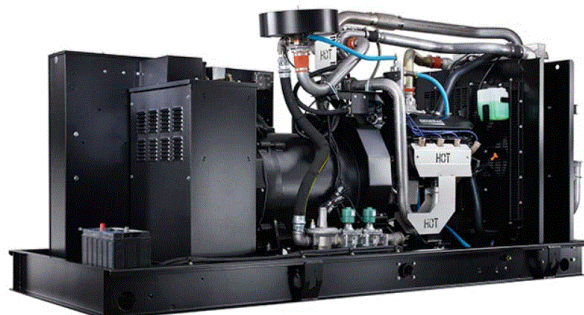


Image used for illustration purposes only



\*Assembled in the USA using domestic and foreign parts



\*\* Offered on units sold in the U.S. and Canada

## 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



IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

## Powering Ahead

Generac provides 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 for 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.

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### STANDARD FEATURES

### DEMAND RESPONSE READY

#### ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Stainless Steel Flexible Exhaust Connection
- Critical Silencer
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Shipped Loose Catalyst Silencer (Open Set Only)
- Oil Temperature Indication and Alarm
- Level 1 Fan and Belt Guards (Open Set Only)

#### FUEL SYSTEM

- NPT Fuel Connection on Frame
- 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

#### ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hood (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

#### 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)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)
- Ready to Accept Full Load in <10 Seconds

#### ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation
- Sealed Bearing
- Amortisseur Winding
- Full Load Capacity Alternator

#### CONTROL SYSTEM



#### Power Zone® Pro Sync Controller

##### Program Functions

- 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
- 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

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### CONFIGURABLE OPTIONS

### DEMAND RESPONSE READY

#### ENGINE SYSTEM

- Engine Coolant Heater
- Baseframe Cover/Rodent Guard
- Oil Heater
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Level 1 Fan and Belt Guards (Enclosed Units Only)

#### FUEL SYSTEM

- NPT Flexible Fuel Line

#### ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

#### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

#### CIRCUIT BREAKER OPTIONS

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

#### GENERATOR SET

- Demand Response Rating
- Extended Factory Testing (3-Phase Only)
- 12 Position Load Center
- Vapor Recovery Heater

#### ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- AC/DC Enclosure Lighting Kit
- Enclosure Heaters (with Motorized Dampers)
- IBC Certification
- Door Open Alarm Switch
- Pad Vibration Isolators
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)

#### CONTROL SYSTEM

- NFPA 110 Level 1 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (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
- 120V GFCI and 240V Outlets
- Damper Alarm Contacts (with Motorized Dampers Only)
- 100 dB Alarm Horn

#### WARRANTY (Standby Gensets Only)

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

### ENGINEERED OPTIONS

#### ENGINE SYSTEM

- Fluid Containment Pans

#### CONTROL SYSTEM

- Battery Disconnect Switch

#### GENERATOR SET

- Special Testing
- Battery Box

#### CIRCUIT BREAKER OPTIONS

- 4<sup>th</sup> Main Line Circuit Breaker

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	6
Type	In-line
Displacement - in <sup>3</sup> (L)	864.71 (14.2)
Bore: in (mm)	5.31 (135)
Stroke: in (mm)	6.50 (165)
Compression Ratio	9.5:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Carbon Steel
Cylinder Head	Cast Iron GT250, OHV
Cylinder Liners	Ductile Iron
Ignition	Electronic
Piston Type	Aluminum
Crankshaft Type	Ductile Iron
Lifter Type	Solid
Intake Valve Material	Special Heat-Resistant Steel
Exhaust Valve Material	High Temperature Steel Alloy
Hardened Valve Seats	High Temperature Steel Alloy

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump	Gear Driven
Oil Filter Type	Full-Flow with Cartridge
Engine Oil Capacity: qt (L)	36.2 (34.3)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed (RPM)	1,894
Fan Diameter - in (mm)	30 (762)

Fuel System

Fuel Type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure- in H <sub>2</sub> O (kPa)	7 - 11 (1.7 - 2.7)
*When designing the external fuel system, assume a 20% safety factor to the upper and lower limit of the specified fuel pressure range to account for site variation and measurement at the generator test port. Refer to Generac document 10000046207, latest rev. for proper gas supply design guidelines. (Contact Factory for Details)	

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	57.5 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) - 12 VDC
Ground Polarity	Negative (-)

ALTERNATOR SPECIFICATIONS

Standard Model	K0150124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Permanent Magnet
Bearings	Sealed Ball
Coupling	Direct
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

**OPERATING DATA**

**DEMAND RESPONSE READY**

**POWER RATINGS - NATURAL GAS**

	Standby/Demand Response		Prime	
Single-Phase 120/240 VAC @1.0pf	150 kW/150 kVA	Amps: 625	135 kW/135 kVA	Amps: 563
Three-Phase 120/208 VAC @0.8pf	150 kW/188 kVA	Amps: 521	135 kW/169 kVA	Amps: 469
Three-Phase 120/240 VAC @0.8pf	150 kW/188 kVA	Amps: 452	135 kW/169 kVA	Amps: 406
Three-Phase 277/480 VAC @0.8pf	150 kW/188 kVA	Amps: 226	135 kW/169 kVA	Amps: 203
Three-Phase 346/600 VAC @0.8pf	150 kW/188 kVA	Amps: 181	135 kW/169 kVA	Amps: 163

**MOTOR STARTING CAPABILITIES (skVA)**

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0150124Y21	326	K0150124Y21	244
K0200124Y21	478	K0200124Y21	361
K0250124Y21	630	K0250124Y21	506
K0300124Y21	790	K0300124Y21	609

**FUEL CONSUMPTION RATES\***

	Natural Gas – scfh (m³/hr)	
Percent Load	Standby/Demand Response	Prime
25%	840 (23.8)	780 (22.1)
50%	1,380 (39.1)	1,260 (35.7)
75%	1,800 (51.0)	1,680 (47.6)
100%	2,220 (62.9)	2,040 (57.8)

\*1.5X maximum site rated fuel consumption should be used for gas supply design practices. Refer to Generac 10000046207, latest rev., for more information or contact factory for details.

**COOLING**

		Standby/Demand Response	Prime
Air Flow (Fan Air Flow Across Radiator)	cfm (m³/min)	9,162 (259.4)	9,162 (259.4)
Coolant Flow	gpm (Lpm)	90 (340.7)	90 (340.7)
Coolant System Capacity	gal (L)	10.5 (39.7)	10.5 (39.7)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 0199270SSD	See Bulletin No. 0199270SSD
Maximum Additional Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.5 (0.12)	0.5 (0.12)

**COMBUSTION AIR REQUIREMENTS**

	Standby/Demand Response	Prime
Flow at rated power cfm - (m³/min)	354 (10.0)	320 (9.1)

**ENGINE**

		Standby/Demand Response	Prime
Rated Engine Speed	RPM	1,800	1,800
Horsepower at Rated kW**	hp	232	209
Piston Speed	ft/min (m/min)	1,950 (594)	1,950 (594)
BMEP	psi (kPa)	118 (814)	106 (732)

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

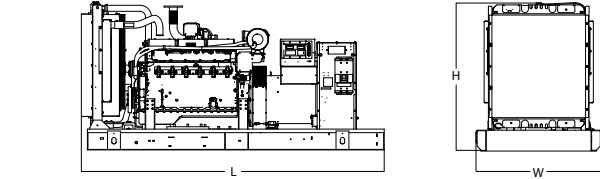
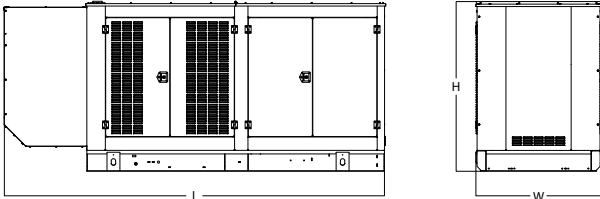
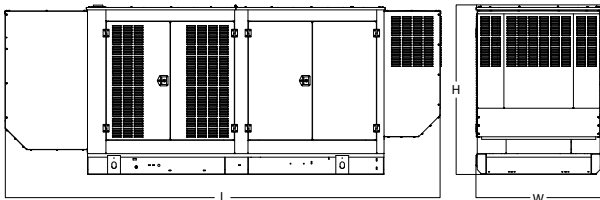
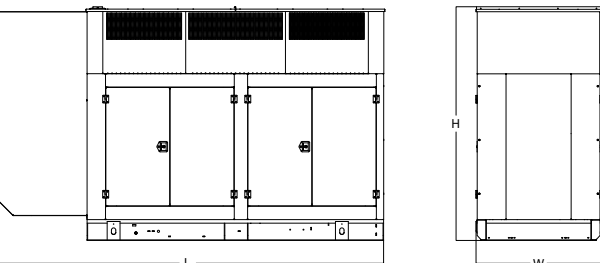
**EXHAUST**

		Standby/Demand Response	Prime
Exhaust Flow (Rated Output)	cfm (m³/min)	1,166 (33.0)	1,043 (29.5)
Max. Backpressure (Post Silencer)	inHG (kPa)	0.75 (2.54)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,318 (714.4)	1,300 (704.4)

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 BS5514 and DIN6271 standards.  
 Standby - See Bulletin 0187500SSB • Demand Response - See Bulletin 10000018250 • Prime - See Bulletin 0187510SSB

DIMENSIONS AND WEIGHTS\*

DEMAND RESPONSE READY

	<b>OPEN SET</b>	
	L x W x H - in (mm)	128.0 (3,251) x 52.9 (1,344) x 62.3 (1,582)
	Weight - lbs (kg)	5,281 - 6,031 (2,395 - 2,735)
	<b>WEATHER PROTECTED ENCLOSURE</b>	
	L x W x H - in (mm)	154.4 (3,922) x 54.0 (1,372) x 69.8 (1,773)
	Weight - lbs (kg)	Steel: 6,261 - 7,596 (2,839 - 3,445) Aluminum: 5,795 - 6,786 (2,628 - 3,078)
	<b>LEVEL 1 SOUND ATTENUATED ENCLOSURE</b>	
	L x W x H - in (mm)	179.9 (4,569) x 54.0 (1,372) x 69.8 (1,773)
	Weight - lbs (kg)	Steel 6,566 - 8,059 (2,978 - 3,655) Aluminum: 5,926 - 7,000 (2,688 - 3,175)
	<b>LEVEL 2 SOUND ATTENUATED ENCLOSURE</b>	
	L x W x H - in (mm)	154.4 (3,922) x 54.0 (1,372) x 93.3 (2,370)
	Weight - lbs (kg)	Steel: 6,801 - 8,632 (3,084 - 3,915) Aluminum: 6,027 - 7,247 (2,733 - 3,287)

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

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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