

Standby Power Rating
 50 kW, 63 kVA, 60 Hz

Prime Power Rating*
 45 kW, 56 kVA, 60 Hz



Image used for illustration purposes only



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

Codes and Standards

Generac products are designed to the following standards:

-   UL2200, UL508, UL489, UL142
-  CSA 22.2
-   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

For over 50 years, Generac has provided 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 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 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
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Exhaust Silencer (Enclosed Only)

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
- 120 VAC Coolant Heater

Electrical System

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

ALTERNATOR SYSTEM

- 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 Only)
- Silencer of Heat Shield

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

TANKS (If Selected)

- UL 142
- Double Wall Construction
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested - 2 psi (14 kPa)
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

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
- 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)

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Oil Make-Up System
- Oil Heater
- Industrial Exhaust Silencer (Open Set)

FUEL SYSTEM

- Flexible Fuel Lines
- Primary Fuel Filter

ELECTRICAL SYSTEM

- 10A UL Battery Charger
- 2.5A UL Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

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

GENERATOR SET

- GenLink® Communications Software (English Only)
- 8 Position Load Center

CIRCUIT BREAKER OPTIONS

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

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Level 2 Sound Attenuation with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch

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

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Sender 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

TANKS (Size On Last Page)

- Electric Fuel Level
- Mechanical Fuel Level
- 8 in (203.2 mm) Fill Extension
- 13 in (330.2 mm) Fill Extension
- 19 in (482.6 mm) Fill Extension

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan
- Block Heaters

CONTROL SYSTEM

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

ALTERNATOR SYSTEM

- 3rd Breaker System

GENERATOR SET

- Special Testing
- IBC Seismic Certification

ENCLOSURE

- Door Switch for Intrusion Alarm
- Enclosure Ambient Heaters

TANKS

- Overfill Protection Valve
- UL2085 Tank
- ULC S-601 Tank
- Stainless Steel Tanks
- Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- Vent Extensions

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in ³ (L)	207.48 (3.4)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

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

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity - qt (L)	7.4 (7)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - rpm	2,250
Fan Diameter - in (mm)	560 (22)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump	Bosch (VE)
Fuel Pump Type	Engine Driven Gear
Injector Type	Pintel - 2,100 psi (14,479 kPa)
Fuel Supply Line - in (mm)	0.312 (7.92) NPT
Fuel Return Line - in (mm)	0.312 (7.92) 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	Generac 390 mm
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	Synchronous Brushless
Bearings	Single Sealed Cartridge
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

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OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	50 kW	Amps: 208
Three-Phase 120/208 VAC @0.8pf	50 kW	Amps: 173
Three-Phase 120/240 VAC @0.8pf	50 kW	Amps: 150
Three-Phase 277/480 VAC @0.8pf	50 kW	Amps: 75
Three-Phase 346/600 VAC @0.8pf	50 kW	Amps: 60

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

277/480 VAC								208/240 VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%	Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	50	34	52	69	86	103	120	Standard	50	26	39	52	65	77	90
Upsize 1	60	42	63	83	104	125	146	Upsize 1	60	32	47	62	78	94	110

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)		Diesel - gph (lph)	
		Percent Load	Standby
3 (1)		25%	1.3 (4.9)
		50%	2.3 (8.7)
Total Fuel Pump Flow (Combustion + Return) - gph (lph)		75%	3.3 (12.5)
3.57 (13.51)		100%	4.3 (16.4)

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

COOLING

		Standby
Coolant Flow	gpm (lpm)	12.2 (46)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW)	135,900 (39.8)
Inlet Air	cfm (m ³ /hr)	7,500 (212)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power cfm (m ³ /min)	166 (4.7)

ENGINE

		Standby
Rated Engine Speed	rpm	1,800
Horsepower at Rated kW**	hp	86
Piston Speed	ft/min (m/min)	1,335 (406.9)
BMEP	psi (kPa)	169 (1,165)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m ³ /min)	448 (12.7)
Max. Allowable Backpressure	inHg (kPa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	1,044 (562)

** 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 contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.

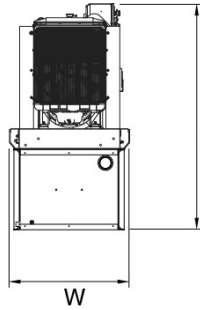
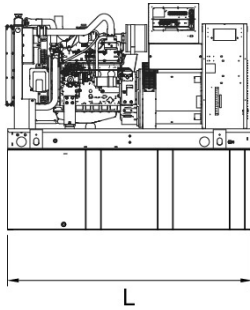
Standby - See Bulletin 0187500SSB

Prime - See Bulletin 0187510SSB

SD050 | 3.4L | 50 kW
INDUSTRIAL DIESEL GENERATOR SET

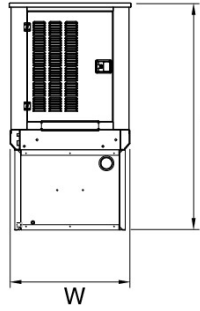
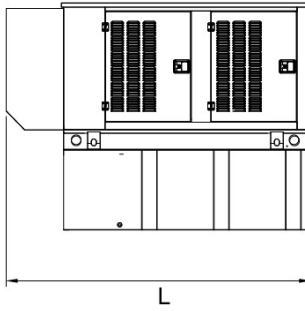
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DIMENSIONS AND WEIGHTS*



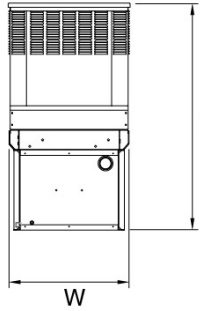
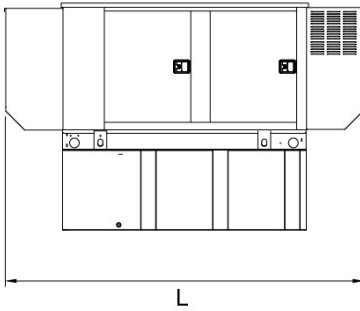
OPEN SET (Includes Exhaust Flex)

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	76.7 (1,948) x 37.4 (950) x 45.2 (1,147)	1,776 (806)
12	54 (204.4)	76.7 (1,948) x 37.4 (950) x 58.2 (1,477)	2,256 (1,024)
30	132 (499.7)	76.7 (1,948) x 37.4 (950) x 70.2 (1,782)	2,486 (1,128)
49	211 (798.7)	76.7 (1,948) x 37.4 (950) x 82.2 (2,087)	2,695 (1,223)
69	300 (1,135.6)	92.9 (2,360) x 37.4 (950) x 85.7 (2,176)	2,758 (1,251)



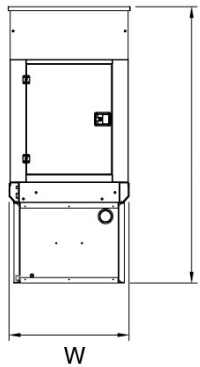
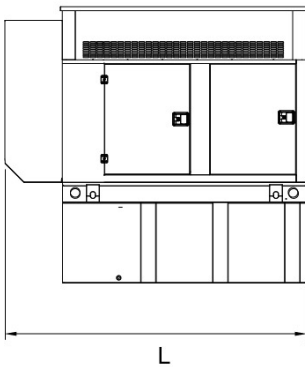
STANDARD ENCLOSURE

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)		
12	54 (204.4)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	334 (152)	115 (52)
30	132 (499.7)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)		
49	211 (798.7)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		
69	300 (1,135.6)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)		



LEVEL 1 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)		
12	54 (204.4)	112.5 (2,857) x 38.0 (965) x 62.5 (1,588)	435 (198)	150 (68)
30	132 (499.7)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)		
49	211 (798.7)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		
69	300 (1,135.6)	112.5 (2,857) x 38.0 (965) x 90.0 (2,287)		



LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 61.9 (1,572)		
12	54 (204.4)	94.8 (2,409) x 38.0 (965) x 74.9 (1,902)	520 (236)	179 (81)
30	132 (499.7)	94.8 (2,409) x 38.0 (965) x 86.9 (2,207)		
49	211 (798.7)	94.8 (2,409) x 38.0 (965) x 98.9 (2,512)		
69	300 (1,135.6)	94.8 (2,409) x 38.0 (965) x 102.4 (2,601)		

* 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.