GENERAC® | INDUSTRIAL POWER

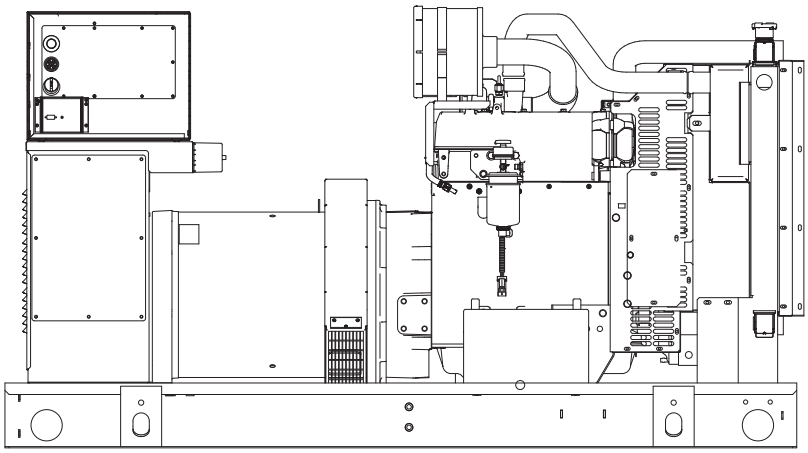
SD050

Industrial Diesel Generator Set

EPA Certified Stationary Emergency

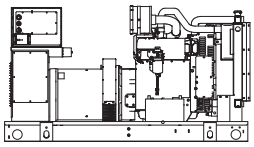
Standby Power Rating
63kVA 50kW 60Hz

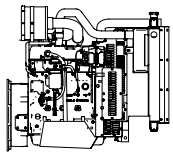
Prime Power Rating
55kVA 44KW 60Hz

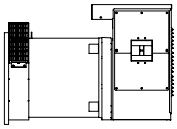


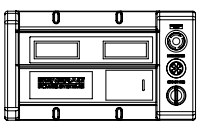
Generator image used for illustration purposes only

*EPA Certified Prime ratings are not available in the U.S. or its Territories for engine model year 2011 and beyond









features benefits

Generator Set	
• PROTOTYPE & TORSIONALLY TESTED	▸ PROVIDES A PROVEN UNIT
• UL2200 TESTED	▸ ENSURES A QUALITY PRODUCT
• RHINOCOAT PAINT SYSTEM	▸ IMPROVES RESISTANCE TO ELEMENTS
• WIDE RANGE OF ENCLOSURES AND TANKS	▸ PROVIDES A SINGLE SOURCE SOLUTION
Engine	
• EPA COMPLIANT	▸ ENVIRONMENTALLY FRIENDLY
• INDUSTRIAL TESTED, GENERAC APPROVED	▸ ENSURES INDUSTRIAL STANDARDS
• POWER-MATCHED OUTPUT	▸ ENGINEERED FOR PERFORMANCE
• INDUSTRIAL GRADE	▸ IMPROVES LONGEVITY AND RELIABILITY
Alternator	
• TWO-THIRDS PITCH	▸ ELIMINATES HARMFUL 3RD HARMONIC
• LAYER WOUND ROTOR & STATOR	▸ IMPROVES COOLING
• CLASS H MATERIALS	▸ HEAT TOLERANT DESIGN
• DIGITAL 3-PHASE VOLTAGE CONTROL	▸ FAST AND ACCURATE RESPONSE
Controls	
• ENCAPSULATED BOARD W/ SEALED HARNESS	▸ EASY, AFFORDABLE REPLACEMENT
• 4-20mA VOLTAGE-TO-CURRENT SENSORS	▸ NOISE RESISTANT 24/7 MONITORING
• SURFACE-MOUNT TECHNOLOGY	▸ PROVIDES VIBRATION RESISTANCE
• ADVANCED DIAGNOSTICS & COMMUNICATIONS	▸ HARDENED RELIABILITY

primary codes and standards

NEMA · c UL us LISTED · NFPA · ASTM INTERNATIONAL · ISO · ICC

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SD050 application and engineering data

ENGINE SPECIFICATIONS

General

Make	Deere
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	4
Type	In-Line
Displacement - L (cu. in.)	2.4 (149)
Bore - mm (in.)	86 (3.39)
Stroke - mm (in.)	105 (4.13)
Compression Ratio	18:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	Cast Iron OHV
Piston Type	4 - Alloy Aluminum
Connecting Rod Type	Dropped 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 - L (qts)	7.1 (7.5)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Flow	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Blade Number	6
Fan Diameter mm (in.)	457.2 (18)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120VAC

Fuel System

Fuel Type*	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump Make	Bosch (VE)
Fuel Pump Type	Engine Driven Gear
Injector Type	Pintel - 2100psi
Fuel Supply Line - mm (in.)	6.35 (0.25)
Fuel Return Line - mm (in.)	3.17 (0.125)

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator	20A
Battery Size (at 0°C)	925CCA/110AH
Battery Group	31
Battery Voltage	(1) 12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Synchronous Brushless
Bearings	Single Sealed Cartridge
Coupling	Direct, 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%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A.5	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1

Rating Definitions:
Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)
Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

SD050 operating data (60Hz)

POWER RATINGS (kW)

	STANDBY		PRIME	
Single-Phase 120/240VAC @1.0pf	50 kW	Amps: 208	44 kW	Amps: 183
Three-Phase 120/208VAC @0.8pf	50 kW	Amps: 173	44 kW	Amps: 153
Three-Phase 120/240VAC @0.8pf	50 kW	Amps: 150	44 kW	Amps: 132
Three-Phase 277/480VAC @0.8pf	50 kW	Amps: 75	44 kW	Amps: 66
Three-Phase 346/600VAC @0.8pf	50 kW	Amps: 60	44 kW	Amps: 53

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480VAC						208/240VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	50	34	52	69	86	103	120	26	39	52	65	77	90
Upsize 1	60	42	63	83	104	125	146	32	47	62	78	94	110
Upsize 2	na	-	-	-	-	-	-	-	-	-	-	-	-

FUEL

Fuel Pump Lift - in (mm)
36 (914)

Fuel Consumption Rates*

STANDBY			PRIME		
Percent Load	gph	lph	Percent Load	gph	lph
25%	1.12	4.24	25%	0.99	3.74
50%	2.19	8.29	50%	1.93	7.30
75%	3.21	12.13	75%	2.82	10.68
100%	4.16	15.76	100%	3.66	13.87

* Refer to "Emissions Data Sheet" for maximum fuel flow for EPA and SCAQMD permitting purposes.

COOLING

Coolant Capacities - Gal (L)	
System	4.5 (17.0)
Engine	2.75 (10.4)
Radiator	1.5 (5.7)

		STANDBY	PRIME
Coolant Flow per Minute	gpm (lpm)	28 (106)	28 (106)
Heat Rejection to Coolant	BTU/hr	135,900	109,000
Inlet Air	cfm (m3/min)	7,500 (212.4)	7,500 (212.4)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)	122 (50)
Max. Operating Ambient Temperature	F° (C°)	104 (40)	104 (40)
Maximum Radiator Backpressure	in H_2O	1.5	1.5

COMBUSTION AIR REQUIREMENTS

		STANDBY	PRIME
Flow at Rated Power	cfm (m3/min)	166 (4.7)	141 (4.0)

ENGINE

		STANDBY	PRIME
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW**	hp	79	64
Piston Speed	ft/min	1239	1239
BMEP	psi	189	151

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

EXHAUST

		STANDBY	PRIME
Exhaust Flow (Rated Output)	cfm (m^3/min)	448 (12.7)	380 (10.8)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	1044 (562)	925 (496)
Exhaust Outlet Size (Open Set)	NPT (male)	2"	2"

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.

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SD050

standard features and options

GENERATOR SET

●	Genset Vibration Isolation	Std
○	IBC Seismic Certified/Seismic Rated Vibration Isolators	Opt
○	Extended warranty	Opt
○	Gen-Link Communications Software	Opt
○	Steel Enclosure	Opt
○	Aluminum Enclosure	Opt

ENGINE SYSTEM

General

●	Oil Drain Extension	Std
○	Oil Make-Up System	Opt
○	Oil Heater	Opt
●	Air cleaner	Std
●	Fan guard	Std
●	Radiator duct adapter	Std

Fuel System

●	Fuel lockoff solenoid	Std
●	Secondary fuel filter	Std
●	Stainless steel flexible exhaust connection	Std
●	Industrial Exhaust Silencer	Std
○	Critical Exhaust Silencer	Opt
○	Flexible fuel lines	Opt
○	Primary fuel filter	Opt
○	Single Wall Tank (Export Only)	-
○	UL 142 Fuel Tank	Opt

Cooling System

○	120VAC Coolant Heater	Opt
○	208VAC Coolant Heater	Opt
○	240VAC Coolant Heater	Opt
○	Other Coolant Heater_____	-
●	Closed Coolant Recovery System	Std
●	UV/Ozone resistant hoses	Std
●	Factory-Installed Radiator	Std
●	Radiator Drain Extension	Std

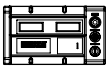
Engine Electrical System

●	Battery charging alternator	Std
●	Battery cables	Std
●	Battery tray	Std
○	Battery box	Opt
○	Battery heater	Opt
●	Solenoid activated starter motor	Std
○	2.5A UL battery charger	Opt
○	10A UL float/equalize battery charger	Opt
●	Rubber-booted engine electrical connections	Std

ALTERNATOR SYSTEM

●	UL2200 GENprotectTM	Std
○	Main Line Circuit Breaker	Opt
○	2nd Circuit Breaker	Opt
○	3rd Circuit Breaker	-
○	Alternator Upsizing	Opt
○	Anti-Condensation Heater	Opt
○	Tropical coating	Opt
○	Permanent Magnet Generator	Opt

CONTROL SYSTEM



Control Panel

●	Digital H Control Panel - Dual 4x20 Display	Std
○	Digital G-100 Control Panel - Touchscreen	na
○	Digital G-200 Paralleling Control Panel - Touchscreen	na
●	Programmable Crank Limiter	Std
○	21-Light Remote Annunciator	Opt
○	Remote Relay Panel (8 or 16)	Opt
●	7-Day Programmable Exerciser	Std
●	Special Applications Programmable PLC	Std
●	RS-232	Std
●	RS-485	Std
●	All-Phase Sensing DVR	Std
●	Full System Status	Std
●	Utility Monitoring (Req. H-Transfer Switch)	Std
●	2-Wire Start Compatible	Std
●	Power Output (kW)	Std
●	Power Factor	Std
●	Reactive Power	Std
●	All phase AC Voltage	Std
●	All phase Currents	Std
●	Oil Pressure	Std
●	Coolant Temperature	Std
●	Coolant Level	Std
○	Oil Temperature	Opt
●	Fuel Pressure	Std
●	Engine Speed	Std
●	Battery Voltage	Std
●	Frequency	Std
●	Date/Time Fault History (Event Log)	Std
○	Low-Speed Exercise	-
●	Isochronous Governor Control	Std
●	-40deg C - 70deg C Operation	Std
●	Waterproof Plug-In Connectors	Std
●	Audible Alarms and Shutdowns	Std
●	Not in Auto (Flashing Light)	Std
●	Auto/Off/Manual Switch	Std
●	E-Stop (Red Mushroom-Type)	Std
○	Remote E-Stop (Break Glass-Type, Surface Mount)	Opt
○	Remote E-Stop (Red Mushroom-Type, Surface Mount)	Opt
○	Remote E-Stop (Red Mushroom-Type, Flush Mount)	Opt
●	NFPA 110 Level I and II (Programmable)	Std
●	Remote Communication - RS232	Std
○	Remote Communication - Modem	Opt
○	Remote Communication - Ethernet	Opt
○	10A Run Relay	Opt

Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)

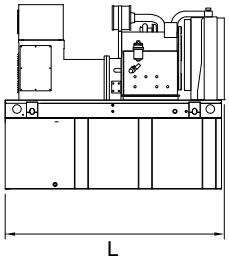
○	Low Fuel	Opt
●	Oil Pressure (Pre-programmed Low Pressure Shutdown)	Std
●	Coolant Temperature (Pre-programmed High Temp Shutdown)	Std
●	Coolant Level (Pre-programmed Low Level Shutdown)	Std
○	Oil Temperature	Opt
●	Engine Speed (Pre-programmed Overspeed Shutdown)	Std
●	Voltage (Pre-programmed Overvoltage Shutdown)	Std
●	Battery Voltage	Std

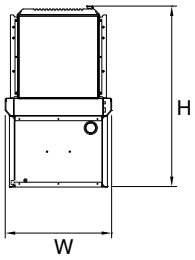
Other Options

○	_____	
○	_____	
○	_____	

SD050

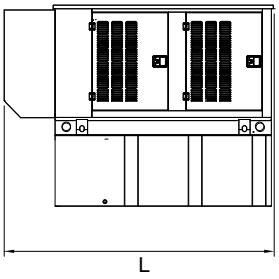
dimensions, weights and sound levels

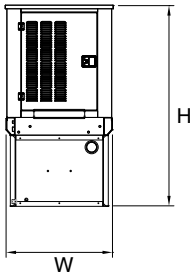




OPEN SET

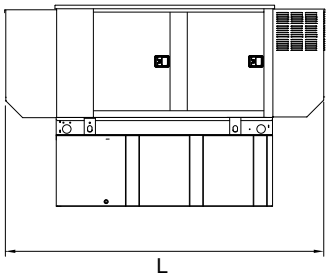
RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	76	38	43	1535	84
13	54	76	38	56	2015	
32	132	76	38	68	2245	
51	211	76	38	80	2454	

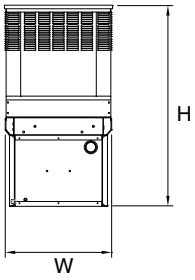




WEATHERPROOF ENCLOSURE

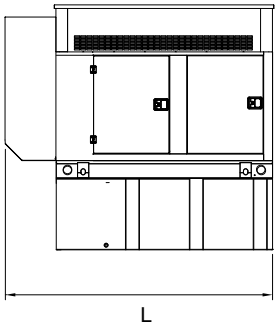
RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	95	38	46	1971	80
13	54	95	38	59	2451	
32	132	95	38	71	2681	
51	211	95	38	83	2890	

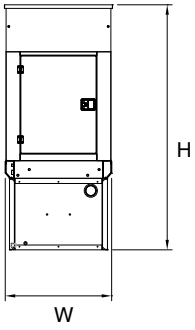




LEVEL 1 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	113	38	46	2230	71
13	54	113	38	59	2710	
32	132	113	38	71	2940	
51	211	113	38	83	3149	





LEVEL 2 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
-	-	-	-	-	-	-
-	-	-	-	-	-	
-	-	-	-	-	-	
-	-	-	-	-	-	

*All measurements are approximate and for estimation purposes only. Weights are without fuel in tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

Tank Options

○	MDEQ	OPT
○	Florida DERM/DEP	OPT
○	Chicago Fire Code	OPT
○	IFC Certification	CALL
○	ULC	CALL

Other Custom Options Available from your Generac Industrial Power Dealer

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.