

OCTOBER 7, 2015
ADDENDUM #1
INSTALLATION OF EMERGENCY STANDBY GENERATOR

This addendum is issued per the pre-proposal meeting held October 5, 2015

The bid date is corrected – Bids are due by 3:00 p.m., **Monday, October 12, 2015.**

The bid proposal page has been updated to reflect the use tax the contractor will be expected to pay on the equipment purchased by the City. Bidders must utilize the attached Addendum #1 Proposal Form for bid submission.

The following is a list of the documents attached to Addendum #1.

Generac Generator and ASCO Transfer Switch
75kVA Service Transformer and Natural Gas Service Photos
Revised Layout Drawing
Natural Gas Supply Line & Concrete Pad Drawings

Contractor shall install natural gas piping system as described in Attachment A, General, Item #17 and in the Natural Gas Supply Line & Concrete Pad drawing per Addendum #1. Contractor shall provide the gas regulator.

The Contractor shall anchor the Generator and Transfer Switch to their respective concrete pads via stainless steel anchors approved for use.

Contractor shall remove and set aside the existing Transfer Switch

Contractor shall refeed the existing Emergency Panel via an existing 100 amp circuit breaker located in Panel C.

All remaining specifications are unchanged.

If you have any questions regarding purchasing procedures, contact Purchasing Manager Judy Johnson at (269) 324-9284. If you have questions regarding the specifications, contact Stacy French, Assistant Fire Chief at (269) 329-4482.

**ADDENDUM #1
CITY OF PORTAGE
BID FORM**

The undersigned has examined the specifications and sites of the work and is fully informed of the nature of the work and understands that the quantities shown are approximate and are subject to increase or decrease.

The undersigned hereby proposes to furnish all labor, construction equipment, materials and supplies; and to do all the work in strict accordance with the plans and specifications applying to the work specified for which prices are submitted.

The undersigned hereby acknowledges the fact that the City of Portage will award the project to the successful bidder conditional upon the availability of funds.

The City of Portage reserves the right to accept or reject any or all bids in the best interest of the City. Each division may be awarded separately or jointly as may be determined to be in the best interest of the City. The Contractor's qualifications to complete the work in a timely and satisfactory manner will be considered in making the award.

The undersigned affirms that in making such Proposal neither he nor any company that he may represent, nor anyone in behalf of him or company, directly or indirectly, has entered into any combination, collusion, undertaking or agreement with any other bidder or bidders to maintain the prices of said work, and further affirms that such proposal is made without regard or reference to any other bidder or Proposal and without any agreement or understanding or combination, either directly or indirectly, with any other person or persons with reference to such bidding in any way or manner whatsoever.

The undersigned hereby agrees that if the foregoing proposal shall be accepted by the City, he will within ten (10) consecutive calendar days after receiving notice of the acceptance of such proposal, enter into contract in the appropriate form to furnish the labor, materials and equipment necessary for the full and complete execution of the work, at and for the price named in his proposal; and, he will furnish the labor, materials and equipment necessary for the full and complete execution of the work, at and for the price named in his proposal; and, he will furnish the labor, materials and equipment necessary for the full and complete execution of the work, at and for the price named in his proposal. No contract is created until it is executed by all parties.

The undersigned affirms that he has examined the surface and subsurface conditions where the work is to be performed, the legal requirements and conditions affecting cost, progress or performance of the work and has made such independent investigations as the contract deems necessary.

The undersigned attaches hereto a bidder's bond in the sum of _____ Dollars (\$ _____) as required in the Instructions to Bidders, and the undersigned agrees that, in case he shall fail to fulfill his obligations under the foregoing Proposal and agreement, the City may, at its option, determine that the undersigned has abandoned his rights and interests in such Proposal and that the certified check or bidder's bond accompanying his proposal has been forfeited to the City; but otherwise, the Certified check or bidder's bond shall be returned to the undersigned upon the rejection of his Proposal.

Disclosure: Asphalt, concrete or other material(s) requiring removal from the job site will be disposed of at: _____

(address of disposal site*)

Name & Address of _____
 Disposal Site Owner _____

*Attach separate Sheet(s) for multiple disposal sites.

Bid Proposal Price

Installation of Standby Power Generator	\$ _____
Use Tax on Equipment Purchased by City of Portage	\$ _____ \$2,376.00
Total Bid	\$ _____

BIDDER FIRM: _____

BY: _____

Signature

DATE: _____

BY: _____

Print or Type

POSITION: _____

ADDRESS: _____

PHONE: _____ FAX: _____

SG080 | 8.0L | 80 kW
INDUSTRIAL SPARK-IGNITED GENERATOR SET
 EPA Certified Stationary Emergency



STANDBY POWER RATING

80 kW, 100 kVA, 60 Hz

PRIME POWER RATING*

72 kW, 90 kVA, 60 Hz



*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

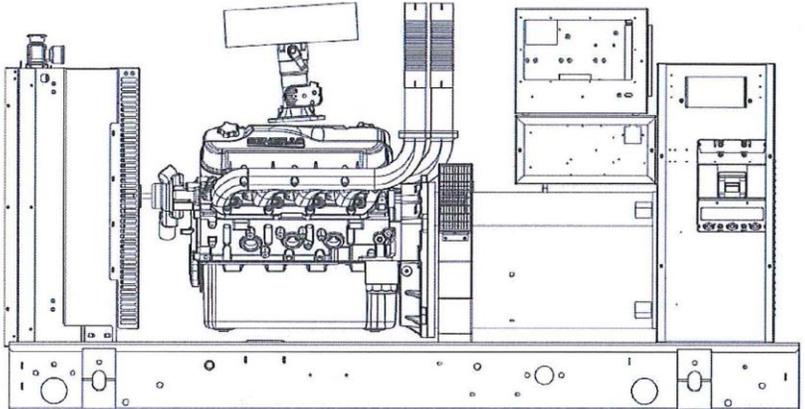


Image used for illustration purposes only

CODES AND STANDARDS

Generac products are designed to the following standards:

 UL2200, UL508, UL142, UL498

 NFPA70, 99, 110, 37

 NEC700, 701, 702, 708

 ISO9001, 8528, 3046, 7637, Pluses #2b, 4

 NEMA ICS10, MG1, 250, ICS6, AB1

 ANSI C62.41

 IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SG080 | 8.0L | 80 kW
INDUSTRIAL SPARK-IGNITED GENERATOR SET
 EPA Certified Stationary Emergency



STANDARD FEATURES

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Factory Filled Oil & Coolant
- Radiator Duct Adapter (open set only)
- Critical Exhaust Silencer (enclosed only)

Fuel System

- Flexible 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

ALTERNATOR SYSTEM

- UL2200 Genprotect™
- Class H insulation material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearings
- Amortisseur winding
- Full load capacity alternator

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)
- 1 Year Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (IF SELECTED)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material (L1 & L2)
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

CONTROL SYSTEM



Control Panel

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run

- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- 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
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

SG080 | 8.0L | 80 kW
INDUSTRIAL SPARK-IGNITED GENERATOR SET
EPA Certified Stationary Emergency



CONFIGURABLE OPTIONS

ENGINE SYSTEM

General

- Engine Block Heater
- Oil Heater
- Air Filter Restriction Indicator
- Stone Guard (Open Set Only)
- Critical Exhaust Silencer (Open Set Only / Standard on Ultra Low Emissions Option)

Electrical System

- 10A & 2.5A UL battery charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breaker

ENGINEERED OPTIONS

ENGINE SYSTEM

- Fluid containment Pans
- Coolant heater ball valves

ALTERNATOR SYSTEM

- 3rd Breaker Systems

CONTROL SYSTEM

- Spare inputs (x4) / outputs (x4) - H Panel Only
- Battery Disconnect Switch

GENERATOR SET

- Gen-Link Communications Software (English Only)
- Extended Factory Testing (3 Phase Only)
- IBC Seismic Certification
- 8 Position Load Center
- 2 Year Extended Warranty
- 5 Year Warranty
- 5 Year Extended Warranty

ENCLOSURE

- Standard Enclosure
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Steel Enclosure
- Aluminum Enclosure
- 12 VDC Enclosure Lighting Kit
- 120 VAC Enclosure Lighting Kit
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch

CONTROL SYSTEM

- 21-Light Remote Annunciator
- Remote Relay Board (8 or 16)
- Oil Temperature Sender with Indication Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Remote Communication - Bridge
- Remote Communication - Ethernet
- 10A Run Relay
- Ground Fault Indication and Protection Functions

GENERATOR SET

- Special Testing
- Battery Box

ENCLOSURE

- Motorized Dampers
- Enclosure Ambient Heaters
- 150 MPH Wind Kit

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition

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INDUSTRIAL SPARK-IGNITED GENERATOR SET
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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	8
Type	V
Displacement - L (cu In)	7.94L (489)
Bore - mm (in)	108.61 (4.28)
Stroke - mm (in)	107.15 (4.25)
Compression Ratio	9.5:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	5
Connecting Rods	Forged
Cylinder Head	Cast Iron
Cylinder Liners	No
Ignition	High Energy
Piston Type	Aluminum Alloy
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic Roller
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	Yes
Engine Governing	
Governor	Electronic
Frequency Regulation (Steady State)	±0.25%
Lubrication System	
Oil Pump Type	Gear
Oil Filter Type	Full-flow spring-on cartridge
Crankcase Capacity - L (qts)	8.5 (8.0)

Cooling System

Cooling System Type	Pressurized Closed
Water Pump Flow - gal/min (l/min)	26 (98)
Fan Type	Pusher
Fan Speed (rpm)	2330
Fan Diameter mm (in)	558 (22)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120 V

Fuel System

Fuel Type	Natural Gas, Propane
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure (Standard)	11" - 14" H ₂ O
Operating Fuel Pressure (Optional)	7" - 11" H ₂ O

Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390mm	Standard Excitation	Brushless
Poles	4	Bearings	Sealed Ball
Field Type	Revolving	Coupling	Direct Drive
Insulation Class - Rotor	H	Prototype Short Circuit Test	Yes
Insulation Class - Stator	H	Voltage Regulator Type	Full Digital
Total Harmonic Distortion	<5%	Number of Sensed Phases	3
Telephone Interference Factor (TIF)	<50	Regulation Accuracy (Steady State)	±0.25%

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OPERATING DATA

POWER RATINGS

	80 kW	Natural Gas Amps: 333	Propane Vapor Amps: 333
Single-Phase 120/240 VAC @1.0pf	80 kW	Amps: 333	Amps: 333
Three-Phase 120/208 VAC @0.8pf	80 kW	Amps: 278	Amps: 278
Three-Phase 120/240 VAC @0.8pf	80 kW	Amps: 241	Amps: 241
Three-Phase 277/480 VAC @0.8pf	80 kW	Amps: 120	Amps: 120
Three-Phase 347/600 VAC @0.8pf	80 kW	Amps: 96	Amps: 96

STARTING CAPABILITIES (sKVA)

Alternator	kW	sKVA vs. Voltage Dip											
		480 VAC				208/240 VAC							
		10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	80	59	88	117	147	176	205	44	66	88	110	132	154
Upsize 1	100	79	118	157	197	236	275	59	89	118	148	177	206
Upsize 2	130	116	174	232	290	348	406	87	131	174	218	261	305

FUEL CONSUMPTION RATES*

Natural Gas - ft ³ /hr (m ³ /hr)		Propane Vapor - ft ³ /hr (m ³ /hr)	
Percent Load	Standby	Percent Load	Standby
25%	378 (10.7)	25%	148.0 (4.2)
50%	570 (16.1)	50%	223 (6.5)
75%	762 (21.6)	75%	305 (8.6)
100%	954 (27.0)	100%	379 (10.7)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Air Flow (inlet air combustion and radiator)	ft ³ /min (m ³ /min)	5757 (163.0)
Coolant Flow per Minute	gal/min (l/min)	26 (98)
Coolant System Capacity	gal (l)	6.0 (22.7)
Heat Rejection to Coolant	BTU/hr	302,400
Max. Operating Ambient Temperature (before derate)	°F (°C)	122 (50)
Maximum Radiator Backpressure	in H ₂ O	0.5

COMBUSTION AIR REQUIREMENT

	Standby
Flow at Rated Power cfm (m ³ /min)	220 (6.2)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	127
Piston Speed	ft/min	1275 (389)
BMEP	psi	113

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

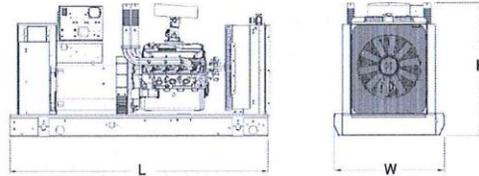
		Standby
Exhaust Flow (Rated Output)	cfm (m ³ /min)	636 (18)
Max. Backpressure (Post Turbo)	inHg (Kpa)	0.75
Exhaust Temp (Rated Output - post silencer)	°F (°C)	1100 (593)
Exhaust Outlet Size (Open Set)	mm (in)	2.5" I.D. Flex x 2 (NO Silencer)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.

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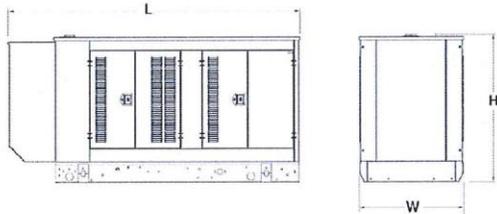


DIMENSIONS AND WEIGHTS*



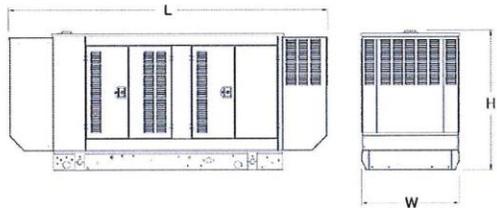
OPEN SET (Includes Exhaust Flex)

L x W x H in (mm)	94.2 (2394) x 40 (1016) x 47.5 (1206)
Weight lbs (kg)	2543 (1153)



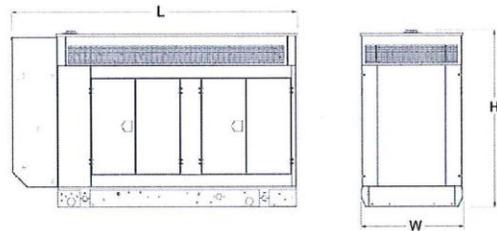
STANDARD ENCLOSURE

L x W x H in (mm)	111.79 (2839.5) x 40.46 (1027.8) x 56.18 (1427)
Weight lbs (kg)	Steel: 3072 (1393) Aluminum: 2802 (1271)



LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H in (mm)	129.42 (3287.2) x 40.46 (1027.8) x 56.18 (1427)
Weight lbs (kg)	Steel: 3233 (1466) Aluminum: 2873 (1303)



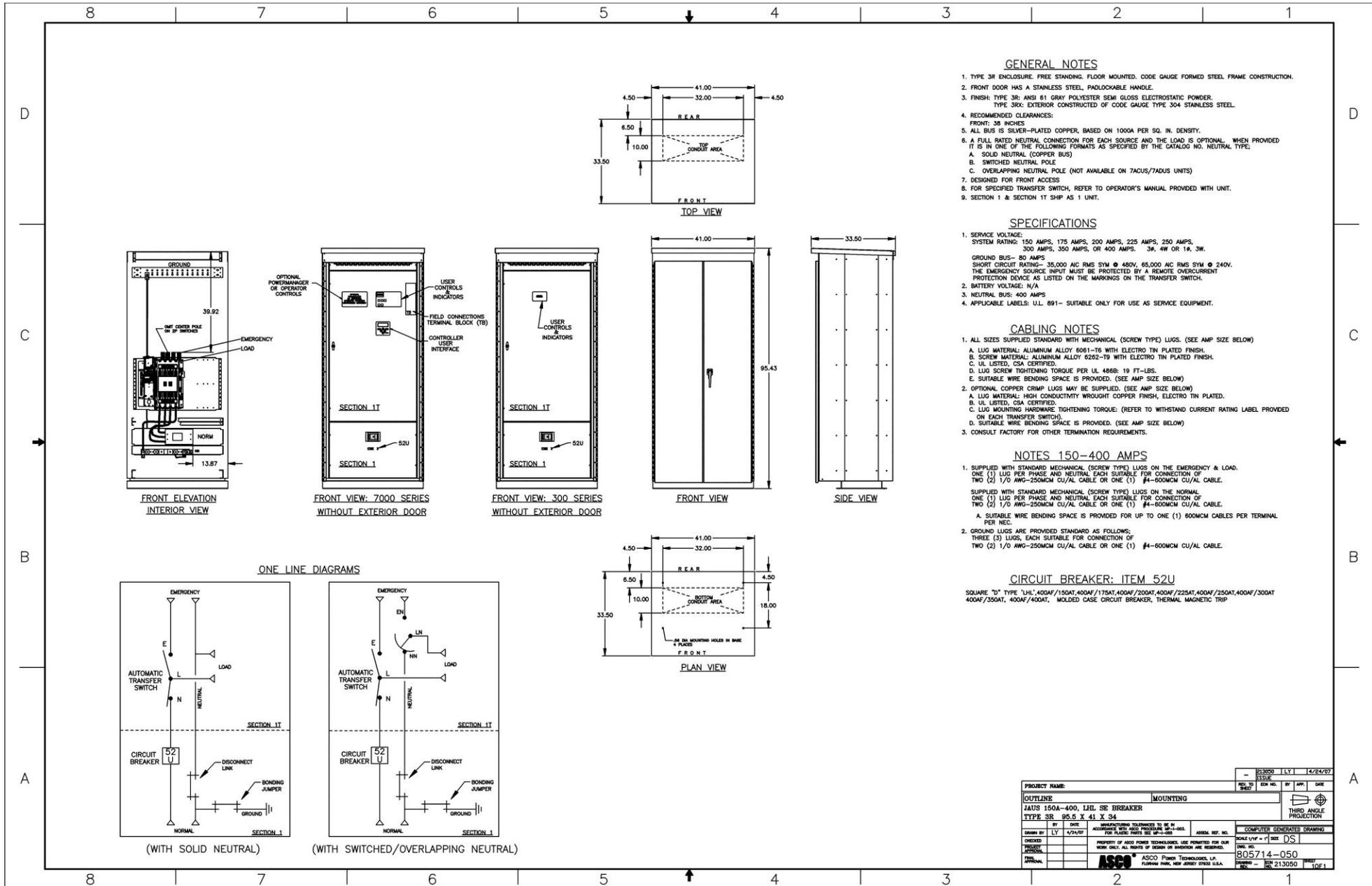
LEVEL 2 ACOUSTIC ENCLOSURE

L x W x H in (mm)	111.81 (2840) x 40.46 (1027.8) x 68.61 (1742.8)
Weight lbs (kg)	Steel: 3360 (1524) Aluminum: 2928 (1328)

*All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.



GENERAL NOTES

1. TYPE 3R ENCLOSURE, FREE STANDING, FLOOR MOUNTED, CODE GAUGE FORMED STEEL FRAME CONSTRUCTION.
2. FRONT DOOR HAS A STAINLESS STEEL, PADLOCKABLE HANDLE.
3. FINISH: TYPE 3R: ANSI 61 GRAY POLYESTER SEMI GLOSS ELECTROSTATIC POWDER. TYPE 3RX: EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 304 STAINLESS STEEL.
4. RECOMMENDED CLEARANCES:
FRONT: 36 INCHES
5. ALL BUS IS SILVER-PLATED COPPER, BASED ON 1000A PER SQ. IN. DENSITY.
6. A FULL RATED NEUTRAL CONNECTION FOR EACH SOURCE AND THE LOAD IS OPTIONAL, WHEN PROVIDED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NO. NEUTRAL TYPE:
A. SOLID NEUTRAL (COPPER BUS)
B. SWITCHED NEUTRAL POLE
C. OVERLAPPING NEUTRAL POLE (NOT AVAILABLE ON 7ACUS/7ADUS UNITS)
7. DESIGNED FOR FRONT ACCESS
8. FOR SPECIFIED TRANSFER SWITCH, REFER TO OPERATOR'S MANUAL PROVIDED WITH UNIT.
9. SECTION 1 & SECTION 1T SHP AS 1 UNIT.

SPECIFICATIONS

1. SERVICE VOLTAGE:
SYSTEM RATING: 150 AMPS, 175 AMPS, 200 AMPS, 225 AMPS, 250 AMPS, 300 AMPS, 350 AMPS, OR 400 AMPS. 3Ø, 4W OR 1Ø, 3Ø.
GROUND BUS - 80 AMPS
SHORT CIRCUIT RATING - 35,000 AC RMS SYM @ 480V, 65,000 AC RMS SYM @ 240V. THE EMERGENCY SOURCE INPUT MUST BE PROTECTED BY A REMOTE OVERCURRENT PROTECTION DEVICE AS LISTED ON THE MARKINGS ON THE TRANSFER SWITCH.
2. BATTERY VOLTAGE: N/A
3. NEUTRAL BUS: 400 AMPS
4. APPLICABLE LABELS: U.L. 891 - SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT.

CABLING NOTES

1. ALL SIZES SUPPLIED STANDARD WITH MECHANICAL (SCREW TYPE) LUGS. (SEE AMP SIZE BELOW)
A. LUG MATERIAL: ALUMINUM ALLOY 6061-T6 WITH ELECTRO TIN PLATED FINISH.
B. SCREW MATERIAL: ALUMINUM ALLOY 6225-T3 WITH ELECTRO TIN PLATED FINISH.
C. U.L. LISTED, CSA CERTIFIED.
D. LUG SCREW TIGHTENING TORQUE PER U.L. 485B: 18 FT-LBS.
E. SUITABLE WIRE BENDING SPACE IS PROVIDED. (SEE AMP SIZE BELOW)
2. OPTIONAL COPPER CRIMP LUGS MAY BE SUPPLIED. (SEE AMP SIZE BELOW)
A. LUG MATERIAL: HIGH CONDUCTIVITY WROUGHT COPPER FINISH, ELECTRO TIN PLATED.
B. U.L. LISTED, CSA CERTIFIED.
C. LUG MOUNTING HARDWARE TIGHTENING TORQUE: (REFER TO WITHSTAND CURRENT RATING LABEL PROVIDED ON EACH TRANSFER SWITCH).
D. SUITABLE WIRE BENDING SPACE IS PROVIDED. (SEE AMP SIZE BELOW)
3. CONSULT FACTORY FOR OTHER TERMINATION REQUIREMENTS.

NOTES 150-400 AMPS

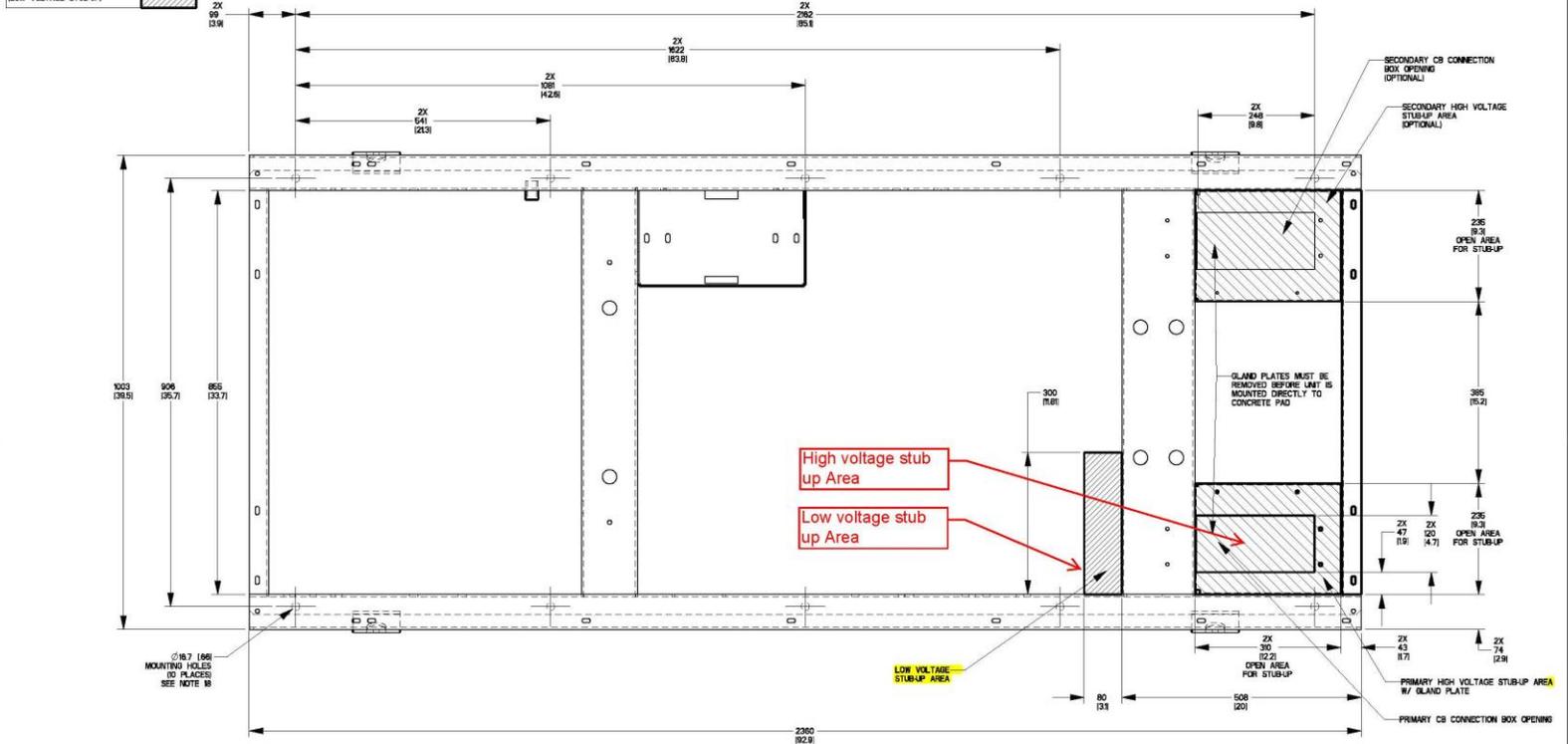
1. SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE EMERGENCY & LOAD. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF TWO (2) 1/0 AWG-250MCM CU/AL CABLE OR ONE (1) #4-600MCM CU/AL CABLE.
SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF TWO (2) 1/0 AWG-250MCM CU/AL CABLE OR ONE (1) #4-600MCM CU/AL CABLE.
A. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO ONE (1) 600MCM CABLES PER TERMINAL PER NEC.
2. GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS:
THREE (3) LUGS, EACH SUITABLE FOR CONNECTION OF TWO (2) 1/0 AWG-250MCM CU/AL CABLE OR ONE (1) #4-600MCM CU/AL CABLE.

CIRCUIT BREAKER: ITEM 52U

SQUARE "D" TYPE 1/4L: 400AF/150AT, 400AF/175AT, 400AF/200AT, 400AF/225AT, 400AF/250AT, 400AF/300AT, 400AF/350AT, 400AF/400AT. MOLDED CASE CIRCUIT BREAKER, THERMAL MAGNETIC TRIP

PROJECT NAME:		REV. NO.	DATE
OUTLINE		REV. NO.	DATE
MOUNTING		REV. NO.	DATE
JATS 150A-400, LHL SE BREAKER			
TYPE 3R 95.5 X 41 X 34			
DRAWN BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH THE PRECISION METRIC SYSTEM	ASSEMBLY NO.
CHECKED BY	DATE	PROPERTY OF ASCO POWER TECHNOLOGIES, USE PRINTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	COMPUTER GENERATED DRAWING
APPROVED BY	DATE	ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07931 U.S.A.	805714-050
FORM NO. 213050			1 OF 1

RECOMMENDED ELECTRICAL STUB-UP
 HIGH VOLTAGE STUB-UP
 AC LOAD LEAD CONDUIT FOR
 PERMANENT MAGNET EXCITATION
 CONNECTION BOX
 LOW VOLTAGE STUB-UP



DRAWING CREATED FROM PRO/ENGINEER
 3D FILE. ECO MODIFICATION TO BE
 APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS (INCHES)

INSTALLATION DRAWING

GENERAC POWER SYSTEMS OWNS THE COPYRIGHT OF THIS DRAWING
 WHICH IS SUPPLIED IN CONFIDENCE AND MUST NOT BE USED FOR
 ANY PURPOSE OTHER THAN FOR WHICH IT IS SUPPLIED WITHOUT
 THE EXPRESS WRITTEN CONSENT OF GENERAC POWER SYSTEMS.
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ELECTRONICALLY APPROVED
 INSIDE WINDSHIELD



TITLE		STUB-UP VIEW	
G8.0L, 60HZ: SG080, PG072		50HZ: SG064, PG058	
G9.0L, 60HZ: SG100, PG090		50HZ: SG080, PG072	
ISSUE DATE:	07/25/14		
SIZE	CAGE NO	DWG NO	
B	N/A	0K0383	REV F-1
SCALE	0.120	WT-KG	SHEET 2 of 3

OPEN SET

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG 080/064, PG 072/058	220V, 240V, 1Ø	1,018 kg [2,245 lbs]	1308 [51.5]	509 [20.1]	466 [18.3]
SG 064/080/100, PG 058/072/090	220V, 240V, 1Ø (100kw)	1,066 kg [2,355 lbs]	1275 [50.2]	506 [19.9]	
SG 080/100, PG 090/072	220V, 240V, 1Ø (130kw UPSIZED)	1,132 kg [2,496 lbs]	1229 [48.4]	502 [19.8]	
SG 080/064, PG 072/058	208V, 240V, 400V, 480V, & 600V	1,023 kg [2,256 lbs]	1305 [51.4]	509 [20.0]	
SG 064/080/100, PG 058/072/090	208V, 240V, 400V, 480V, & 600V (100kw)	1,075 kg [2,371 lbs]	1271 [50.1]	506 [19.9]	
SG 080/100, PG 090/072	208V, 240V, 400V, 480V, & 600V (130kw UPSIZED)	1,153 kg [2,543 lbs]	1218 [47.9]	501 [19.7]	

NOTE:
CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.

STD ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG 080/064, PG 072/058	220V, 240V, 1Ø	1,258 kg [2,774 lbs]	1343 [52.9]	577 [22.7]	444 [17.5]
SG 064/080/100, PG 058/072/090	220V, 240V, 1Ø (100kw)	1,308 kg [2,884 lbs]	1315 [51.8]	572 [22.5]	
SG 080/100, PG 090/072	220V, 240V, 1Ø (130kw UPSIZED)	1,372 kg [3,025 lbs]	1275 [50.2]	566 [22.3]	
SG 080/064, PG 072/058	208V, 240V, 400V, 480V, & 600V	1,263 kg [2,785 lbs]	1341 [52.8]	577 [22.7]	
SG 064/080/100, PG 058/072/090	208V, 240V, 400V, 480V, & 600V (100kw)	1,315 kg [2,900 lbs]	1312 [51.6]	571 [22.5]	
SG 080/100, PG 090/072	208V, 240V, 400V, 480V, & 600V (130kw UPSIZED)	1,393 kg [3,072 lbs]	1266 [49.8]	564 [22.2]	

STD ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
1,136 kg [2,504 lbs]	1338 [52.7]	547 [21.5]	500 [19.7]
1,186 kg [2,615 lbs]	1307 [51.5]	543 [21.4]	
1,250 kg [2,756 lbs]	1264 [49.8]	538 [21.2]	
1,141 kg [2,515 lbs]	1335 [52.6]	547 [21.5]	
1,193 kg [2,630 lbs]	1304 [51.3]	542 [21.3]	
1,271 kg [2,802 lbs]	1253 [49.3]	536 [21.1]	

L1A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG 080/064, PG 072/058	220V, 240V, 1Ø	1,331 kg [2,935 lbs]	1283 [50.5]	591 [23.3]	445 [17.5]
SG 064/080/100, PG 058/072/090	220V, 240V, 1Ø (100kw)	1,381 kg [3,045 lbs]	1259 [49.6]	585 [23.0]	
SG 080/100, PG 090/072	220V, 240V, 1Ø (130kw UPSIZED)	1,445 kg [3,188 lbs]	1224 [48.2]	579 [22.8]	
SG 080/064, PG 072/058	208V, 240V, 400V, 480V, & 600V	1,336 kg [2,946 lbs]	1281 [50.4]	590 [23.2]	
SG 064/080/100, PG 058/072/090	208V, 240V, 400V, 480V, & 600V (100kw)	1,388 kg [3,061 lbs]	1256 [49.4]	585 [23.0]	
SG 080/100, PG 090/072	208V, 240V, 400V, 480V, & 600V (130kw UPSIZED)	1,466 kg [3,233 lbs]	1215 [47.9]	577 [22.7]	

L1A ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
1,168 kg [2,630 lbs]	1308 [51.5]	555 [21.9]	440 [17.3]
1,218 kg [2,685 lbs]	1280 [50.4]	550 [21.7]	
1,282 kg [2,826 lbs]	1239 [48.8]	545 [21.5]	
1,173 kg [2,586 lbs]	1306 [51.4]	555 [21.9]	
1,225 kg [2,701 lbs]	1276 [50.2]	550 [21.7]	
1,303 kg [2,873 lbs]	1229 [48.4]	543 [21.4]	

L2A ENCLOSURE, STEEL

MODEL	VOLTAGE	WEIGHT	CENTER OF GRAVITY DIM X	CENTER OF GRAVITY DIM Y	CENTER OF GRAVITY DIM Z
SG 080/064, PG 072/058	220V, 240V, 1Ø	1,389 kg [3,062 lbs]	1366 [53.8]	665 [26.2]	443 [17.4]
SG 064/080/100, PG 058/072/090	220V, 240V, 1Ø (100kw)	1,439 kg [3,172 lbs]	1340 [52.8]	657 [24.7]	
SG 080/100, PG 090/072	220V, 240V, 1Ø (130kw UPSIZED)	1,503 kg [3,314 lbs]	1303 [51.3]	648 [25.5]	
SG 080/064, PG 072/058	208V, 240V, 400V, 480V, & 600V	1,394 kg [3,073 lbs]	1364 [53.7]	664 [26.1]	
SG 064/080/100, PG 058/072/090	208V, 240V, 400V, 480V, & 600V (100kw)	1,446 kg [3,189 lbs]	1337 [52.6]	656 [25.8]	
SG 080/100, PG 090/072	208V, 240V, 400V, 480V, & 600V (130kw UPSIZED)	1,524 kg [3,360 lbs]	1294 [50.9]	645 [25.4]	

L2A ENCLOSURE, ALUMINUM

WEIGHT	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
1,193 kg [2,630 lbs]	1308 [51.5]	594 [23.4]	439 [17.3]
1,243 kg [2,740 lbs]	1280 [50.4]	587 [23.1]	
1,307 kg [2,881 lbs]	1239 [48.8]	580 [22.8]	
1,198 kg [2,641 lbs]	1306 [51.4]	593 [23.3]	
1,250 kg [2,756 lbs]	1276 [50.2]	586 [23.1]	
1,328 kg [2,928 lbs]	1229 [48.4]	577 [22.7]	

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS (INCHES)



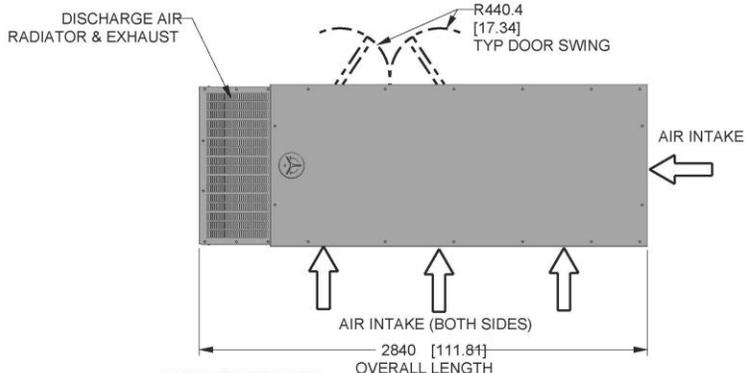
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WEIGHT & CENTER OF GRAVITY
68.0L 60 HZ: SG080, PG072 50HZ: SG064, PG058
69.0L, 60HZ: SG100, PG090 50HZ: SG080, PG072

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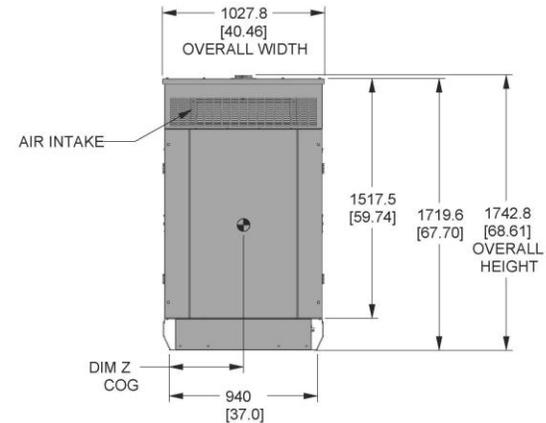
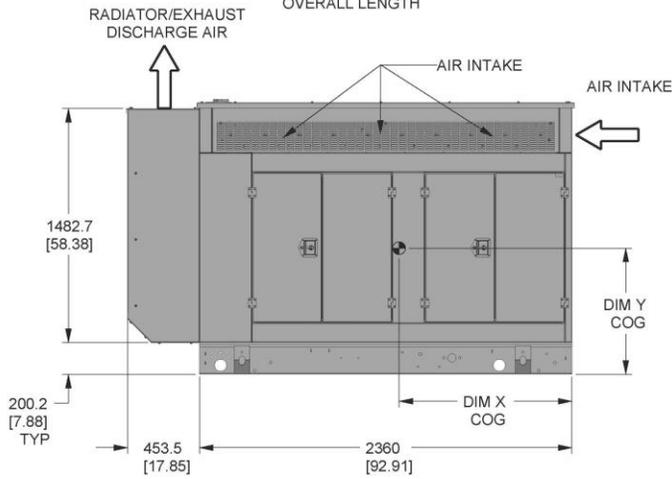
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SIZE: B CAGE NO: N/A DWG NO: **0K0383** REV: **F-1**
SCALE: 0, 0.35 WT-KG SHEET 3 of 3

ELECTRONICALLY APPROVED INSIDE WINDCHILL

INSTALLATION DRAWING



FOR ALL STUB-UP, WEIGHT, AND COG DETAILS, SEE CORRESPONDING OPEN SET DRAWING PER UNIT CONFIGURATION



DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

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ELECTRONICALLY APPROVED
INSIDE WINDOWHILL



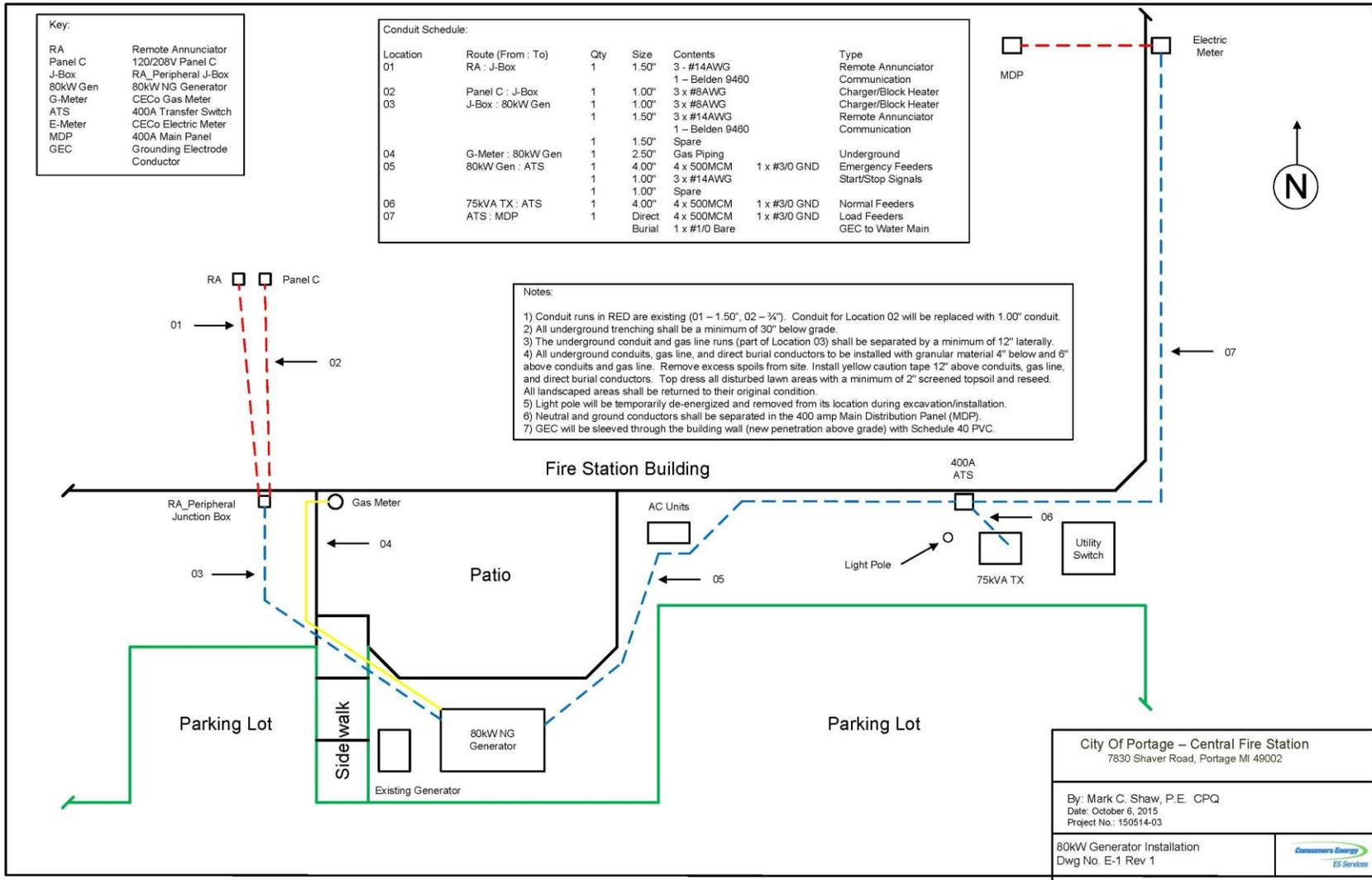
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L2A ENCLOSURE			
G8 0L, 60HZ: SG080, PG072 50HZ: SG064, PG058			
G9 0L, 60HZ: SG100, PG090 50HZ: SG080, PG072			
ISSUE DATE: 07/25/14			
SIZE	CAGE NO	DWG NO	REV
B		0K0383C	C-1
SCALE	0.050	WT-KG	SHEET 1 of 1

Key:	
RA	Remote Annunciator
Panel C	120/208V Panel C
J-Box	RA_Peripheral J-Box
80kW Gen	80kW NG Generator
G-Meter	CECo Gas Meter
ATS	400A Transfer Switch
E-Meter	CECo Electric Meter
MDP	400A Main Panel
GEC	Grounding Electrode Conductor

Conduit Schedule:						
Location	Route (From : To)	Qty	Size	Contents	Type	
01	RA : J-Box	1	1.50"	3 - #14AWG 1 - Belden 9460	Remote Annunciator Communication	
02	Panel C : J-Box	1	1.00"	3 x #8AWG	Charger/Block Heater	
03	J-Box : 80kW Gen	1	1.00"	3 x #8AWG	Charger/Block Heater	
		1	1.50"	3 x #14AWG 1 - Belden 9460	Remote Annunciator Communication	
		1	1.50"	Spare		
04	G-Meter : 80kW Gen	1	2.50"	Gas Piping	Underground	
05	80kW Gen : ATS	1	4.00"	4 x 500MCM 1 x #3/0 GND	Emergency Feeders	
		1	1.00"	3 x #14AWG	Start/Stop Signals	
		1	1.00"	Spare		
06	75kVA TX : ATS	1	4.00"	4 x 500MCM 1 x #3/0 GND	Normal Feeders	
07	ATS : MDP	1	Direct	4 x 500MCM 1 x #3/0 GND	Load Feeders	
			Burial	1 x #1/0 Bare	GEC to Water Main	

Notes:

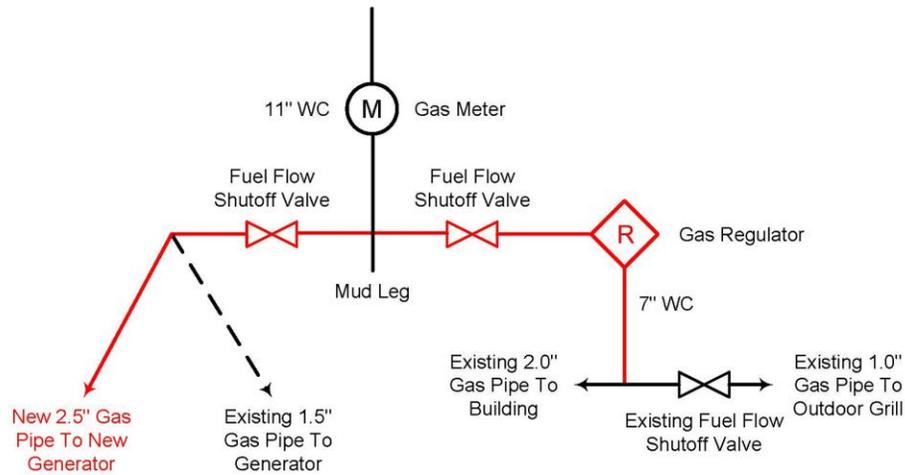
- 1) Conduit runs in RED are existing (01 - 1.50", 02 - 3/4"). Conduit for Location 02 will be replaced with 1.00" conduit.
- 2) All underground trenching shall be a minimum of 30" below grade.
- 3) The underground conduit and gas line runs (part of Location 03) shall be separated by a minimum of 12" laterally.
- 4) All underground conduits, gas line, and direct burial conductors to be installed with granular material 4" below and 6" above conduits and gas line. Remove excess spoils from site. Install yellow caution tape 12" above conduits, gas line, and direct burial conductors. Top dress all disturbed lawn areas with a minimum of 2" screened topsoil and reseed. All landscaped areas shall be returned to their original condition.
- 5) Light pole will be temporarily de-energized and removed from its location during excavation/installation.
- 6) Neutral and ground conductors shall be separated in the 400 amp Main Distribution Panel (MDP).
- 7) GEC will be sleeved through the building wall (new penetration above grade) with Schedule 40 PVC.



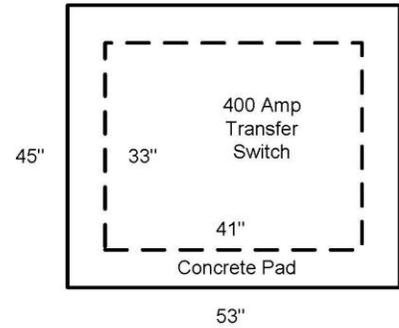
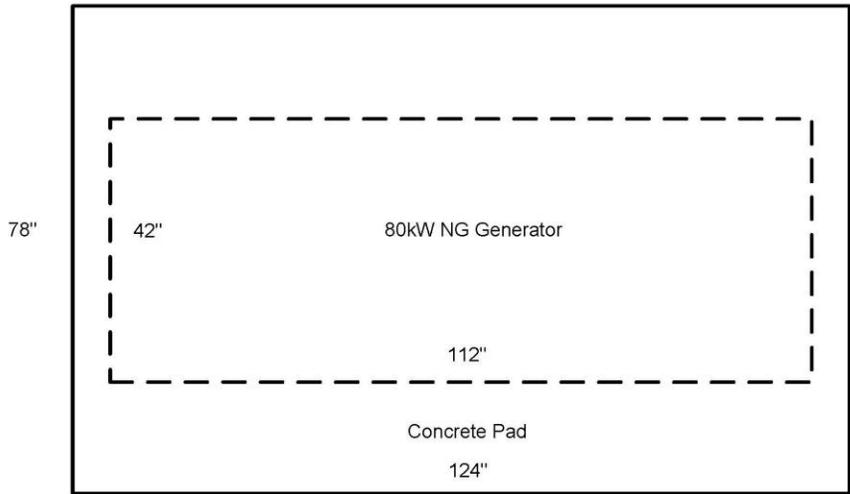
City of Portage - Central Fire Station
7830 Shaver Road, Portage MI 49002

By: Mark C. Shaw, P.E. CPQ
Date: October 6, 2015
Project No.: 150514-03

80kW Generator Installation
Dwg No. E-1 Rev 1



- Notes:**
- 1) New generator gas line to be tied into system concurrent with existing gas line.
 - 2) Contractor to furnish and install new Fuel Flow Shutoff Valves as shown in RED.
 - 3) Contractor to furnish/install natural gas regulator to provide 7" WC downstream.
 - 4) Outage to tie in new valves, regulator and piping system to take place on a Saturday with a 4-5 hour anticipated outage.
 - 5) Conduit entry location/dimensions for concrete pads found on separate Generac and ASCO drawings.
 - 6) New gas piping system from Gas Meter to new generator shall minimize turns and include only 45 degree ell's.



City Of Portage – Central Fire Station 7830 Shaver Road, Portage MI 49002	
By: Mark C. Shaw, P.E. CPQ Date: October 6, 2015 Project No.: 150514-03	
Natural Gas Supply Line & Concrete Pads Dwg No. G-1 Rev 0	



