

May 10, 2018

Chapel Hill Community Design Commission Town of Chapel Hill

Re: New Generator for Chapel Hill Pediatrics

Chapel Hill Pediatrics is located at 205 Sage Road in Chapel Hill. The Chapel Hill Pediatrics building has frontage along Sage Road, but the parking and the pedestrian entry to the building are on the non street side of the building. The building sets into a slope which shields a view of the buildings foundation from a street view.

Chapel Hill pediatrics wishes to install a generator to assure continued operation of their facility in times of power loss. This is important for their patients, as well as necessary for the maintenance of refrigerated serums and vaccines housed in the buildings. These materials are required to be maintained at a constant temperature.

The selected generator that will fulfil the needs of Chapel Hill Pediatrics is a natural gas unit. The unit measures 87 inches long, 41 inches wide and 46 inches high. It comes with an enclosure that is available in a buff color similar to the brick color of the building.

The attached images indicate the dimensions of the selected unit and the location on the building that is most hidden by grade from the street.

Chapel Hill Pediatrics requests that this addition to their facility be approved as indicated.

Sincerely, GURLITZ ARCHITECTURAL GROUP, PA

human Grain R

Richard Gurlitz

TOWN OF CHAPEL HILL Planning Department

405 Martin Luther King Jr. Blvd. Chapel Hill, NC 27514-5705

phone (919) 969-5066 *fax* (919) 969-2014 www.townofchapelhill.org

Community Design Commission Final Plan Application

This application should be used to submit Final Plan applications to the Community Design Commission including building elevations, site lighting, and alternative buffers. For assistance with this application, please contact the Chapel Hill Planning Department at (919) 969-5066 or at planning@townofchapelhill.org.

Section A: Property Information

Property Address:	205 Sage Road, Chapel Hill, NC 27514
Zoning:	OI-1-C

Type of Application

Building Elevation

Alternative Buffers

Section B: Applicant Information (for contact purposes)

Name:	Richard Gurlitz - Gurlitz Architectural Group						
Address:	121 S. Estes Drive						
City:	Chapel Hill State: North Carolina Zip Code: 27514						
Phone Number:	919-489-9000	Email:	richard@gurlitzarchitects.com				

The undersigned applicant hereby certifies that: a) the property owner authorizes the filing of this application; b) authorizes on-site review by authorized staff; and c) to the best of their knowledge and belief, all information supplied with this application is true and accurate.

Signature:

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Date: May 10, 2018

Parcel Identifier Number (PIN): 9890507228

The Community Design Commission meets regularly on the fourth Tuesday of each month. For confirmation of a meeting date and the placement of your request on the agenda, please contact the Planning Department at (919) 969-5066.



Final Plan Application

Please submit 2 sets of all materials, no later than the fourth Tuesday of the month prior to the meeting by 4 p.m. <u>Materials</u> <u>must be collated and folded to fit into a 12" x 15" envelope</u>. The Application Fee shall be submitted with this Application Form.

DETAILED SUMMARY OF REQUIRED INFORMATION

\$395.00 **1. Application fee** (refer to fee schedule)

Amount Paid \$ 395.00

2. Digital files – provide digital files of all plans and documents

3. Approved Site Plan

The site plan for the development, as approved by the Town Council, or when applicable, the Planning Board, clearly indicating all building footprints, parking areas, sidewalks, and buffers. In particular, the site plan shall clearly indicate the specific buildings that are included in the application for building elevations approval. Finished first floor elevation (height above sea level) information shall also be provided for each building, including any applicable cross section elevation changes.

NA

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NA

4. Detailed Exterior Building Elevations – The detailed exterior elevations shall include the following:

a) Detailed Building Elevations

- A detailed list including all materials, textures, and colors for each building. If all buildings are the same, a combined list of materials, texture, and colors is acceptable. All windows, doors, light fixtures, and other appurtenant features must indicate type, style, and color.
- A straight-on, one-dimensional view of each building façade including front, side, and rear elevations.
- Color renderings, sketches, or perspective drawings.

The applicant should bring samples of all colors and materials to the Design Commission Meeting.

b) Cross-Sections

• Provide simple, typical cross-section(s) indicating how the buildings are placed on the site in relationship to topography, public access, existing vegetation, or other significant site features.

c) Floor Plans

• Show the general interior layout of the building (this aids in understanding window locations, etc.) and the relationship of pedestrian circulation and entryways.

d) <u>Other</u>

• Indicate the location of all HVAC, chiller, and/or ventilation units. Show how these units will be screened from the view of any relevant public rights-of-way.

All detailed building elevation plans must be the <u>final</u> versions. Any subsequent elevation modifications or changes in materials, color, etc., must be resubmitted for approval. If the Design Commission makes decisions based on any renderings, sketches, or artists' drawings presented at the meeting, these graphics will become the property of the Town and will need to be submitted for the formal record

5. Lighting Plans

a) <u>Site Lighting Plan</u>: A detailed lighting plan for <u>all</u> proposed lighting fixtures on the site (including parking areas, pedestrian paths, building facades, landscape uplighting, etc.). The lighting plan should clearly indicate the locations of <u>all</u> light fixtures. The lighting plan shall also provide isographs with foot-candle and uniform ratios, candlepower of lamps, and types of illumination for all proposed lighting fixtures. The isographs shall be provided for the full extent of the site lighting (to the point where the lighting reaches 0.0 foot-candles), even if this includes off-site areas. The isograph shall be calculated with 100% lighting, and also identify and incorporate a site's topography.

b) <u>Cut Sheets</u>: A detailed drawing and description shall be provided for each type of light fixture proposed on the site. The number, height, colors, and materials for each type of fixture shall be clearly indicated.

Please note that in accordance with Section 5.11 (Lighting Standards) of the Town's Land Use Management Ordinance, lighting sources shall be shielded or arrange so as not to produce, within any public right-of-way, glare that interferes with the safe use of such right-of-way or constitutes a nuisance to the occupants of adjacent properties.

NA

For information on illuminating canopies, please refer to the Community Design Commission's "Design Standards for Canopies," which is available from the Chapel Hill Planning Department.

NA 6. Alternative Buffer

a) Landscaping Plan: A detailed planting plan, including a plant materials table that indicates the number, size, and spacing for each plant type.

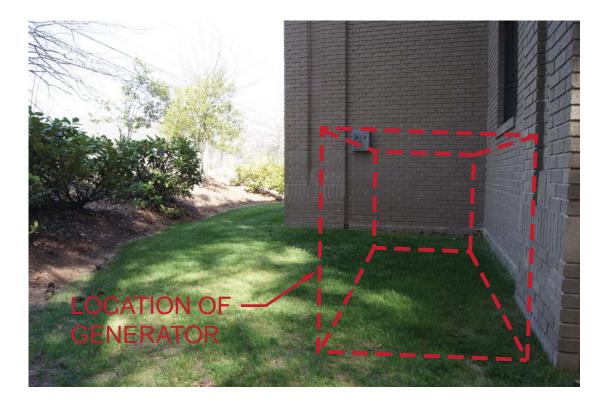
b) <u>Other</u>: If a fence or wall is proposed as part of the alternative buffer, a scaled drawing or rendering shall be submitted, along with a list including all materials, textures, and colors. The applicant should bring samples of such materials to the Design Commission meeting.





CHAPEL HILL PEDIATRICS NEW GENERATOR LOCATION







CHAPEL HILL PEDIATRICS NEW GENERATOR LOCATION



Model: 60REZGB

KOHLER. Power Systems

190-600 V

Gas

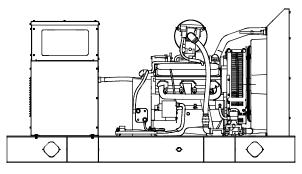


EPA-Certified for Stationary

Applications

Ratings Range

		60 Hz	50 Hz	
Standby:	kW	44-64	40-53	
-	kVA	44-80	40-66	
Prime:	kW	39-56	36-47	
	kVA	39-70	36-59	



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
 - The unique Fast-Response[™] X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.

Generator Set Ratings

				Natura 130°C Standby	al Gas Rise / Rating	LP C 130°C Standby		Natura 105°C Prime I		LP (105°C Prime l	
Alternator	Voltage	Ph	Hz	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
	120/208	3	60	54/68	189	54/68	189	48/60	166	48/60	166
	127/220	3	60	57/71	186	57/71	186	51/63	167	51/63	167
	120/240	3	60	54/68	164	54/68	164	48/60	144	48/60	144
	120/240	1	60	44/44	183	44/44	183	39/39	162	39/39	162
	139/240	3	60	60/75	180	60/75	180	54/67	162	54/67	162
	220/380	3	60	49/61	93	49/61	93	44/55	83	44/55	83
	277/480	3	60	60/75	90	60/75	90	54/67	81	54/67	81
	347/600	3	60	57/71	68	57/71	68	51/63	61	51/63	61
4P7BX	110/190	3	50	44/55	167	44/55	167	39/49	148	39/49	148
	115/200	3	50	47/59	170	47/59	170	41/52	150	41/52	150
	120/208	3	50	46/58	161	46/58	161	40/51	141	40/51	141
	110/220	3	50	44/55	144	44/55	144	39/49	128	39/49	128
	110/220	1	50	40/40	182	40/40	182	36/36	163	36/36	163
	220/380	3	50	44/55	83	44/55	83	39/49	74	39/49	74
	230/400	3	50	47/59	85	47/59	85	41/52	75	41/52	75
	240/416	3	50	46/58	80	46/58	80	40/51	70	40/51	70
	120/208	3	60	60/75	208	62/78	215	54/67	187	55/68	190
	127/220	3	60	60/75	197	62/78	203	54/67	177	55/68	180
	120/240	3	60	60/75	180	62/78	186	54/67	162	55/68	165
	120/240	1	60	54/54	225	54/54	225	48/48	200	48/48	200
	139/240	3	60	60/75	180	62/78	186	54/67	162	55/68	165
	220/380	3	60	60/75	114	62/78	118	54/67	102	55/68	104
	277/480	3	60	60/75	90	62/78	93	54/67	81	55/68	82
4P8X	347/600	3	60	60/75	72	62/78	75	54/67	64	55/68	66
4P8X	110/190	3	50	48/60	182	50/62	188	43/54	164	44/56	170
	115/200	3	50	48/60	173	50/62	179	43/54	155	44/56	161
	120/208	3	50	45/56	155	45/56	155	40/50	138	40/50	138
	110/220	3	50	48/60	157	50/62	163	43/54	141	44/56	146
	110/220	1	50	48/48	218	48/48	218	43/43	195	43/43	195
	220/380	3	50	48/60	91	50/62	94	43/54	82	44/56	85
	230/400	3	50	48/60	87	50/62	89	43/54	77	44/56	80
	240/416	3	50	45/56	78	45/56	78	40/50	69	40/50	69

NOTE: Generator Set Ratings are continued on page 2.

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. *Standby Ratings*: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. *Prime Power Ratings*: At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. For dual fuel engines, use the natural gas ratings for both the primary and secondary fuels.

				Natura 130°C Standby	Rise	LP 0 130°C Standby	Rise	Natura 105°C Prime I	Rise	LP 0 105°C Prime F	Rise
Alternator	Voltage	Ph	Hz	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
	120/208	3	60	60/75	208	63/79	219	54/67	187	56/70	194
	127/220	3	60	60/75	197	64/80	210	54/67	177	56/70	183
	120/240	3	60	60/75	180	63/79	189	54/67	162	56/70	168
	120/240	1	60	59/59	246	61/61	254	52/52	216	52/52	216
	139/240	3	60	60/75	180	64/80	192	54/67	162	56/70	168
	220/380	3	60	60/75	114	63/79	120	54/67	102	56/70	106
	277/480	3	60	60/75	90	64/80	96	54/67	81	56/70	84
4P10X	347/600	3	60	60/75	72	64/80	77	54/67	64	56/70	67
41107	110/190	3	50	48/60	182	53/66	200	43/54	164	47/59	179
	115/200	3	50	48/60	176	53/66	191	43/54	155	47/59	170
	120/208	3	50	48/60	169	53/66	183	43/54	149	47/59	163
	110/220	3	50	48/60	157	53/66	173	43/54	141	47/59	154
	110/220	1	50	50/50	227	52/52	236	45/45	204	46/46	209
	220/380	3	50	48/60	91	53/66	100	43/54	82	47/59	89
	230/400	3	50	48/60	87	53/66	95	43/54	77	47/59	85
	240/416	3	50	48/60	85	53/66	92	43/54	74	47/59	81
4Q10X	120/240	1	60	60/60	250	60/60	250	54/54	225	54/54	225
40108	110/220	1	50	53/53	241	53/53	241	47/47	213	47/47	213

Specifications	Alternator
Manufacturer	Kohler
Туре	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth
	Permanent Magnet
Leads: quantity, type	
4PX	12, Reconnectable
4QX	4, 110-120/220-240
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby
	Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V, 400 V 4P7BX (12 lead)	180 (60 Hz), 136 (50 Hz)
480 V, 400 V 4P8X (12 lead)	261 (60 Hz), 218 (50 Hz)
480 V, 400 V 4P10X (12 lead)	275 (60 Hz), 220 (50 Hz)
240 V, 220 V 4Q10X (4 lead)	144 (60 Hz), 132 (50 Hz)
	A

Engine

- The unique Fast-Response[™] X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
- The brushless, rotating-field alternator has broadrange reconnectability.
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.

Application Data

Exhaust

Engine Specifications	60 Hz	50 Hz	Exhaust System	60 Hz	50 Hz		
Manufacturer	General Motors		Ifacturer General Motors		Exhaust manifold type	D	Iry
Engine: model, type		Powertrain L, 4-Cycle	Exhaust flow at rated kW, m ³ /min. (cfm) Exhaust temperature at rated kW, dry	16.4 (580)	13.6 (480)		
		spiration	exhaust, °C (°F)	649 (1200)		
Cylinder arrangement	V	-8	Maximum allowable back pressure,	·	. ,		
Displacement, L (cu. in.)	5.7 (350)	kPa (in. Hg)	10.2	(3.0)		
Bore and stroke, mm (in.)	101.6 x 88.4	(4.00 x 3.48)	Exhaust outlet size at engine hookup,				
Compression ratio	9.1		mm (in.)	76 (3.	.0) OD		
Piston speed, m/min. (ft./min.)	318 (1044)	265 (870)					
Main bearings: quantity, type	,	opper Lead	Engine Electrical				
Rated rpm	1800	1500	Engine Electrical System	60 Hz	50 Hz		
Max. power at rated rpm, kW (HP)	78.3 (105)	65.6 (88)	Ignition system		tronic		
Cylinder head material		Iron	c	LICC			
Piston type and material	High Silicor		Battery charging alternator:				
Crankshaft material	Nodula	ar Iron	Ground (negative/positive)	0	ative		
Valve (exhaust) material	Forgeo	d Steel	Volts (DC)	1	2		
Governor type	Elect	ronic	Ampere rating	7	'0		
Frequency regulation, no-load to full-load	Isochr	onous	Starter motor rated voltage (DC)	1	2		
Frequency regulation, steady state	±0.	5%	Battery, recommended cold cranking				
Frequency	Fix	ed	amps (CCA):				
Air cleaner type, all models	D	ry	Qty., rating for -18°C (0°F)	1,	630		
			Battery voltage (DC)	1	2		

G4-184 (60REZGB) 4/14k

Application Data

Fuel

Fuel System	60 Hz	50 Hz	
Fuel type		, LP Gas, or Fuel	
Fuel supply line inlet	1 N	PTF	
Natural gas fuel supply pressure, kPa (in. H ₂ O)	174.0	74 (7-11)	
LPG vapor withdrawal fuel supply pressure, kPa (in. H ₂ O)		74 (7-11)	
Dual fuel engine, LPG vapor withdrawal fuel supply pressure, kPa (in. H ₂ O)	1.24 (5)		
Fuel Composition Limits *	Nat. Gas	LP Gas	
Methane, % by volume	90 min.	_	
Ethane, % by volume	4.0 max.		
Propane, % by volume	1.0 max.	85 min.	
Propene, % by volume	0.1 max.	5.0 max.	
C ₄ and higher, % by volume	0.3 max.	2.5 max.	
Sulfur, ppm mass	25 r	max.	
Lower heating value,			
MJ/m ³ (Btu/ft ³), min.	33.2 (890)	84.2 (2260)	

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

Lubrication

Lubricating System	60 Hz	50 Hz	
Туре	Full Pr	essure	
Oil pan capacity, L (qt.)	4.3 (4.5)		
Oil pan capacity with filter, L (qt.)	4.7 (5.0)		
Oil filter: quantity, type	1, Car	tridge	

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature, °C (°F) *	50 (122)
Engine jacket water capacity, L (gal.)	6.8	(1.8)
Radiator system capacity, including		
engine, L (gal.)	20.8	(5.5)
Engine jacket water flow, Lpm (gpm)	117.3 (31)	98.4 (26)
Heat rejected to cooling water at rated		
kW, dry exhaust, kW (Btu/min.)	54.8 (3120)	45.7 (2600)
Water pump type	Centr	rifugal
Fan diameter, including blades, mm (in.)	533	(21)
Fan, kWm (HP)	4.5 (6.0)	2.6 (3.5)
Max. restriction of cooling air, intake and		
discharge side of radiator, kPa (in. H ₂ O)	0.125	5 (0.5)
 Enclose we will an element of all successions. 		

Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air,		
m ³ /min. (scfm)†	170 (6000)	136 (4800)
Combustion air, m ³ /min. (cfm)	5.2 (185)	4.4 (155)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	30.9 (1760)	26.5 (1510)
Alternator, kW (Btu/min.)	7.7 (440)	6.9 (390)
† Air density = 1.20 kg/m ³ (0.075 lbm/ft ³)		

Fuel Consumption ‡		60	U-7	50 Hz
•				
Natural Gas, m ³ /hr. (cfh)	at % load	Standby Ratings		
100%		22.4	(790)	18.1 (640)
75%		19.4	(685)	15.6 (550)
50%		14.7	(520)	11.8 (415)
25%		9.9	(350)	7.8 (275)
LP Gas, m ³ /hr. (cfh) at %	load	Standby Ratings		
100%		9.3	(330)	7.9 (280)
75%		7.1	(250)	6.2 (220)
50%		5.4	(190)	4.7 (165)
25%		3.8	(135)	3.1 (110)
Natural Gas, m ³ /hr. (cfh)	at % load	Prime Ratings		
110%		22.4	(790)	18.1 (638)
100%		21.5	(758)	17.3 (612)
75%		18.1	(638)	14.6 (513)
50%		13.7	(483)	11.0 (387)
25%		9.5	(334)	7.4 (262)
LP Gas, m ³ /hr. (cfh) at %	load	Prime Ratings		
110%		9.3	(328)	7.9 (279)
100%		8.3	(294)	7.2 (253)
75%		6.6	(231)	5.7 (203)
50%		5.1	(179)	4.4 (155)
25%			(128)	2.9 (103)
‡ Nominal fuel rating: N	atural gas, 37	MJ/m ³ (1	000 Bt	u/ft. ³)

‡ Nominal fuel rating:

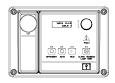
LP vapor, 93 MJ/m³ (2500 Btu/ft.³)

LP vapor conversion factors:

8.58 ft.³ = 1 lb. $0.535 \text{ m}^3 = 1 \text{ kg}.$

 $36.39 \text{ ft.}^3 = 1 \text{ gal.}$

Controllers



Decision-Maker® 3000 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units •
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-100 for additional controller features and accessories.

Decision-Maker[®] 550 Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities.

- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or
- modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation • Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-46 for additional controller features and accessories.

Standard Features

- Alternator Protection
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Gas Fuel System (includes fuel mixer, electronic secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation •
- Local Emergency Stop Switch •
- **Oil Drain Extension**
- **Operation and Installation Literature**

Available Options

Approvals and Listings

- CSA Approval
- IBC Seismic Certification
- UL 2200 Listing

Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- U Weather Enclosure (with enclosed critical silencer)

Open Unit

- Exhaust Silencer, Critical (kit: PA-352663) \Box
- Flexible Exhaust Connector, Stainless Steel

Fuel System

- Dual Fuel NG/LPG (automatic changeover)
- Flexible Fuel Line
- (required when the generator set skid is spring mounted) Gas Filter \Box
- LP Liquid Withdrawal (vaporizer)
- Secondary Gas Solenoid Valve

Controller

- Common Fault Relay
- Communication Products and PC Software
- Customer Connection (Decision-Maker® 550 controller only)
- Input/Output Module (Decision-Maker® 3000 controller only)
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
- (Decision-Maker® 550 controller only)
- Remote Emergency Stop
- Run Relay

Cooling System

- Block Heater, 1500 W, 110-120 V Recommended for ambient temperatures below 10°C (50°F)
- Radiator Duct Flange
 - Alternator Strip Heater
- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)

Miscellaneous

- Air Cleaner Restrictor Indicator
- Certified Test Report
- Engine Fluids Added
- Rated Power Factor Testing
- Rodent Guards

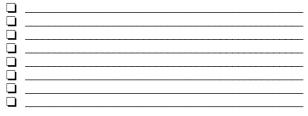
Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

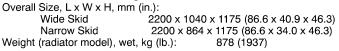
Warranty

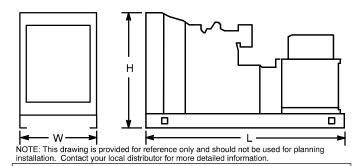
- 2-Year Basic
- 5-Year Basic
- 5-Year Comprehensive

Other Options



Dimensions and Weights





DISTRIBUTED BY:

Electrical System

