BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR CERTIFICATE OF OPERATION

FORM E001
03/2011

1. Name of Company: Wal-Mart Stores East, LP
   (If corporation or LLC, name on file with Tennessee Secretary of State Corporate Records Division)
2. NAICS Code: 452210
3. Company Official to Contact: Dustin L. Newman
4. Phone No. 785.844.2774
5. Mailing Address: 8725 Rosehill Road, Suite 450 | Lenexa | KS | 66215
   Street or P.O. Box | City | State | Zip Code
6. Physical Location
   (If different from line 5) 3550 Cummings Highway | Chattanooga | TN | 37419
   Street | City | State | Zip Code
7. Application for:
   - [x] Installation Permit
   - [ ] Initial Certificate of Operation
   - [ ] Renewal Certificate of Operation

   Previous Installation Permit or Certificate of Operation No.: _____
8. Type of equipment for which application is made:

[ ] Process Equipment (Form E010 or Form E010A)	[ ] Previously Submitted	[ ] Attached
[x] Fuel Burning Equipment (Form E011)	[ ] Previously Submitted	[x] Attached
[ ] Incineration Equipment (Form E012)	[ ] Previously Submitted	[ ] Attached
[ ] Minor Pollution Source (Form E014)	[ ] Previously Submitted	[ ] Attached

(Less than 1000 lbs/yr and less than 10 lbs/day total uncontrolled contaminant emissions)

The following forms are filed with this application:
Forms E110/E011.

9. Equipment Name:
Generac Natural Gas Generator 1,000 kW SG1000 spark-ignited supplemental generator.

10. If application is for a Certificate of Operation (Initial or Renewal), are there any changes since previous application in the equipment or operation which might:

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A. Increase, decrease, or alter process materials, fuel, refuse type, etc.?	[ ] Yes	[ ] No
B. Increase, decrease, or alter emissions or emission points?	[ ] Yes	[ ] No

11. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lb/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1,000 Btu/hr, (Item 7C on Form E011): 9,817,500 Btu/hour

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

APTIM Environmental & Infrastructure, Inc. as agent for Walmart Inc.

Diane Grabmiller — Diane Grabmiller
Name

Licensing Support
Title

01/30/2023
Date

Mail completed form to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
6125 Preservation Drive, Suite 140
Chattanooga, TN 37416-3638

This form must be completely filled out before it will be processed

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR CERTIFICATE OF OPERATION

FORM E001
03/2011

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(If corporation or LLC, name on file with Tennessee Secretary of State Corporate Records Division)

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3. Company Official to Contact: Dustin L. Newman

4. Phone No. 785.844.2774

5. Mailing Address: 8725 Rosehill Road, Suite 450 (*Street or P.O. Box*) Lenexa (*City*) KS (*State*) 66125 (*Zip Code*)

6. Physical Location (If different from line 5) 3550 Cummings Highway (*Street*) Chattanooga (*City*) TN (*State*) 37419 (*Zip Code*)

7. Application for:
☐ Installation Permit ☒ Initial Certificate of Operation ☐ Renewal Certificate of Operation

Previous Installation Permit or Certificate of Operation No.: _____

8. Type of equipment for which application is made:

☐ Process Equipment (Form E010 or Form E010A)	☐ Previously Submitted	☐ Attached
☒ Fuel Burning Equipment (Form E011)	☐ Previously Submitted	☒ Attached
☐ Incineration Equipment (Form E012)	☐ Previously Submitted	☐ Attached
☐ Minor Pollution Source (Form E014)	☐ Previously Submitted	☐ Attached

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9. Equipment Name:
Generac Natural Gas Generator 1,000 kW SG1000 spark-ignited supplemental generator.

10. If application is for a Certificate of Operation (Initial or Renewal), are there any changes since previous application in the equipment or operation which might:

A. Increase, decrease, or alter process materials, fuel, refuse type, etc.? ☐ Yes ☒ No

B. Increase, decrease, or alter emissions or emission points? ☐ Yes ☒ No

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11. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lb/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1,000 Btu/hr, (Item 7C on Form E011): 9,817,500 Btu/hour

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Chattanooga, TN 37416-3638

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FUEL BURNING EQUIPMENT APPLICATION

A separate form must be filed for each stack or emission point.

FORM E011
01/2001

1. Name of Company:
   As shown on Line 1 of Form E001

2. Equipment Name:
   As shown on Line 9 of Form E001

3. Stack Designation:
   If there is more than one stack at this location, provide a written or numeric designation to identify each stack.

4. Control Equipment Data:

- [X] Emissions Uncontrolled
- [ ] Electrostatic Precipitator (File Form E104)
- [ ] Baghouse (File Form E102)
- [ ] Inertial Separators (File Form E105)
- [ ] Wet Collecting Device (File Form E103)
- [ ] Other (Specify): _____

5. Control Equipment Efficiency:
   Enter the control equipment efficiency for each pollutant emitted by this equipment as determined on the appropriate Form E102, E103, E104, E105, E107, or enter zeros if "A" is checked in Item 4.

Pollutant	% Efficiency
Particulates	
PM_{10}	
SO_x	
NO_x	
CO	
VOC	
Other:	

6. Emissions Estimation:

File Form E110 for each fuel used

		Fuel No.1	*Fuel No.2*	*Fuel No.3*
Particulate Matter (Form E110, Item 6)	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr
SO_x (Form E110, Item 7)	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr
PM_{10}	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr
NO_x (Form E110, Item 9E)	Uncontrolled	ppm	ppm	ppm
	Actual[1]	ppm	ppm	ppm
	Estimated[2]	ppm	ppm	ppm
Other Air Contaminants (Specify)	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr

1. *Submit stack test report with full details.*
2. *Estimate the emissions using the formula below*

$$\text{Estimated Emissions (lbs/hr, ppm)} = \frac{\text{100\%-Control Efficiency (\%)}}{\text{100\%}} \times \text{Uncontrolled Emissions}$$

Company Name: _____ Equipment Name: _____

7. Equipment Data:

Manufacturer of Equipment: _____

Date of Manufacture: _____ Date of Installation: _____

Boiler No.		Fuel Type	Rated Capacity 10^6 BTU/hr. Input	Type of Firing	Fuel Consumption			Percent Content		Heating Content of Fuel	(%) Excess Air
					Ave.	Max.	Annual	Sulfur	Ash		
	Primary: Normal Operating Fuel(s)										
	Standby: Fuel(s) used in emergency only										
	Primary: Normal Operating Fuel(s)										
	Standby: Fuel(s) used in emergency only										

a. If more than one boiler per stack, list a separate code number to represent each individual boiler,
b. List all fuels used.
c. Give rated or maximum input capacity, whichever is greater.
d. Specify the type of firing for each fuel used.
e. Indicate consumption of each fuel used in tons/hr, gal/hr, or ft^3/hr.
f. Indicate annual consumption of each fuel used in tons/yr, gal/yr, or ft^3/yr.
g. The average sulfur and ash content of each fuel must be included – This information may be obtained from the fuel supplier.
h. Indicate the heating content of each fuel in BTU/ton, BTU/gal, or BTU/ft^3 – This information may be obtained from the fuel supplier.

	Space Heating	Process Heating	Other (Describe)
Percent (%)of Load Used			

8. Emissions Impact:

Those emissions indicated in Item 6 mat at times under normal operating conditions cause (check one or more):

- ☐ Odors
- ☐ Eye Irritations
- ☐ Property Damage
- ☐ Health Effects
- ☐ Other nuisances outside of plant property
- ☐ No environmental damage

9. Emission Point Data:

Stack Height (emission point) above ground:	Ft
Ground Elevation above sea level at stack base:	Ft
Stack Diameter:	Ft
Volume of gas discharged into atmosphere:	Cfm
Gas exit temperature:	°F

10. Average Equipment Operating Time:

Daily:	Hours
Weekly:	Days
Yearly:	Weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. ***This form must be completely filled out before it will be processed.***

Company Official Diane Grabmiller
Diane Grabmiller

Title Licensing Support

APTIM Environmental & Infrastructure, Inc. as agent for Walmart Inc.

Date 01/30/2023

Mail to:
CHATTANOOGA-HAMILTON
COUNTY AIR POLLUTION
CONTROL BUREAU
6125 Preservation Drive
Chattanooga, TN 37416

Do not write below this line

Engineer Approval

Lbs/hr Allowable particulate emissions

Lbs/10^6 BTU allowable SO_x emissions

ppm allowable NO_x emissions

UTM Coordinate of Company: EW NS

This form corresponds to permit number:

Special Notations:

POLLUTION ESTIMATION FORM
(Fuel Burning Equipment)

FORM E110
01/2002

1. Name of Company: Wal-Mart Stores East, LP
(As shown on Line 1 of Form E001)

2. Equipment Name: Generac Natural Gas Generator 1,000 kW SG1000 spark-ignited supplemental generator.
(As shown on Line 10 of Form E001)

3. Percent excess air used in fuel burning (make allowances for leaks around doors and other openings): _____

4. Type of Fuel (file Form E110 for each fuel used): Natural Gas

5. Source of Emission Factors: _____

6. Uncontrolled Particulate Emission Rate:

Particulate Emission Factor: Refer to attachm
(lbs/ton; lbs/10^3 gal; lbs/10^6 ft^3)

Maximum Fuel Consumption Rate (tons/hr; gal/hr; ft^3/hr)	X	Particulate Emission Factor	=	Uncontrolled Particulate Emission Rate	Lbs/hr
	X		=		Lbs/hr

7. Uncontrolled Sulfur Oxide (SO_x) Emission Rate:

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SO_x Emission Factor: Refer to attachments
Lbs/ton; lbs/10^3 gal; lbs/10^6 ft^3

Maximum Fuel Consumption Rate (tons/hr; gal/hr; ft^3/hr)	X	SO_x Emission Factor	=	Uncontrolled SO_x Emission Rate	Lbs/hr
	X	Please refer to Genera	=		Lbs/hr

8. Uncontrolled Hydrocarbon (HC) Emission Rate:

HC Emission Factor: Refer to attachments
Lbs/ton; lbs/10^3 gal; lbs/10^6 ft^3

Maximum Fuel Consumption Rate (tons/hr; gal/hr; ft^3/hr)	X	HC Emission Factor	=	Uncontrolled HC Emission Rate	Lbs/hr
	X	Please refer to Genera	=		Lbs/hr

9. Uncontrolled Nitrogen Oxides (NO_x) Emission Rate:

A. NO_x Emission Factor: Refer to attachment
Lbs/ton; lbs/10^3 gal; lbs/10^6 ft^3

B.	Maximum Fuel Consumption Rate (tons/hr; gal/hr; ft^3/hr)	X	NO_x Emission Factor	=	Uncontrolled NO_x Emission Rate	Lbs/hr
		X	Please refer to Genera	=		Lbs/hr

10. NO_x Emission Rate in PPM by Volume at STP:

Cubic feet per hour (CFH) of Exhaust Gases at 15% Excess Air:

A. V (See Table A) X Refer to attachments (Maximum Fuel Consumption Rate 10^6 BTU/hr) = _____ (Exhaust Rate) CFH

B. _____ (Uncontrolled NO_x (Item 9B)) Lbs/hr ÷ _____ (CFH of Exhaust Gas (Item 10A)) = _____ Lb/ft^3 NO_x

C. PPM = (8.37×10^6) X _____ (Lb/ft^3 NO_x (Item 10B)) = _____ (PPM at STP and 15% Excess Air (NO_x calculated as NO_2))

Table A	
Fuel	V
Bituminous Coal	11700
Fuel Oil	11400
Natural Gas	11200
Wood	12800

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Mail to:
CHATTANOOGA-HAMILTON COUNTY
AIR PULLUTION CONTROL BUREAU
6125 Preservation Drive
Chattanooga, TN 37416

Diane Grabmiller
Diane Grabmiller
Company Official

APTIM Environmental & Infrastructure, Inc.
as agent for Walmart Inc.

Licensing Support
Title

01/30/2023
Date

Do Not Write Below This Line

_____ Engineer Approval

This form corresponds to permit number: _____

Special Notations: _____

Warsaw Project
Emergency Generator System
8760

Emergency Generator

Gen Set	Natural Gas Generator
EPA Family Name	MGNXB49.021N1
Model Year	2022
EPA Certificate Number	MGNXB49.021N1-064
Power Rating (kW)	1,000
Potential Hours (hr/yr)	8,760 [1]

Fuel Consumption (cf/hr)	9,625

Engine Emissions

	A	B	C	D	E
Pollutant	Emissions Data (g/kW*hr)	Emissions (g/hr)	Emissions (lb/hr)	Emissions (lb/year)	Emissions (ton/year)
NO_x	0.01	13.41	0.03	258.75	0.13
HC	0.25	254.79	0.56	4916.21	2.458
PM [2]	0.00	0.00	0.00	0.00	0.00
CO	1.68	1676.25	3.69	32343.50	16.17
SO_2 [2]	0.00	0.00	0.00	0.00	0.000

Notes / Calculations

A = Based on manufacturer specifications
B = A * Power Rating
C = B / (454 g/lb)
D = C * Potential Hours
E = D / (2000 lb/ton)

[1] The Gen Set potential emissions are based on 8760 hours regardless of operational case

[2] Manufacture spec sheets do not reference PM and SO_2 emissions data

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2021 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Generac Power Systems, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: **MGNXB49.02N1-064**

Effective Date: 10/16/2020

Expiration Date: 12/31/2021

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 10/16/2020

Revision Date: N/A

Manufacturer: Generac Power Systems, Inc.
Engine Family: MGNXB49.02N1
Mobile/Stationary Certification Type: Stationary
Fuel : Natural Gas (CNG/LNG)
Emission Standards :
Part 60 Subpart JJJJ Table 1
NOx (g/Hp-hr) : 1.0
VOC (g/Hp-hr) : 0.7
CO (g/Hp-hr) : 2.0
Emergency Use Only : N

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

GENERAC | INDUSTRIAL POWER

STATEMENT OF EXHAUST EMISSIONS
2021 Spark-Ignited Generators
Industrial Series - Non-Emergency - Mode 1/2

Model	Engine (L)	EPA Engine Family	Fuel	EPA Cert #	Mode 1 (100% Load ESP) Grams/ bhp-hr.				Mode 2 (75% Load ESP) Grams/ bhp-hr.				Rated RPM	BHP	Fuel Flow (lb/hr)
					THC	NMHC	NOx	CO	THC	NMHC	NOx	CO			
SG035, 40, 45, 50NA	4.5	MGNXB04.52N1	NG	MGNXB04.52N1-042	0.15	0.01	0.11	0.29	0.16	0.01	0.05	0.32	1,800	72	23.70
SG035, 40, 45, 50NA	4.5	MGNXB04.52N2	LPG	MGNXB04.52N2-043	0.03	N/A	0.13	0.25	0.02	N/A	0.05	0.16	1,800	72	26.00
SG050T, 60, 70, 80	4.5	MGNXB04.52N3	NG	MGNXB04.52N3-044	0.11	0.01	0.25	0.25	0.10	0.01	0.25	0.25	1,800	132	43.68
SG050T, 60, 70, 80	4.5	MGNXB04.52N4	LPG	MGNXB04.52N4-045	0.05	N/A	0.36	1.01	0.03	N/A	0.17	0.15	1,800	132	46.61
SG080, 100	9.0	MGNXB08.92N3	NG	MGNXB08.92N3-047	0.17	0.00	0.01	0.05	0.10	0.00	0.00	0.19	1,800	153	53.10
SG080, 100 (LPF)	9.0	MGNXB08.92N3	NG	MGNXB08.92N3-047	0.07	0.00	0.30	0.01	0.14	0.00	0.01	0.05	1,800	153	53.41
SG080, 100 (DF)	9.0	MGNXB08.92N3	LPV	MGNXB08.92N3-047	0.14	0.00	0.00	0.18	0.12	0.00	0.00	0.11	1,800	148	53.20
SG080, 100 (DF LPF)	9.0	MGNXB08.92N3	LPV	MGNXB08.92N3-047	0.04	0.00	0.00	0.07	0.16	0.00	0.00	0.28	1,800	152	46.90
SG080, 100 (DF)	9.0	MGNXB08.92N3	LPL	MGNXB08.92N3-047	0.22	0.00	0.01	1.16	0.15	0.00	0.01	1.16	1,800	151	51.86
SG080, 100 (DF LPF)	9.0	MGNXB08.92N3	LPL	MGNXB08.92N3-047	0.10	0.00	0.00	0.18	0.06	0.00	0.00	0.03	1,800	151	51.58
SG/MG130,150	9.0	MGNXB08.92N4	NG	MGNXB08.92N4-049	0.12	0.00	0.18	0.76	0.12	0.00	0.05	0.80	1,800	229	86.37
SG150,175,200	14.2	MGNXB14.22N1	NG	MGNXB14.22N1-052	0.01	0.00	0.20	0.01	0.09	0.00	0.25	0.07	1,800	304	101.16
SG230, 250	14.2	MGNXB14.22N1	NG	MGNXB14.22N1-052	0.04	0.00	0.04	0.26	0.11	0.00	0.03	0.65	1,800	374	141.71
SG275, 300	14.2	MGNXB14.22N1	NG	MGNXB14.22N1-052	0.05	0.00	0.02	0.33	0.09	0.00	0.01	0.55	1,800	460	140.33
MG150, 200	14.2	MGNXB14.22N1	NG	MGNXB14.22N1-052	0.01	0.00	0.20	0.01	0.09	0.00	0.25	0.07	1,800	304	101.16
MG250	14.2	MGNXB14.22N1	NG	MGNXB14.22N1-052	0.04	0.00	0.04	0.26	0.11	0.00	0.03	0.65	1,800	374	141.71
MG300	14.2	MGNXB14.22N1	NG	MGNXB14.22N1-052	0.05	0.00	0.02	0.33	0.09	0.00	0.01	0.55	1,800	460	140.33
SG/MG350, 400, 450	21.9	MGNXB21.92N3	NG	MGNXB21.92N3-054	0.07	0.00	0.07	0.09	0.05	0.00	0.06	0.07	1,800	673	208.97
SG/MG350, 400, 450 (LPF)	21.9	MGNXB21.92N3	NG	MGNXB21.92N3-054	0.19	0.00	0.10	0.42	0.09	0.01	0.03	0.08	1,800	673	224.29
SG/MG500	25.8	MGNXB25.82N1	NG	MGNXB25.82N1-055	0.12	0.00	0.03	0.85	0.18	0.00	0.03	0.47	1,800	777	280.37
SG/MG500 (LPF)	25.8	MGNXB25.82N1	NG	MGNXB25.82N1-055	0.16	0.00	0.04	0.73	0.15	0.00	0.06	0.53	1,800	777	279.64
SG/MG625	33.9	MGNXB33.92N1	NG	MGNXB33.92N1-056	0.14	0.00	0.02	0.19	0.15	0.00	0.00	0.25	1,800	908	324.83
SG/MG750	33.9	MGNXB33.92N1	NG	MGNXB33.92N1-056	0.20	0.00	0.33	1.15	0.16	0.00	0.04	0.91	1,800	1,077	416.83
SG/MG1000	49.0	MGNXB49.02N1	NG	MGNXB49.02N1-064	0.19	0.00	0.01	1.25	0.11	0.00	0.002	1.10	1,800	1,475	494.34

NG: Natural Gas
LPV: Liquid Propane Vapor
LPL: Liquid Propane Liquid

DF: Dual Fuel
LPG: Liquid Propane Vapor or Liquid Propane Liquid
LPF: Units with Option Low Pressure Fuel System

N/A: Not Applicable
BHP and Fuel Flow is taken at 100% Load ESP rating.
Refer to Page 2 for Definitions and Advisory Notes.

STATEMENT OF EXHAUST EMISSIONS
2021 Spark-Ignited Generators
Industrial Series - Non-Emergency - Mode 1/2

2021 EPA SPARK-IGNITED EXHAUST EMISSIONS DATA

Effective since 2009, the EPA has implemented exhaust emissions regulations on stationary spark-ignited (gaseous) engine generators for emergency and non-emergency applications. All Generac spark-ignited gensets, including SG and MG series gensets that are built with engines manufactured in 2009 and later meet the requirements of 40CFR part 60 subpart JJJJ and are EPA certified. These generator sets are labeled as EPA Certified with decals affixed to the engines' valve covers.

The attached documents summarize the general information relevant to EPA certification on these generator sets. This information can be used for submittal data and for permitting purposes, if required. These documents include the following information:

EPA Engine Family
The EPA Engine Family is assigned by the Manufacturer under EPA guidelines for certification purposes and appears on the EPA certificate.

Catalyst Required
A three-way catalyst (TWC) and Air/Fuel Ratio control system are required on the generator sets to meet EPA certification requirements.

EPA Certificate Number
Upon certification by the EPA, a Certificate Number is assigned by the EPA.

Emissions Actuals - Grams/bhp-hr
Actual exhaust emission data for Total Hydrocarbons (THC), Nitrogen Oxides (NOx) and Carbon Monoxide (CO) that were submitted to EPA and are official data of record for certification. This data can be used for permitting if necessary. Values are expressed in grams per brake horsepower-hour; to convert to grams/kW-hr, multiply by 1.341. Please see advisory notes below for further information.

General Advisory Note to Dealers
The information provided here is proprietary to Generac and its' authorized dealers. This information may only be disseminated upon request, to regulatory governmental bodies for emissions permitting purposes or to specifying organizations as submittal data when expressly required by project specifications, and shall remain confidential and not open to public viewing. This information is not intended for compilation or sales purposes and may not be used as such, nor may it be reproduced without the expressed written permission of Generac Power Systems, Inc.

Advisory Notes on Emissions Actuals

- The stated values are actual exhaust emission test measurements obtained from units representative of the generator types and engines described. Measurements were recorded under controlled laboratory conditions, and may not be representative of actual measured results at customer field sites under variable ambient and installation conditions.
- Values are official data of record as submitted to the EPA and SCAQMD for certification purposes. Testing was conducted in accordance with prevailing EPA protocols, which are typically accepted by SCAQMD and other regional authorities.
- No emission values provided are to be construed as guarantees of emissions levels for any given Generac generator unit.
- Generac Power Systems reserves the right to revise this information without prior notice.
- Consult state and local regulatory agencies for specific permitting requirements.
- The emissions performance data supplied by the equipment manufacturer is only one element required toward completion of the permitting and installation process. State and local regulations may vary on a case-by-case basis and must be consulted by the permit applicant/equipment owner prior to equipment purchase or installation. The data supplied herein by Generac Power Systems cannot be construed as a guarantee of installability of the generator set.
- The emission values provided are the result of multi-mode, weighted scale testing in accordance with EPA testing regulations, and may not be representative of any specific load point.
- The emission values provided are not to be construed as emission limits.

Part No. A0001585275
Rev. C 1/24/22

GENERAC | INDUSTRIAL POWER

FUEL SPECIFICATION
Natural Gas

Generac products are designed to run on natural gas and are tested for performance and reliability with clean, dry, pipeline quality natural gas. The properties presented in this standard represent the natural gas used in product testing. The performance and reliability of Generac products using non-conforming fuels are unknown and cannot be guaranteed.

Natural gas is, by definition, any gas that occurs organically, but this standard focuses on natural gas that is intended for use as fuel in reciprocating internal combustion engines. This natural gas is generally assumed to have specific properties, but compositional differences and contaminates greatly influence the fuel's quality and combustion stability. This variation can lead to lower power output, pre-ignition, detonation, and corrosion if the fuel does not meet this standard. This standard identifies an acceptable fuel composition for use in Generac products.

Fuel Specifications

The fuel used by Generac is clean, dry, pipeline quality natural gas adhering to the following:

Component / Property	Unit	Range
Methane	% Volume	80 Minimum
Ethane	% Volume	0-10
Propane	% Volume	0-5
Butanes	% Volume	0-2
Pentanes and Heavier	% Volume	0-0.5
Nitrogen and Other Inerts	% Volume	0-3
Carbon Dioxide	% Volume	0-3
Total Diluents Gases	% Volume	0-5
Hydrogen Sulfide	g/100scf (mg/m3)	0.25-0.3 (6-7)
Total Sulfur	g/100scf (mg/m3)	5-20 (115-460)
Water Vapor	lb/MMscf (mg/m3)	4-7 (60-110)
High Heating Value	Btu/scf (kJ/m3)	950-1,150 (35,400-42,800)
Methane Number	MN	80 Minimum

Notes:
- The fuel must be free of liquid water and hydrocarbons at delivery temperature and pressure.
- The fuel must be free of particulate matter.

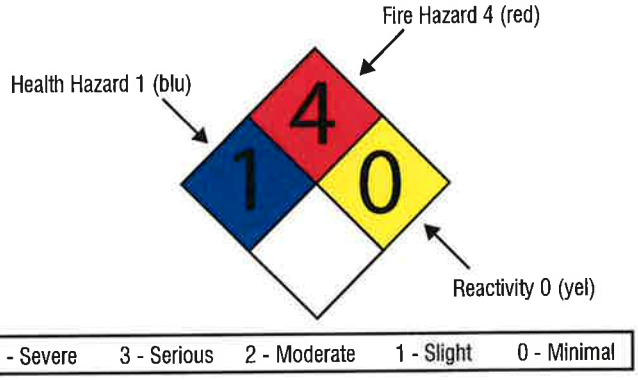
Hazards Information

Emergency Overview

DANGER!
EXTREMELY FLAMMABLE GAS - MAY CAUSE FLASH FIRE OR EXPLOSION!

High concentrations may exclude oxygen and cause dizziness and suffocation. Contact with pressurized vapor may cause frostbite or freeze burn.

NFPA 704 Hazard Identification System



Part No. A0000641394
Rev. B 4/13/2020

SG1000 | 49.0L | 1,000 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

DEMAND RESPONSE READY

Standby Power Rating
1,000 kW, 1,250 kVA, 60 Hz

Demand Response Rating
1,000 kW, 1,250 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT* *Assembled in the USA using domestic and foreign parts

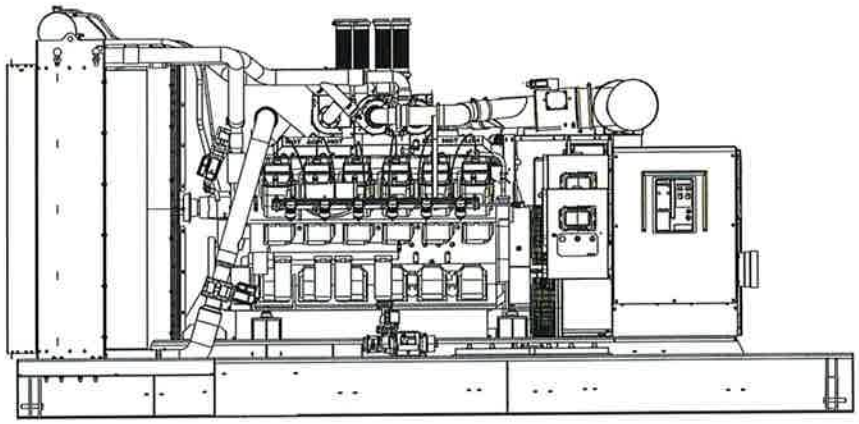


Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL489
- CSA C22.2, B149
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

SG1000 | 49.0L | 1,000 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

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GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

DEMAND RESPONSE READY

ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer/Catalyst
- Coolant Heater Ball Valves
- Factory Filled Oil and Coolant
- Oil Temperature Sender with Indication Alarm

FUEL SYSTEM

- Primary and Secondary Fuel Shutoff

COOLING SYSTEM

- Closed Coolant Recovery System
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze

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
- Permanent Magnet Excitation
- Sealed Bearings
- Amortisseur Winding
- Low Temperature Rise (<120 °C)

GENERATOR SET

- Spring Isolators Under Frame
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Standard Factory Testing
- 2 Year Limited Warranty (Standby or Demand Response Rated Units)
- Ready to Accept Load in <10 Seconds

ENCLOSURE (If Selected)

- Structural Steel Sub-Base
- Sub-Base Lifting Eyes
- Enamel Finish
- Zinc Plated Fasteners
- Zinc Plated Cast Aluminum Keylock Door Handles
- Heavy Duty Stainless Steel Hinges
- Modular Construction
- Rhino Coat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM

Power Zone® Pro Sync 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
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics
- Arc Flash Maintenance Mode (When Properly Equipped)

Alarms and Warnings

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

7 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

SG1000 | 49.0L | 1,000 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

DEMAND RESPONSE READY

ENGINE SYSTEM

- Engine Coolant Heater
- Oil Heater
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Two Stage Air Cleaner
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Baseframe Cover/Rodent Guard

ELECTRICAL SYSTEM

- 20A UL Listed Battery Charger
- Battery Warmer

FUEL SYSTEM

- NPT Flexible Fuel Line

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater

CIRCUIT BREAKER OPTIONS

- Up to 4 Main Line Circuit Breaker Selection
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breaker

GENERATOR SET

- Spring Vibration Isolator
- Extended Factory Testing (3-Phase Only)
- 24 Position Load Center

ENCLOSURE

- Level 0 Sound Attenuated
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- AC/DC Enclosure Lighting Kit
- Enclosure Heater (With Motorized Dampers Only)
- Up to 180 MPH Wind Load Rating (Contact Factory for Availability)

CONTROL SYSTEM

- NFPA 110 Level 1 Compliant 21-Light Remote Annunciator
- Remote Output Relays (8 or 16)
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- 10A Engine Run Relay
- Ground Fault Annunciator
- Damper Alarm Contacts (With Motorized Dampers Only)
- 100 dB Alarm Horn
- 120V GFCI and 240V Outlets

WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

ENGINEERED OPTIONS

CONTROL SYSTEM

- Additional Spare Inputs/Outputs
- Battery Disconnect Switch

ALTERNATOR SYSTEM

- Unit Mounted Load Banks
- Medium Voltage Alternators

ENCLOSURE

- Door Open Alarm Horn

GENERATOR SET

- Special Testing
- Battery Boxes

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GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	12
Type	V
Displacement - in^3 (L)	2,992 (49.03)
Bore - in (mm)	6.69 (170)
Stroke - in (mm)	7.09 (180)
Compression Ratio	10.0:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Number of Connecting Rods	12
Cylinder Head	4 Valve
Cylinder Liners	Yes
Ignition	MotorTech
Piston Type	Cast Aluminum Alloy
Crankshaft Type	Chromium Molybdenum Steel SCM440H
Lifter Type	Solid
Intake Valve Material	Proprietary Alloy
Exhaust Valve Material	Proprietary Alloy
Hardened Valve Seats	Proprietary Alloy

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear Driving
Oil Filter Type	Full Flow Spin-on Cartridge
Crankcase Capacity with Filter - qt (L)	285 (270)

Cooling System

Cooling System Type	Forced Circulation by Centrifugal Pump
Fan Type	Pusher
Fan Speed - RPM	1,025
Fan Diameter - in (mm)	76 (1,930)

Fuel System

Fuel Type	Natural Gas
Carburetor	Variable Venturi
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure - in H_2O (kPa)	14 - 28 (3.5 - 7.0)

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(4) - 12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K1248064N22
Poles	4
Field Type	Rotating
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50
Standard Excitation	Permanent Magnet
Bearings	Single
Coupling	Flexible Plates
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.5%

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INDUSTRIAL SPARK-IGNITED GENERATOR SET

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GENERAC | INDUSTRIAL POWER

OPERATING DATA

DEMAND RESPONSE READY

POWER RATINGS - NATURAL GAS

	Standby/Demand Response	
Three-Phase 277/480 VAC @0.8pf	1,000 kW/1,250 kVA	Amps: 1,505
Three-Phase 346/600 VAC @0.8pf	1,000 kW/1,250 kVA	Amps: 1,204

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%
K1248064N22	3,300
K1344064N22	4,000
K1500064N22	4,500

FUEL CONSUMPTION RATES*

Natural Gas – scfh (m^3/hr) at Standard Conditions 68 °F (20 °C), 14.7 psi (101 kPa)

Percent Load	Standby/Demand Response
25%	3,540 (100.2)
50%	5,571 (157.8)
75%	7,602 (215.3)
100%	9,625 (272.5)

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

COOLING

		Standby/Demand Response
Air Flow (Fan Air Flow Across Radiator) - Open Set	cfm (m^3/min)	57,846 (1,638)
Coolant Flow	gpm (Lpm)	489 (1,850)
Coolant System Capacity	gal (L)	80 (303)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 0199270SSD
Maximum Additional Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby/Demand Response
Flow at Rated Power - cfm (m^3/min)	2,205 (62.4)

ENGINE

		Standby/Demand Response
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	1,475
Piston Speed	ft/min (m/min)	2,126 (648)
BMEP	psi (kPa)	216 (1,488)

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

EXHAUST

		Standby/Demand Response
Exhaust Flow (Rated Output)	cfm (m^3/min)	8,500 (241)
Maximum Allowable Exhaust Backpressure (Post Silencer)	inHg (kPa)	0.73 (2.49)
Exhaust Temperature (Rated Output)	°F (°C)	1,458 (792)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Demand Response - See Bulletin 10000018250

SG1000 | 49.0L | 1,000 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

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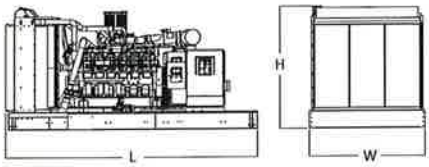
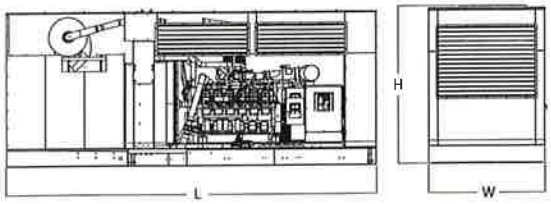
DIMENSIONS AND WEIGHTS*

DEMAND RESPONSE READY



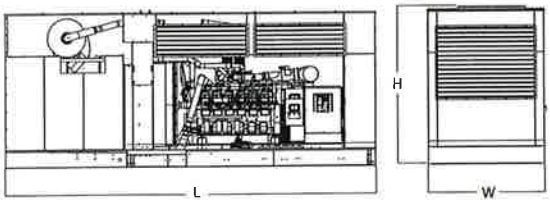
OPEN SET

L x W x H - in (mm)	220.3 (5,597) x 102.0 (2,590) x 108.1 (2,745)
Weight - lbs (kg)	22,798 - 24,495 (10,334 - 11,114)



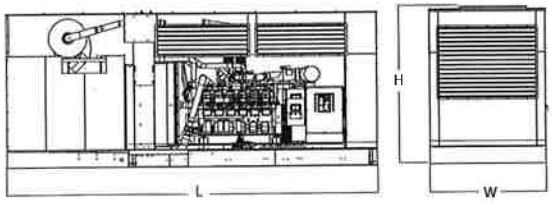
LEVEL 0 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	329.3 (8,356) x 105.8 (2,688) x 136.9 (3,477)
Weight - lbs (kg)	Steel - 26,558 - 28,256 (12,050 - 12,820) Aluminum - 24,092 - 25,789 (10,931 - 11,701)



LEVEL 1 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	329.3 (8,356) x 105.8 (2,688) x 136.9 (3,477)
Weight - lbs (kg)	Steel - 27,801 - 29,499 (12,614 - 13,384) Aluminum - 25,337 - 27,034 (11,496 - 12,266)



LEVEL 2 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	329.3 (8,356) x 105.8 (2,688) x 136.9 (3,477)
Weight - lbs (kg)	Steel - 29,697 - 31,394 (13,474 - 14,244) Aluminum - 26,279 - 27,976 (11,923 - 12,693)

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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

SPEC SHEET

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Part No. A0000863976
Rev. A 11/29/2021

GENERAC | INDUSTRIAL POWER

POWER ZONE® CONTROL PLATFORM
Power Zone® Pro Sync Controller

Features

The Generac Power Zone® Digital Control Platform is a fully integrated and multipurpose family of controllers for Generac's single and Modular Power Systems (MPS).

Standard Single Unit Control Features*
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- 7" Color Touch Screen
- Multi-Lingual
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, Ethernet 10/100, SNMP
- Alarm and Event Logging with Real Time Stamping
- Expandable Analog and Digital Inputs and Outputs
- Wireless Software Update via Remote Computer
- Wi-Fi, Bluetooth, BMS and Remote Telemetry
- USB Port for Easy Log Data Downloads and Firmware Updates
- Analog Input Bias for Speed and Voltage◊
- E-mail Notifications for Alarm Conditions and Log Data†

Additional Standard Parallel Control Features**
- Paralleling Control (Synchronizing)
- Reverse Power
- Loss of Synchronization Between Gensets
- Load and VAR Sharing

Standard System Control Features
- Built-In PLC Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Gensets
- Programmable I/O Channel Properties
- Built-In Diagnostics

Customer Ports
- 1 - RS485 - Modbus RTU (Main Controller)
- 1 - RJ45 - Remote Annunciator Panel/Remote Relay Panel (Main Controller)
- 1 - CANBus - Power Zone® Accessories (Main Controller)
- 1 - RJ45 - Modbus TCP/IP or Ethernet 10/100 (Display)
- 2 - Type A USB (Display)

PLC (Built-In Programmable Logic Controller)
- Boolean Logic Programming (Ladder)
- 16 Timers
- 16 Counters
- Counter Reset
- Configurable Through Software Tool

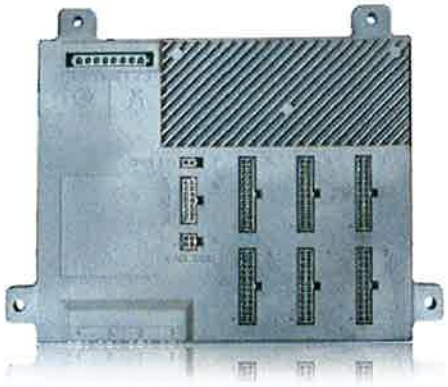
Protections
- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Sender Failure
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short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

* For SG and SD Models
** For MG and MD Models

◊ Not Available in Parallel Controller
† Requires Use of a Network Accessible Authenticated or Open SMTP Server

Part No. 10000024063
Rev. J 07/06/20

POWER ZONE® CONTROL PLATFORM
Power Zone® Pro Sync Controller



Voltage Regulation (Single or Three Phase Module Options)
- Digital Control
- Three Phase Sensing††
- Variable V/F Slope Settings and Adjustable Gains
- Negative Power Limit
- Soft Start Ramping
- Loss of Sensing Protection
- Components Encapsulated for Total Protection
- Paralleling Function for Power Zone®-DSP and Power Zone®-GSP ‡
- Fault Protection (I^2T Function)‡
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit
- ±0.5% Voltage Regulation
- ±0.1% Stability

Display (Touch Screen)
- Resistive Color Touch Screen
- Hi-Brite (1400 NITS)
- Easy Identifiable Icons
- Multi-Lingual
- IP65 Rated
- 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
  - RPM
  - Engine Coolant Temperature
  - Engine Oil Pressure
  - Engine Oil Temperature
  - Battery Voltage
  - Warning and Alarm Indication
  - Diagnostics
  - Maintenance Events/Information
  - Hourmeter

Governor Module
- Soft Start Ramping (Multiple Steps)
- Synchronizing Function for Power Zone®-DSP and Power Zone®-GSP Only ‡
- Fully Adjustable Gain (PID)

Qualification Testing
- Life Test in Environmental Chamber
- Temperature Rating -40° C to +60° C
- Humidity 2% to 95% (Non Condensing)
- Vibration Tested and Protected

Connections§
- 27 - Digital Outputs (Open Drain, 35 VDC, 1.7A)
  - 6 Fast PWM Capable
  - 1 High Current
- 20 - Digital Inputs Maximum
  - 6 Fast PWM Capable
- 12 - General Purpose Analog Inputs
- 4 - Fast Analog Inputs
- 4 - Analog Outputs (0-10 VDC)
- 1 - E-Stop Relay Output
- 7 - Current Sense Inputs
- 2 - High Voltage Sense Inputs (Three Phase + Neutral)
- 2 - Magnetic Pickup Inputs
- 1 - Coolant Sensor Input
- 4 - Ethernet Ports
- 3 - CANBus Channels
- 1 - RS-485 Ports
- 2 - Switchable +12V Power Outputs

Codes And Standards
- UL 6200
- C-ETL-US
- CE
- FCC
- NFPA 110 (Software Programmable for Level 1 or 2)§§

Control Panel And Touch Screen
- Auto/Off/Manual
  - Operation Through Key Switch
  - Indication Through Touchscreen
- Alarm Acknowledge Button
- Audible Alarm and Silence
- Emergency Stop
- Not in Auto Indication

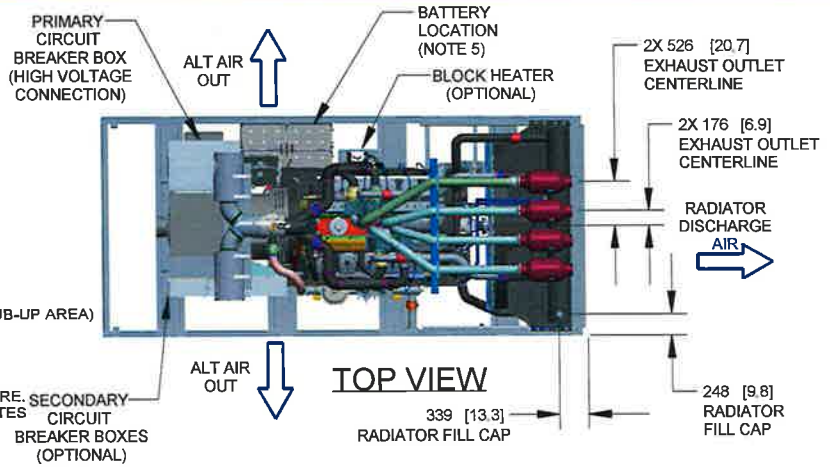
†† With Select Voltage Regulators
‡ Configurable Option

§ Actual I/O May Vary Due to Configuration
§§ With Additional Optional Remote Annunciator

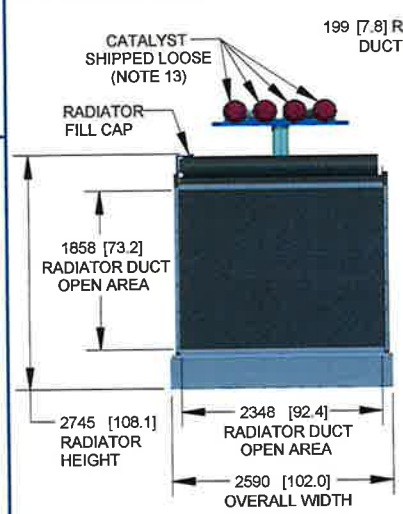
Part No. 10000024063
Rev. J 07/06/20

SH	REV	WINDCHILL VERSION
1/3		

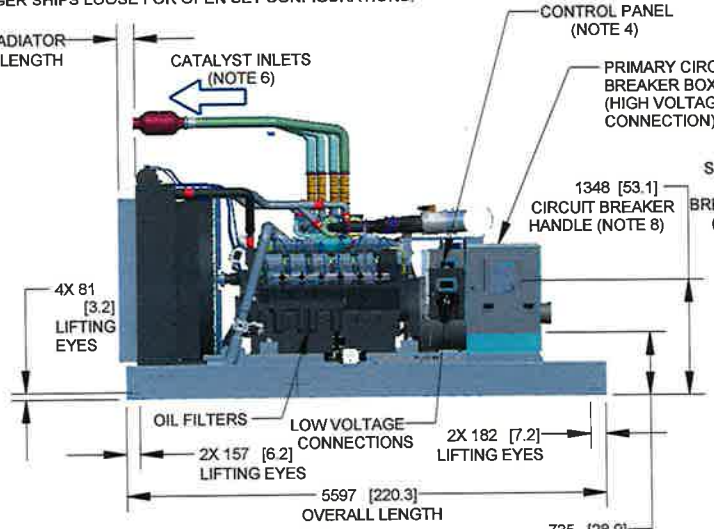
NOTES:
1. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE & SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, & LOCAL CODES. CONNECT THE OPEN SET EXHAUST PER NFPA 37.
2. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR & EXHAUST GASES. SEE SPEC SHEET FOR MINIMUM AIR FLOW & MAXIMUM RESTRICTION REQUIREMENTS.
3. GENERATOR SET MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE & DISCHARGE AIR FROM THE RADIATOR IS NOT RECIRCULATED.
4. CONTROL PANEL.
5. BATTERIES LOCATED ON LEFT SIDE (24 VOLT NEGATIVE GROUND SYSTEM).
6. ENGINE SERVICE CONNECTIONS:
   -NATURAL GAS INLET = 3.0" FLEX HOSE CONNECTION (NOT SHOWN)
   -OIL DRAIN = 3/4" NPT FEMALE COUPLING
   -RADIATOR DRAIN = 3/4" NPT FEMALE COUPLING
   -CATAYST OUTLETS = 4-7/8" I.D. V-BAND CONNECTIONS
   -CATALYST INLETS = 3-7/8" I.D. V-BAND CONNECTIONS
   ***** SEE GENERATOR SIZING GUIDE FOR FUEL PIPE SIZING TO SUIT APPLICATION *****
7. 120V, 20A GFCI & 250V, 15A OUTLET (OPTIONAL).
8. MAIN LINE CIRCUIT BREAKER (MLCB), AC LOAD LEADS. (DIMENSIONS MAY VARY DUE TO UNIT CONFIGURATION)
9. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN THE LOW VOLTAGE CONNECTION BOX (SEE SHEET 2, LOW VOLTAGE STUB-UP AREA)
10. AUXILARY AC CONNECTION FOR UNIT OPTIONS ARE LOCATED IN HIGH VOLTAGE CONNECTION BOX, UNLESS AN OPTIONAL LOAD CENTER IS INSTALLED.
11. EXHAUST BLANKETS SHOULD NOT COVER OXYGEN SENSOR.
12. OXYGEN SENSOR MUST BE MOUNTED BETWEEN TURBO CHARGERS AND CATALYSTS.
13. QTY. 4 CATALYZED SILENCERS (FOR EPA UNITS) MUST BE MOUNTED IN DESCRIBED POSITION, WITH PROPER SUPPORT STRUCTURE. FAILING TO FOLLOW THESE INSTRUCTIONS WHEN INSTALLING A CERTIFIED ENGINE IN A PIECE OF STATIONARY EQUIPMENT VIOLATES FEDERAL LAW 40 CFR 1068. 105(B), SUBJECT TO FINES OR PENALTIES AS DESCRIBED IN THE CLEAN AIR ACT.
14. BOLTS OR STUDS USED TO MOUNT UNIT TO PAD SHALL BE 5/8"-11 GRADE 5. USE STANDARD SAE TORQUE SPECS.
15. OPTIONAL LOAD CENTER AND BATTERY CHARGER SHIPS LOOSE FOR OPEN SET CONFIGURATIONS.



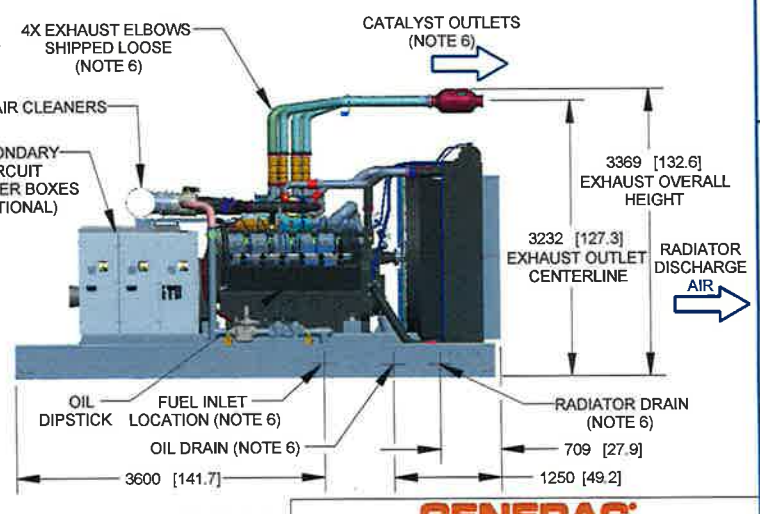
TOP VIEW



FRONT VIEW



LEFT SIDE VIEW



RIGHT SIDE VIEW

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

DIMENSIONS ARE IN MILLIMETERS (INCHES)

INSTALLATION DRAWING

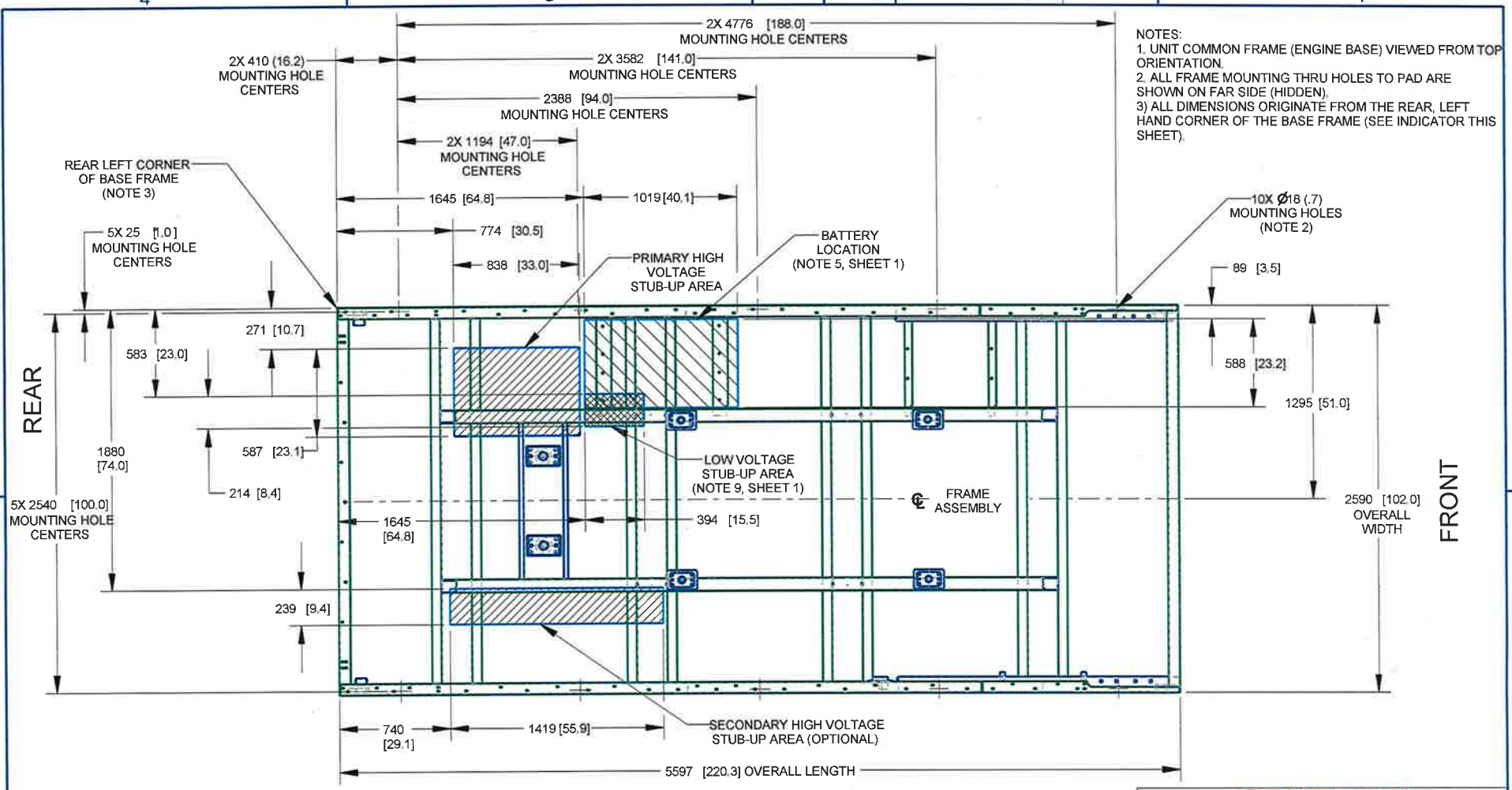
ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE
OPEN SET
G49.0L G2 60Hz 3PH
SG1000 MG1000

ISSUE DATE:			
SIZE B	CAGE NO N/A	DWG NO A0000567936	REV B
SCALE 0.018	WT-KG	SHEET 1 of 3	

SH	REV	WINDCHILL VERSION
2/3	B	B.3



NOTES:
1. UNIT COMMON FRAME (ENGINE BASE) VIEWED FROM TOP ORIENTATION.
2. ALL FRAME MOUNTING THRU HOLES TO PAD ARE SHOWN ON FAR SIDE (HIDDEN).
3) ALL DIMENSIONS ORIGINATE FROM THE REAR, LEFT HAND CORNER OF THE BASE FRAME (SEE INDICATOR THIS SHEET).

TOP VIEW

DIMENSIONS ARE IN MILLIMETERS (INCHES)

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

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE: STUB-UP VIEW, OPEN SET
G49.0L G2, 60Hz 3PH
SG1000 MG1000

ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000567936	B

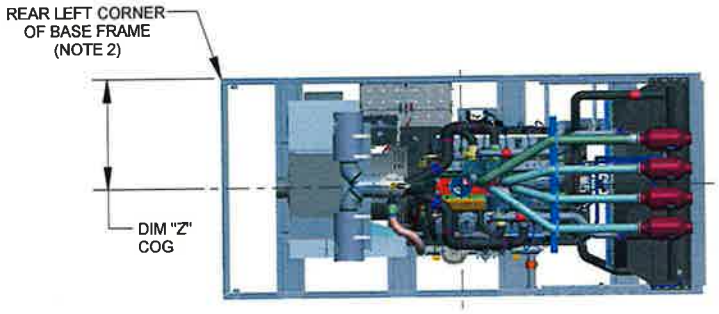
SCALE 0.020 | WT-KG | SHEET 2 of 3

SH	REV	WINDCHILL VERSION
3/3	B	B.3

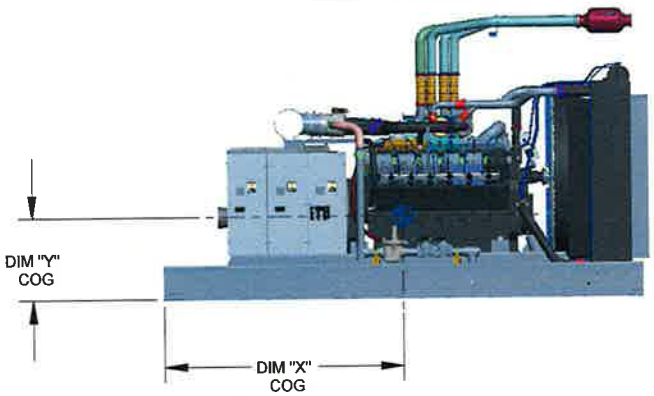
NOTE:
1) CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
2) ALL DIMENSIONS ORIGINATE FROM THE REAR, LEFT HAND CORNER OF THE BASE FRAME.
3) WHEN OPTIONAL LOAD CENTER IS SELECTED WITH OPEN SET UNITS, LOAD CENTER SHIPS LOOSE.

OPEN SET

MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	10,344 (22,798)	2908	1408	1228
SG/MG 1000	UP SIZE 1	480V	10,614 (23,393)	2858	1406	1228
SG/MG 1000	UP SIZE 1	600V	10,834 (23,878)	2823	1404	1227
SG/MG 1000	UP SIZE 2	480V	11,114 (24,495)	2772	1402	1227



TOP VIEW



RIGHT SIDE VIEW

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

DIMENSIONS ARE IN MILLIMETERS (INCHES)

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE
WEIGHT AND CENTER OF GRAVITY
OPEN SET G49.0L G2 60Hz 3PH
SG1000 MG1000

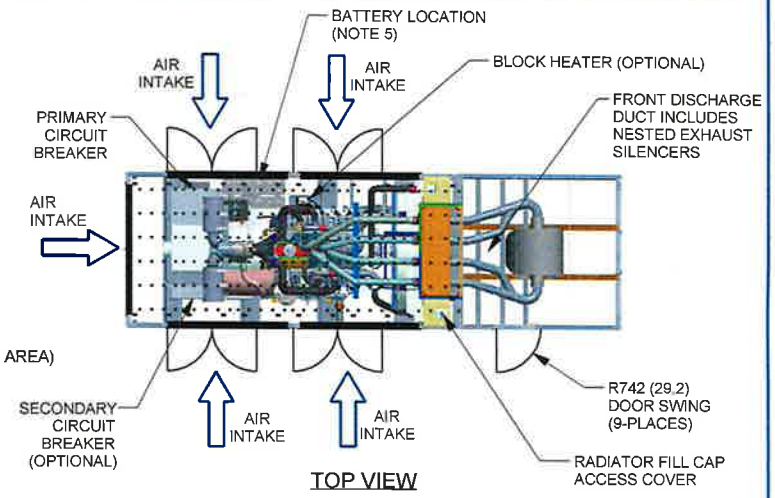
ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000567936	B

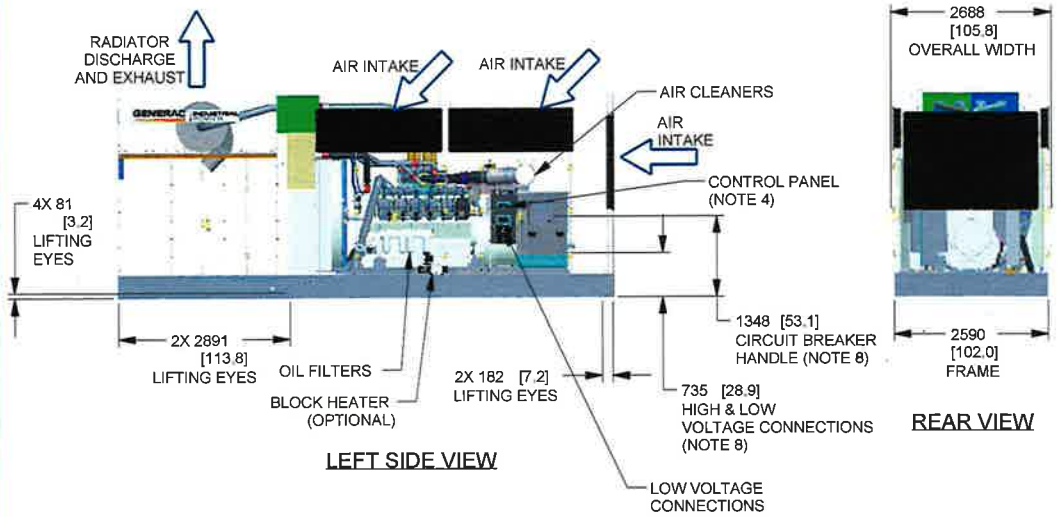
SCALE 0.018 WT-KG SHEET 3 of 3

SH	REV	WINDCHILL VERSION
1/3		

NOTES:
1. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE & 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. CONNECT THE OPEN SET EXHAUST PER NFPA 37.
2. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR & EXHAUST GASES. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
3. GENERATOR SET MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE & DISCHARGE AIR FROM THE RADIATOR IS NOT RECIRCULATED.
4. CONTROL PANEL. (OPTIONAL 20 AMP BATTERY CHARGER INSIDE)
5. BATTERIES - LEFT SIDE ONLY (4 BANK - 24 VOLT NEGATIVE GROUND SYSTEM).
6. ENGINE SERVICE CONNECTIONS:
   -NATURAL GAS INLET = 3" FLEX HOSE CONNECTION (NOT SHOWN)
   -OIL DRAIN = 3/4" NPT FEMALE COUPLING
   -RADIATOR DRAIN = 3/4" NPT FEMALE COUPLING
***** SEE GENERATOR SIZING GUIDE FOR FUEL PIPE SIZING TO SUIT APPLICATION *****
7. 120V, 20A GFCI & 250V, 15A OUTLET (OPTIONAL).
8. MAIN LINE CIRCUIT BREAKER (MLCB), AC LOAD LEADS. (DIMENSIONS MAY VARY DUE TO UNIT CONFIGURATION)
9. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN THE LOW VOLTAGE CONNECTION BOX (SEE SHEET 2, LOW VOLTAGE STUB-UP AREA)
10. AUXILARY AC CONNECTION FOR UNIT OPTIONS ARE LOCATED IN HIGH VOLTAGE CONNECTION BOX, UNLESS AN OPTIONAL LOAD CENTER IS INSTALLED.
11. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION & RECIRCULATION OF DISCHARGE AIR.
12. BOLTS OR STUDS USED TO MOUNT UNIT TO PAD SHALL BE 5/8"-11 GRADE 5. USE STANDARD SAE TORQUE SPECS.

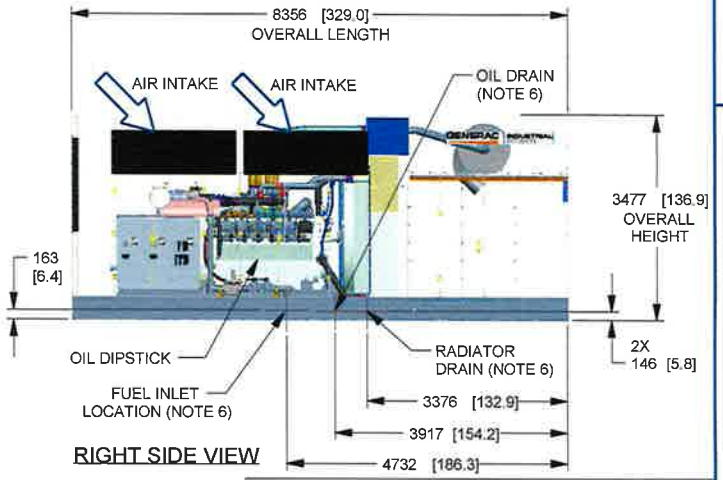


TOP VIEW



LEFT SIDE VIEW

REAR VIEW



RIGHT SIDE VIEW

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

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

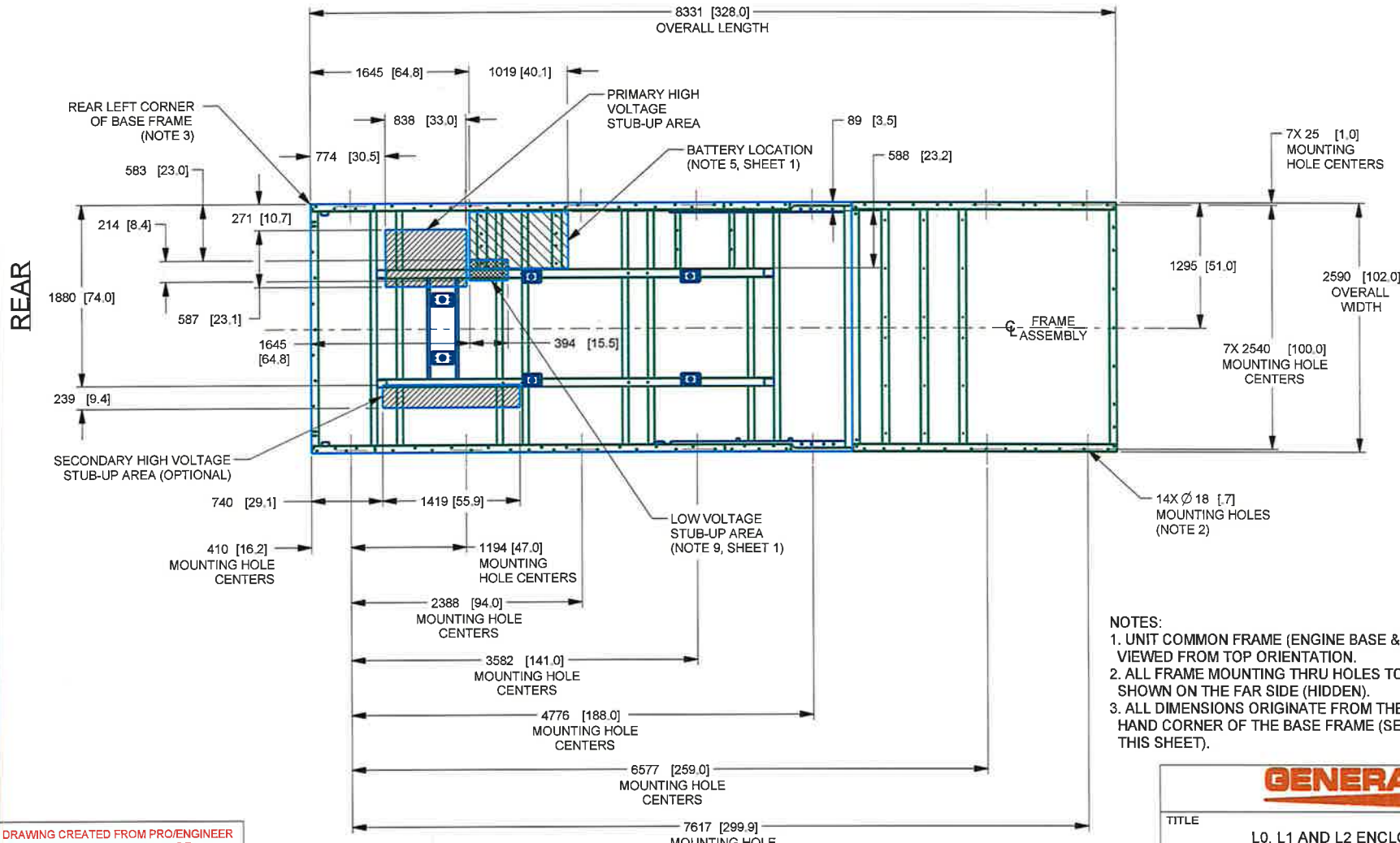
GENERAC

TITLE: L0, L1 AND L2 ENCLOSURE
G49.0L G2, 60 HZ 3PH
SG1000, MG1000

ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000567942	B

SCALE	WT-KG	SHEET
0.013		1 of 3



NOTES:
1. UNIT COMMON FRAME (ENGINE BASE & ENCLOSURE) VIEWED FROM TOP ORIENTATION.
2. ALL FRAME MOUNTING THRU HOLES TO PAD ARE SHOWN ON THE FAR SIDE (HIDDEN).
3. ALL DIMENSIONS ORIGINATE FROM THE REAR, LEFT HAND CORNER OF THE BASE FRAME (SEE INDICATOR THIS SHEET).

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

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE
L0, L1 AND L2 ENCLOSURE
G49.0L G2, 60 HZ 3PH
SG1000, MG1000

ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000567942	B

SCALE 0.025 | WT-KG | SHEET 2 of 3

SH	REV	WINDCHILL VERSION
3/3	B	B.3

STD ENCLOSURE, STEEL

MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	12,050 (26,558)	3188	1549	1247
SG/MG 1000	UP SIZE 1	480V	12,320 (27,154)	3140	1544	1247
SG/MG 1000	UP SIZE 1	600V	12,540 (27,638)	3106	1540	1246
SG/MG 1000	UP SIZE 2	480V	12,820 (28,256)	3058	1535	1246

L1A ENCLOSURE, STEEL

MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	12,614 (27,801)	3234	1591	1193
SG/MG 1000	UP SIZE 1	480V	12,884 (28,397)	3187	1585	1192
SG/MG 1000	UP SIZE 1	600V	13,104 (28,881)	3154	1581	1192
SG/MG 1000	UP SIZE 2	480V	13,384 (29,499)	3106	1575	1191

L2A ENCLOSURE, STEEL

MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	13,474 (29,697)	3200	1643	1199
SG/MG 1000	UP SIZE 1	480V	13,744 (30,292)	3157	1636	1198
SG/MG 1000	UP SIZE 1	600V	13,964 (30,777)	3127	1631	1198
SG/MG 1000	UP SIZE 2	480V	14,244 (31,394)	3082	1625	1197

STD ENCLOSURE, ALUMINUM

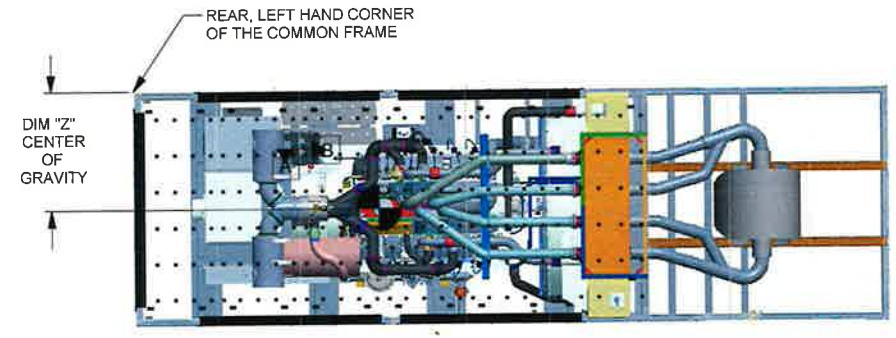
MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	10,931 (24,092)	3066	1496	1181
SG/MG 1000	UP SIZE 1	480V	11,201 (24,687)	3017	1492	1181
SG/MG 1000	UP SIZE 1	600V	11,421 (25,172)	2982	1488	1180
SG/MG 1000	UP SIZE 2	480V	11,701 (25,789)	2932	1484	1180

L1A ENCLOSURE, ALUMINUM

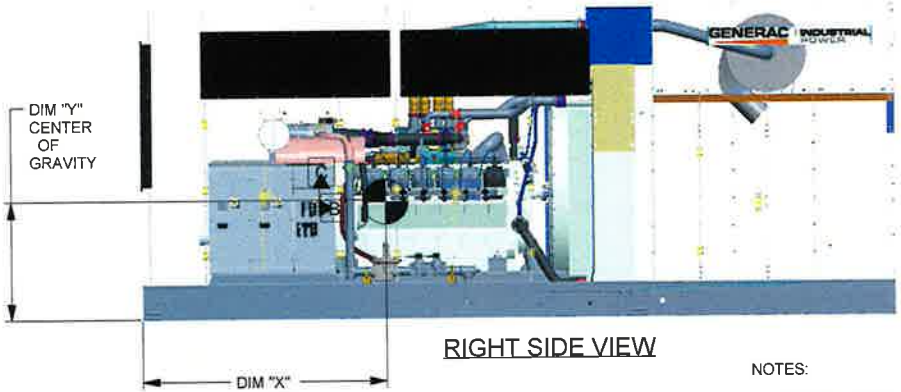
MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	11,496 (25,337)	3123	1545	1183
SG/MG 1000	UP SIZE 1	480V	11,766 (25,932)	3074	1539	1183
SG/MG 1000	UP SIZE 1	600V	11,986 (26,417)	3040	1535	1182
SG/MG 1000	UP SIZE 2	480V	12,266 (27,034)	2991	1530	1182

L2A ENCLOSURE, ALUMINUM

MODEL	ALTERNATOR	VOLTAGE	WEIGHT KG (LBS)	CENTER OF GRAVITY DIM "X"	CENTER OF GRAVITY DIM "Y"	CENTER OF GRAVITY DIM "Z"
SG/MG 1000	STD	480/600V	11,923 (26,279)	2930	1575	1140
SG/MG 1000	UP SIZE 1	480V	12,193 (26,874)	2888	1570	1141
SG/MG 1000	UP SIZE 1	600V	12,413 (27,358)	2858	1565	1141
SG/MG 1000	UP SIZE 2	480V	12,693 (27,976)	2814	1560	1141



TOP VIEW



RIGHT SIDE VIEW

NOTES:

1) CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
2) ALL DIMENSIONS ORIGINATE FROM THE REAR, LEFT HAND CORNER OF THE COMMON FRAME (SEE INDICATOR THIS SHEET).
3) WHEN OPTIONAL LOAD CENTER IS SELECTED WITH ENCLOSED UNITS, THE LOAD CENTER IS FACTORY MOUNTED.

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

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE: L0, L1 AND L2 ENCLOSURE
G49.0L G2, 60 HZ 3PH
SG1000, MG1000

ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000567942	B

SCALE 0.019 | WT-KG | SHEET 3 of 3