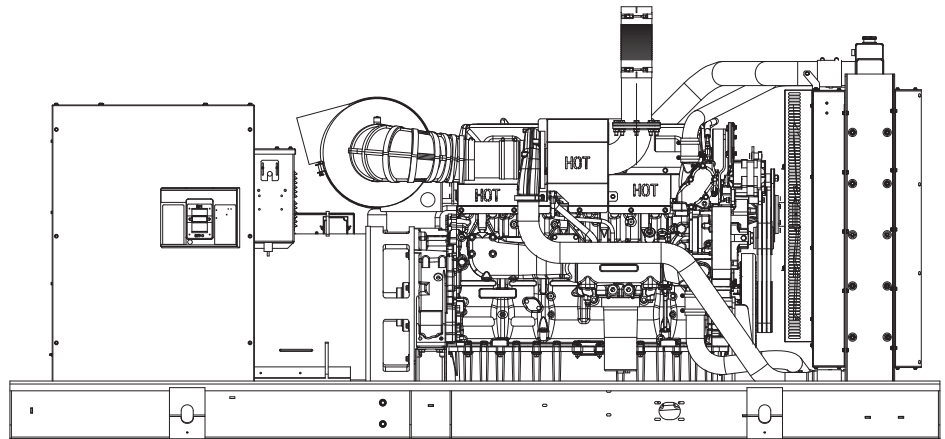


# SD500

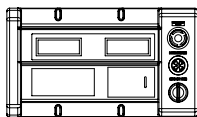
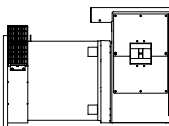
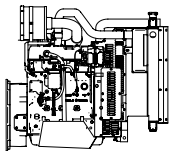
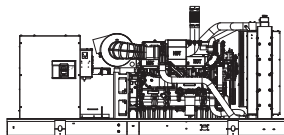
## Industrial Diesel Generator Set

EPA Certified Stationary Emergency

Standby Power Rating  
**625kVA 500kW 60Hz**



Generator image used for illustration purposes only



### 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
- ▶ MEETS EPA STANDARDS
- ▶ 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



## SD500

## application and engineering data

## ENGINE SPECIFICATIONS

**General**

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L	15.2
Bore - mm (in.)	137 (5.39)
Stroke - mm (in.)	171 (6.73)
Compression Ratio	16.0:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	4 Valve
Piston Type	Aluminum
Connecting Rod Type	I-Beam Section

**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 (Gal)	60 (15.8)

**Cooling System**

Cooling System Type	Closed Recovery
Water Pump	Centrifugal Type, Belt-Driven
Fan Type	Pusher
Fan Speed (rpm)	1658 rpm
Fan Diameter mm (in.)	927 (36.5)
Coolant Heater Standard Wattage	1500
Coolant Heater Standard Voltage	120VAC

**Fuel System**

Fuel Type	Ultra Low Sulfur Diesel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	Primary 10 - Secondary 2
Fuel Injection	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	MEUI
Engine Type	Pre-Combustion
Fuel Supply Line - mm (in.)	12.7 (½"NPT)
Fuel Return Line - mm (in.)	12.7 (½"NPT)

**Engine Electrical System**

System Voltage	24VDC
Battery Charging Alternator	70 Amps at 24V
Battery Size (at 0°C)	1155 CCA
Battery Group	8D
Battery Voltage	(2) - 12VDC
Ground Polarity	Negative

## ALTERNATOR SPECIFICATIONS

Standard Model	WEG
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Permanent Magnet
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)	± 1%

## 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
UL2200	

## 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.

# SD500

# operating data (60Hz)

## POWER RATINGS (kW)

### STANDBY

Three-Phase 120/208VAC @0.8pf	500 kW	Amps: 1735
Three-Phase 120/240VAC @0.8pf	500 kW	Amps: 1504
Three-Phase 277/480VAC @0.8pf	500 kW	Amps: 752
Three-Phase 346/600VAC @0.8pf	500 kW	Amps: 601

## STARTING CAPABILITIES (sKVA)

### sKVA vs. Voltage Dip

480VAC								208/240VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%	Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	500	457	686	914	1143	1371	1600	Standard	500	429	643	857	1071	1286	1500
Upsize 1	642	471	707	943	1179	1414	1650	Upsize 1	689	543	814	1086	1357	1629	1900
Upsize 2	832	757	1136	1514	1893	2271	2650	Upsize 2	723	571	857	1143	1429	1714	2000

## FUEL

### Fuel Consumption Rates\*

Fuel Pump Lift - M (ft)
3.7 (12)

### STANDBY

Percent Load	gph	lph
25%	10.5	39.7
50%	19.5	73.8
75%	23.7	89.7
100%	31.2	118.1

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

## COOLING

### STANDBY

Coolant Flow per Minute	gpm (lpm)	114.1 (432)
Heat Rejection to Coolant	BTU/hr	1,198,080
Inlet Air	cfm (m3/min)	30,582 (866)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)
Max. Operating Ambient Temperature	F° (C°)	104 (40)
Coolant System Capacity	gal (L)	13 (49)
Maximum Radiator Backpressure	in H <sub>2</sub> O	0.5

## COMBUSTION AIR REQUIREMENTS

### STANDBY

Flow at Rated Power	cfm (m3/min)	1483 (42)
---------------------	--------------	-----------

## ENGINE

### STANDBY

Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	762
Piston Speed	ft/min	2020
BMEP	psi	366

\*\* 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)	3955 (112)
Max. Backpressure (Post Silencer)	inHg (Kpa)	2.01 (6.8)
Exhaust Temp (Rated Output)	°F (°C)	1022 (550)
Exhaust Outlet Size (Open Set)		5"

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.

## SD500

## standard features and options

### GENERATOR SET

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

### ENGINE SYSTEM

General	
● Oil Drain Extension	Std
○ Oil Heater	Opt
● Air cleaner	Std
● Fan guard	Std
● Radiator duct adapter	Std
● Stainless steel flexible exhaust connection	Std
○ Critical Exhaust Silencer	Opt
Fuel System	
● Secondary fuel filter	Std
○ Flexible fuel lines	Opt
● Primary fuel filter	Std
○ UL 142 Fuel Tank	Opt
Cooling System	
● 120VAC Coolant Heater	Std
● 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 heater	Opt
● Solenoid activated starter motor	Std
○ 10A UL float/equalize battery charger	Opt
● Rubber-booted engine electrical connections	Std

### ALTERNATOR SYSTEM

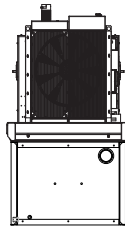
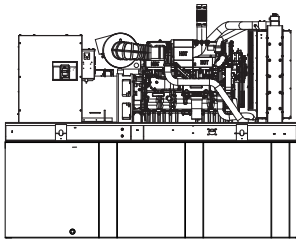
● GENprotect™ Alternator Protection Algorithm	Std
○ Main Line Circuit Breaker	Opt
○ 2nd Circuit Breaker	Opt
○ 3rd Circuit Breaker	-
○ Alternator Upsizing	Opt
○ Anti-Condensation Heater	Opt
○ Tropical coating	Opt
● Permanent Magnet Generator	Std

### CONTROL SYSTEM

Control Panel	
● Digital H Control Panel – Dual 4x20 Display	Std
○ 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
● Engine Speed	Std
● Battery Voltage	Std
● Frequency	Std
● Date/Time Fault History (Alarm & 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

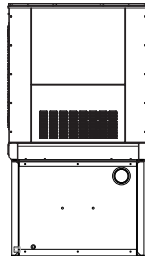
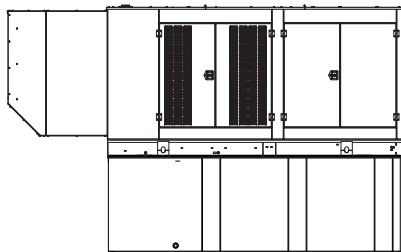
# SD500

## enclosure and tank configurations



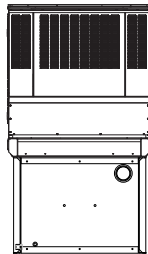
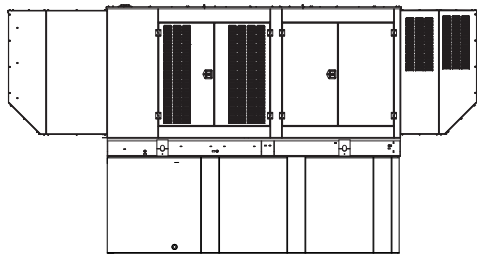
### OPEN SET

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
10	334
32	1001
32	1001
64	2002



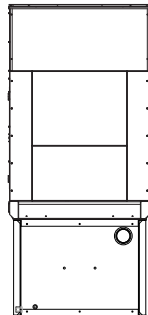
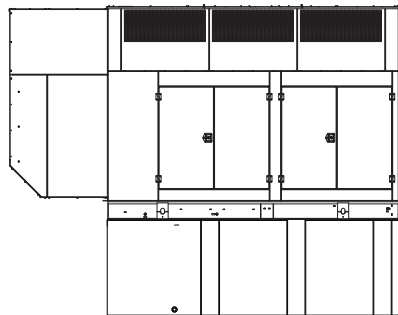
### STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
10	334
32	1001
32	1001
64	2002



### LEVEL 1 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
10	334
32	1001
32	1001
64	2002



### LEVEL 2 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
10	334
32	1001
32	1001
64	2002

\*All measurements are approximate and for estimation purposes only. Weights and dBA are available on install drawings and sound data sheets, respectively.

#### 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.