

SD600 | 18.1L | 600 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC® | **INDUSTRIAL
POWER**

Standby Power Rating

600 kW, 750 kVA, 60 Hz

Prime Power Rating*

540 kW, 675 kVA, 60 Hz



*Assembled in the USA using domestic and foreign parts

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

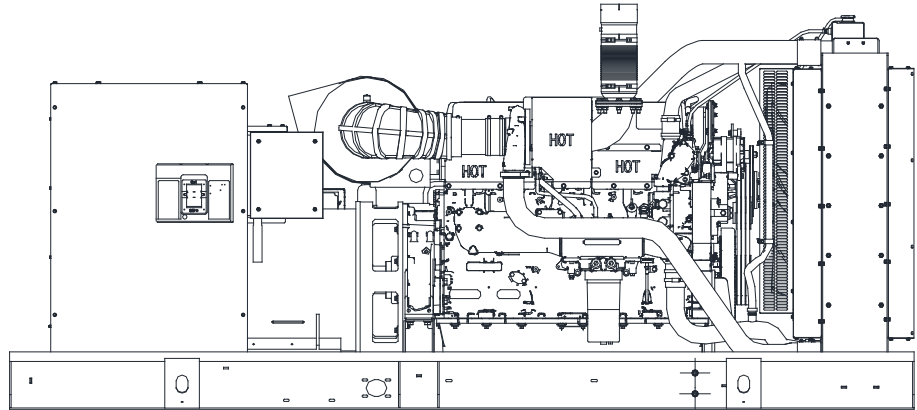


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Codes and Standards

Generac products are designed to the following standards:



UL2200, UL508, UL142, UL489



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

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
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Critical Exhaust Silencer (Enclosed Only)
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)

Fuel System

- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension
- 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
- Amortisseur Winding
- Permanent Magnet Excitation
- Sealed Bearings
- Automated Manufacturing (Winding, Insertion, Lacing and Varnishing)
- 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 (Enclosed Only)
- 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)

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

TANK (If Selected)

- UL 142
- 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 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)

CONFIGURABLE OPTIONS**ENGINE SYSTEM**

- Engine Coolant Heater
- Oil Heater
- Critical Grade Silencers
- Fan and Belt Guard
- Flexible Fuel Lines Included with Base Tank
- Stone Guard (Open Set Only)

ELECTRICAL SYSTEM

- Battery
- 10A UL Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater

CIRCUIT BREAKER OPTIONS

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

GENERATOR SET

- GenLink® Communications Software (English Only)
- 12 Position Load Center
- Alarm Horn
- Extended Factory Testing

ENCLOSURE

- Standard Enclosure (Weather)
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Level 2 Sound Attenuation with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- IBC Seismic Certification
- Up to 200 MPH Wind Load Rating*
- AC/DC Enclosure Lighting Kit

TANKS (Size On Last Page)

- Electronic Fuel Level
- Mechanical Fuel Level

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Ground Fault Indication and Protection Functions
- Engine Run Relay 10A (1-NO, 1- NC)
- 120 VAC GFCI outlet
- Oil Temperature Indication
- Remote Relay Panel (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)
- Remote Communication - Modem

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

ENGINEERED OPTIONS**ENGINE SYSTEM**

- Fluid Containment Pan
- Coolant Heater Ball Valves

ALTERNATOR SYSTEM

- 3rd Breaker Systems

CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)

GENERATOR SET

- Special Testing
- Battery Box

ENCLOSURE

- Intrusion Alert Door Switch
- Customer Color

TANKS

- Overfill Protection Valve
- UL 2085 Tank
- ULC S-601 Tank
- Stainless Steel Tank
- Special Fuel Tanks
- Vent Extensions
- 5 Gallon Spill Containment Box
- Dealer Supplied AHJ Requirements

*Consult factory for availability

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
Cylinder #	6
Type	In-Line
Displacement - L (Cu In)	18.13 (1,106.36)
Bore - mm (in)	145 (5.71)
Stroke - mm (in)	183 (7.20)
Compression Ratio	14.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	4-Valve
Piston Type	Aluminum
Crankshaft 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
Crankcase Capacity - L (qts)	45 (47.55)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Centrifugal Type, Belt-Driven
Fan Type	Pusher
Fan Speed (rpm)	1,439
Fan Diameter - mm (in)	965 (38)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel #2
Carburetor	ASTM
Fuel Filtering (microns)	Primary 10 - Secondary 2
Fuel Inject Pump Make	Electronic
Injector Type	MEUI
Engine Type	Pre-Combustion
Fuel Supply Line - mm (in.)	12.7 (0.5) NPT
Fuel Return Line - mm (in.)	12.7 (0.5) NPT

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) - 12 VDC
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 Excitation
Bearings	Single Sealed Cartridge
Coupling	Direct Via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

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OPERATING DATA

POWER RATINGS

Standby		
Three-Phase 120/208 VAC @0.8pf	600 kW	Amps: 2,081
Three-Phase 120/240 VAC @0.8pf	600 kW	Amps: 1,804
Three-Phase 277/480 VAC @0.8pf	600 kW	Amps: 903
Three-Phase 346/600 VAC @0.8pf	600 kW	Amps: 723

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

480 VAC								208/240 VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%	Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	600	743	1,114	1,486	1,857	2,229	2,600	Standard	600	543	814	1,086	1,357	1,629	1,900
Upsize 1	832	757	1,136	1,514	1,893	2,271	2,650	Upsize 1	723	571	857	1,143	1,429	1,714	2,000

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)		Diesel - gph (lph)	
12 (3.7)		Percent Load	Standby
		25%	18.4 (69.7)
		50%	28.2 (88.7)
Total Fuel Pump Flow (Combustion + Return) gph (lph)		75%	35.6 (124.8)
121 (457)		100%	41.4 (156.7)

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

COOLING

		Standby
Coolant Flow per Minute	gpm (lpm)	114.1 (432)
Coolant System Capacity	gal (L)	13 (49)
Heat Rejection to Coolant	BTU/hr	1,589,760
Inlet Air	cfm (m³/min)	30,088 (852)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating 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 (m³/min)
1,836 (52)

ENGINE

Standby		
Rated Engine Speed	rpm	1,800
Horsepower at Rated kW**	hp	909
Piston Speed	ft/min	2,161.4
BMEP	psi	361

EXHAUST

Standby		
Exhaust Flow (Rated Output)	cfm (m³/min)	4,980 (141)
Maximum Exhaust Backpressure	inHg (kPa)	2.13 (6.9)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,029 (554)

** 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 consult 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

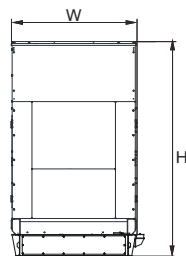
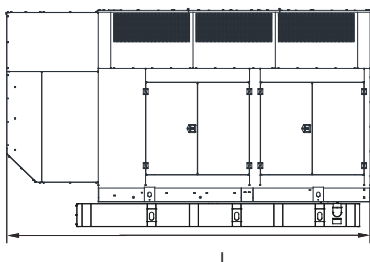
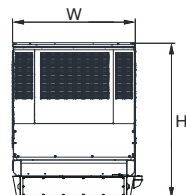
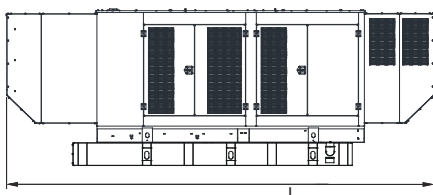
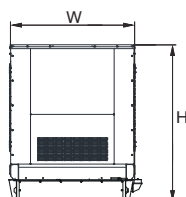
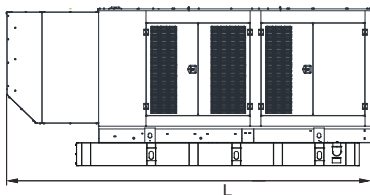
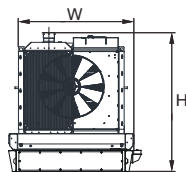
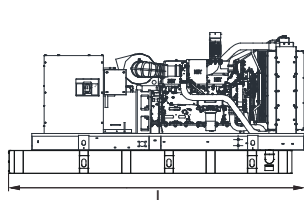
Prime - See Bulletin 0187510SSB

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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	-	154.4 (3,923) x 71 (1,803) x 67 (1,702)	10,375 (4,706)
8	334 (358)	158.5 (4,026) x 71 (1,803) x 81 (2,057)	12,050 (4,566)
24	1,001 (1,026)	158.5 (4,026) x 71 (1,803) x 103 (2,616)	12,975 (5,885)
24	1,001 (1,035)	228 (5,791) x 71 (1,803) x 92 (2,337)	13,525 (6,135)
48	2,002 (2,038)	290 (7,366) x 71 (1,803) x 103 (2,616)	15,225 (6,906)

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	-	207.4 (5,268) x 71 (1,803) x 80 (2,032)	1,999 (907)	869 (394)
8	334 (358)	207.4 (5,268) x 71 (1,803) x 94 (2,388)		
24	1,001 (1,026)	207.4 (5,268) x 71 (1,803) x 116 (2,946)		
24	1,001 (1,035)	228 (5,791) x 71 (1,803) x 105 (2,667)		
48	2,002 (2,038)	290 (7,366) x 71 (1,803) x 116 (2,946)		

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	-	247.5 (6,285) x 71 (1,803) x 80 (2,032)	2,782 (1,262)	1,291 (586)
8	334 (358)	247.5 (6,285) x 71 (1,803) x 94 (2,388)		
24	1,001 (1,026)	247.5 (6,285) x 71 (1,803) x 116 (2,946)		
24	1,001 (1,035)	247.5 (6,285) x 71 (1,803) x 105 (2,667)		
48	2,002 (2,038)	290 (7,366) x 71 (1,803) x 116 (2,946)		

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	-	207.4 (5,268) x 71 (1,803) x 114 (2,899)	3,330 (1,510)	1,522 (692)
8	334 (358)	207.4 (5,268) x 71 (1,803) x 128 (3,251)		
24	1,001 (1,026)	207.4 (5,268) x 71 (1,803) x 150 (3,810)		
24	1,001 (1,035)	228 (5,791) x 71 (1,803) x 139 (3,531)		
48	2,002 (2,038)	290 (7,366) x 71 (1,803) x 150 (3,810)		

* All measurements are approximate and for estimation purposes only.

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.