

**GENERAC®****RG  
Protector® Series****Protector® Series  
Standby Generators  
Liquid-Cooled Gaseous Engine**

1 of 6

**STANDARD FEATURES**

- Evolution™ Controller
- Cellular Connectivity for Mobile Link® and Fleet<sup>1</sup>
- Quiet Operation
- Corrosion Resistant Aluminum Enclosure
- 5 Year/2,000 Hour Limited Warranty
- High Motor-Starting & Surge Capacity
- $\pm 1\%$  Digital Voltage Regulation
- <5% Total Harmonic Distortion Power Quality
- Model-Specific Fuel - Propane or Natural Gas
- EPA Emissions Certified
- CA & MA Emissions Compliant
- UL 2200 Listed

1 - Cellular service for the US, Canada, and other supported countries using the Generac Generator Connectivity Accessory, Cellular (GGCAC).

**OPTIONAL FIELD-INSTALLABLE FEATURES**

Available as field-installable kits.

- Push-Button Emergency Stop
- Cold Weather Operation Heaters

**STANDBY POWER RATING**

Model RG10090 - 100 kW, 60 Hz Emergency Standby Power Generator

**QUIET-TEST™ Mobile Link™**

EPA Emissions Certified  
CA & MA Emissions Compliant

**FEATURES**

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of Generac's success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **MOBILE LINK® CONNECTIVITY:** Standard cellular connectivity included with every RG generator. Mobile Link Wi-Fi allows users to monitor the generator set status from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account to an authorized service provider for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.
- **TRUEPOWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive service network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES:** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is the Generac product line is offered with its own transfer systems and controls for total system compatibility.

## Generator Specifications

## GENERATOR OUTPUT

Voltage	PROPANE		NATURAL GAS	
	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1-Phase	96	400	96	400
208/120 V 3-Phase	100	347	96	333
240/120 V 3-Phase	100	300	96	288
480/277 V 3-Phase	100	150	96	144

Emergency Standby Power (ESP) Rating: Standby ratings apply to installations served by a reliable utility source. The ESP rating is applicable to varying loads for the duration of a power outage. The average power output over 24 hours shall not exceed 70% of the ESP rating.

## ALTERNATOR SYSTEM

Circuit Breaker (CB) Size (A)	120/240 V 1-Phase	400
	208/120 V 3-Phase	400
	240/120 V 3-Phase	350
	480/277 V 3-Phase	175
Alternator Type		Synchronous
Rotor Insulation Class		H
Stator Insulation Class		H
Telephone Interference Factor (TIF)		<50
Bearings		Sealed Ball
Coupling		Flexible Disc
Excitation System		Synchronous Brushless
Total Harmonic Distortion		<5%

## VOLTAGE REGULATION

Type	Digital
Sensing	All Phases
Regulation	±1%

## SURGE CAPACITY

Surge Amps at <0.4 Power Factor	30% Voltage Dip (A)
120/240 V 1-Phase	854
208/120 V 3-Phase	430
240/120 V 3-Phase	372
480/277 V 3-Phase	244

## ENGINE SYSTEM

Make	Generac
Model	9 L, V-type 8-Cylinder, Naturally Aspirated
Compression Ratio	9.9:1
Lifter Type	Hydraulic
Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-on Cartridge
Crankcase Capacity (qt (L))	10.5 (9.9)
Temperature Derate	3.3% per 10 °F above 77 °F (3% per 5 °C above 25 °C)
Altitude Derate	3% per 1,000 ft above 600 ft (1% per 100 m above 183 m)
Exercise Speed (rpm)	1,500
Operating Speed (rpm)	1,800

## GOVERNOR

Type	Electronic
Frequency Regulation	Isochronous

## COOLING SYSTEM

Coolant	50/50 (50% Ethylene Glycol)
Coolant System Capacity (US gal (L))	5.5 (20.8)
Water Pump Type	Belt Driven
Fan Type	Belt Driven
Fan Quantity	1
Exhaust Flow at Rated Output (cfm (m <sup>3</sup> /min))	771 (21.8)
Maximum Ambient Air Temperature (°F (°C))	122 (50)

## FUEL SYSTEM

Usable Fuels	Liquid Propane (LP) Vapor or Natural Gas (NG)
Fuel Type Configuration	Model-Specific, Not Selectable
LP Vapor Pressure (in H <sub>2</sub> O (kPa))	11-14 (2.74-3.48)
NG Pressure (in H <sub>2</sub> O (kPa))	11-14 (2.74-3.48)
Fuel Shutoff Solenoid	Standard

**FUEL CONSUMPTION**

Rated Load	LIQUID PROPANE		NATURAL GAS	
	(US gph)	(L/h)	(cfh)	(m <sup>3</sup> /h)
25%	4.6	17.3	393	11.1
50%	7.0	26.4	600	17.0
75%	9.9	37.4	854	24.2
100%	13.3	50.5	1,154	32.7

Propane - 91,452 BTU/US gal (25.5 MJ/L); 36 ft<sup>3</sup>/US gal (0.27 m<sup>3</sup>/L); 2,516 BTU/ft<sup>3</sup> (93.7 MJ/m<sup>3</sup>); 4.24 lb/US gal (0.508 kg/L)

Natural Gas - 1,036 BTU/ft<sup>3</sup> (37.3 MJ/m<sup>3</sup>)

See emissions data sheets for maximum fuel flow for EPA and SCAQMD permitting purposes

**ELECTRICAL SYSTEM**

System Voltage (V)	12
Charge Alternator (A)	35
Battery Charger (A)	2.5
Recommended Battery (included)	Group 31, 925 CCA Minimum

**ENCLOSURE**

Sound Level at Operating Speed & No Load (dB(A) @ 23 ft (7 m))	71
Color	Bisque

**CONTROLLER FEATURES**

Two-Line Plain Text LCD	Simple user interface for ease of operation.
Multi-Lingual	English, French, Spanish, and Portuguese
Mode Switch: AUTO	Automatic Start on Utility failure. 7 day exerciser.
OFF	Stops unit. Power is removed. Control and charger still operate.
MANUAL	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Programmable Start Delay Between 10 – 30 Seconds	Standard 10 sec
Engine Start Sequence	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration)
Engine Warm-up	5 sec
Engine Cool-Down	1 min
Starter Lock-out	Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection	Standard
Automatic Low Oil Pressure Shutdown	Standard
Overspeed Shutdown	Standard, 72 Hz
High Temperature Shutdown	Standard
Overcrank Protection	Standard
Safety Fused	Standard
Failure to Transfer Protection	Standard
Low Battery Protection	Standard
50 Event Run Log	Standard
Future Set Capable Exerciser	Standard
Incorrect Wiring Protection	Standard
Internal Fault Protection	Standard
Common External Fault Capability	Standard
Governor Failure Protection	Standard

## Available Accessories

PRODUCT	PART NUMBER	DESCRIPTION
<b>Control System Kits</b>		
Generac Generator Connectivity Accessory, Cellular (GGCAC)	G0072150	The GGCAC provides a reliable cellular connection for the generator. Monitoring of the generator is possible for the owner using Mobile Link and for the servicer using Fleet. The GGCAC can be installed on any generator that already has the Wi-Fi device to upgrade to cellular connectivity. NEW RG10090 generators INCLUDE the GGCAC as standard.
Enclosure Mounted Emergency Stop Kit	G0065100	Emergency Stop consists of a red push button switch. It mounts to the exterior of the generator enclosure replacing the Generator Emergency shutdown rocker switch in the same location.
Generac Load Manager, 50 A	G0070001	50 A helps optimize the performance of the standby generator by managing large electrical loads upLoad Manager on startup and shed them to aid in recovery when overloaded.
Generac Load Manager, 100 A	G0070061	100 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac LTE Propane Tank Fuel Level Monitor	G0070090	The Propane Tank Fuel Level Monitor connects to 4G LTE cellular service to measure and report the amount of LP fuel remaining in the tank. The app alerts the user of both remaining LP fuel and usage reports, offering the ultimate peace of mind.
<b>Operating Environment Kits</b>		
Battery Heater Kit	G0098830	Recommended for operating environments where the temperature drops below 32 °F (0 °C). The heater is externally powered by 120 VAC, 60 Hz.
Engine Block Heater Kit	G0098840	Recommended for operating environments where the temperature drops below 0 °F (-18 °C). The heater is externally powered by 120 VAC, 60 Hz.
<b>Installation Kits</b>		
Base Plug Kit	G0056510	Base plugs to fit in the lifting holes of the baseframe to keep debris out.
<b>Maintenance Kits</b>		
9 L Gaseous Engine Regular Maintenance Kit	G0098820	Regular maintenance kit includes oil filter, oil funnel, air filter, and spark plugs.
Bisque Paint Kit	G0057030	If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure.

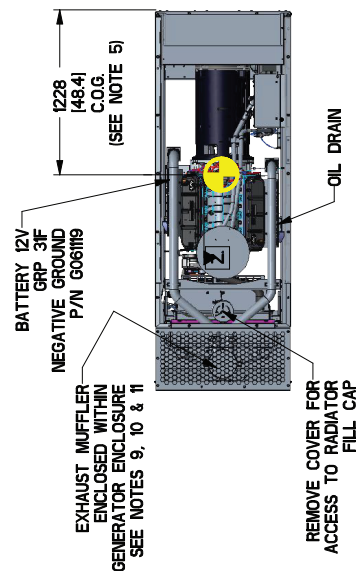
100 KW

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- NOTES:**
1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 6" LARGER PER SIDE THAN FRAME (128" (507) WIDE (3657 (165) LONG).
  2. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
  3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
    - SEE SPECIFICATION SHEET OR OWNERS MANUAL
    - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY ON REAR OF GENERATOR.
  4. INSIDE STUB-UP AREA FOR AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (5 AMP MAX) CONNECTION AND ACCESS TO TRANSFER SWITCH CONTROL WIRES REMOVE REAR COVER FOR ACCESS.
  5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
  6. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
  7. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
  8. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8" H GRADE 5 (ASTM A307) OR EQUIVALENT.
  9. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
  10. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.
  11. REMOVE FRONT END PANEL TO ACCESS EXHAUST MUFFLER. ACCESS AVAILABLE THROUGH DOORS TO FAN BELT.

SERVICE ITEM	9.0L
OIL FILL CAP	EITHER SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	LEFT SIDE
OIL DRAIN HOSE	LEFT SIDE
RADIATOR DRAIN HOSE	LEFT SIDE
COOLANT RECOVERY BOTTLE	RIGHT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANER ELEMENT	EITHER SIDE
SPARK PLUGS	EITHER SIDE
MUFFLER	SEE NOTE 11
FAN BELT	EITHER SIDE
BATTERY	RIGHT SIDE

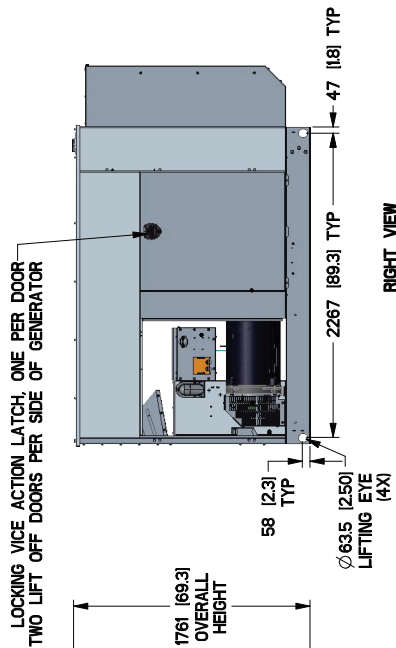
REFERENCE OWNERS MANUAL  
FOR PERIODIC REPLACEMENT  
PART LISTINGS.



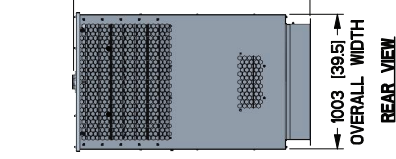
**TOP VIEW**

CUSTOMER ACCESS  
ASSEMBLY, CONTROL  
PANEL ACCESS  
BATTERY CHARGER  
LOCATED WITHIN  
SEE NOTE 3 & 4

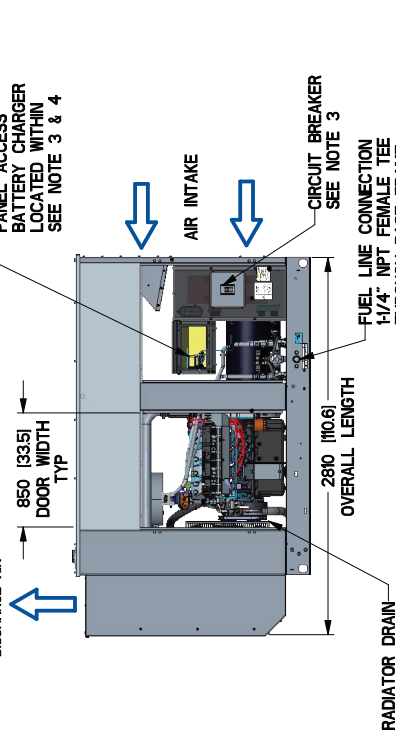
RADIATOR/EXHAUST  
DISCHARGE AIR



**RIGHT VIEW**



**REAR VIEW**



**LEFT VIEW**

DIMENSIONS: MM (INCH)

WEIGHT DATA				
ENGINE/KW	ENCLOSURE MATERIAL	WEIGHT	WEIGHT	SHIPPING WEIGHT KG (LBS)
		GENSET ONLY KG (LBS)	SHIPPING SKID KG (LBS)	
9.0L /100KW	AL	1292 [2848]	79 [175]	1371 [3024]

100 KW

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NOTE:  
STUB-UP AREA FOR HIGH AND LOW  
VOLTAGE CONNECTIONS, CIRCUIT BREAKER  
NEUTRAL AND CUSTOMER CONNECTION OPENING.

