

## D3.4L

### Diesel Generator Set



Standby Power Rating

35 kW, 60Hz

40 kW, 60Hz

50 kW, 60Hz

Image used for illustration purposes only

Codes or standards compliance listing may not be available with all configurations.

Consult factory for details.



\*Assembled in the USA using domestic and foreign parts



UL2200, UL508, UL489, UL142



CSA C22.2, ULC S601



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC 700, 701, 702, 708



ISO 9001, 8528, 3046, 7637



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

- Control System - NFPA 110 Level 1 Compliant
- Cooling System can operate at up to 50°C (122°F) Ambient
- Fast Starting - NFPA 110 Type 10 starting capable
- Ruggedness - Can accept full rated load in a single step
- Alternator - Low Temperature Rise (<120°C) alternators with permanent magnet excitation
- Prototype Tested - Prototype Testing performed in accordance with requirements of NFPA 110 for Level 1 systems

**SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.

## 35 • 40 • 50 kW

## Application and Engineering Data

## STANDARD FEATURES

## ENGINE SYSTEM

## General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Exhaust Silencer (Enclosed Only)
- Engine Block Heater, Factory Installed (1500W, 120W)

## Fuel System

- Fuel Shutoff Solenoid
- Primary Fuel Filter

## Cooling System

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

## Engine Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections

## 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
- Silencer Mounted in the Discharge Hood (enclosed units only)
- 120V GFCI and 240V Outlets

## TANKS (If Selected)

- UL142/ULC S601
- Emergency Vent
- Double Wall Construction
- Sloped Top and Bottom
- Factory Pressure Tested
- Rupture Basin Alarm
- Electronic and Visual Fuel Level Indication

## ALTERNATOR SYSTEM

- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation System
- Sealed Bearings
- Amortisseur Winding
- Full Load Capacity Alternator

## 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

## OPTIONAL FEATURES

## Available Voltages

- 120/240V 1-Phase
- 120/208V 3-Phase
- 120/240V 3-Phase
- 277/480V 3-Phase

## Engine Options and Accessories

- Two-Stage Air Cleaner
- Air Filter Restriction Indicator
- Oil Temperature Indication and Alarms
- Oil Pan Heater
- Critical Exhaust Silencer (Open Set Only) \*

## Alternator Accessories

- Alternator Anti-Condensation Heater

## Battery/Charger Options

- Battery - Group 31, Factory Installed
- 10 Amp Automatic Float/Equalize Battery Charger
- Battery Warmer, Factory Installed

## Tanks

- Extended Fill and Vent
- Tank Risers
- Stainless Steel Fuel Lines
- Vent Extensions (12' Above Grade)

## Main Line Circuit Breaker Options (MLCB)

(Not all circuit breaker ratings available in options; consult factory)

- Standard MLCB (80%, Thermal-Magnetic)
- MLCB with 12VDC Shunt Trip and Auxiliary Contacts
- 100% Rated MLCB
- Electronic Trip (LSI) MLCB
- Optional Size MLCB
- Bus Bar Only (No MLCB)
- Dual MLCBs or MLCB and Bus Bar

## Enclosure Options and Accessories

- Weather Protected Enclosure
- Level 1 Sound Attenuated Enclosure
- Level 2 Sound Attenuated Enclosure
- Level 2 Sound Attenuated Enclosure with Motorized Dampers
- All enclosures available in steel or aluminum
- Enclosure Heater (Only Available with Motorized Dampers)
- Damper Actuator Position Alarm (Available only with Level 2 Sound Attenuated Enclosure with Motorized Dampers)
- Door Open Alarm Switch
- Universal Voltage AC/DC Light Kit

## Control System Options and Accessories

- Engine Run Relay
- Ground Fault Annunciation
- 21 Light Remote Annunciator \*
- 21 Light Remote Annunciator with 8 Function Alarm Assembly Relay \*
- 8 Function Alarm Relay Panel \*
- 16 Function Alarm Relay Panel \*
- Remote Emergency Stop-Break Glass \*
- Remote Emergency Stop-Surface Mount \*
- Remote Emergency Stop-Flush Mount \*
- 8 Position Auxiliary Load Center
- Extended 2 Hour Rated Power Factor Testing

## Warranty Options:

- 2 Year Extended Limited Warranty
- 5 Year Basic Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

\* Shipped loose item

Note: Not all options available in all configurations. Consult factory for details.

### Controller Features



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 Local 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
- Low Fuel Pressure Alarm
- 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)

### Generator Output Voltage/kW - 60Hz

Nom. kW	Voltage (3-phase unless noted)	kW (Standby)	Amp (Standby)	Standard CB Size
35	120/240, Single Phase	35	146	175
	120/208	35	122	150
	120/240	35	105	125
	277/480	35	53	60
40	120/240, Single Phase	40	167	200
	120/208	40	139	150
	120/240	40	120	150
	277/480	40	60	70
50	120/240, Single Phase	50	208	250
	120/208	50	173	200
	120/240	50	150	175
	277/480	50	75	90

**35 • 40 • 50 kW****Application and Engineering Data****Engine Fuel Consumption (Nominal)**

Nom. kW		gal/hr	L/hr
35	25% of Rated Load	1.03	3.90
	50% of Rated Load	1.72	6.52
	75% of Rated Load	2.40	9.09
	100% of Rated Load	3.10	11.74
40	25% of Rated Load	1.12	4.24
	50% of Rated Load	1.93	7.31
	75% of Rated Load	2.70	10.23
	100% of Rated Load	3.50	13.26
50	25% of Rated Load	1.30	4.29
	50% of Rated Load	2.30	8.71
	75% of Rated Load	3.30	12.50
	100% of Rated Load	4.30	16.36

Fuel Pump Lift (ft/m)	3 (1)
Total Fuel Pump Flow (Combustion + Return) (gal/hr)	4.5

Note: Fuel supply must be sized for Total Fuel Flow.

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes

**Engine Cooling**

	<b>35</b>	<b>40</b>	<b>50</b>
Inlet Air (Radiator)- cfm (m3/m)	7500 (212)	7500 (212)	7500 (212)
System Coolant Capacity- gal (L)	2.5 (9.5)	2.5 (9.5)	2.5 (9.5)
Heat rejection to coolant- BTU/hr	96,000	109,000	135,900
Max Operating Air Temperature- °F (°C)	122 (50)	122 (50)	122 (50)
Maximum Temperature Before Derate- °F (°C)	110 (43.3)	110 (43.3)	104 (40)
Maximum Altitude Before Derate- ft (m)	7,500 (2,286)	7,500 (2,286)	7,500 (2,286)
Derate	Derate for altitude is 3.0% for every 1000 ft above the baseline altitude. Derate for temperature is 1.7% for every 5° F or 3% for every 5° C above the baseline temperature.		
Maximum Radiator Backpressure- in H2O	0.5	0.5	0.5

**Combustion Air Requirements**

Flow at Rated Power- cfm (m3/m)	150 (4.2)	166 (4.7)	166 (4.7)
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**Engine**

Rated Engine Speed- rpm	1,800	1,800	1,800
Horsepower at Rated Power- hp	56	65	86
Piston Speed- ft/min	1,335	1,335	1,335
BMEP- psi	118	135	169

**Exhaust**

Exhaust Flow at Rated Output- cfm (m3/m)	342 (9.7)	380 (10.8)	448 (12.7)
Maximum Allowable Backpressure at Engine Exhaust Manifold- in Hg (kPA)	7.97 (6.71)	7.97 (6.71)	7.97 (6.71)
Exhaust Temperature at Engine Exhaust Manifold—°F (°C)	900 (482)	925 (496)	1044 (562)

# 35 • 40 • 50 kW

## Generator Specifications

Type	Synchronous
Rotor Insulation Class	H
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<50
Alternator Out Leads 1-Phase	4 Wire
Alternator Output Leads 3-Phase	12 Wire
Bearings	Sealed Ball
Couplings	Flexible Disc
Excitation System	Permanent Magnet

## Voltage Regulation

Type	Full Digital
Sensing	All Phases
Regulation	±0.5%

## Governor Specifications

Type	Electronic, Isochronous
Steady State Regulation	±0.25%

## Electrical System

Battery Charging Alternator	Standard
12 VDC, 10 A Automatic Float/Equalize Battery Charger	Optional
System Voltage	12 VDC

## Engine Specifications

Make	Generac
Model	D3.4
Cylinders/Arrangement	4 In-Line
Displacement (cu. in./Liters)	207.48 / 3.4
Bore (in./mm)	3.86 / 98
Stroke (in./mm)	4.45 / 113
Compression Ratio	18.5:1
Intake Air System	Turbocharged / Aftercooled
Cylinder Head Type	Cast Iron
Piston Type	Aluminum
EPA Emissions Certification	Tier 3

## Engine Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity (qt/L)	7.47 / 7

## Engine Cooling System

Type	Closed Recovery
Water Pump	Pre-Lubed, Self Sealing
Fan Speed (rpm)	2250
Fan Diameter (in./mm)	22 (560)
Fan Mode	Pusher

## Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Pump Type	Engine Driver Gear
Injector Type	Distribution Injection Pump
Fuel Supply Line (in./mm)	0.312 (7.92) NPT
Fuel Return Line (in./mm)	0.312 (7.92) NPT
Fuel Specification	ASTM
Fuel Filtering (microns)	5

## Motor Starting Surge Capacity

### Voltage Dip @ 0.3pf

Nom. kW	Voltage	sKVA at 35% Voltage Dip
35	480	84
	208/240	63
40	480	95
	208/240	71
50	480	120
	208/240	90

## 35 • 40 • 50 kW

## Application and Engineering Data

## Dimensions and Weights

	35 kW	40 kW	50 kW
<b>Open Set</b>			
L x W x H in (mm)- No Tank	76.7 (1,948) x 37.4 (949.9) x 45.2 (1,147.1)		
Weight- lbs (kg)- No Tank	1,719 (780)	1,741 (790)	1,776 (806)
L x W x H in (mm)- 12" / 54 Gal	76.7 (1,948) x 37.4 (949.9) x 58.2 (1,477.1)		
Weight- lbs (kg)- 12" / 54 Gal	2,199 (998)	2,451 (1,112)	2,256 (1,024)
L x W x H in (mm)- 24" / 132 Gal	76.7 (1,948) x 37.4 (949.9) x 70.2 (1,782.1)		
Weight- lbs (kg)- 24" / 132 Gal	2,429 (1,102)	2,451 (1,112)	2,486 (1,128)
L x W x H in (mm)- 36" / 211 Gal	76.7 (1,948) x 37.4 (949.9) x 82.2 (2,087.1)		
Weight- lbs (kg)- 36" / 211 Gal	2,638 (1,197)	2,660 (1,207)	2,695 (1,223)
L x W x H in (mm)- 36" / 300 Gal	92.9 (2,360) x 37.4 (949.9) x 85.7 (2,176.1)		
Weight- lbs (kg)- 36" / 300 Gal	2,701 (1,225)	2,723 (1,235)	2,758 (1,251)
<b>Standard Enclosure</b>			
L x W x H in (mm)- No Tank	94.8 (2,408.9) x 38.0 (965.1) x 49.5 (1,258.1)		
Weight- lbs (kg)- No Tank (Steel)	2,167 (983)	2,189 (993)	2,224 (1,0090)
Weight- lbs (kg)- No Tank (Aluminum)	1,944 (882)	1,966 (892)	2,001 (908)
L x W x H in (mm)- 12" / 54 Gal	94.8 (2,408.9) x 38.0 (965.1) x 62.5 (1,588.1)		
Weight- lbs (kg)- 12" / 54 Gal (Steel)	2,647 (1,201)	2,669 (1,211)	2,704 (1,227)
Weight- lbs. (kg)- 12" / 54 Gal (Aluminum)	2,424 (1,100)	2,446 (1,110)	2,481 (1,126)
L x W x H in (mm)- 24" / 132 Gal	94.8 (2,408.9) x 38.0 (965.1) x 74.5 (1,893.1)		
Weight- lbs (kg)- 24" / 132 Gal (Steel)	2,877 (1,305)	2,899 (1,315)	2,934 (1,331)
Weight- lbs. (kg)- 24" / 132 Gal (Aluminum)	2,654 (1,204)	2,676 (1,214)	2,711 (1,230)
L x W x H in (mm)- 36" / 211 Gal	94.8 (2,408.9) x 38.0 (965.1) x 86.5 (2,198.1)		
Weight- lbs (kg)- 36" / 211 Gal (Steel)	3,086 (1,400)	3,108 (1,410)	3,143 (1,426)
Weight- lbs. (kg)- 36" / 211 Gal (Aluminum)	2,863 (1,299)	2,885 (1,309)	2,920 (1,325)
L x W x H in (mm)- 36" / 300 Gal	94.8 (2,408.9) x 38.0 (965.1) x 90.0 (2,287.1)		
Weight- lbs (kg)- 36" / 300 Gal (Steel)	3,149 (1,428)	3,171 (1,438)	32,06 (1,454)
Weight- lbs. (kg)- 36" / 300 Gal (Aluminum)	2,926 (1,327)	2,948 (1,337)	2,983 (1,353)

**Dimensions and Weights**

	35 kW	40 kW	50 kW
<b>Level 1 Acoustic Enclosure</b>			
L x W x H in (mm)- No Tank	112.5 (2,857.1) x 38.0 (965.1) x 49.5 (1,258.1)		
Weight- lbs (kg)- No Tank (Steel)	2,246 (1,109)	2,268 (1,029)	2,303 (1,045)
Weight- lbs (kg)- No Tank (Aluminum)	1,973 (897)	2,000 (907)	2,036 (923)
L x W x H in (mm)- 12" / 54 Gal	112.5 (2,857.1) x 38.0 (965.1) x 62.5 (1,588.1)		
Weight- lbs (kg)- 12" / 54 Gal (Steel)	2,726 (1,237)	2,748 (1,247)	2,783 (1,263)
Weight- lbs. (kg)- 12" / 54 Gal (Aluminum)	2,453 (1,115)	2,480 (1,125)	2,516 (1,141)
L x W x H in (mm)- 24" / 132 Gal	112.5 (2,857.1) x 38.0 (965.1) x 74.5 (1,893.1)		
Weight- lbs (kg)- 24" / 132 Gal (Steel)	2,956 (1,341)	2,978 (1,351)	3,013 (1,367)
Weight- lbs. (kg)- 24" / 132 Gal (Aluminum)	2,683 (1,219)	2,710 (1,229)	2,746 (1,245)
L x W x H in (mm)- 36" / 211 Gal	112.5 (2,857.1) x 38.0 (965.1) x 86.5 (2,198.1)		
Weight- lbs (kg)- 36" / 211 Gal (Steel)	3,165 (1,436)	3,187 (1,446)	3,222 (1,462)
Weight- lbs. (kg)- 36" / 211 Gal (Aluminum)	2,892 (1,314)	2,919 (1,324)	2,955 (1,340)
L x W x H in (mm)- 36" / 300 Gal	112.5 (2,857.1) x 38.0 (965.1) x 90.0 (2,287.1)		
Weight- lbs (kg)- 36" / 300 Gal (Steel)	3,228 (1,464)	3,250 (1,474)	3,285 (1,490)
Weight- lbs. (kg)- 36" / 300 Gal (Aluminum)	2,955 (1,342)	2,982 (1,352)	3,018 (1,368)
<b>Level 2 Acoustic Enclosure</b>			
L x W x H in (mm)- No Tank	94.8 (2,408.9) x 38.0 (965.1) x 61.9 (1,571.7)		
Weight- lbs (kg)- No Tank (Steel)	2,398 (1,088)	2,420 (1,098)	2,455 (1,114)
Weight- lbs (kg)- No Tank (Aluminum)	2,044 (927)	2,066 (937)	2,101 (953)
L x W x H in (mm)- 12" / 54 Gal	94.8 (2,408.9) x 38.0 (965.1) x 74.9 (1,901.7)		
Weight- lbs (kg)- 12" / 54 Gal (Steel)	2,878 (1,306)	2,900 (1,316)	2,935 (1,332)
Weight- lbs. (kg)- 12" / 54 Gal (Aluminum)	2,524 (1,145)	2,546 (1,155)	2,581 (1,171)
L x W x H in (mm)- 24" / 132 Gal	94.8 (2,408.9) x 38.0 (965.1) x 86.9 (2,206.7)		
Weight- lbs (kg)- 24" / 132 Gal (Steel)	3,108 (1,410)	3,310 (1,420)	3,165 (1,436)
Weight- lbs. (kg)- 24" / 132 Gal (Aluminum)	2,754 (1,249)	2,776 (1,259)	2,811 (1,275)
L x W x H in (mm)- 36" / 211 Gal	94.8 (2,408.9) x 38.0 (965.1) x 98.9 (2,511.7)		
Weight- lbs (kg)- 36" / 211 Gal (Steel)	3,317 (1,505)	3,339 (1,515)	3,374 (1,531)
Weight- lbs. (kg)- 36" / 211 Gal (Aluminum)	2,963 (1,344)	2,985 (1,354)	3,020 (1,370)
L x W x H in (mm)- 36" / 300 Gal	94.8 (2,408.9) x 38.0 (965.1) x 102.4 (2,600.7)		
Weight- lbs (kg)- 36" / 300 Gal (Steel)	3,380 (1,533)	3,402 (1,543)	3,437 (1,559)
Weight- lbs. (kg)- 36" / 300 Gal (Aluminum)	3,026 (1,372)	3,048 (1,382)	3,083 (1,398)



**35 • 40 • 50 kW****Application and Engineering Data****Dimensions and Weights**

	35 kW	40 kW	50 kW
<b>Level 2 Acoustic Enclosure with Motorized Dampers</b>			
L x W x H in (mm)- No Tank	94.8 (2,408.9) x 38.0 (965.1) x 61.9 (1,571.7)		
Weight- lbs (kg)- No Tank (Steel)	2,533 (1,149)	2,555 (1,159)	2,590 (1,175)
Weight- lbs (kg)- No Tank (Aluminum)	2,249 (1,020)	2,273 (1,031)	2,310 (1,048)
L x W x H in (mm)- 12" / 54 Gal	94.8 (2,408.9) x 38.0 (965.1) x 74.9 (1,901.7)		
Weight- lbs (kg)- 12" / 54 Gal (Steel)	3,013 (1,367)	3,035 (1,337)	3,070 (1,393)
Weight- lbs. (kg)- 12" / 54 Gal (Aluminum)	2,729 (1,238)	2,753 (1,249)	2,790 (1,266)
L x W x H in (mm)- 24" / 132 Gal	94.8 (2,408.9) x 38.0 (965.1) x 86.9 (2,206.7)		
Weight- lbs (kg)- 24" / 132 Gal (Steel)	3,243 (1,471)	3,265 (1,481)	3,330 (1,497)
Weight- lbs. (kg)- 24" / 132 Gal (Aluminum)	2,959 (1,342)	2,983 (1,353)	3,020 (1,370)
L x W x H in (mm)- 36" / 211 Gal	94.8 (2,408.9) x 38.0 (965.1) x 98.9 (2,511.7)		
Weight- lbs (kg)- 36" / 211 Gal (Steel)	3,452 (1,566)	3,474 (1,576)	3,509 (1,592)
Weight- lbs. (kg)- 36" / 211 Gal (Aluminum)	3,168 (1,437)	3,192 (1,448)	3,229 (1,465)
L x W x H in (mm)- 36" / 300 Gal	94.8 (2,408.9) x 38.0 (965.1) x 102.4 (2,600.7)		
Weight- lbs (kg)- 36" / 300 Gal (Steel)	3,515 (1,594)	3,537 (1,604)	3,572 (1,620)
Weight- lbs. (kg)- 36" / 300 Gal (Aluminum)	3,231 (1,465)	3,255 (1,476)	3,292 (1,493)

**Unit Sound Data**

	35 kW	40 kW	50 kW
<b>Open Set</b>			
No Load Sound Data- dBA	80	80	80
Full Load Sound Data- dBA	81	81	81
<b>Standard Enclosure</b>			
No Load Sound Data- dBA	76	76	76
Full Load Sound Data- dBA	77	77	77
<b>Level 1 Acoustic Enclosure</b>			
No Load Sound Data- dBA	66	66	66
Full Load Sound Data- dBA	68	69	70
<b>Level 2 Acoustic Enclosure</b>			
No Load Sound Data- dBA	65	65	65
Full Load Sound Data- dBA	66	67	67
<b>Level 2 Acoustic Enclosure with Motorized Dampers</b>			
No Load Sound Data- dBA	65	65	65
Full Load Sound Data- dBA	66	67	68