

# SD100 | 6.7 L | 100 kW

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

### Standby Power Rating

100 kW, 125 kVA, 60 Hz

### Prime Power Rating\*

90 kW, 113kVA, 60 Hz

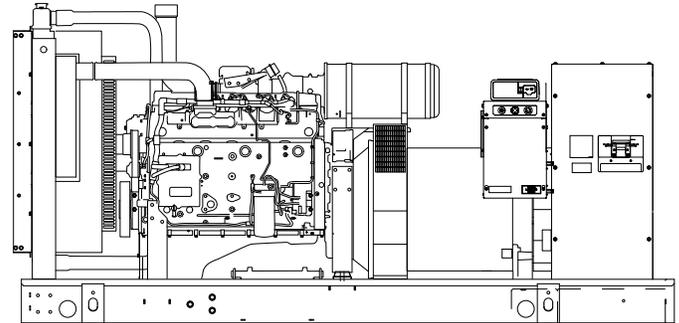


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\*Assembled in the USA using domestic and foreign parts

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

## Codes and Standards

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



UL2200, UL6200, UL1236, UL489, UL142



CSA C22.2, ULC S601



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

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac provides superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac 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 for the most reliable engines to power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

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

## STANDARD FEATURES

### ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Engine Coolant Heater
- Critical Silencer

### FUEL SYSTEM

- Fuel Lockoff Solenoid
- Primary Fuel Filter

### COOLING SYSTEM

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- 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™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Brushless Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

### 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 Unit Only)

### 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 Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

### FUEL TANKS (IF SELECTED)

- UL 142, ULC S601
- Double Wall
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested - 2 psi
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

### CONTROL SYSTEM



### Power Zone® 410 Controller

#### Features

- Programmable Auto Crank
- Selectable Low Speed Exercise
- RS-232 x2
- RS-485 x2
- All-Phase Sensing Digital Voltage Regulator
- On/Off/Manual Switch
- Not in Auto (Flashing Light)

- Emergency Stop
- Modbus® RTU
- CANbus
- Full Range Standby Operation
- Power Factor
- Ruptured Tank Detection
- Auxiliary Shutdown Switch
- Remote Communications
- NFPA110 Module Included (Key Switch, Alarm, E-Stop)
- I<sup>2</sup>T Function for Full Generator Protection (Contact Factory)

#### Full System Status Display

- Multilingual 128x64 Graphical Display with Heater
- Easy Status View LED Screen
- 3-Phase AC Volts
- 3-Phase Amps
- kW
- Line Power/Gen Power

- Time
- Date
- Run Hours
- Service Reminders
- Fault History (Alarm Log)
- Oil Pressure
- Oil Temperature Indication and Alarm
- Output for Fuel Level High/Low Warning
- Water Temperature
- Water Level
- Fuel Pressure/Level
- Engine Speed
- Battery Voltage
- Alternator Frequency

#### Alarms and Warnings

- Common Alarm Output
- Audible Alarm and Silence

## CONFIGURABLE OPTIONS

### ENGINE SYSTEM

- Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Air Filter Restriction Indication
- Radiator Stone Guard

### FUEL SYSTEM

- Flexible Fuel Line - NPT Connection

### ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

### CIRCUIT BREAKER OPTIONS

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

### GENERATOR SET

- Extended Factory Testing
- IBC Seismic Certification
- 8 Position Load Center
- Spring Vibration Isolators
- Pad Vibration Isolators

### ENCLOSURE

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

### FUEL TANKS (SIZES ON LAST PAGE)

- 8 in (203.2 mm) Fill Extension
- 13 in (330.2 mm) Fill Extension
- Overfill Protection Valve
- Return Hose
- Tank Risers
- 90% Fuel Level Switch and Alarm
- 12 in (304.8 mm) Vent System
- Fire Rated Stainless Steel Fuel Hose

### CONTROL SYSTEM

- NFPA 110 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)
- 100 dB Alarm Horn
- Ground Fault Annunciator
- 120V GCFI and 240V Outlets
- 10A Engine Run Relay
- Damper Alarm Contact (with Motorized Dampers Only)

### 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

- Coolant Heater Ball Valves
- Fluid Containment Pan

### CONTROL SYSTEM

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

### ALTERNATOR SYSTEM

- 3rd Breaker System

### GENERATOR SET

- Special Testing

### FUEL TANKS

- UL 2085 Tank
- Stainless Steel Tanks

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**APPLICATION AND ENGINEERING DATA**

**ENGINE SPECIFICATIONS**

**General**

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	6
Type	In-Line
Displacement: in <sup>3</sup> (L)	408.86 (6.7)
Bore - in (mm)	4.09 (104)
Stroke - in (mm)	5.2 (128)
Compression Ratio	16.5:1
Intake Method	Turbocharged/Aftercooled
Cylinder Head Type	2-Valve
Piston Type	Aluminum Alloy
Crankshaft Type	Forged Steel

**Engine Governing**

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.25%

**Lubrication System**

Oil Pump	Gear
Oil Filter Type	Full Flow
Engine Oil Capacity - qt (L)	18 (17)

**Cooling System**

Cooling System Type	Closed Recovery
Water Pump Type	Belt Driven Centrifugal
Fan Type	Pusher
Fan Speed - RPM	2,538
Fan Diameter - in (mm)	23.6 (599)

**Fuel System**

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line - in (mm)	0.5 (12.7) NPT
Fuel Return Line - in (mm)	0.5 (12.7) NPT

**Engine Electrical System**

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

**ALTERNATOR SPECIFICATIONS**

Standard Model	K0100124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase Only)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Synchronous Brushless
Bearings	Single Seated Cartridge
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

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**OPERATING DATA**

**POWER RATINGS**

		Standby
Single-Phase 120/240 VAC @1.0pf	100 kW	Amps: 417
Three-Phase 120/208 VAC @0.8pf	100 kW	Amps: 347
Three-Phase 120/240 VAC @0.8pf	100 kW	Amps: 301
Three-Phase 277/480 VAC @0.8pf	100 kW	Amps: 150
Three-Phase 346/600 VAC @0.8pf	100 kW	Amps: 120

**MOTOR STARTING CAPABILITIES (skVA)**

		skVA vs. Voltage Dip	
277/480 VAC	30%	277/480 VAC	30%
K0100124Y21	227	K0100124Y21	171
K0130124Y21	327	K0130124Y21	327
K0150124Y21	326	K0150124Y21	244
K0200124Y21	478	K0200124Y21	361

**FUEL CONSUMPTION RATES\***

Fuel Pump Lift - ft (m)	Diesel - gph (Lph)	
	Percent Load	Standby
3 (1)	25%	2.2 (8.3)
	50%	4.2 (15.9)
Total Fuel Pump Flow (Combustion + Return) - gph (Lph)	75%	5.9 (22.3)
29.1 (110.2)	100%	7.3 (27.6)

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

**COOLING**

		Standby
Coolant Flow	gpm (Lpm)	44.6 (168.8)
Coolant System Capacity	gal (L)	5.7 (21.4)
Heat Rejection to Coolant	BTU/hr (kW)	269,130 (78.8)
Inlet Air	cfm (m <sup>3</sup> /min)	6,360 (180)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Additional Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.5 (0.12)

**COMBUSTION AIR REQUIREMENTS**

	Standby
Flow at Rated Power - cfm (m <sup>3</sup> /min)	325 (9.2)

**ENGINE**

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	152
Piston Speed	ft/min (m/min)	1,559 (475)
BMEP	psi (kPa)	165 (1,138)

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

**EXHAUST**

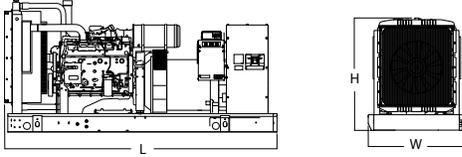
		Standby
Exhaust Flow (Rated Output)	cfm (m <sup>3</sup> /min)	885 (25)
Maximum Allowable Backpressure (Post Silencer)	inHg (kPa)	1.5 (5.1)
Exhaust Temperature (Rated Output)	°F (°C)	885 (474)

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 10000018933 Prime - See Bulletin 10000018926

**SD100 | 6.7 L | 100 kW**  
**INDUSTRIAL DIESEL GENERATOR SET**

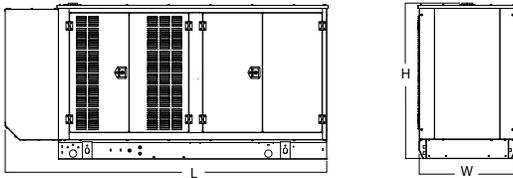
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**DIMENSIONS AND WEIGHTS\***



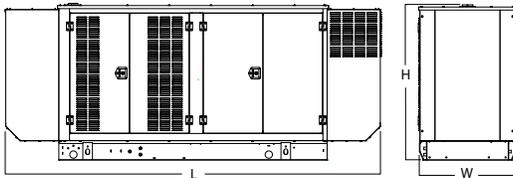
**OPEN SET**

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg)	
			Steel	Aluminum
No Tank	-	110 (2,794) x 40 (1,016) x 65 (1,651)	3,104 (1,408)	
12	90 (341)	110 (2,794) x 40 (1,016) x 77 (1,956)	3,813 (1,730)	
30	220 (833)	110 (2,794) x 40 (1,016) x 89 (2,261)	4,146 (1,881)	
48	350 (1,325)	110 (2,794) x 40 (1,016) x 101 (2,565)	4,488 (2,036)	
70	510 (1,931)	110 (2,794) x 40 (1,016) x 105 (2,667)	4,469 (2,029)	
81	589 (2,230)	128 (3,251) x 49 (1,245) x 107 (2,718)	4,948 (2,244)	
95	693 (2,623)	136 (3,454) x 53 (1,346) x 107 (2,718)	4,667 (2,117)	



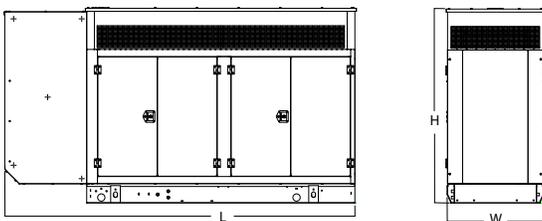
**LEVEL 0 SOUND ATTENUATED ENCLOSURE**

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	133 (3,378) x 40 (1,016) x 64 (1,626)		
12	90 (341)	133 (3,378) x 40 (1,016) x 77 (1,956)		
30	220 (833)	133 (3,378) x 40 (1,016) x 89 (2,261)	500 (227)	165 (75)
48	350 (1,325)	133 (3,378) x 40 (1,016) x 101 (2,565)		
70	510 (1,931)	133 (3,378) x 47 (1,194) x 105 (2,667)		
81	589 (2,230)	133 (3,378) x 49 (1,125) x 107 (2,718)		
95	693 (2,623)	133 (3,378) x 53 (1,346) x 107 (2,718)		



**LEVEL 1 SOUND ATTENUATED ENCLOSURE**

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	154 (3,912) x 40 (1,016) x 64 (1,626)		
12	90 (341)	154 (3,912) x 40 (1,016) x 77 (1,956)		
30	220 (833)	154 (3,912) x 40 (1,016) x 89 (2,261)	750 (340)	250 (112)
48	350 (1,325)	154 (3,912) x 40 (1,016) x 101 (2,565)		
70	510 (1,931)	154 (3,912) x 47 (1,194) x 105 (2,667)		
81	589 (2,230)	154 (3,912) x 49 (1,245) x 107 (2,718)		
95	693 (2,623)	154 (3,912) x 53 (1,346) x 107 (2,718)		



**LEVEL 2 SOUND ATTENUATED ENCLOSURE**

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	145 (3,683) x 40 (1,016) x 81 (2,057)		
12	90 (341)	145 (3,683) x 40 (1,016) x 84 (2,134)		
30	220 (833)	145 (3,683) x 40 (1,016) x 106 (2,692)	1,000 (454)	330 (150)
48	350 (1,325)	145 (3,683) x 40 (1,016) x 118 (2,997)		
70	510 (1,931)	145 (3,683) x 47 (1,194) x 122 (3,099)		
81	589 (2,230)	145 (3,683) x 49 (1,245) x 124 (3,150)		
95	693 (2,623)	145 (3,683) x 53 (1,346) x 124 (3,150)		

\* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings. Extended and not extended tank offerings vary. Contact dealer for options.