Protector™ Series

GENERAC®

Diesel Generator Set

LA RED®

INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/ Portuguese) with external viewing window for easy indication of generator status and breaker position.
- Isochronous Electronic Governor
- Sound Attenuated Aluminum Enclosure
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- ±1% Voltage Regulation
- Integrated base tank provides up to 50 hours of run time
- 3 Year Limited Warranty

Not for sale in US/CA

Standby Power Rating

Model RD012 - 12 kVA 50 Hz
Model RD016 - 16 kVA 50 Hz
Model RD024 - 30 kVA 50 Hz
Model RD040 - 50 kVA 50 Hz

QUIET TEST™

USA ENGINEERED & BUILT*

*Built in the USA using domestic and foreign parts

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**

- **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. Digital voltage regulation at ±1%.

- **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 that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

LA RED® | GENERAC® ISO 9001:2008

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12 • 16 • 30 • 50 kVA

application & engineering data

GENERATOR SPECIFICATIONS

Type	Synchronous
Rotor Insulation Class	H (12 & 16 kVA) or F (30 & 50 kVA)
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<50
Alternator Output Leads 1-Phase	3 wire
Alternator Output Leads 3-Phase	6 wire
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Excitation System	Direct

VOLTAGE REGULATION

Type	Electronic
Sensing	Single Phase
Regulation	± 1%
Features	Adjustable Voltage & Gain

GOVERNOR SPECIFICATIONS

Type	Electronic Isochronous
Steady State Regulation	± 0.25%

ELECTRICAL SYSTEM

Battery Charge Alternator	50 Amp (12 & 16 kVA) or 70 Amp (30 & 50 kVA)
Static Battery Charger	2 Amp
Recommended Battery	Group 27F, 700 CCA
System Voltage	12 Volts

GENERATOR FEATURES

Revolving field heavy duty generator
Directly connected to the engine
Operating temperature rise 120°C above a 40°C ambient
Class H insulation is rated at 150°C rise at 25°C ambient
Class F insulation is rated at 145°C rise at 25°C ambient
All models fully prototype tested

ENCLOSURE FEATURES

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 and maximize sound dampening.
Small, compact, attractive	Makes for an easy, eye appealing installation.
SAE	Sound attenuated enclosure ensures quiet operation.

12 • 16 • 30 • 50 kVA

application & engineering data

ENGINE SPECIFICATIONS: 12 & 16 kVA

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	2.28
Bore (mm/in)	88/3.46
Stroke (mm/in)	94/3.70
Compression Ratio	21.3:1
Intake Air System	Naturally Aspirated
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum

ENGINE SPECIFICATIONS: 30 kVA

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	2.4
Bore (mm/in)	90/3.54
Stroke (mm/in)	94/3.70
Compression Ratio	21.3:1
Intake Air System	Turbocharged
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum

ENGINE SPECIFICATIONS: 50 kVA

Make	Generac
Model	In-Line
Cylinders	4
Displacement (Liters)	3.4
Bore (mm/in)	98/3.86
Stroke (mm/in)	113/4.45
Compression Ratio	18.5:1
Intake Air System	Turbocharged/Aftercooled
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full flow spin-on canister
Crankcase Capacity (liters/quarts)	6.5/6.87 - 12 & 16 kVA 6.4/6.8 - 30 kVA 7/7.4 - 50 kVA

ENGINE COOLING SYSTEM

Type	Pressurized radiator - 12 & 16 kVA Closed recovery - 30 & 50 kVA
Water Pump	Pre-lubed, self-seating
Fan Speed (rpm)	1500 - 12 & 16 kVA 1700 - 30 & 50 kVA
Fan Diameter (mm/in)	460/18.11 (12 & 16 kVA) 559/22 (30 & 50 kVA)
Fan Mode	Pusher

FUEL SYSTEM

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Pump Type	Mechanical Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line (mm/in)	7.94/0.31 (ID)
Fuel Return Line (mm/in)	7.94/0.31(ID)
Fuel Specification	ASTM
Fuel Filtering (microns)	5 - 12, 16 & 30 kVA 10 - 50 kVA

TANK SPECIFICATIONS

Total Size (liters/gallons)	170.3/45 - 12 & 16 kVA 257.4/68 - 30 & 50 kVA
Usable Size (liters/gallons)	151.4/40 - 12 & 16 kVA 230.9/61 - 30 & 50 kVA
Run Time @ 1/2 Load (hrs)	50.6 - 12 kVA 38.1 - 16 kVA 40.7 - 30 kVA 26.5 - 50 kVA

WEIGHTS AND DIMENSIONS

	12 kVA	16 kVA	30 kVA	50 kVA
Weight (kg/lb)	1224/555		1689/766	1953/886
Dimensions (LxWxH) (cm/in)	158 x 78 x 124/62 x 31 x 49		195 x 89 x 141/77 x 35 x 55	

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12 • 16 • 30 • 50 kVA

operating data

GENERATOR OUTPUT VOLTAGE/kVA - 50 Hz

		kVA (Standby)	Amp (Standby)	kVA (Prime)	Amp (Prime)	CB Size
RD012	110/220 V, 1Ø, 1.0 pf	12	55	9.6	44	60
RD016	110/220 V, 1Ø, 1.0 pf	16	73	12.8	58	80
RD024	110/220 V, 1Ø, 1.0 pf	24	109	19.2	87	125
	231/400 V, 3Ø, 0.8 pf	30	43	19.2	35	50
RD040	110/220 V, 1Ø, 1.0 pf	40	182	32	146	200
	231/400 V, 3Ø, 0.8 pf	50	72	32	58	80

ENGINE FUEL CONSUMPTION

		Gal/hr	L/hr
RD012	25% of rated load	0.46	1.74
	50% of rated load	0.71	2.69
	75% of rated load	1.03	3.88
	100% of rated load	1.33	5.02
RD016	25% of rated load	0.60	2.34
	50% of rated load	0.95	3.57
	75% of rated load	1.37	4.79
	100% of rated load	1.78	6.73
RD024	25% of rated load	0.83	3.15
	50% of rated load	1.31	4.95
	75% of rated load	1.76	6.66
	100% of rated load	2.47	9.36
RD040	25% of rated load	1.22	4.60
	50% of rated load	1.94	7.33
	75% of rated load	2.75	10.42
	100% of rated load	3.58	13.56

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.

12 • 16 • 30 • 50 kVA operating data

ENGINE COOLING

	12 kVA	16 kVA	30 kVA	50 kVA
Air flow (inlet air including alternator and combustion air in cfm/cmm)	2353/67	2353/67	2530/72	2353/67
System coolant capacity (liters/gal)	10.6/2.8	10.6/2.8	10.6/2.8	10.6/2.8
Heat rejection to coolant (MJ per hr/BTU per hr)	56/53,500	67/63,276	106/100,284	115/109,000
Maximum operation air temperature on radiator (°C/°F)	50/122			
Maximum ambient temperature (°C/°F)	50/122			

COMBUSTION REQUIREMENTS

Flow at rated power (cfm/cmm)	54.4/1.54	54.4/1.54	68/1.93	124/3.53

SOUND EMISSIONS

Exercising at 7 meters/23 feet (dB(A))	65
Normal Operation at 7 meters/23 feet (dB(A))	70

*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters.

EXHAUST

Exhaust flow at rated output (cfm/cmm)	240/6.8	290/8.21	290/8.21	260/7.36
Exhaust temperature at rated output (°F/°C)	950/510	950/510	967/519	1030/554

ENGINE PARAMETERS

Rated Synchronous RPM	1500			
HP at rated kVA	18.5	18.5	38	63

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration ..... 3% for every 5 °C above 25 °C or 1.7% for every 5 °F above 77 °F
Altitude Deration (12, 30, 50 kVA) ..... 1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft
Altitude Deration (16 kVA) ..... 1% for every 100 m above 305 m or 3% for every 1000 ft above 1000 ft

CONTROLLER FEATURES

2-Line Plain Text Multilingual LCD Display ..... Simple user interface for ease of operation.
Mode Buttons: Auto ..... Automatic Start on Utility failure. Programmable 7 day exerciser.
Manual ..... Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Off ..... Stops unit. Power is removed. Control and charger still operate.
Ready to Run/Maintenance Messages ..... Standard
Engine Run Hours Indication ..... Standard
Programmable start delay between 2-1500 seconds ..... Standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility Adjustable ..... From 140-171 V/190-216 V
Future Set Capable Exerciser/Exercise Set Error Warning ..... Standard
Run/Alarm/Maintenance Logs ..... 50 Events Each
Engine Start Sequence ..... Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration).
Starter Lock-out ..... Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger ..... Standard
Charger Fault/Missing AC Warning ..... Standard
Low Battery/Battery Problem Protection and Battery Condition Indication ..... Standard
Automatic Voltage Regulation with Over and Under Voltage Protection ..... Standard
Under-Frequency/Overload/Stepper Overcurrent Protection ..... Standard
Safety Fused/Fuse Problem Protection ..... Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown ..... Standard
Overcrank/Overspeed (@ 72 Hz)/RPM Sense Loss Shutdown ..... Standard
High Engine Temperature Shutdown ..... Standard
Internal Fault/Incorrect Wiring Protection ..... Standard
Common External Fault Capability ..... Standard
Field Upgradable Firmware ..... Standard

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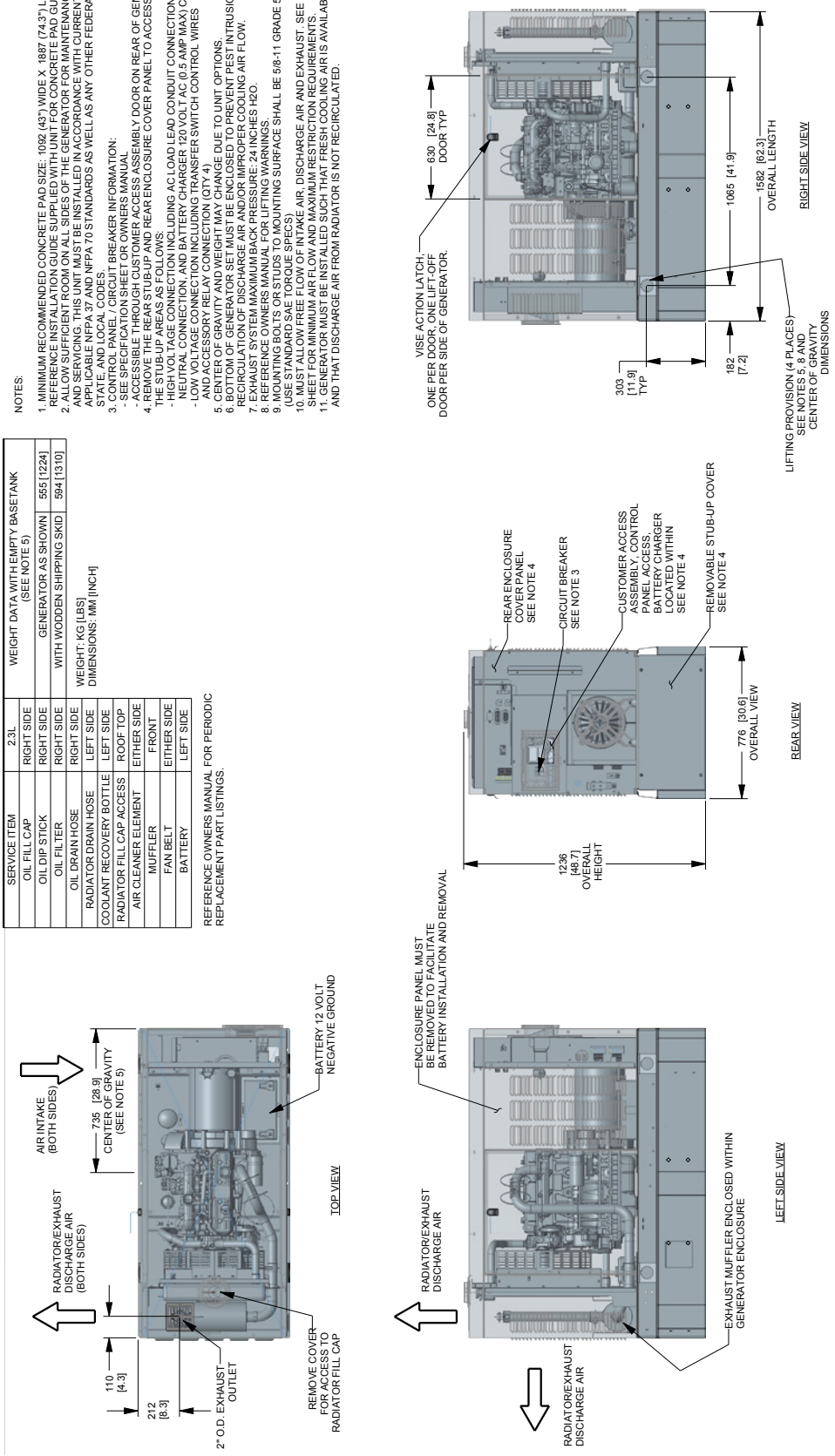
12 & 16 kVA

installation layout

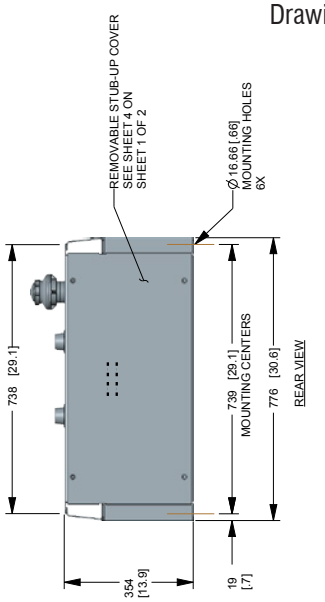
Drawing #0K7394-A (1 of 2)

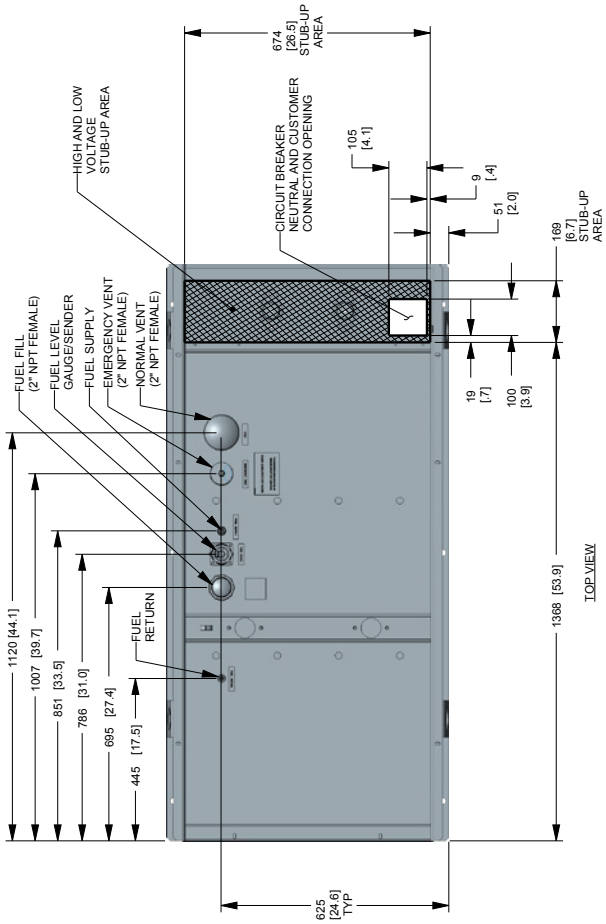


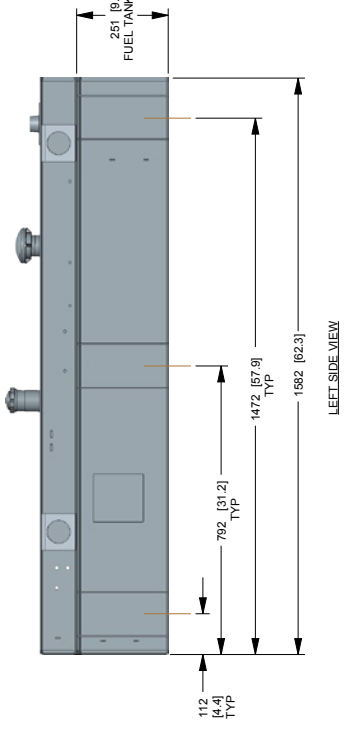
Drawing #0K7394-A (2 of 2)

FUEL TANK	
TOTAL CAPACITY	169 [44]
USABLE CAPACITY	151 [40]

CAPACITY: LITER [GALLON]
DIMENSIONS: MM [INCH]





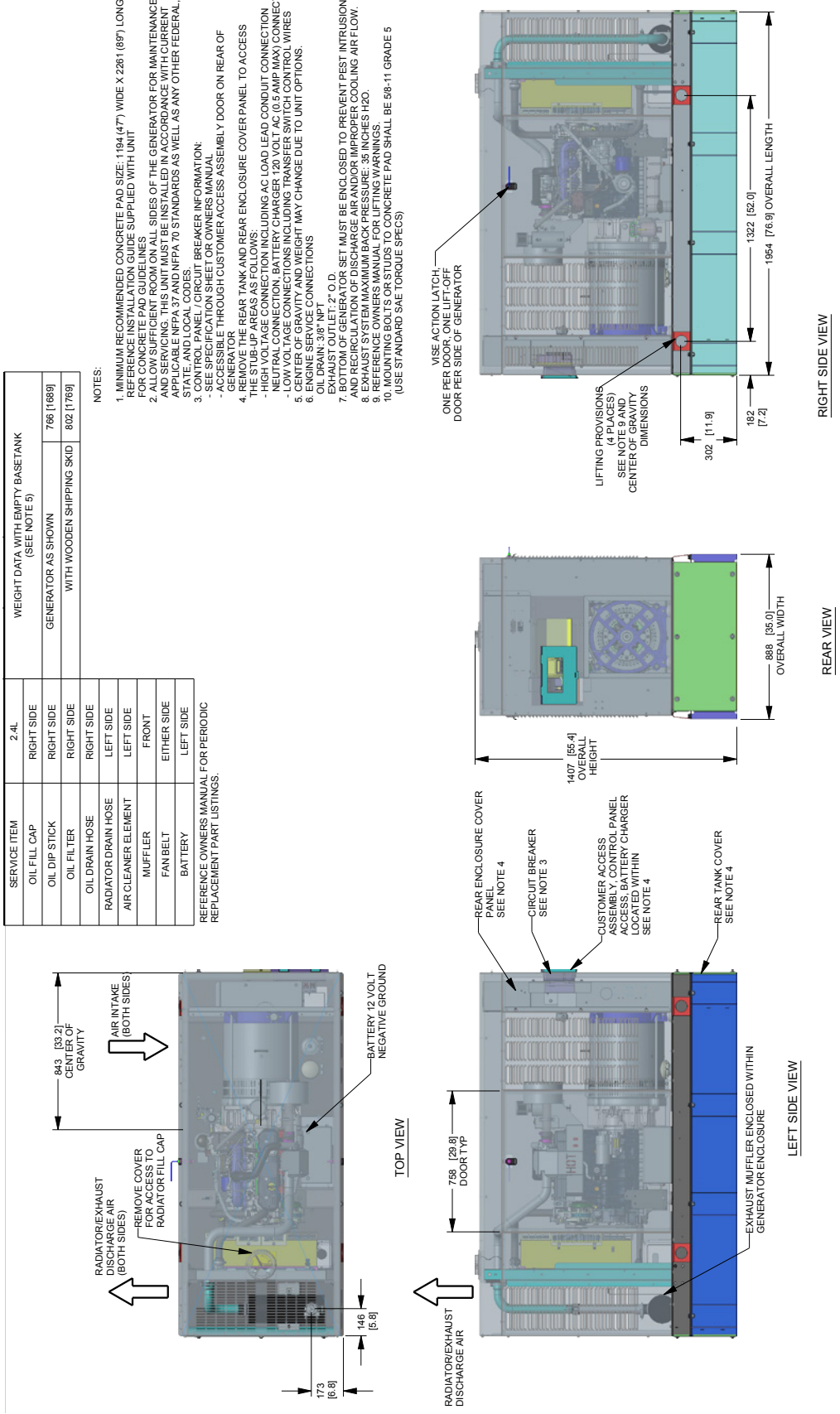


LA RED | GENERAC

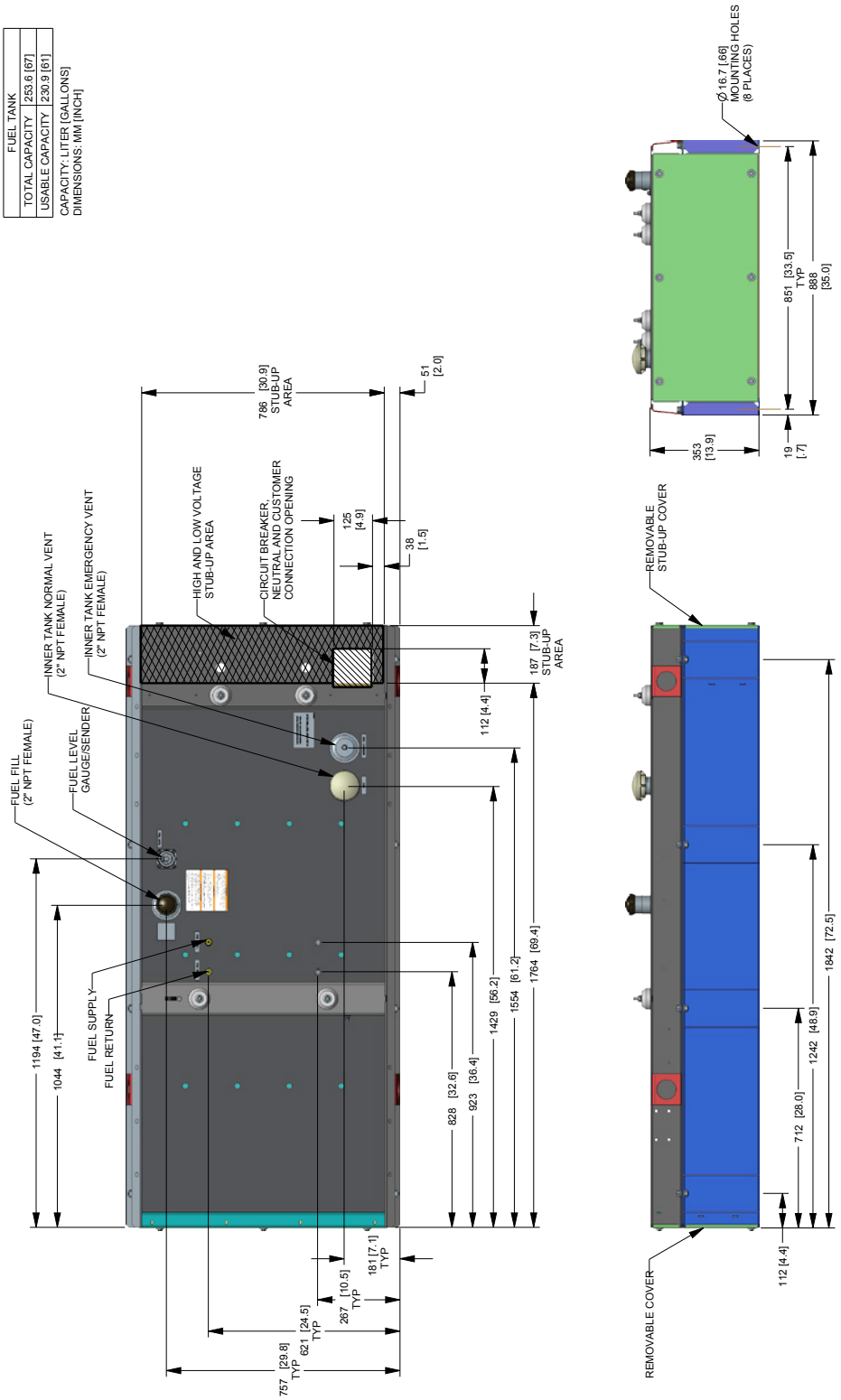
30 kVA

installation layout

Drawing #0K7002A-A (1 of 2)



Drawing #0K7002A-A (2 of 2)



LA RED | GENERAC

50 kVA

installation layout

Drawing #0K6968A-A (1 of 2)

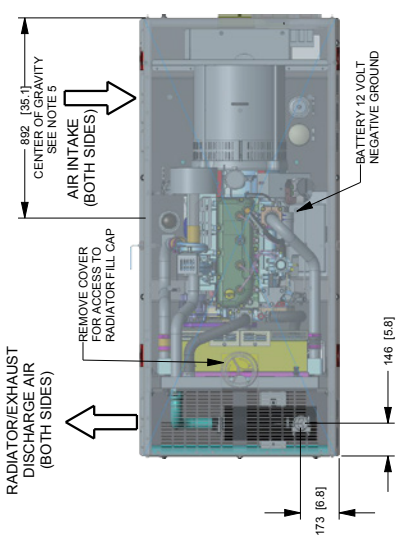
SERVICE ITEM	3.4L	WEIGHT DATA WITH EMPTY BASE TANK (SEE NOTE 5)	
OIL FILL CAP	RIGHT SIDE		
OIL DIP STICK	RIGHT SIDE	GENERATOR AS SHOWN	886 [1953]
OIL FILTER	RIGHT SIDE	WITH WOODEN SHIPPING SKID	925 [2039]
OIL DRAIN HOSE	RIGHT SIDE		
RADIATOR DRAIN HOSE	LEFT SIDE		
AIR CLEANER ELEMENT	RIGHT SIDE		
MUFFLER	FRONT		
FAN BELT	EITHER SIDE		
BATTERY	LEFT SIDE		

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.

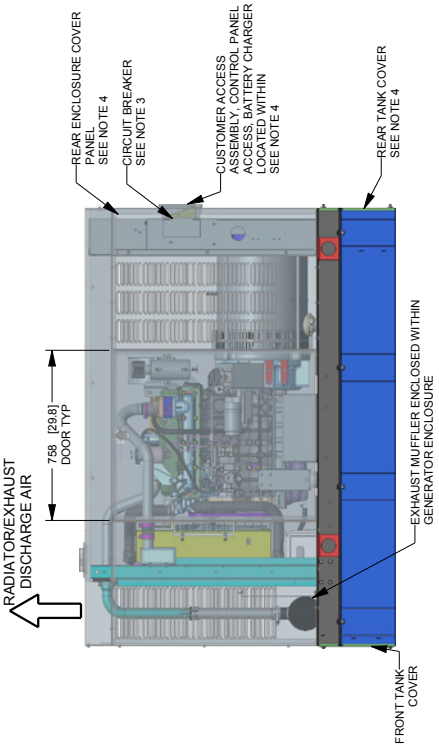
NOTES:

1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1194 (47") WIDE X 2261 (89") 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 MANUEL
   - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR
4. REMOVE THE REAR TANK AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
   -HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
   -LOW VOLTAGE CONNECTIONS INCLUDE TRANSFER SWITCH CONTROL WIRES
5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
6. ENGINE SERVICE CONNECTIONS
   OIL DRAIN: 3/8" NPT
   EXHAUST OUTLET: 2" O.D.
7. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
8. EXHAUST SYSTEM MAXIMUM BACK PRESSURE: 35 INCHES H20.
9. REFERNCE OWNERS MANUAL FOR LIFTING WARNINGS.
10. MOUNTING BOLTS OR STUDS TO CONCRETE PAD SHALL BE 5/8-11 GRADE 5

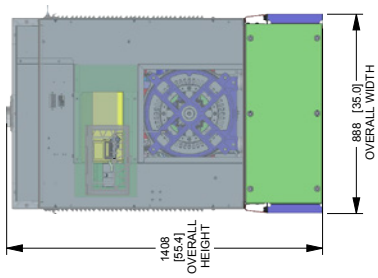
UNITS: WEIGHT - KG [LBS]
DIMENSION - MM [INCH]



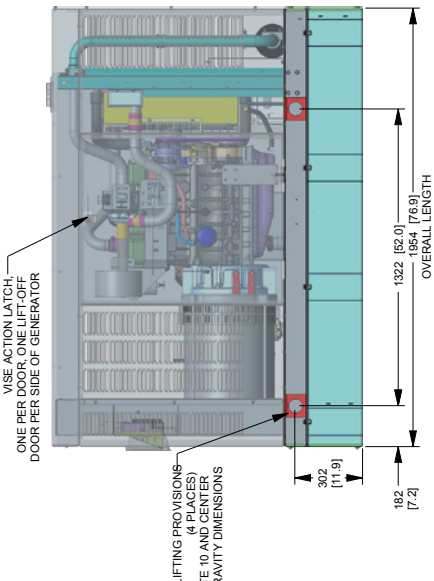
TOP VIEW



LEFT SIDE VIEW



REAR VIEW

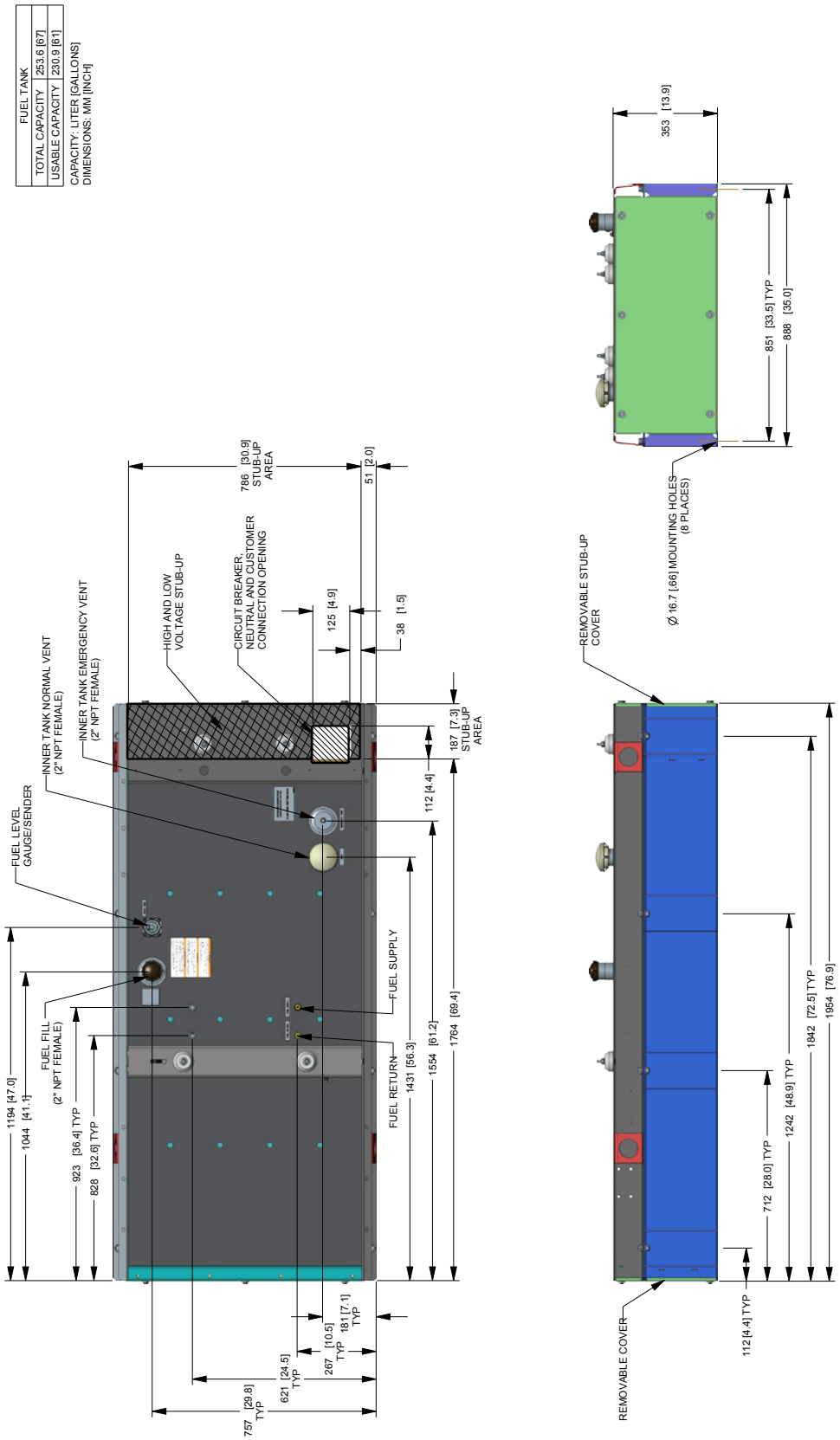


RIGHT SIDE VIEW

50 kVA

installation layout

Drawing #0K6968A-A (2 of 2)



LA RED® | GENERAC®

12 • 16 • 30 • 50 kVA

available accessories

Model #	Product	Description
006504-0	90% Fuel Level Alarm	The 90% fuel level alarm alerts the fuel fill operator when the tank reaches a 90% fill level by sounding an audible alarm and triggering an LED warning light.
006505-0 - 12 & 16 kVA 006506-0 - 30 & 50 kVA	Tank Risers	Tank risers are required in some municipalities to help avoid potential base tank corrosion caused by mounting on rough surfaces.
006507-0	Fuel Fill Drop Tube	A powder coat painted, steel fuel fill drop tube is required in some municipalities to prevent sparking due to static electricity buildup, which can be caused by the fuel dropping into the tank from the fill area. Using a drop tube also results in submerged filling, which increases the fuel delivery flow rate and reduces vapors, foam and potential tank evaporation.
006513-0 - 12 & 16 kVA 006517-0 - 30 kVA 006516-0 - 50 kVA	Stainless Steel Fuel Lines	Some municipalities require the use of stainless steel fuel lines instead of the standard hoses provided with the diesel generator products. These stainless steel lines are fire resistant for additional safety.
006510-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.
006512-0	Lockable Fuel Cap	The cast iron, lockable fuel cap provides the ability to lock the fuel system to prevent unwanted fuel tampering or fuel siphoning.
006572-0 - 12 & 16 kVA 006571-0 - 30 kVA 006570-0 - 50 kVA	Maintenance Kits	The Protector Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac Protector generators.
006560-0 - 12 & 16 kVA 006559-0 - 30 kVA 006558-0 - 50 kVA	Cold Weather Kits	Recommended for generators installed in regions where the temperature regularly falls below 32 °F (0 °C). The Cold Weather Kits consist of a block heater with all necessary mounting hardware and a battery warmer with a thermostat built into the battery wrap.
005704-0	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.
005928-0	Basic Wireless Remote	Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house.
006199-0	PMM Starter Kit	The PMM Starter Kit consists of a 24 VAC, field installed transformer that enables the use of the 24 VAC Power Management Modules (PMMs) and one PMM. The standard controller (without starter kit) can control two HVAC loads with no additional hardware. Not compatible with pre-wired switches.
006186-0	Power Management Module (50 Amps)	Power Management Modules are used in conjunction with the Smart Switch to increase its power management capabilities. It gives the Smart Switch additional power management flexibility not found in any other transfer switch. Not compatible with pre-wired switches. Note: PMM Starter Kit required.