

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

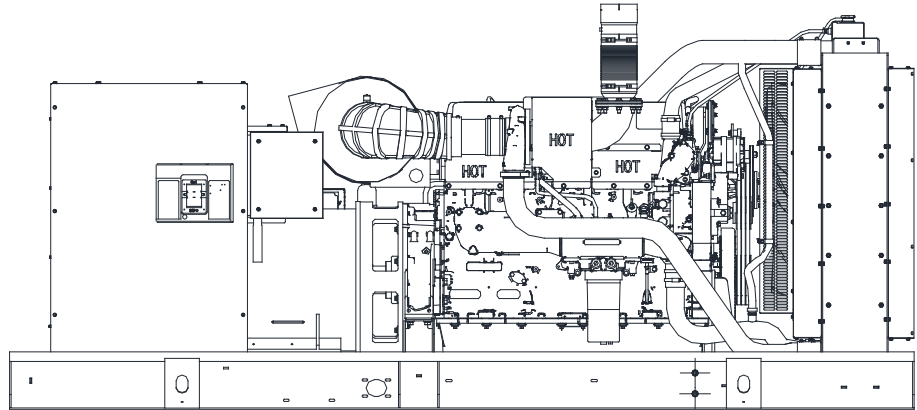



Image used for illustration purposes only



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

Codes and Standards


Not all codes and standards apply to all configurations. Contact factory for details.


 UL2200, UL6200, UL1236, UL489, UL142


 CSA C22.2, ULC S601


 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 60 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
- Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Critical Silencer (Enclosed Units Only)
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)

Fuel System

- Primary Fuel Filter
- Secondary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

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

ALTERNATOR SYSTEM

- UL2200 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 Units 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 Units Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (If Selected)

- UL 142/ULC S601
- 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

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
- All 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)

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

- Oil Heater
- Critical Grade Silencers (Open Set Only)
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Radiator Stone Guard (Open Set Only)

ELECTRICAL SYSTEM

- 10A UL Listed 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 Breaker

GENERATOR SET

- 12 Position Load Center
- Extended Factory Testing

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- IBC Seismic Certification
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Enclosure Heater (with Motorized Dampers Only)

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Panel (8 or 16)
- Ground Fault Annunciator
- 10A Engine Run Relay
- 120V GFCI and 240V Outlets
- Oil Temperature Indication and 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)
- Damper Alarm Contacts (with Motorized Dampers Only)
- 100 dB Alarm Horn

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

CIRCUIT BREAKERS

- 3rd Breaker Systems

CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)

GENERATOR SET

- Special Testing
- Battery Box

ENCLOSURE

- Door Open Alarm Switch

FUEL TANKS

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

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
Cylinder #	6
Type	In-Line
Displacement - In ³ (L)	1,106.36 (18.13)
Bore - in (mm)	5.71 (145)
Stroke - in (mm)	7.20 (183)
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 Driven
Oil Filter Type	Full Flow
Crankcase Capacity - qt (L)	47.55 (45)

Cooling System

Cooling System Type	Centrifugal
Fan Type	Pusher
Fan Speed - RPM	1,439
Fan Diameter - in (mm)	38 (965)

Fuel System

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

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	70 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) - 12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0792124Y23
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 via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

OPERATING DATA

POWER RATINGS - DIESEL

		Standby
Three-Phase 120/208 VAC @0.8pf	600 kW	Amps: 2,082
Three-Phase 120/240 VAC @0.8pf	600 kW	Amps: 1,804
Three-Phase 277/480 VAC @0.8pf	600 kW	Amps: 902
Three-Phase 346/600 VAC @0.8pf	600 kW	Amps: 722

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0792124Y23	2,250	K0792124Y23	2,130
K0832124Y23	2,800	K0832124Y23	2,090

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)	Diesel - gph (Lph)	
	Percent Load	Standby
12 (3.7)	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	gpm (Lpm)	114.1 (432)
Coolant System Capacity	gal (L)	15.5 (58.6)
Heat Rejection to Coolant	BTU/hr (kW)	1,589,760 (466)
Air Flow (Fan Air Flow Across Radiator) - Open Set	cfm (m ³ /min)	30,088 (852)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Additional Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power - cfm (m ³ /min)	1,836 (52)

ENGINE

EXHAUST

ENGINE			EXHAUST		
		Standby			Standby
Rated Engine Speed	RPM	1,800	Exhaust Flow (Rated Output)	cfm (m ³ /min)	5,085 (144)
Horsepower at Rated kW**	hp	909	Maximum Allowable Exhaust Backpressure (Post Silencer)	inHg (kPa)	2.13 (6.9)
Piston Speed	ft/min (m/min)	2,161 (659)	Exhaust Temperature (Rated Output - Post Turbo)	°F (°C)	1,155 (624)
BMEP	psi (kPa)	361 (2,489)			

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

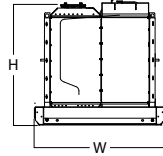
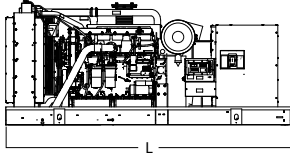
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.

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

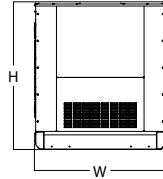
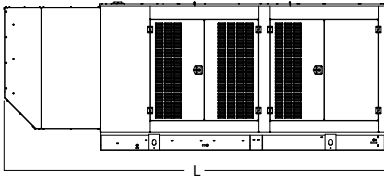
Prime - See Bulletin 0187510SSB

DIMENSIONS AND WEIGHTS*



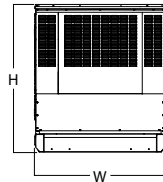
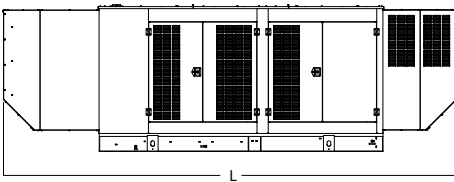
OPEN SET

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	154.4 (3,923) x 71.0 (1,803) x 67.5 (1,715)	8,520 - 10,778 (3,464 - 4,889)
8	334 (1,264)	158.5 (4,025) x 71.0 (1,803) x 81.5 (2,071)	10,195 - 12,453 (4,224 - 5,649)
24	1,001 (3,789)	158.5 (4,025) x 71.0 (1,803) x 103.5 (2,629)	11,120 - 13,378 (4,643 - 6,068)
24	1,001 (3,789)	228.0 (5,791) x 71.0 (1,803) x 92.5 (2,350)	11,670 - 13,928 (4,893 - 6,318)
48	2,002 (7,578)	290.0 (7,366) x 71.0 (1,803) x 103.5 (2,629)	13,370 - 15,628 (5,664 - 7,089)



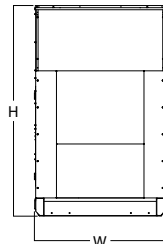
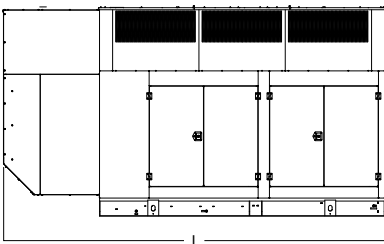
WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight (Enclosure Only) - lbs (kg)
No Tank	-	207.4 (5,268) x 71.0 (1,800) x 80.0 (2,032)	Steel: 2,267 (1,129) Aluminum: 1,180 (536)
8	334 (1,264)	207.4 (5,268) x 71.0 (1,800) x 94.0 (2,388)	
24	1,001 (3,789)	207.4 (5,268) x 71.0 (1,800) x 116.0 (2,946)	
24	1,001 (3,789)	228.0 (5,791) x 71.0 (1,800) x 105.0 (2,667)	
48	2,002 (7,578)	290.0 (7,366) x 71.0 (1,800) x 116.0 (2,946)	



LEVEL 1 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight (Enclosure Only) - lbs (kg)
No Tank	-	247.5 (6,285) x 71.0 (1,800) x 80.0 (2,032)	Steel: 3,273 (1,485) Aluminum: 1,613 (732)
8	334 (1,264)	247.5 (6,285) x 71.0 (1,800) x 94.0 (2,388)	
24	1,001 (3,789)	247.5 (6,285) x 71.0 (1,800) x 116.0 (2,946)	
24	1,001 (3,789)	247.5 (6,285) x 71.0 (1,800) x 105.0 (2,667)	
48	2,002 (7,578)	290.0 (7,366) x 71.0 (1,800) x 116.0 (2,946)	



LEVEL 2 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight (Enclosure Only) - lbs (kg)
No Tank	-	207.4 (5,268) x 71.0 (1,800) x 114.1 (2,899)	Steel: 3,610 (1,638) Aluminum: 1,758 (798)
8	334 (1,264)	207.4 (5,268) x 71.0 (1,800) x 128.1 (3,255)	
24	1,001 (3,789)	207.4 (5,268) x 71.0 (1,800) x 150.1 (3,813)	
24	1,001 (3,789)	228.0 (5,791) x 71.0 (1,800) x 139.1 (3,534)	
48	2,002 (7,578)	290.0 (7,366) x 71.0 (1,800) x 150.1 (3,813)	

* 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 contact a Generac Power Systems Industrial Dealer for detailed installation drawings.