GENERAC®

Protector® Series

Standby Generators

Liquid-Cooled Gaseous Engine

Protector® Series

INCLUDES:

- Power Zone® 410 controller
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- Voltage and Frequency Regulation Designed for Sensitive Electronics
- 5 Year Limited Warranty
- UL 2200 Listed

STANDBY POWER RATING

Model RG13090 (Aluminum - Bisque) - 130 kW 60 Hz
Model RG15090 (Aluminum - Bisque) - 150 kW 60 Hz

* Product may vary slightly from above image.

*Assembled in the USA using domestic and foreign parts

Meets EPA Emission Regulations CA / MA Emission 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.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
- **TRUE POWER™ 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.
- **NFPA 110 CAPABILITY:** Generator comes able to support NFPA 110 controller and battery charger requirements.. Requires the addition of an optional NFPA 110 accessory kit.
- **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 dealer 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.

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application & engineering data

GENERATOR SPECIFICATIONS

	130 / 150 kW
Type	Synchronous
Rotor Insulation Class	H
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<50
Alternator Output Leads 1-Phase	4 wire
Alternator Output Leads 3-Phase	12 wire
Bearings	Sealed Ball
Coupling	Flexible Disc
Excitation System	Synchronous Brushless
Total Harmonic Distortion	<5%

VOLTAGE REGULATION

Type	Full Digital
Sensing	All
Regulation	Designed for Sensitive Electronics

GOVERNOR SPECIFICATIONS

Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	Designed for Sensitive Electronics

ELECTRICAL SYSTEM

Battery Charger Alternator	40 Amp
Static Battery Charger	5 Amp
Recommended Battery (battery included)	Group 31, 925 CCA
System Voltage	12 Volts

GENERATOR FEATURES

Revolving field heavy duty generator
Directly connected to the engine
Operating temperature rise 135° C above 25° C ambient
Class H insulation is NEMA rated
All models fully prototyped tested

ENCLOSURE FEATURES

	130 / 150 kW
Aluminum weather protective enclosure	Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability.
Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
Small, compact, attractive	Makes for an easy, eye appealing installation.
SAE	Sound attenuated enclosure ensures quiet operation.

(All ratings in accordance with BS5514, ISO3046, ISO8528, SAE J1349 and DIN6271)

ENGINE SPECIFICATIONS

Make	Generac
Type	V
Cylinders	8
Displacement - L (in^3)	8.9 (540)
Bore - mm (in)	114 (4.5)
Stroke - mm (in)	108 (4.3)
Compression Ratio (Turbo Charged)	9.1:1
Intake Air System	Turbocharged and Aftercooled
Lifter Type	Hydraulic Roller

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-On Cartridge
Crankcase Capacity - L (qt)	9.9 (10.5)

ENGINE COOLING SYSTEM

Type	Pressurized Closed
Water Pump	Belt-Driven
Fan Speed - RPM	2,330
Fan Diameter - mm (in)	559 (22)
Fan Mode	Pusher

FUEL SYSTEM

Fuel Type	NG or LP (model specific)
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
LP Fuel Pressure - kPa (in. WC)	1.74-2.74 (7-11)
NG Fuel Pressure - kPa (in. WC)	1.74-2.74 (7-11)

GENERATOR OUTPUT POWER/AMPERAGE – 60 HZ

		Standby Power using NG (kW)	Standby Amperage using NG (A)	Standby Power using LP (kW)	Standby Amperage using LP (A)	CB Size (Both)
RG13090	120/240 V, 1Ø, 1.0 pf	130	542	130	542	600
	208/120 V, 3Ø, 0.8 pf	130	451	130	451	500
	240/120 V, 3Ø, 0.8 pf	130	391	130	391	400
	480/277 V, 3Ø, 0.8 pf	130	195	130	195	225
RG15090	120/240 V, 1Ø, 1.0 pf	144	600	134	558	700
	208/120 V, 3Ø, 0.8 pf	150	520	140	486	600
	240/120 V, 3Ø, 0.8 pf	150	451	140	421	500
	480/277 V, 3Ø, 0.8 pf	150	226	140	210	250

SURGE CAPACITY IN AMPS

		Surge Amperage at 30% Voltage Dip (A)
RG13090	120/240 V, 1Ø	854
	208/120 V, 3Ø	816
	240/120 V, 3Ø	707
	480/277 V, 3Ø	351
RG15090	120/240 V, 1Ø	617
	208/120 V, 3Ø	619
	240/120 V, 3Ø	536
	480/277 V, 3Ø	351

ENGINE FUEL CONSUMPTION

		Natural Gas - m^3/h (CFH)	Liquid Propane L/h (US gph)
RG13090	25% of rated load	14.4 (509)	17.9 (4.7)
	50% of rated load	24.3 (858)	28.9 (7.6)
	75% of rated load	34.1 (1,204)	40.0 (10.6)
	100% of rated load	44.0 (1,554)	51.1 (13.5)
RG15090	25% of rated load	15.9 (562)	19.4 (5.1)
	50% of rated load	27.3 (964)	31.8 (8.4)
	75% of rated load	38.3 (1,353)	44.9 (11.9)
	100% of rated load	50.1 (1,769)	58.1 (15.3)

NOTE:: **Fuel pipe must be sized for full load.**

Natural Gas - 37.26 MJ/m^3 (1,000 BTU/ft^3)

Liquid Propane - 25.5 MJ/L (91,420 BTU/US gal); 0.27 m3/L (36 ft3/US gal); 0.507 kg/L (4.24 lb/US gal)

Refer to “Emissions Data Sheets” for maximum fuel flow for EPA and SCAQMD permitting purposes.

STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

GENERAC®

operating data

ENGINE COOLING

	130 kW	150 kW
Intake Airflow - m^3/min (CFM)	153 (5,415)	158 (5,598)
System Coolant Capacity - L (US gal)	24 (6.3)	24 (6.3)
Heat Rejection to Coolant - kW (BTU/min)	71.3 kW (243,000 BTU/hr)	71.3 kW (243,000 BTU/hr)
Maximum Ambient Air Temperature - °C (°F)	50 (122)	50 (122)

COMBUSTION REQUIREMENTS

Airflow at Rated Power - m^3/min (CFM)	10.5 (371)	9.7 (343)

SOUND EMISSIONS

Sound Output at Normal Load - dB(A) at 7 m (23 ft.)	75	80

EXHAUST

Exhaust Airflow at Rated Output - m^3/min (CFM)	34.0 (1,200)	34.1 (1,204)
Exhaust Temperature at Rated Output - °C (°F)	696 (1,285)	782 (1,440)

ENGINE PARAMETERS

Rated Synchronous Engine Speed - RPM	1,800	1,800

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration RG13090 using NG & LP	25°C (77°F) before derate	3% for every 5°C above 25°C (1.7% for every 5°F above 77°F)
Temperature Deration RG15090 using NG	25°C (77°F) before derate	7.2% for every 5°C above 25°C (4% for every 10°F above 77°F)
Temperature Deration RG15090 using LP	25°C (77°F) before derate	9.9% for every 5°C above 25°C (5.5% for every 10°F above 77°F)
Altitude Deration (130kW)	1% for every 100 m above 183 m (3% for every 1,000 ft. above 600 ft.)	
Altitude Deration (150 kW)	0.7% for every 100 m above 183 m (2.1% for every 1,000 ft. above 600 ft.)	

CONTROLLER FEATURES

Standard Features

128 x 64 Graphical Display with Heater	Multi-Lingual	Full System Status
Three Phase Sensing Digital Voltage Regulator	Full Range Standby Operation	Remote Communication
Programmable Auto Crank	Emergency Stop	On / Off Manual Switch
Not in Auto Flashing Light	Selectable Low Speed Exercise	NFPA 110 Capable**
5 A Integrated Battery Charger***		

Full System Status: •Three Phase AC Volts •Three Phase Amps •kW •Power Factor •Oil Pressure •Water Temperature •Oil Temperature* •Oil Level* •Fuel Pressure and Level •Engine Speed •Battery Voltage •Alternator Frequency •Time •Date •Line Power and Gen Power •Run Hours •Service Reminders •Fault History (Alarm Log)

Standard Protections

Low Oil Pressure	Low Coolant Level	High / Low Coolant Temperature
Oil Temperature	Over / Under Speed	Over / Under Voltage
Over / Under Frequency	Over / Under Current	Over Load
Battery Voltage	Battery Charger Current	Phase to Phase and Phase to Neutral Short Circuits (I^2T Algorithm)
Ground Fault		

Display

Easy Menu Structure	Multi-Lingual	On Screen Editable Paraeters

Key Function Monitoring: •Three Phase Voltage, Amperage, kW, kVa, and kVAr •Selectable Average or Line to Neutral Voltage Measurements •Frequency •RPM •Engine Coolant Temperature •Engine Oil Temperature •Battery Voltage •Warning and Alarm Indication •Diagnostics •Maintenance Events / Information •Hourmeter

Control Panel

Audible Alarm and Silence†	Auxiliary Shutdown Rocker Switch	Not in Auto Indication

AUTO / OFF / MANUAL: •Operation Through Onboard Buttons or Optional Key Switch •Indication Through Display Screen and LEDs

* Optional; When Available.

** See NFPA 110 in Accessory Section.

*** Operation Disabled when Optional 10A Battery Charger is Installed

† When Selected; See Modular NFPA 110 Components Section.

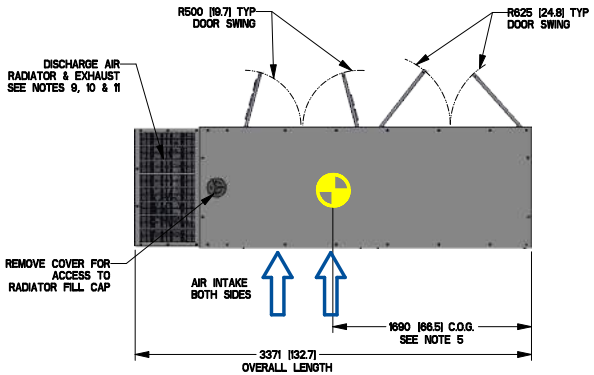
GENERAC®

available accessories

Model#	Product	Description
G009883-0	Standard Cold Weather Kit	If the temperature regularly falls below 32 °F (0 °C), install a cold weather kit to maintain optimal battery temperature. Kit consists of battery warmer with thermostat built into the wrap.
G009884-0	Extreme Cold Weather Kit	Recommended where the temperature regularly falls below 32 °F (0 °C) for extended periods of time. For liquid cooled units only.
G005651-0	Base Plug Kit	Add base plugs to the base of the generator to keep out debris.
G005703-0 - Bisque	Paint Kit	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.
G009882-0	Scheduled Maintenance Kit	The Liquid-Cooled Scheduled Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac liquid-cooled generators.
G006510-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.
G007005-0	Wi-Fi LP Fuel Level Monitor	The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in making sure your generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify when your LP tank is in need of a refill.
G007000-0 (50 amp) G007006-0 (100 amp)	Smart Management Module	Smart Management Modules (SMM) are used to optimize the performance of a standby generator. They manage large electrical loads upon startup and shed them to aid in recovery when overloaded. In many cases, using SMM's can reduce the overall size and cost of the system.
G009885-0	400 A CB Kit	400 A Circuit Breaker Kit designed for three phase products built with a factory installed circuit breaker greater than 400 A.
A0000018981	Ultrasonic Cleaner Solution	An ultra-concentrated anti-corrosive cleaning solution engineered to reach the smallest cavities to clean the toughest contaminants. This water based formula is non-toxic, biodegradable, safe for both metal and plastic surfaces, and is superior in rinsability.
A0000019001	All Surface Protectant	All surface protectant for vinyl, rubber, plastics creates a barrier that seals & protects surfaces from water, UV rays while renewing the look of the surface.
G007411-0	Phase Sense Kit, 120-240 V, PZ410	3-Phase Voltage Sensing Kit for RTS Transfer Switches used with PowerZone® 410 Controller ('G' 208/120 V and 'J' 240/120 V RTS 3-Phase Switches)
G007412-0	Phase Sense Kit, 480 V, PZ410	3-Phase Voltage Sensing Kit for RTS Transfer Switches used with PowerZone® 410 Controller ('K' 480/277 V RTS 3-Phase Switches)
A0003134325	NFPA 110 Controller-Charger Kit	Includes features for NFPA 110 controller and charger compliance including emergency-stop, key switch, alarm horn, battery charger, and remote annunciator.

130 KW

Drawing #A0001618959 (1 of 2)

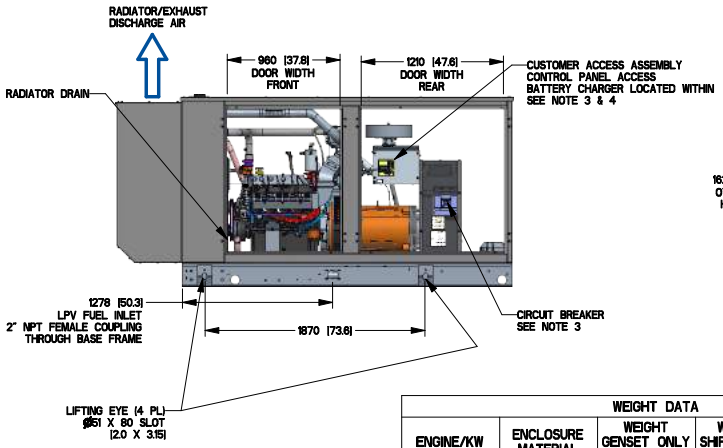


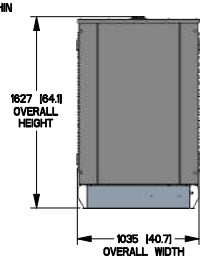
SERVICE ITEM	9.0L
OIL FILL CAP	EITHER SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	LEFT SIDE
OIL DRAIN HOSE	RIGHT SIDE
RADIATOR DRAIN HOSE	LEFT SIDE
COOLANT RECOVERY BOTTLE	RIGHT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANER ELEMENT	EITHER SIDE
SPARK PLUGS	EITHER SIDE
MUFFLER	SEE NOTE 11
FAN BELT	EITHER SIDE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

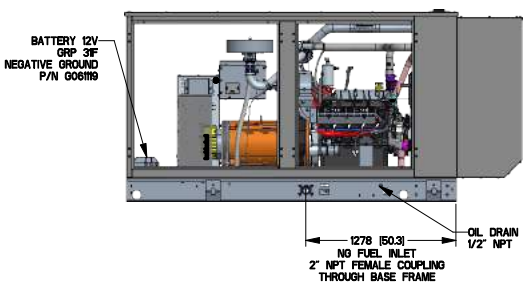
REFERENCE OWNERS MANUAL
FOR PERIODIC REPLACEMENT
PART LISTINGS.

NOTES:

1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: (6" LARGER PER SIDE THAN FRAME) 1305 [52"] WIDE 3100 [122"] LONG.
   REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
2. 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 LEFT SIDE 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 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
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.







WEIGHT DATA				
ENGINE/KW	ENCLOSURE MATERIAL	WEIGHT GENSET ONLY KG [LBS]	WEIGHT SHIPPING SKID KG [LBS]	SHIPPING WEIGHT KG [LBS]
9.0L/130KW	AL	1365 [3009]	80 [176]	1445 [3185]

DIMENSIONS: MM [INCH]

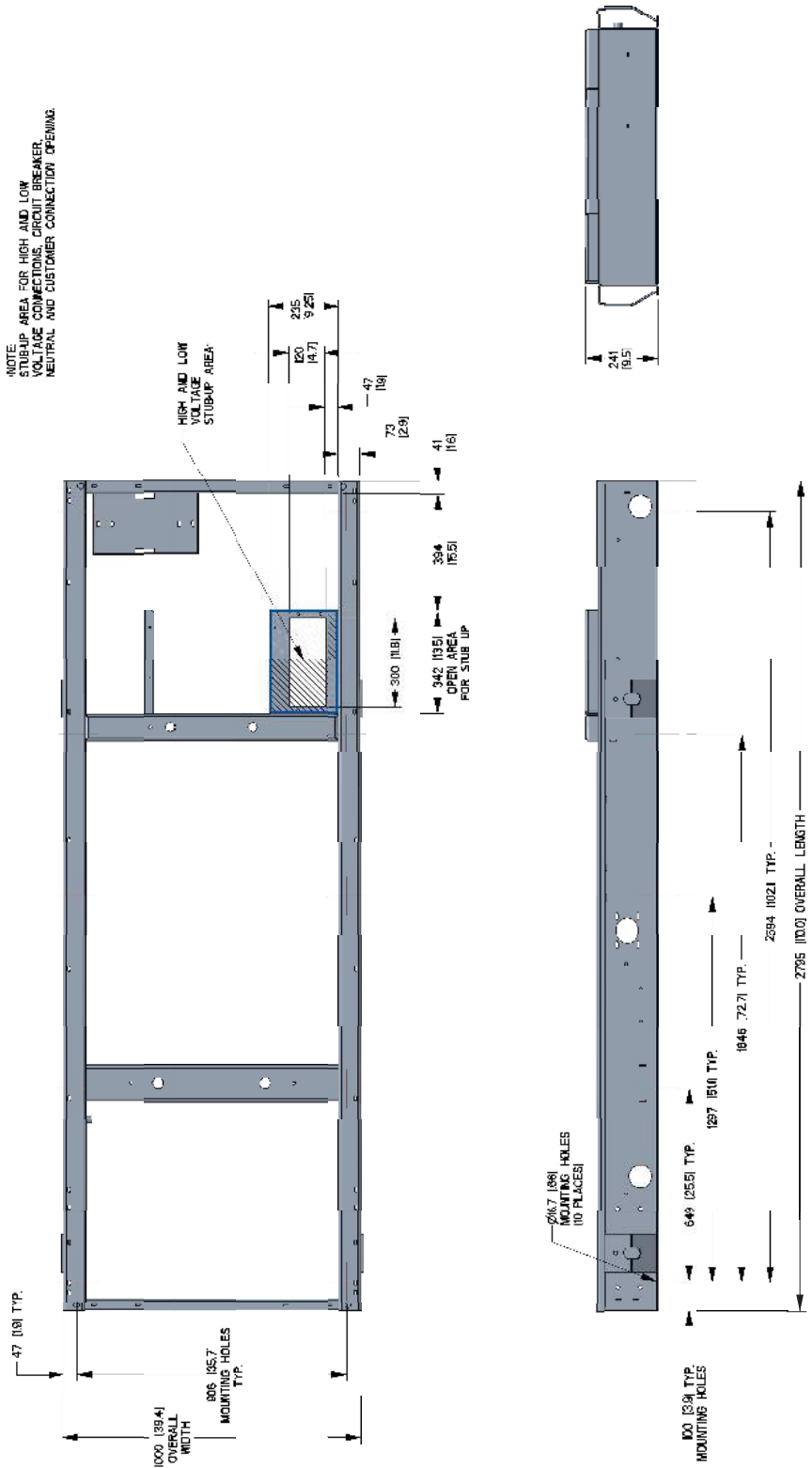
GENERAC®
installation layout

Protector® Series

GENERAC®

installation layout

Drawing #A0001618959 (2 of 2)



150 KW

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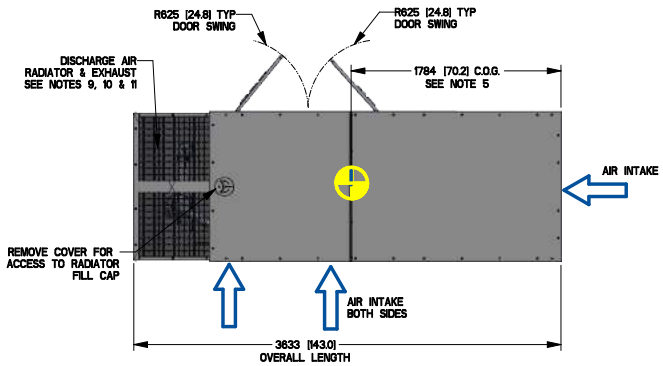

SERVICE ITEM	9.0L
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OIL FILTER	LEFT SIDE
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MUFFLER	SEE NOTE 11
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BATTERY	RIGHT SIDE

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FOR PERIODIC REPLACEMENT
PART LISTINGS.

NOTES:

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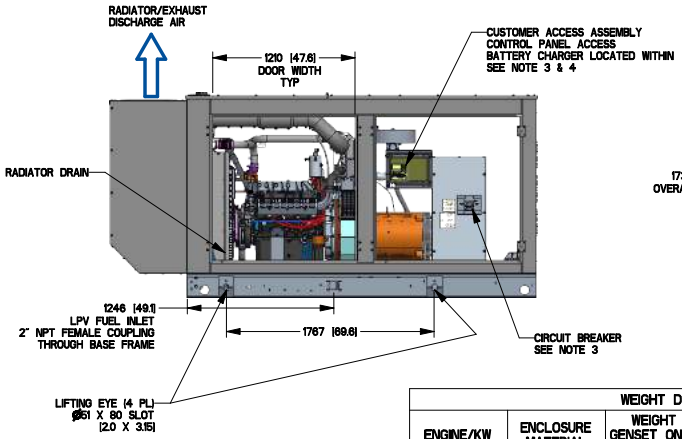
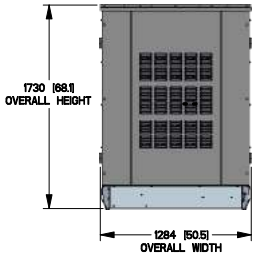
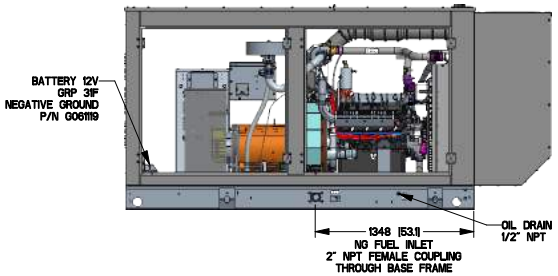






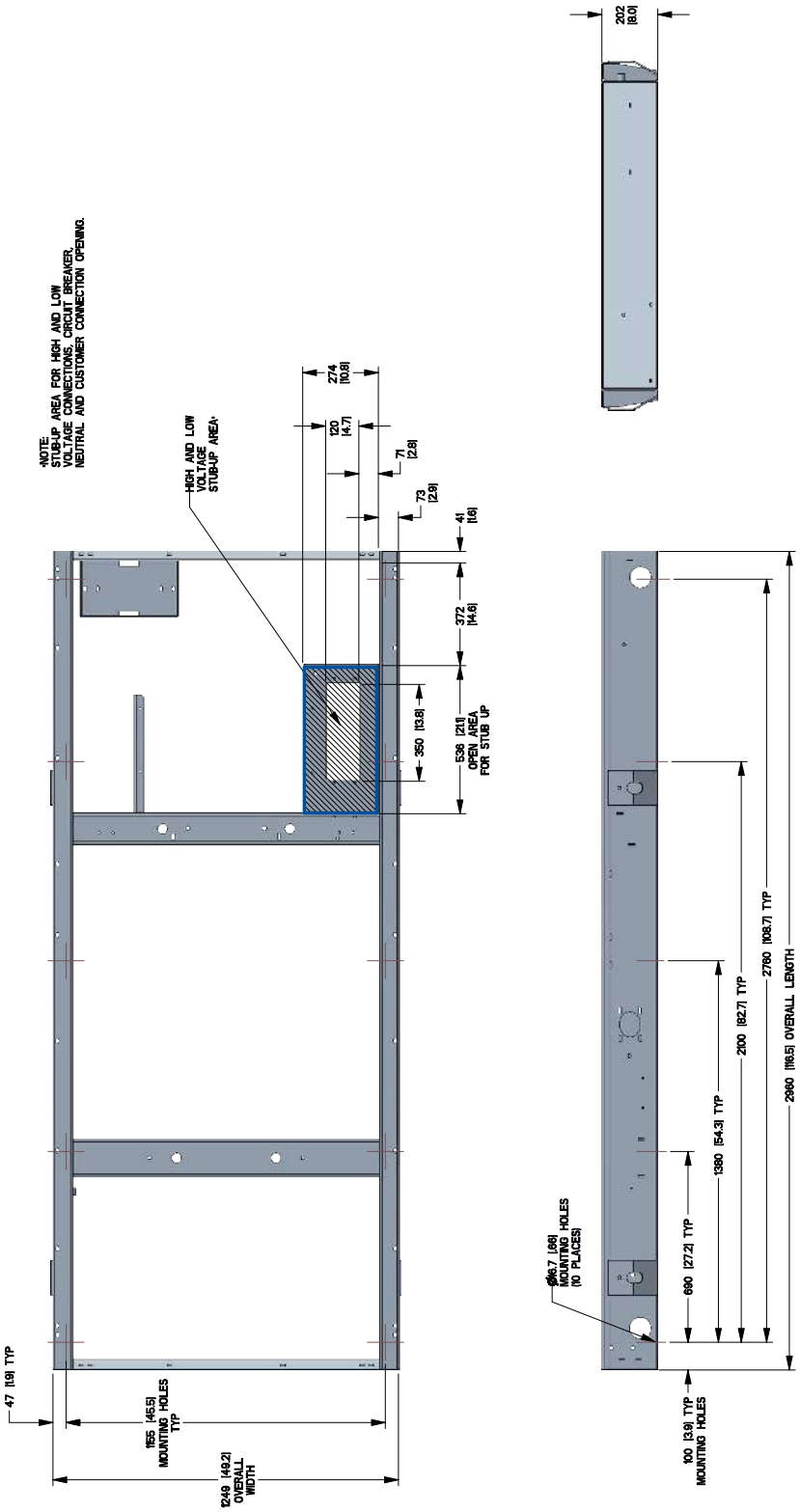
WEIGHT DATA				
ENGINE/KW	ENCLOSURE MATERIAL	WEIGHT GENSET ONLY KG [LBS]	WEIGHT SHIPPING SKID KG [LBS]	SHIPPING WEIGHT KG [LBS]
9.0L/150KW	AL	1487 [3278]	131 [289]	1618 [3560]

DIMENSIONS: MM [INCH]

GENERAC®

installation layout

Drawing #A0001618957 (2 of 2)



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