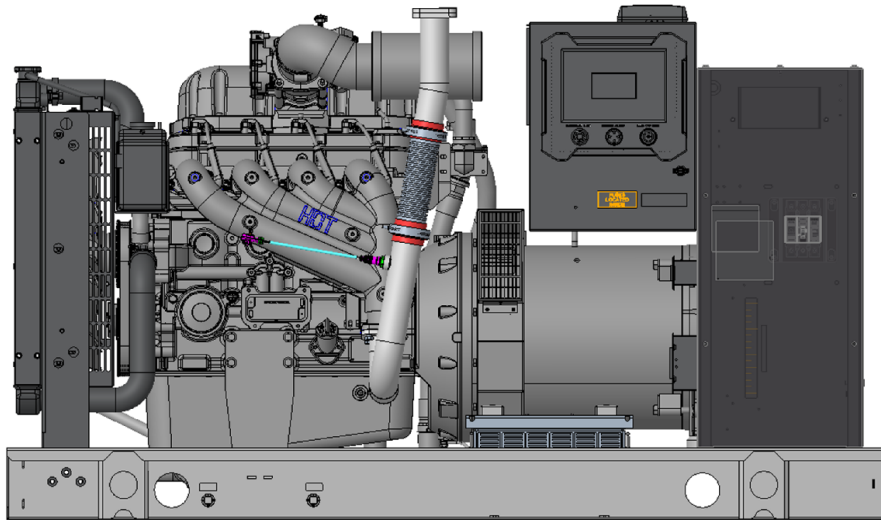


## G4.5L

### Gas Generator Set



Standby Power Rating

35 kW, 60Hz

40 kW, 60Hz

45 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, UL6200, UL1236, UL489



CSA C22.2, B149



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 122 °F (50 °C) Ambient
- Fast Starting - NFPA 110 Type 10 starting capable
- Ruggedness - Can accept full rated load in a single step
- Alternator - Low temperature rise (<248 °F (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.

**STANDARD FEATURES****ENGINE SYSTEM****General**

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Critical Silencer
- Oil Temperature Sender with Alarm
- Air Filter Restriction Indicator

**Fuel System**

- Fuel Line - NPT Connection
- Primary and Secondary Fuel Shutoff

**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
- Solenoid Activated Starter Motor

**GENERATOR SET**

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated units)

**ALTERNATOR SYSTEM**

- UL2200 GENprotect™ Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearings
- 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

**Available Fuel Types**

- Natural Gas
- LP Vapor
- Dual - NG Primary/LP Vapor Secondary
- Dual - NG Primary/LP Propane Secondary

**Engine Options and Accessories**

- Engine Block Heater, Factory Installed
- Fluid Containment Pan
- Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Radiator Duct Adapter (Open Set Only)
- Heater with Shutoff Valves

**Alternator Accessories**

- Alternator Anti-Condensation Heater
- Tropical Coating

**Battery/Charger Options**

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

**Main Line Circuit Breaker (MLCB) Options**

Note: Not all circuit breaker ratings available in options; contact factory for availability.

- 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 (Motorized Dampers Only)

**Control System Options and Accessories**

- 10 Amp 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\*
- 120V GFCI and 240V Outlets
- 100 dB Alarm Horn
- 8 Position Auxiliary Load Center
- Extended 2 Hour Rated Power Factor Testing (3-Phase Only)

**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. Contact factory for details.

## 35 kW • 40 kW • 45 kW • 50 kW

## Application and Engineering Data

### CONTROL SYSTEM



#### Power Zone® Pro 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
- Programmable I/O Channel Properties
- Built-In Diagnostics

#### Alarms and Warnings

- High/Low Oil Pressure
- High/Low Coolant Level
- High/Low Coolant Temperature
- Sender/Sensor Failure
- High/Low Oil Temperature
- Over Total kW
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over Current
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I<sup>2</sup>T Algorithm)

#### 4.3 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

### Engine Fuel Consumption (Nominal)

#### Natural Gas – scfh (m<sup>3</sup>/hr)

Percent Load	35 kW	40 kW	45 kW	50 kW
25%	200.0 (5.7)	201.0 (5.7)	203.0 (5.7)	204.0 (5.8)
50%	240.1 (6.8)	274.4 (7.8)	308.7 (8.7)	343.0 (9.7)
75%	319.2 (9.0)	364.8 (10.3)	410.4 (11.6)	456.0 (12.9)
100%	434.7 (12.3)	496.8 (14.1)	558.9 (15.8)	621.0 (17.6)

#### Propane Vapor – BTU/hr (Lph)

Percent Load	35 kW	40 kW	45 kW	50 kW
25%	186,900 (7.8)	213,600(8.9)	240,300(10.0)	267,000(11.1)
50%	271,600 (11.3)	310,400(12.9)	349,200(14.5)	388,000(16.2)
75%	346,500 (14.4)	396,000(16.5)	445,500(18.5)	495,000(20.6)
100%	436,100 (18.2)	498,400 (20.7)	560,700(23.3)	623,000(25.9)

\* Fuel supply installation must be sized for full load. Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

**35 kW • 40 kW • 45 kW • 50 kW****Application and Engineering Data****Generator Output Voltage/kW - 60Hz**

Nominal kW	Alternator	Voltage	Natural Gas		Propane Vapor		Standard CB Size
35	–	Single-Phase 120/240 VAC @1.0pf	35 kW	Amps: 146	35 kW	Amps: 146	175
	–	Three-Phase 120/208 VAC @0.8pf	35 kW	Amps: 122	35 kW	Amps: 121	150
	–	Three-Phase 120/240 VAC @0.8pf	35 kW	Amps: 105	35 kW	Amps: 105	175
	–	Three-Phase 277/480 VAC @0.8pf	35 kW	Amps: 53	35 kW	Amps: 53	60
	–	Three-Phase 346/600 VAC @0.8pf	35 kW	Amps: 42.1	35 kW	Amps: 42.1	Contact Factory
40	–	Single-Phase 120/240 VAC @1.0pf	40 kW	Amps: 167	40 kW	Amps: 167	200
	–	Three-Phase 120/208 VAC @0.8pf	40 kW	Amps: 139	40 kW	Amps: 139	150
	–	Three-Phase 120/240 VAC @0.8pf	40 kW	Amps: 120	40 kW	Amps: 120	200
	–	Three-Phase 277/480 VAC @0.8pf	40 kW	Amps: 60	40 kW	Amps: 60	70
	–	Three-Phase 346/600 VAC @0.8pf	40 kW	Amps: 48.2	40 kW	Amps: 48.2	Contact Factory
45	–	Single-Phase 120/240 VAC @1.0pf	45 kW	Amps: 188	45 kW	Amps: 188	225
	–	Three-Phase 120/208 VAC @0.8pf	45 kW	Amps: 156	45 kW	Amps: 156	175
	–	Three-Phase 120/240 VAC @0.8pf	45 kW	Amps: 135	45 kW	Amps: 135	225
	–	Three-Phase 277/480 VAC @0.8pf	45 kW	Amps: 68	45 kW	Amps: 68	80
	–	Three-Phase 346/600 VAC @0.8pf	45 kW	Amps: 54.2	45 kW	Amps: 54.2	Contact Factory
50	250	Single-Phase 120/240 VAC @1.0pf	48 kW	Amps: 200	50 kW	Amps: 188	Contact Factory
		Single-Phase 120/240 VAC @1.0pf	50 kW	Amps: 208	50 kW	Amps: 188	Contact Factory
	200	Three-Phase 120/208 VAC @0.8pf	48 kW	Amps: 167	50 kW	Amps: 156	Contact Factory
		Three-Phase 120/208 VAC @0.8pf	50 kW	Amps: 174	50 kW	Amps: 156	Contact Factory
	250	Three-Phase 120/240 VAC @0.8pf	48 kW	Amps: 144	50 kW	Amps: 135	Contact Factory
		Three-Phase 120/240 VAC @0.8pf	50 kW	Amps: 150	50 kW	Amps: 135	Contact Factory
	90	Three-Phase 277/480 VAC @0.8pf	50 kW	Amps: 75	50 kW	Amps: 68	Contact Factory
		Three-Phase 277/480 VAC @0.8pf	50 kW	Amps: 75	50 kW	Amps: 68	Contact Factory

**Engine Cooling**

	35 kW	40 kW	45 kW	50 kW
Inlet Air (Radiator) - scfm (m <sup>3</sup> /min)	2,442 (69.2)	2,450 (69.4)	2,459 (69.6)	2,470 (70.0)
System Coolant Capacity - gal (L)	3 (11.4)	3 (11.4)	3 (11.4)	3 (11.4)
Max Operating Air Temperature - °F (°C)	122 (50)	122 (50)	122 (50)	122 (50)
Maximum Temperature Before Derate - °F (°C)	110 (43)	110 (43)	104 (40)	104 (40)
Maximum Altitude Before Derate - ft (m)	3,500 (1,066)	3,500 (1,066)	1,600 (488)	600 (183)
Derate	3.0% for every 1,000 ft (305 m) for altitude and 2.5% for every 5 °F (3 °C) for temperature			
Maximum Radiator Backpressure- in H <sub>2</sub> O	0.5	0.5	0.5	0.5

**Combustion Air Requirements**

Flow at Rated Power- scfm (m <sup>3</sup> /m)	87 (2.5)	95 (2.7)	104 (2.9)	115 (3.3)
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**Engine**

Rated Engine Speed - RPM	1,800	1,800	1,800	1,800
Horsepower at Rated Power - hp	54	62	71	75
Piston Speed - ft/min (m/min)	1,275 (389)	1,275 (389)	1,275 (389)	1,275 (389)
BMEP - psi	72	83	95	124

**Exhaust**

Exhaust Flow at Rated Output - scfm (m <sup>3</sup> /min)	219 (6.2)	250 (7.1)	286 (8.1)	332 (9.4)
Maximum Allowable Backpressure at Engine Exhaust Manifold - inHg (kPa)	0.75 (2.54)	0.75 (2.54)	0.75 (2.54)	0.75 (2.54)
Exhaust Temperature at Engine Exhaust Manifold - °F (°C)	900 (482)	960 (515)	1,025 (552)	1,100 (593)

### Generator Specifications

Type	Synchronous
Rotor Insulation Class	H
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<50
Alternator Out Leads Single 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	±0.25%

### Governor Specifications

Type	Electronic, Isochronous
Steady State Regulation	±0.25%

### Electrical System

Battery Charging Alternator	3.5 A
12 VDC, 10 A Automatic Float/Equalize Battery Charger	Standard
System Voltage	12 VDC

### Engine Specifications

Make	Generac
Model	G4.5
Cylinders	4
Displacement - in <sup>3</sup> (L)	75.0 (4.5)
Bore - in (mm)	4.5 (114.0)
Stroke - in (mm)	4.25 (107.95)
Compression Ratio	9.94 : 1
Intake Air System	Naturally Aspirated
Cylinder Head	Cast Iron
Piston	Cast Aluminum Flat Top
EPA Emissions Certification	Stationary Emergency

### Engine Lubrication System

Oil Pump Type	Gear Driving
Oil Filter Type	Full Flow Spin On Cartridge
Crankcase Capacity - qt (L)	21 (20)

### Engine Cooling System

Type	Pressured Closed
Fan Speed - RPM	2,100
Fan Diameter - in (mm)	21 (533.4)
Fan Type	Pusher

### Fuel System

Fuel Type	Natural Gas, Propane
Fuel Injection	Electronic
Fuel Shut Off	Generac
LP Fuel Pressure - in H <sup>2</sup> O (kPa)	7 - 14 (1.7 - 3.5)
NG Fuel Pressure - in H <sup>2</sup> O (kPa)	5 - 14 (1.2 - 3.5)

### 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 kW • 40 kW • 45 kW • 50 kW****Application and Engineering Data****Dimensions and Weights**

	35 kW	40 kW	45 kW	50 kW
<b>Open Set</b>				
L x W x H in (mm)	76.0 (1,930) x 37.4 (950) x 46.3 (1,176)			
Weight- lbs (kg)	2,199 (997)	2,245 (1,018)	2,256 (1,023)	2,256 (1,023)
No Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
Full Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
<b>Weather Protected Enclosure</b>				
L x W x H in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)			
Weight- lbs (kg) - Steel	2,639 (1,197)	2,697 (1,223)	2,697 (1,223)	2,697 (1,223)
Weight- lbs (kg) - Aluminum	2,417 (1,096)	1,754 (795)	2,474 (1,122)	2,474 (1,122)
No Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
Full Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
<b>Level 1 Sound Attenuated Enclosure</b>				
L x W x H in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)			
Weight- lbs (kg) - Steel	2,719 (1,233)	2,776 (1,259)	2,776 (1,259)	2,776 (1,259)
Weight- lbs (kg) - Aluminum	2,451 (1,112)	2,574 (1,168)	2,508 (1,138)	2,508 (1,138)
No Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
Full Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
<b>Level 2 Sound Attenuated Enclosure</b>				
L x W x H in (mm)	94.8 (2,407) x 37.4 (950) x 69.1 (1,755)			
Weight- lbs (kg) - Steel	2,871 (1,302)	2,929 (1,328)	3,117 (1,414)	3,117 (1,414)
Weight- lbs (kg) - Aluminum	2,517 (1,142)	2,640 (1,198)	2,675 (1,214)	2,675 (1,214)
No Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory
Full Load Sound Data - dBA	Contact Factory	Contact Factory	Contact Factory	Contact Factory