

SD750 & MD750 | 18.1L | 750 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL
POWER

Standby Power Rating

750 kW, 938 kVA, 60 Hz

Prime Power Rating

675 kW, 844 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.



Image used for illustration purposes only

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



NEMA ICS10, MG1, 250, ICS6,
AB1



ANSI C62.41

Powering Ahead

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac provides 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 for the most reliable engines to 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 Silencer (Enclosed Units Only)
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Oil Temperature Indication and Alarm

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
- Full Load Capacity Alternator
- Protective Thermal Switch
- MD Only: Main Line Circuit Breaker

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 Tank
- 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



Power Zone® Pro Sync Controller

- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, and Ethernet 10/100
- Alarm and Event Logging with Real Time Stamping

- Expandable Analog and Digital Inputs and Outputs
- Remote Wireless Software Update Capable
- BMS and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics
- On-Board Manual Storage

Protections

- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Sensor Failure
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- High/Low Battery Voltage
- Battery Charger Current

- Phase to Phase and Phase to Neutral Short Circuits (I²T Algorithm)

7 Inch Color Touch Screen Display

- Resistive Color Touch Screen
- Sunlight Readable (1400 NITS)
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring
- Three Phase Voltage, Amperage, kW, kVA, and kVAr
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information

PARALLELING CONTROLS

- Auto-Synchronization Process
- Isochronous Load Sharing
- Reverse Power Protection

- Maximum Power Protection
- Electrically Operated, Mechanically Held Paralleling Switch
- Sync Check System

- Optional Programmable Logic Full Auto Back-Up Controls (PLS)
- Independent On Board Paralleling
- Shunt Trip and Auxiliary Contact

CONFIGURABLE OPTIONS**ENGINE SYSTEM**

- Engine Coolant Heater
- 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 Breakers

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
- Level 3 Sound Attenuated (Steel Only)
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Switch
- Enclosure Heaters (with Motorized Dampers Only)

CONTROL SYSTEM

- NFPA 110 Level 1 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (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
- Remote Communication — Modem
- Damper Alarm Contacts (with Motorized Dampers Only)
- 100 dBA Alarm Horn

WARRANTY (Standby Gensets Only)

- 2 Year Extended 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

GENERATOR SET

- Special Testing
- Battery Box

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

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
Cylinder #	6
Type	In-Line
Displacement - in³ (L)	543 (18.1)
Bore - in (mm)	5.71 (145)
Stroke - in (mm)	7.20 (183)
Compression Ratio	14.0:1
Intake Air Method	Turbocharged/Intercooled
Number of Main Bearings	7
Cylinder Head Type	Cast Iron
Piston Type	Aluminum

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear Driven
Oil Filter Type	Full Flow Spin-On Cartridge
Crankcase Capacity - qt (L)	71.8 (68)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed - RPM	1,440
Fan Diameter - in (mm)	45 (1,143)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel
Fuel Filtering (Microns)	10 Primary and 2 Secondary
Injector Type	EUI
Fuel Supply Line - in (mm)	84 (2,134)
Fuel Return Line - in (mm)	84 (2,134)

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	50 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0820124Y22
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 Magnet
Bearings	Sealed Ball
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	750 kW	Amps: 2,605
Three-Phase 120/240 VAC @0.8pf	750 kW	Amps: 2,258
Three-Phase 277/480 VAC @0.8pf	750 kW	Amps: 1,129
Three-Phase 346/600 VAC @0.8pf	750 kW	Amps: 903

MOTOR STARTING CAPABILITIES (SKVA)

skVA vs. Voltage Dip			
277/480 VAC	30%	208/240 VAC	30%
K0820124Y22	2,100	K0820124Y22	1,500
K0912124Y22	2,700	K0912124Y22	2,000
K1000124Y22	2,700	K1000124Y22	1,900

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)	Diesel - gph (Lph)	
	Percent Load	Standby
12 (3.7)	25%	14.3 (54.1)
	50%	25.6 (97.0)
Total Fuel Pump Flow (Combustion + Return) - gph (Lph)	75%	38.0 (143.8)
111 (420)	100%	49.7 (188.0)

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

COOLING

		Standby
Air Flow (Fan Air Flow Across Radiator) - Open Set	scfm (m³/min)	27,376 (775.2)
Coolant Flow	gpm (Lpm)	128 (485)
Coolant System Capacity	gal (L)	27.3 (103.3)
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 scfm — (m³/min)	2,507 (71)

ENGINE

		Standby
Rated Engine Speed	rpm	1,800
Horsepower at Rated kW**	hp	1,112
Piston Speed	ft/min (m/min)	2,160 (658)
BMEP	psi (kPa)	443 (3,053)

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

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m³/min)	6,397 (181)
Maximum Allowable Back Pressure (Post Silencer)	inHg (kPa)	2.95 (9.99)
Exhaust Temp (Rated Output)	°F (°C)	918 (492)

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

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DIMENSIONS AND WEIGHTS*

OPEN SET



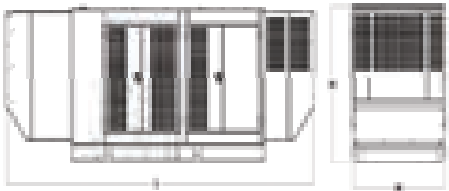
Run Time Hours**	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	—	154.4 (3,923) x 71.0 (1,803) x 74.5 (1,893)	10,468 - 10,913 (4,748 - 4,950)
6	334 (1,264)	158.5 (4,025) x 71.0 (1,803) x 88.5 (2,248)	12,143 - 12,588 (5,508 - 5,710)
20	1,001 (3,789)	158.5 (4,025) x 71.0 (1,803) x 110.5 (2,807)	16,277 - 13,513 (7,383 - 6,129)
20	1,001 (3,789)	228.0 (5,791) x 71.0 (1,803) x 99.5 (2,527)	13,618 - 14,063 (6,177 - 6,379)
40	2,002 (7,578)	290.0 (7,366) x 71.0 (1,803) x 110.5 (2,807)	15,318 - 15,763 (6,948 - 7,150)

WEATHER PROTECTED ENCLOSURE



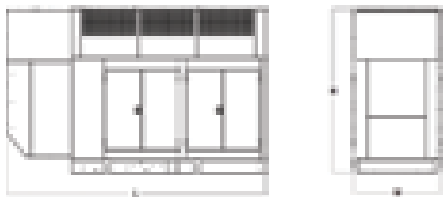
Run Time Hours**	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	—	207.4 (5,268) x 71.0 (1,803) x 80.0 (2,032)	2,467 (1,119)	1,380 (626)
6	334 (1,264)	207.4 (5,268) x 71.0 (1,803) x 94.0 (2,388)		
20	1,001 (3,789)	207.4 (5,268) x 71.0 (1,803) x 116.0 (2,946)		
20	1,001 (3,789)	228.0 (5,791) x 71.0 (1,803) x 105.0 (2,667)		
40	2,002 (7,578)	290.0 (7,366) x 71.0 (1,803) 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 - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	—	247.5 (6,285) x 71.0 (1,803) x 80.0 (2,032)	3,472 (1,575)	1,812 (622)
6	334 (1,264)	247.5 (6,285) x 71.0 (1,803) x 94.0 (2,388)		
20	1,001 (3,789)	247.5 (6,285) x 71.0 (1,803) x 116.0 (2,946)		
20	1,001 (3,789)	247.5 (6,285) x 71.0 (1,803) x 105.0 (2,667)		
40	2,002 (7,578)	290.0 (7,366) x 71.0 (1,803) 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 - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	—	207.4 (5,268) x 71.0 (1,803) x 114.1 (2,899)	3,809 (1,728)	1,955 (887)
6	334 (1,264)	207.4 (5,268) x 71.0 (1,803) x 128.1 (3,255)		
20	1,001 (3,789)	207.4 (5,268) x 71.0 (1,803) x 150.1 (3,813)		
20	1,001 (3,789)	228.0 (5,791) x 71.0 (1,803) x 139.1 (3,534)		
40	2,002 (7,578)	290.0 (7,366) x 71.0 (1,803) 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 consult a Generac Power Systems Industrial Dealer for detailed installation drawings.