MD500 | 15.2L | 500 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating
500 kW, 625 kVA, 60 Hz

Prime Power Rating*
450 kW, 563 kVA, 60 Hz

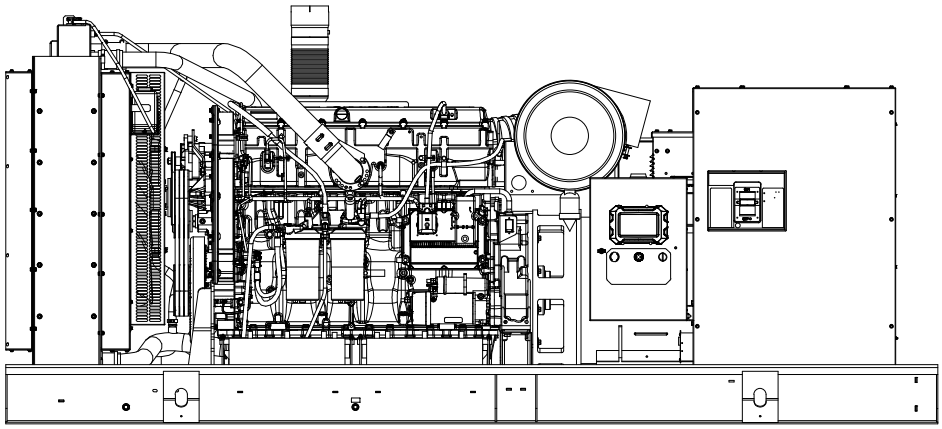

Image used for illustration purposes only

ISO 9001:2008

USA ENGINEERED & BUILT*

*Assembled in the USA using domestic and foreign parts

*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, 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

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.

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GENERAC | INDUSTRIAL POWER

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

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™
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Amortisseur Winding
- Permanent Manget Excitation
- Sealed Bearings
- Full Load Capacity Alternator
- Protective Thermal Switch
- 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
- 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

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
- Stainless Hardware

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
- Wi-Fi®, Bluetooth®, 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
- Arc Flash Maintenance Mode (When Properly Equipped)

Alarms and Warnings

- 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 (I^2T 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
- Independent On-Board Paralleling
- Optional Programmable Logic Full Auto Back-Up Controls (PLS)
- Shunt Trip and Auxiliary Contact

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GENERAC® | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Engine Coolant Heater
- ○ Oil Heater
- ○ Level 1 Fan and Belt Guards (Open Set Only)
- ○ Radiator Stone Guard (Open Set Only)

FUEL SYSTEM

- ○ NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- ○ 10A UL Listed Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater

CIRCUIT BREAKER OPTIONS

- ○ 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
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ IBC Seismic Certification/OSHPD Preapproval
- ○ Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- ○ AC/DC Enclosure Lighting Kit
- ○ Enclosure Heater

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

CONTROL SYSTEM

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

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pans

CONTROL SYSTEM

- ○ Battery Disconnect Switch

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

ENCLOSURE

- ○ Door Open Alarm Horn

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INDUSTRIAL DIESEL GENERATOR SET

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
Cylinder #	6
Type	In-Line
Displacement - In^3 (L)	927.56 (15.2)
Bore - in (mm)	5.39 (137)
Stroke - in (mm)	6.73 (171)
Compression Ratio	16.0:1
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 - qt (L)	47.55 (45)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Centrifugal Type, Belt-Driven
Fan Type	Pusher
Fan Speed - RPM	1,658
Fan Diameter - in (mm)	36.5 (927)

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 - 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	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) - 12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0500124Y23
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%

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OPERATING DATA

POWER RATINGS - DIESEL

		Standby
Three-Phase 277/480 VAC @0.8pf	500 kW	Amps: 752
Three-Phase 346/600 VAC @0.8pf	500 kW	Amps: 601

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%
K0500124Y23	1,050
K0600124Y23	1,560
K0832124Y23	2,800

FUEL CONSUMPTION RATES*

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

Total Fuel Pump Flow (Combustion + Return) gph (Lph)
121 (457)

Diesel - gph (Lph)

Percent Load	Standby
25%	11.2 (42.3)
50%	17.5 (66.3)
75%	24.2 (91.4)
100%	32.0 (121.1)

* 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 (586)
Heat Rejection to Coolant	BTU/hr (kW)	648,307 (190)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Air Flow (Fan Air Flow Across Radiator)	cfm (m^3/min)	30,582 (866)
Maximum Allowable Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power - cfm (m^3/min)	1,483 (42)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	755
Piston Speed	ft/min (m/min)	2,020 (616)
BMEP	psi (kPa)	358 (2,468)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m^3/min)	3,955 (112)
Maximum Backpressure (Post Silencer)	inHg (kPa)	2.01 (6.8)
Exhaust Temperature (Rated Output - Post Silencer)	°F (°C)	1,022 (550)

** 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.

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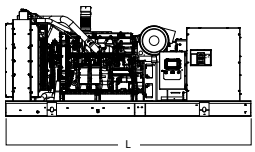
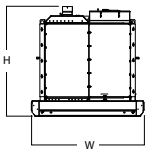
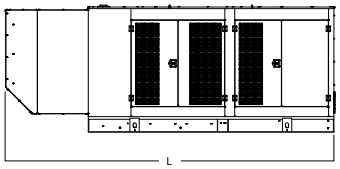
DIMENSIONS AND WEIGHTS*

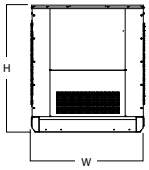




OPEN SET

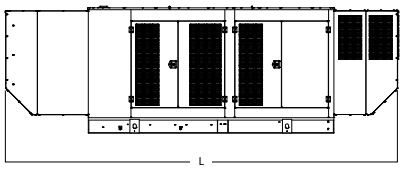
Run Time Hours	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	154.4 (3,923) x 71.0 (1,803) x 67.3 (1,709)	8,393 - 10,580 (3,807 - 4,799)
10	334	158.5 (4,025) x 71.0 (1,803) x 81.3 (2,065)	10,068 - 12,255 (4,567 - 5,559)
31	1,001	158.5 (4,025) x 71.0 (1,803) x 103.3 (2,623)	10,993 - 13,180 (4,986 - 5,978)
31	1,001	228.0 (5,791) x 71.1 (1,803) x 92.3 (2,344)	11,543 - 13,730 (5,236 - 6,228)
62	2,002	290.0 (7,366) x 71.0 (1,803) x 103.3 (2,623)	13,243 - 15,430 (6,007 - 6,936)

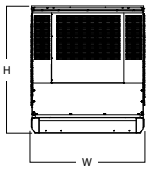




WEATHER PROTECTED ENCLOSURE

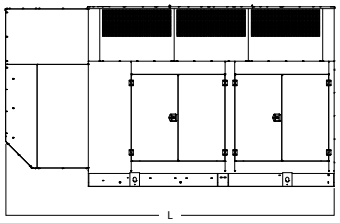
Run Time Hours	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	207.4 (5,268) x 70.9 (1,800) x 79.9 (2,031)		
10	334	207.4 (5,268) x 70.9 (1,800) x 93.9 (2,387)		
31	1,001	207.4 (5,268) x 70.9 (1,800) x 115.9 (2,945)	2,238 (1,015)	1,151 (522)
31	1,001	228.0 (5,791) x 70.9 (1,800) x 104.9 (2,666)		
62	2,002	290.0 (7,366) x 70.9 (1,800) x 115.9 (2,945)		

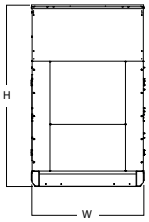




LEVEL 1 SOUND ATTENUATED ENCLOSURE

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 70.9 (1,800) x 80.0 (2,032)		
10	334	247.5 (6,285) x 70.9 (1,800) x 94.0 (2,388)		
31	1,001	247.5 (6,285) x 70.9 (1,800) x 116.0 (2,946)	3,243 (1,471)	1,583 (718)
31	1,001	247.5 (6,285) x 70.9 (1,800) x 105.0 (2,667)		
62	2,002	290.0 (7,366) x 70.9 (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 - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	207.4 (5,268) x 70.9 (1,800) x 114.1 (2,899)		
10	334	207.4 (5,268) x 70.9 (1,800) x 128.1 (3,255)		
31	1,001	207.4 (5,268) x 70.9 (1,800) x 150.1 (3,813)	3,580 (1,624)	1,726 (783)
31	1,001	228.0 (5,791) x 70.9 (1,800) x 139.1 (3,534)		
62	2,002	290.0 (7,366) x 70.9 (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.

SPEC SHEET

Generac Power Systems, Inc. | P.O.Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Part No A0001404641
Rev. A 06/14/2021