

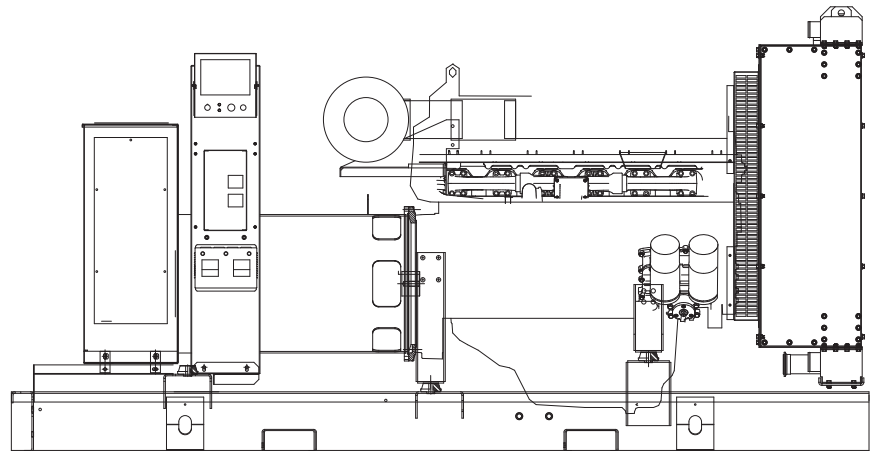
SD400

Industrial Diesel Generator Set

EPA Certified Stationary Emergency

Standby Power Rating
500kVA 400kW 60Hz

Prime Power Rating*
450kVA 360kW 60Hz

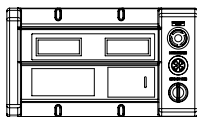
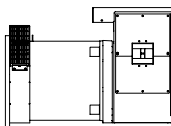
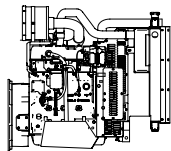
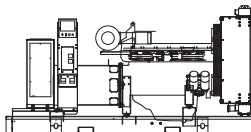


Generator image used for illustration purposes only

*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
- UL2200 TESTED
- RHINOCOAT PAINT SYSTEM
- WIDE RANGE OF ENCLOSURES AND TANKS
- ▶ PROVIDES A PROVEN UNIT
- ▶ ENSURES A QUALITY PRODUCT
- ▶ IMPROVES RESISTANCE TO ELEMENTS
- ▶ PROVIDES A SINGLE SOURCE SOLUTION

Engine

- EPA COMPLIANT
- INDUSTRIAL TESTED, GENERAC APPROVED
- POWER-MATCHED OUTPUT
- INDUSTRIAL GRADE
- ▶ ENVIRONMENTALLY FRIENDLY
- ▶ ENSURES INDUSTRIAL STANDARDS
- ▶ ENGINEERED FOR PERFORMANCE
- ▶ IMPROVES LONGEVITY AND RELIABILITY

Alternator

- TWO-THIRDS PITCH
- LAYER WOUND ROTOR & STATOR
- CLASS H MATERIALS
- DIGITAL 3-PHASE VOLTAGE CONTROL
- ▶ ELIMINATES HARMFUL 3RD HARMONIC
- ▶ IMPROVES COOLING
- ▶ HEAT TOLERANT DESIGN
- ▶ FAST AND ACCURATE RESPONSE

Controls

- ENCAPSULATED BOARD W/ SEALED HARNESS
- 4-20mA VOLTAGE-TO-CURRENT SENSORS
- SURFACE-MOUNT TECHNOLOGY
- ADVANCED DIAGNOSTICS & COMMUNICATIONS
- ▶ EASY, AFFORDABLE REPLACEMENT
- ▶ NOISE RESISTANT 24/7 MONITORING
- ▶ PROVIDES VIBRATION RESISTANCE
- ▶ HARDENED RELIABILITY

primary codes and standards



SD400

application and engineering data

ENGINE SPECIFICATIONS

General

Make	Volvo
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L	13
Bore - mm (in.)	131 (5.16)
Stroke - mm (in.)	158 (6.22)
Compression Ratio	18.8:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	4-Valve
Piston Type	Aluminum
Crankshaft 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
Crankcase Capacity - L (qts)	36 (38.02)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Flow	Pre - Lubed, Self Sealing
Fan Type	Pusher
Fan Speed (rpm)	1780 rpm
Fan Diameter mm (in.)	889 (35)
Coolant Heater Standard Wattage	2000
Coolant Heater Standard Voltage	240VAC

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	Common Rail
Engine Type	Pre-Combustion
Fuel Supply Line - mm (in.)	12.7 (½")
Fuel Return Line - mm (in.)	12.7 (½")

Engine Electrical System

System Voltage	24VDC
Battery Charging Alternator	Std
Battery Size (at 0°C)	1155 CCA
Battery Group	8D
Battery Voltage	(2) - 12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520 mm Generac
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 Magnent
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.

SD400

operating data (60Hz)

POWER RATINGS (kW)

	STANDBY		PRIME	
Three-Phase 120/208VAC @0.8pf	400 kW	Amps: 1388	360 kW	Amps: 1249
Three-Phase 120/240VAC @0.8pf	400 kW	Amps: 1203	360 kW	Amps: 1083
Three-Phase 277/480VAC @0.8pf	400 kW	Amps: 601	360 kW	Amps: 541
Three-Phase 346/600VAC @0.8pf	400 kW	Amps: 481	360 kW	Amps: 433

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	400	387	581	775	968	1162	1356	210	350	500	680	875	1100
Upsize 1	442	475	720	915	1145	1030	1290	-	-	-	-	-	-
Upsize 2	555	457	686	914	1143	1371	1600	-	-	-	-	-	-

FUEL

		Fuel Consumption Rates*					
		STANDBY			PRIME		
		Percent Load	gph	lph	Percent Load	gph	lph
Fuel Pump Lift - in (mm)	36 (900)	25%	8.8	33.3	25%	8	30.3
		50%	16.6	62.8	50%	15.1	57.2
		75%	23.7	89.7	75%	21.6	81.8
		100%	29.6	112.0	100%	26.9	101.8
Total Fuel Pump Flow (Combustion + Return)	33.3 gph						

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

COOLING

		STANDBY	PRIME
Coolant Flow per Minute	gpm (lpm)	87.1 (330)	87.1 (330)
Heat Rejection to Coolant	BTU/hr	1,091,293	991,749
Inlet Air	cfm (m3/min)	19,070 (539.7)	19,070 (539.7)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)	122 (50)
Max. Operating Ambient Temperature	F° (C°)	104 (40)	104 (40)
Coolant System Capacity	gal (L)	11.6 (44)	11.6 (44)
Maximum Radiator Backpressure	in H ₂ O	1.5	1.5

COMBUSTION AIR REQUIREMENTS

		STANDBY	PRIME
Flow at Rated Power	cfm (m3/min)	1100 (31.15)	990 (28.04)

ENGINE

		STANDBY	PRIME
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW**	hp	601	541
Piston Speed	ft/min	1866	1866
BMEP	psi	355	320

** 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)	2790 (79.0)	2511 (71.1)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	975 (524)	878 (470)
Exhaust Outlet Size (Open Set)	NPT (male)	127 (5.0)	127 (5.0)

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.

SD400

standard features and options

GENERATOR SET

<input checked="" type="radio"/>	Genset Vibration Isolation	Std
<input type="radio"/>	IBC Seismic Certified/Seismic Rated Vibration Isolators	Opt
<input type="radio"/>	Extended warranty	Opt
<input type="radio"/>	Gen-Link Communications Software	Opt
<input type="radio"/>	Steel Enclosure	Opt
<input type="radio"/>	Aluminum Enclosure	Opt

ENGINE SYSTEM

<u>General</u>		
<input checked="" type="radio"/>	Oil Drain Extension	Std
<input type="radio"/>	Oil Make-Up System	Opt
<input type="radio"/>	Oil Heater	Opt
<input checked="" type="radio"/>	Air cleaner	Std
<input checked="" type="radio"/>	Fan guard	Std
<input checked="" type="radio"/>	Radiator duct adapter	Std
<input checked="" type="radio"/>	Stainless steel flexible exhaust connection	Std
<input checked="" type="radio"/>	Industrial Exhaust Silencer	Std
<input type="radio"/>	Critical Exhaust Silencer	Opt
<u>Fuel System</u>		
<input checked="" type="radio"/>	Fuel lockoff solenoid	Std
<input checked="" type="radio"/>	Secondary fuel filter	Std
<input type="radio"/>	Flexible fuel lines	Opt
<input type="radio"/>	Primary fuel filter	Opt
<input type="radio"/>	Single Wall Tank (Export Only)	-
<input type="radio"/>	UL 142 Fuel Tank	Opt
<u>Cooling System</u>		
<input type="radio"/>	120VAC Coolant Heater	Opt
<input type="radio"/>	208VAC Coolant Heater	Opt
<input checked="" type="radio"/>	240VAC Coolant Heater	Std
<input type="radio"/>	Other Coolant Heater	-
<input checked="" type="radio"/>	Closed Coolant Recovery System	Std
<input checked="" type="radio"/>	UV/Ozone resistant hoses	Std
<input checked="" type="radio"/>	Factory-Installed Radiator	Std
<input checked="" type="radio"/>	Radiator Drain Extension	Std
<u>Engine Electrical System</u>		
<input checked="" type="radio"/>	Battery charging alternator	Std
<input checked="" type="radio"/>	Battery cables	Std
<input checked="" type="radio"/>	Battery tray	Std
<input type="radio"/>	Battery box	Opt
<input type="radio"/>	Battery heater	Opt
<input checked="" type="radio"/>	Solenoid activated starter motor	Std
<input type="radio"/>	10A UL float/equalize battery charger	Opt
<input checked="" type="radio"/>	Rubber-booted engine electrical connections	Std

ALTERNATOR SYSTEM

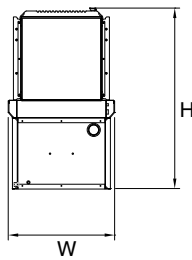
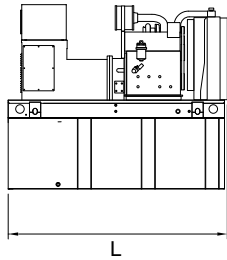
<input checked="" type="radio"/>	UL2200 GENprotect™	Std
<input type="radio"/>	Main Line Circuit Breaker	Opt
<input type="radio"/>	2nd Circuit Breaker	Opt
<input type="radio"/>	3rd Circuit Breaker	-
<input type="radio"/>	Alternator Upsizing	Opt
<input type="radio"/>	Anti-Condensation Heater	Opt
<input type="radio"/>	Tropical coating	Opt
<input checked="" type="radio"/>	Permanent Magnet Generator	Std

CONTROL SYSTEM

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

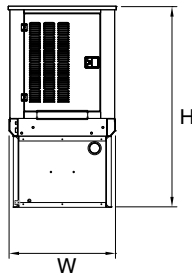
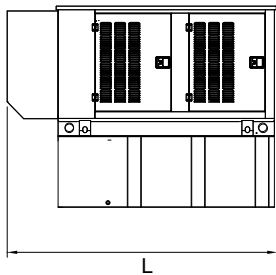
SD400

dimensions, weights and sound levels



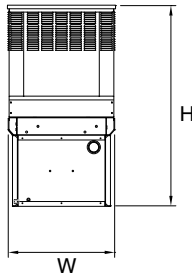
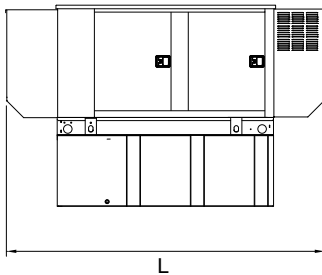
OPEN SET

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	136	58	65	6155	90
6	183	136	58	78	7103	
15	438	136	58	90	7415	
23	693	136	58	102	7718	
32	946	208	58	105	9362	
45	1325	278	58	105	10195	



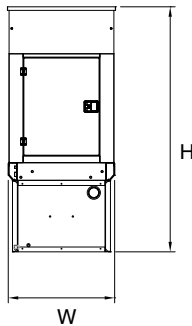
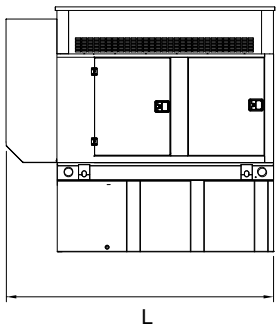
STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	175	58	78	8173	85
6	183	175	58	91	9121	
15	438	175	58	103	9433	
23	693	175	58	115	9736	
32	946	208	58	118	11380	
45	1325	278	58	118	12213	



LEVEL 1 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	200	58	78	8546	79
6	183	200	58	91	9494	
15	438	200	58	103	9806	
23	693	200	58	115	10109	
32	946	234	58	118	11753	
45	1325	304	58	118	12586	



LEVEL 2 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	181	58	107	8055	77
6	183	181	58	120	9003	
15	438	181	58	132	9315	
23	693	181	58	144	9618	
32	946	208	58	147	11262	
45	1325	278	58	147	12095	

*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

<input type="radio"/> MDEQ	OPT
<input type="radio"/> Florida DERM/DEP	OPT
<input type="radio"/> Chicago Fire Code	OPT
<input type="radio"/> IFC Certification	CALL
<input type="radio"/> 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.