APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0282

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Generac Power Systems Inc.

Manufacturer's Technical Representative: Richard Ansley

Mailing Address: S45 W29290 Hwy 59,, Maukesha, WI 53189

Telephone: (262) 544-4851 Email: Richard.Ansley@generac.com

Product Information

Product Name: Gas Generator

Product Model Number(s): See Table 1

Product Category: Emergency and Standby Power Systems

Product Sub-Category: Generators

General Description: 35-500KW Gas Generators, both with or without factory supplied sound enclosure.

Mounting Description: Rigid base mounted, with internally isolated subcomponents

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Buehler Engineering, Inc.

Contact Person: Gillian Montgomery

Mailing Address: 600 Q Street, Sacramento, CA 95811

Telephone: (916) 443-0303 Email: gmontgomery@buehlerengineering.com

Title: Associate Principal

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: BUEHLER ENGINEERING, INC.

Name: Gillian Montgomery California License Number: S6852

Mailing Address: 600 Q Street, Sacramento, CA 95811

Telephone: (916) 443-0303 Email: gmontgomery@buehlerengineering.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: QUALTECH/CURTISS WRIGHT/TRENTEC

Contact Person: Mae Wilson

Mailing Address: 4600 East Tech Drive, Cincinnati OH 45245

Telephone: (513) 528-7900 Email: amyers@curtisswright.com

Company Name: UNIVERSITY OF BUFFALO (SEESL)

Contact Person: Yushan Fu

Mailing Address: 212 Ketter Hall, Buffalo NY 14260

Telephone: (716) 645-4377 Email: yushanfu@buffalo.edu

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.83

S_{DS} (Design spectral response acceleration at short period, g) = 2.44

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 2.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAi Approval (For Office Use Only) - Approval Expires on 05/15/2031

Date: 5/15/2025

Name: Timothy Piland Title:

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.44 z/h = 0

Condition of Approval (if applicable):

Table 1. Certified Product List

S_{DS} = 2.44g @ z/h = 0.0 F_P / W_P = 1.83

Model Number	Kw Rating	Tested/ Interpolated	Open Set				Std Enclosure					Level 1A Enclosure				
			Unit Dimensions (mm)			Operating Weight (lbs)	Unit Dimensions (mm)			Operating Weight (lbs)		Unit Dimensions (mm)			Operating Weight (lbs)	
			H	W	L		H	W	L	Steel	Alum	H	W	L	Steel	Alum
SG0035*G54[1]	**35**	**UUT-3**	-	-	-	-	-	-	-	-	-	**1258**	**965**	**2857**	-	**1,877**
		UUT-1	-	-	-	-	-	-	-	-	-	**1258**	**965**	**2857**	**2,179**	-
		Interpolated	1176	950	1930	1,575	1258	965	2409	2,100	1,864	1258	965	2857	2,179	1,877
SG0035*G45[1]	35	Interpolated	1128	946	1983	1,748	1461	965	2409	2,223	1,965	1461	965	2409	2,329	2,061
SG0040*G54[1]	40	Interpolated	1176	950	1930	1,575	1258	965	2409	2,100	1,864	1258	965	2857	2,140	1,877
SG0040*G45[1]	40	Interpolated	1128	946	1983	1,748	1461	965	2409	2,223	1,965	1461	965	2409	2,329	2,061
SG0045*G54[1]	45	Interpolated	1176	950	1930	1,575	1258	965	2409	2,100	1,864	1258	965	2857	2,140	1,877
SG0045*G45[1]	45	Interpolated	1128	946	1983	1,748	1461	965	2409	2,223	1,965	1461	965	2409	2,329	2,061
SG0050*G54[1]	50	Interpolated	1176	950	1930	1,575	1258	965	2409	2,100	1,948	1258	965	2857	2,140	1,964
SG0050*G45[1]	50	Interpolated	1128	946	1983	1,675	1461	965	2409	2,172	1,904	1461	965	2409	2,268	1,999
SG0050*G68[1]	50	Interpolated	1191	1016	2360	1,929	1406	1016	2840	2,370	2,199	1406	1016	3287	2,590	2,377
SG0060*G45[1]	60	Interpolated	1171	1003	2360	2,250	1739	1028	3070	2,989	2,638	1739	1028	3070	3,080	2,729
SG0060*G68[1]	60	Interpolated	1191	1016	2360	1,929	1406	1016	2840	2,370	2,133	1406	1016	3287	2,590	2,331
SG0070*G45[1]	70	Interpolated	1171	1003	2360	2,250	1739	1028	3070	2,989	2,638	1739	1028	3070	3,080	2,729
SG0070*G68[1]	70	Interpolated	1191	1016	2360	1,929	1406	1016	2840	2,370	2,133	1406	1016	3287	2,590	2,331
SG0080*G45[1]	80	Interpolated	1171	1003	2360	2,250	1739	1028	3070	2,989	2,638	1739	1028	3070	3,080	2,729
SG0080*G68[2]	80	Interpolated	1330	1013	2795	2,600	1627	1028	3371	3,100	2,790	1627	1028	3915	3,350	3,015
SG0080*G89[1]	80	Interpolated	1184	1004	2360	2,328	1738	1028	2838	n/a	2731	n/a	n/a	n/a	n/a	n/a
SG0080*G90[2]	80	Interpolated	1250	1016	2360	2,218	1427	1028	2840	2,659	2,515	1427	1028	3287	2,879	2,630
SG0100*G68[2]	100	Interpolated	1330	1013	2795	2,600	1627	1028	3371	3,100	2,790	1627	1028	3915	3,350	3,015
SG0100*G89[1]	100	Interpolated	1184	1004	2360	2,328	1738	1028	2838	n/a	2731	n/a	n/a	n/a	n/a	n/a
SG0100*G90[2]	100	Interpolated	1250	1016	2360	2,218	1427	1028	2840	2,659	2,630	1427	1028	3287	2,879	2,701
SG0130*G68[2]	130	Interpolated	1330	1013	2795	2,600	1627	1028	3371	3,100	2,790	1627	1028	3915	3,350	3,015
SG0130*G89[1]	130	Interpolated	1578	1249	2795	3,015	2032	1249	3447	n/a	3,417	n/a	n/a	n/a	n/a	n/a
SG0130*G90[2]	130	Interpolated	1192	1013	2795	2,400	1627	1028	3371	2,900	2,802	1627	1028	3915	3,150	2,873
SG0150*G68[2]	150	Interpolated	1356	1249	2960	2,940	1732	1280	3633	3,790	3,411	1732	1280	4279	3,990	3,591
SG0150*G89[1]	150	Interpolated	1578	1249	3193	3,180	2032	1249	3447	n/a	3,582	n/a	n/a	n/a	n/a	n/a
SG0150*G90[2]	150	Interpolated	1192	1249	2960	2,800	1732	1280	3633	3,650	2,802	1732	1280	4279	3,850	2,873
SG0150*G129[2]	150	Interpolated	1583	1357	3250	5,756	1770	1371	3909	6,577	n/a	1770	1371	4575	6,990	n/a
SG0150*G133[2]	150	Interpolated	1619	1463	3455	5,200	1946	1463	4437	6,575	n/a	1946	1463	5084	7,491	n/a
SG0150*G142[2]	150	Interpolated	1583	1357	3250	5,460	1772	1371	3923	6,440	5,890	1772	1371	3250	6,650	6,021
SG0175*G129[2]	175	Interpolated	1583	1357	3250	5,756	1770	1371	3909	6,577	n/a	1770	1371	4575	6,990	n/a
SG0175*G133[2]	175	Interpolated	1619	1463	3455	5,200	1946	1463	4437	6,575	n/a	1946	1463	5084	7,491	n/a
SG0175*G142[2]	175	Interpolated	1583	1357	3250	5,460	1772	1371	3923	6,440	5,890	1772	1371	3250	6,650	6,021
SG0200*G129[2]	200	Interpolated	1583	1357	3250	5,756	1770	1371	3909	6,577	n/a	1770	1371	4575	6,990	n/a
SG0200*G133[2]	200	Interpolated	1619	1463	3455	5,200	1946	1463	4437	6,575	n/a	1946	1463	5084	7,491	n/a
SG0200*G142[2]	200	Interpolated	1583	1357	3250	5,460	1772	1371	3923	6,440	5,974	1772	1371	3250	6,650	6,104
SG0200*G142[2]	**200**	Interpolated	1724	1450	3455	5,985	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SG0230*G129[2]	230	Interpolated	1728	1463	3455	6,360	1946	1463	4437	7,538	n/a	1946	1463	5084	8,224	n/a
SG0230*G133[2]	230	Interpolated	1747	1463	3455	6,390	1946	1463	4437	7,249	n/a	1946	1463	5084	8,224	n/a
SG0230*G142[2]	230	Interpolated	1724	1450	3455	5,460	1976	1463	4437	7,448	6,671	1976	1463	4569	7,911	6,870
SG0250*G129[2]	250	Interpolated	1728	1463	3455	6,360	1946	1463	4437	7,538	n/a	1946	1463	5084	8,224	n/a
SG0250*G133[2]	250	Interpolated	1747	1463	3455	6,390	1946	1463	4437	7,249	n/a	1946	1463	5084	8,224	n/a
SG0250*G142[2]	250	Interpolated	1724	1450	3455	5,985	1976	1463	4437	6,600	6,801	1976	1463	4569	7,911	7,000
SG0250*G142[2]	275	Interpolated	1724	1450	3455	5,985	1976	1450	4437	7,465	6,717	1976	1450	4569	7,947	7,152
SG0275*G129[2]	275	Interpolated	1728	1463	3455	6,612	1946	1463	4437	7,790	n/a	1946	1463	5084	8,476	n/a
SG0275*G133[2]	275	Interpolated	1747	1463	3455	6,390	1946	1463	4437	7,249	n/a	1946	1463	5084	8,224	n/a
SG0275*G142[2]	275	Interpolated	1724	1450	3455	5,985	1976	1463	4437	7,550	6,756	1976	1463	4569	7,836	6,957
SG0300*G129[2]	300	Interpolated	1728	1463	3455	6,612	1976	1463	4437	7,790	n/a	1976	1463	5084	8,476	n/a
SG0300*G133[2]	**300**	**UUT-2**	**1747**	**1463**	**3455**	**6,390**	-	-	-	-	-	-	-	-	-	-
		Interpolated	1747	1463	3455	6,390	1976	1463	4437	7,249	n/a	1976	1463	5084	8,224	n/a
SG0300*G142[2]	300	Interpolated	1724	1450	3455	5,985	1976	1463	4437	7,550	7,042	1976	1463	4569	7,836	7,242
SG0350*G219[2]	350	Interpolated	1782	1803	3923	7,574	2032	1803	5268	9,990	8,820	2032	1803	5084	10,690	9,170
SG0350*G219[2]	350	Interpolated	1782	1803	3923	8,274	2032	1803	5268	10,690	9,520	2032	1803	5084	11,470	9,870
SG0400*G219[2]	**400**	Interpolated	1782	1803	3923	7,574	2032	1803	5268	9,990	8,820	2032	1803	5084	10,690	9,170
SG0400*G219[2]	400	Interpolated	1782	1803	3923	8,274	2032	1803	5268	10,690	9,520	2032	1803	5084	11,470	9,870
SG0450*G219[2]	450	Interpolated	1782	1803	3923	9,690	2032	1803	5268	10,690	9,520	2032	1803	5084	11,470	9,870
SG0500*G258[2]	**500**	Interpolated	1903	1803	3923	9,739	2032	1803	5268	11,929	10,841	2032	1803	6287	12,936	11,274

1. Available in additional generator types including Prime Modular (MPS) configuration. See Nomenclature Sheet.
2. Available in additional generator types including MPS configuration AND in Olympian Brand (LG) and Catepillar Brand (BG). See Nomenclature Sheet.

Table 1. Certified Product List

S_{DS} = 2.44g @ z/h = 0.0 F_P / W_P = 1.83

Model Number	Kw Rating	Tested/ Interpolated	Level 2A Enclosure					Level 3 Enclosure				
			Unit Dimensions (mm)			Operating Weight (lbs)		Unit Dimensions (mm)			Operating Weight (lbs)	
			H	W	L	Steel	Alum	H	W	L	Steel	Alum
SG0035*G54[1]	**35**	Interpolated	1574	965	2409	2,328	1,974	n/a	n/a	n/a	n/a	n/a
SG0035*G45[1]	35	Interpolated	1461	965	2409	2,415	2,144	n/a	n/a	n/a	n/a	n/a
SG0040*G54[1]	40	Interpolated	1574	965	2409	2,328	1,974	n/a	n/a	n/a	n/a	n/a
SG0040*G45[1]	40	Interpolated	1461	965	2409	2,415	2,144	n/a	n/a	n/a	n/a	n/a
SG0045*G54[1]	45	Interpolated	1574	965	2409	2,328	1,974	n/a	n/a	n/a	n/a	n/a
SG0045*G45[1]	45	Interpolated	1461	965	2409	2,415	2,144	n/a	n/a	n/a	n/a	n/a
SG0050*G54[1]	50	Interpolated	1574	965	2409	2,328	2,070	n/a	n/a	n/a	n/a	n/a
SG0050*G45[1]	50	Interpolated	1461	965	2409	2,415	2,144	n/a	n/a	n/a	n/a	n/a
SG0050*G68[1]	50	Interpolated	1722	1016	2840	2,811	2,499	n/a	n/a	n/a	n/a	n/a
SG0060*G45[1]	60	Interpolated	1739	1028	3070	3,158	2,785	n/a	n/a	n/a	n/a	n/a
SG0060*G68[1]	60	Interpolated	1722	1016	2840	2,811	2,530	n/a	n/a	n/a	n/a	n/a
SG0070*G45[1]	70	Interpolated	1739	1028	3070	3,158	2,785	n/a	n/a	n/a	n/a	n/a
SG0070*G68[1]	70	Interpolated	1722	1016	2840	2,811	2,530	n/a	n/a	n/a	n/a	n/a
SG0080*G45[1]	80	Interpolated	1739	1028	3070	3,158	2,785	n/a	n/a	n/a	n/a	n/a
SG0080*G68[2]	80	Interpolated	2054	1028	3671	3,600	3,240	n/a	n/a	n/a	n/a	n/a
SG0080*G89	80	Interpolated	1738	1028	2838	3,340	2,746	n/a	n/a	n/a	n/a	n/a
SG0080*G90[2]	80	Interpolated	1743	1028	2840	3,100	2,802	n/a	n/a	n/a	n/a	n/a
SG0100*G68[2]	100	Interpolated	2054	1028	3671	3,600	3,240	n/a	n/a	n/a	n/a	n/a
SG0100*G89[1]	100	Interpolated	1738	1028	2838	3,340	2,746	n/a	n/a	n/a	n/a	n/a
SG0100*G90[2]	100	Interpolated	1743	1028	2840	3,100	2,756	n/a	n/a	n/a	n/a	n/a
SG0130*G68[2]	130	Interpolated	2054	1028	3671	3,600	3,240	n/a	n/a	n/a	n/a	n/a
SG0130*G89[1]	130	Interpolated	2032	1250	3447	n/a	3,433	n/a	n/a	n/a	n/a	n/a
SG0130*G90[2]	130	Interpolated	2054	1028	3671	3,400	2,928	n/a	n/a	n/a	n/a	n/a
SG0150*G68[2]	150	Interpolated	2330	1280	3633	4,190	3,771	n/a	n/a	n/a	n/a	n/a
SG0150*G89[1]	150	Interpolated	2032	1250	3447	n/a	3,598	n/a	n/a	n/a	n/a	n/a
SG0150*G90[2]	150	Interpolated	2330	1280	3633	4,050	2,928	n/a	n/a	n/a	n/a	n/a
SG0150*G129[2]	150	Interpolated	2372	1371	3923	7,236	n/a	n/a	n/a	n/a	n/a	n/a
SG0150*G133[2]	150	Interpolated	2726	1463	4588	8,000	n/a	n/a	n/a	n/a	n/a	n/a
SG0150*G142[2]	150	Interpolated	2370	1371	3923	6,980	6,122	3274	1617	5269	10,602	8,273
SG0175*G129[2]	175	Interpolated	2372	1371	3923	7,236	n/a	n/a	n/a	n/a	n/a	n/a
SG0175*G133[2]	175	Interpolated	2726	1463	4588	8,000	n/a	n/a	n/a	n/a	n/a	n/a
SG0175*G142[2]	175	Interpolated	2370	1371	3923	6,980	6,122	3274	1617	5269	10,602	8,273
SG0200*G129[2]	200	Interpolated	2372	1371	3923	7,236	n/a	n/a	n/a	n/a	n/a	n/a
SG0200*G133[2]	200	Interpolated	2726	1463	4588	8,000	n/a	n/a	n/a	n/a	n/a	n/a
SG0200*G142[2]	200	Interpolated	2370	1371	3923	6,980	6,206	3274	1617	5269	10,602	8,386
SG0200*G142[2]	**200**	Interpolated	2726	1463	4588	8,395	6,731	3274	1617	5269	10,905	9,096
		UUT-4	**2726**	**1463**	**4588**	**8,395**	-	-	-	-	-	-
SG0230*G129[2]	230	Interpolated	2726	1463	4588	9,169	n/a	n/a	n/a	n/a	n/a	n/a
SG0230*G133[2]	230	Interpolated	2726	1463	4588	9,200	n/a	n/a	n/a	n/a	n/a	n/a
SG0230*G142[2]	230	Interpolated	2726	1463	4588	8,251	7,117	3274	1617	5269	10,602	9,618
SG0250*G129[2]	250	Interpolated	2726	1463	4588	9,169	n/a	n/a	n/a	n/a	n/a	n/a
SG0250*G133[2]	250	Interpolated	2726	1463	4588	9,200	n/a	n/a	n/a	n/a	n/a	n/a
SG0250*G142[2]	250	Interpolated	2726	1463	4588	8,251	7,247	3274	1617	5269	10,905	9,793
SG0250*G142[2]	275	Interpolated	2726	1450	4588	8,502	7,652	3274	1617	5269	11,080	10,340
SG0275*G129[2]	275	Interpolated	2726	1463	4588	9,421	n/a	n/a	n/a	n/a	n/a	n/a
SG0275*G133[2]	275	Interpolated	2726	1463	4588	9,200	n/a	n/a	n/a	n/a	n/a	n/a
SG0275*G142[2]	275	Interpolated	2726	1463	4588	8,502	7,201	3274	1617	5269	10,990	9,731
SG0300*G129[2]	300	Interpolated	2726	1463	4588	9,421	n/a	n/a	n/a	n/a	n/a	n/a
SG0300*G133[2]	**300**	Interpolated	2726	1463	4588	9,200	n/a	n/a	n/a	n/a	n/a	n/a
SG0300*G142[2]	300	Interpolated	2726	1463	4588	8,502	7,487	3274	1617	5269	11,080	10,118
SG0350*G219[2]	350	Interpolated	2899	1803	5268	11,100	9,510	3281	1954	5890	13,577	11,888
SG0350*G219[2]	350	Interpolated	2899	1803	5268	11,808	10,210	3281	1954	5890	14,285	12,763
SG0400*G219[2]	**400**	**UUT-5**	-	-	-	-	-	**3281**	**1954**	**5890**	-	**10,635**
		Interpolated	2899	1803	5268	11,100	9,510	3281	1954	5890	13,577	11,888
SG0400*G219[2]	400	Interpolated	2899	1803	5268	11,808	10,210	3281	1954	5890	14,285	12,763
SG0450*G219[2]	450	Interpolated	2899	1803	5268	11,808	10,210	3281	1954	5890	14,285	12,763
SG0500*G258[2]	**500**	Interpolated	2899	1803	5268	13,274	11,419	3281	1954	5890	15,635	14,274
		UUT-6	-	-	-	-	-	**3281**	**1954**	**5890**	**15,635**	-

1. Available in additional generator types including Prime Modular (MPS) configuration. See Nomenclature Sheet.
2. Available in additional generator types including MPS configuration AND in Olympian Brand (LG) and Catepillar Brand (BG). See Nomenclature Sheet.

Table 2. Certified Sub-Component List

Pursuant to section 4.5 of AC 156, below is a list and rationale of major subassemblies/ components.

Enclosure

Part Number	Description	Manufacturer	Material	Tested / Interpolated
S	**Level 1A Sound Attenuated**	**Generac**	**Carbon Steel**	**UUT-1**
Y	Standard	Generac	Aluminum	Interpolated
S	**Level 1A Sound Attenuated**	**Generac**	**Aluminum**	**UUT-3**
L	Level 2A Sound Attenuated	Generac	Aluminum	Interpolated
E	**Level 3 Sound Attenuated**	**Generac**	**Aluminum**	**UUT-5, UUT-6**

Engine

Part Number	Nominal capacity (max HP)	Engine Dry Weight (lb)	Manufacturer	Material	Tested / Interpolated
G4.5L	140	590	Generac	Cast Iron	Interpolated
G5.4L	**82**	**527**	**Generac**	**Cast Iron**	**UUT-1, UUT-3**
G6.8L	231	640	Generac	Cast Iron	Interpolated
G8.9L	150	630	Generac	Cast Iron	Interpolated
G9.0L	150	630	Generac	Cast Iron	Interpolated
G12.9L	308	2425	Generac	Cast Iron	Interpolated
G12.9L	379	2425	Generac	Cast Iron	Interpolated
G13.3L	**468**	**2160**	**Generac**	**Cast Iron**	**UUT-2**
G14.2L	**379**	**2480**	**Generac**	**Cast Iron**	**UUT-4**
G21.9L	**636**	**3130**	**Generac**	**Cast Iron**	**UUT-5**
G25.8L	**777**	**4076**	**Generac**	**Cast Iron**	**UUT-6**

Alternator

Nominal capacity	Manufacturer	Material	Tested / Interpolated
35 kW	**Generac**	**Steel Laminations & Copper Windings**	**UUT-1, UUT-3**
40 kW	Generac	Steel Laminations & Copper Windings	Interpolated
45 kW	Generac	Steel Laminations & Copper Windings	Interpolated
50 kW	Generac	Steel Laminations & Copper Windings	Interpolated
55 kW	Generac	Steel Laminations & Copper Windings	Interpolated
60 kW	Generac	Steel Laminations & Copper Windings	Interpolated
70 kW	Generac	Steel Laminations & Copper Windings	Interpolated
80 kW	Generac	Steel Laminations & Copper Windings	Interpolated
100 kW	Generac	Steel Laminations & Copper Windings	Interpolated
130 kW	Generac	Steel Laminations & Copper Windings	Interpolated
150 kW	Generac	Steel Laminations & Copper Windings	Interpolated
175 kW	Generac	Steel Laminations & Copper Windings	Interpolated
200 kW	Generac	Steel Laminations & Copper Windings	Interpolated
230 kW	Generac	Steel Laminations & Copper Windings	Interpolated
250 kW	Generac	Steel Laminations & Copper Windings	Interpolated
275 kW	Generac	Steel Laminations & Copper Windings	Interpolated
288 kW	Generac	Steel Laminations & Copper Windings	Interpolated
300 kW	**Generac**	**Steel Laminations & Copper Windings**	**UUT-2**
350 kW	Generac	Steel Laminations & Copper Windings	Interpolated
400 kW	**Generac**	**Steel Laminations & Copper Windings**	**UUT-5**
200 kW	**WEG**	**Steel Laminations & Copper Windings**	**UUT-4**
250 kW	WEG	Steel Laminations & Copper Windings	Interpolated
350 kW	WEG	Steel Laminations & Copper Windings	Interpolated
350 kW	WEG	Steel Laminations & Copper Windings	Interpolated
400 kW	WEG	Steel Laminations & Copper Windings	Interpolated
450 kW	WEG	Steel Laminations & Copper Windings	Interpolated
500 kW	**WEG**	**Steel Laminations & Copper Windings**	**UUT-6**

Table 2. Certified Sub-Component List

Mufflers			
Part Number	**Manufacturer**	**Material**	**Interpolated**
G4.5L Exhaust	Generac	Aluminized Steel and Stainless Components	Interpolated
G5.4L Exhaust	**Generac**	**Aluminized Steel and Stainless Components**	**UUT-1, UUT-3**
G6.8L Exhaust	Generac	Aluminized Steel and Stainless Components	Interpolated
G8.9L Exhaust	Generac	Aluminized Steel and Stainless Components	Interpolated
G9.0L Exhaust	Generac	Aluminized Steel and Stainless Components	Interpolated
G12.9L Exhaust	Generac	Aluminized Steel and Stainless Components	Interpolated
G13.3L Exhaust	**Generac**	**Aluminized Steel and Stainless Components**	**UUT-2**
G14.2L Exhaust	**Generac**	**Aluminized Steel and Stainless Components**	**UUT-4**
G21.9L Exhaust	**Generac**	**Aluminized Steel and Stainless Components**	**UUT-5**
G25.8L Exhaust	**Generac**	**Aluminized Steel and Stainless Components**	**UUT-6**

Radiator System			
Nominal capacity	**Manufacturer**	**Material**	**Tested / Interpolated**
35 kW	**Generac**	**Copper (Fins), Steel (Mounting Flanges), Brass (Tanks, Support Plates & Tubes)**	**UUT-1**
40 kW	Generac	Copper (Fins), Steel (Mounting Flanges) Brass (Tanks, Support Plates & Tubes)	Interpolated
45 kW	Generac		Interpolated
50 kW	Generac		Interpolated
60 kW	Generac		Interpolated
70 kW	Generac		Interpolated
80 kW	Generac		Interpolated
100 kW	Generac		Interpolated
130 kW	Generac		Interpolated
150 kW	Generac		Interpolated
175 kW	Generac		Interpolated
200 kW	Generac		Interpolated
230 kW	Generac		Interpolated
250 kW	Generac		Interpolated
275 kW	Generac		Interpolated
300 kW	**Generac**	**Copper (Fins), Steel (Mounting Flanges), Brass (Tanks, Support Plates & Tubes)**	**UUT-2**
35 kW	**Generac**	**Aluminum (Fins), Steel (Mounting Flanges),**	**UUT-3**
40 kW	Generac	Aluminum (Fins), Steel (Mounting Flanges), Aluminum (Tanks, Support Plates & Tubes)	Interpolated
45 kW	Generac		Interpolated
50 kW	Generac		Interpolated
60 kW	Generac		Interpolated
70 kW	Generac		Interpolated
80 kW	Generac		Interpolated
100 kW	Generac		Interpolated
130 kW	Generac		Interpolated
150 kW	Generac		Interpolated
175 kW	Generac		Interpolated
200 kW	**Generac**	**Aluminum (Fins), Steel (Mounting Flanges),**	**UUT-4**
230 kW	Generac	Aluminum (Fins), Steel (Mounting Flanges), Aluminum (Tanks, Support Plates & Tubes)	Interpolated
250 kW	Generac		Interpolated
275 kW	Generac		Interpolated
300 kW	Generac		Interpolated
350 kW	Generac		Interpolated
400 kW	**Generac**	**Aluminum (Fins), Steel (Mounting Flanges), Aluminum (Tanks, Support Plates & Tubes)**	**UUT-5**
450 kW	Generac	Aluminum (Fins), Steel (Mounting Flanges), Aluminum (Tanks, Support Plates & Tubes)	Interpolated
500 kW	**Generac**	**Aluminum (Fins), Steel (Mounting Flanges), Aluminum (Tanks, Support Plates & Tubes)**	**UUT-6**

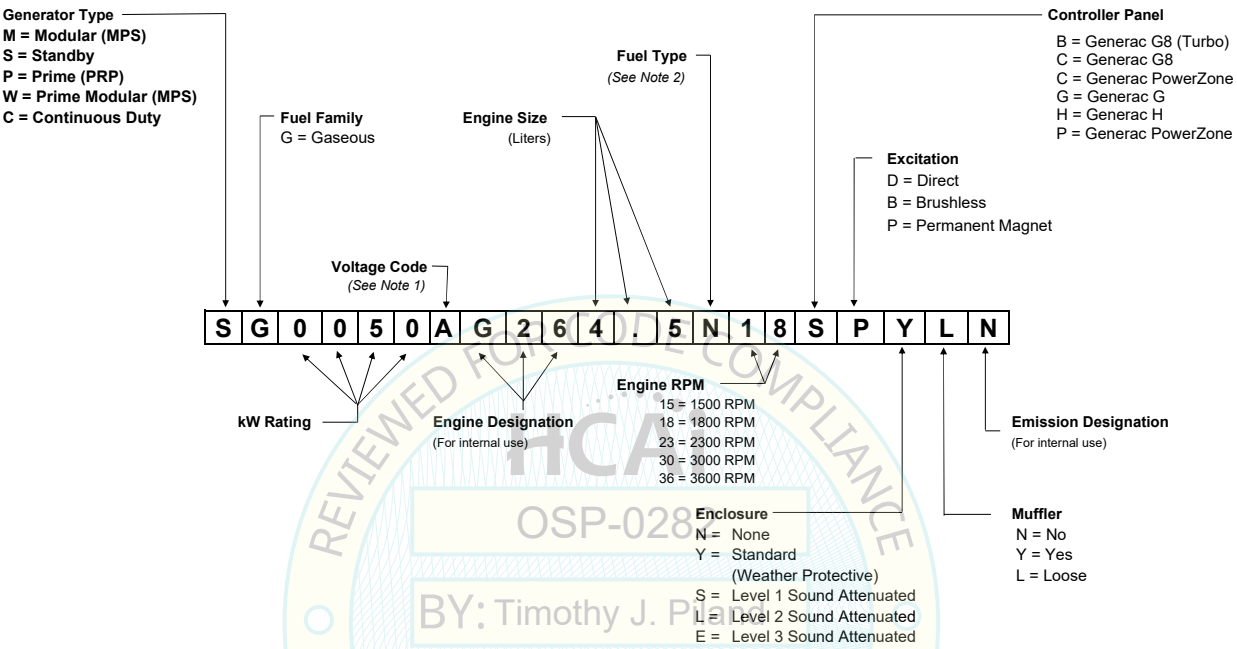
Table 2. Certified Sub-Component List

Battery				
Part Number	Voltage	Manufacturer	Material	Tested / Interpolated
HP-31E	12V	Exide	Carbon Steel, Aluminum, Copper & Plastic	UUT-1
COM8D-P	24V	Exide	Carbon Steel, Aluminum, Copper & Plastic	UUT-2, UUT-6
115-2422	12V	Caterpillar	Carbon Steel, Aluminum, Copper & Plastic	UUT-3, UUT-4
153-5710	12V	Caterpillar	Carbon Steel, Aluminum, Copper & Plastic	UUT-5

Control Panel			
Type / Description	Mfr	*Material*	Tested / Interpolated
Generac Control Panel	Generac	Carbon Steel Enclosure w/ Electrical Components	UUT-1, UUT-2, UUT-3, UUT-4, UUT-6
Caterpillar Digital EMCP	Generac	Carbon Steel Enclosure w/ Electrical Components	UUT-5

Code Type Legend Industrial Configured Generac Generators - OSP-0282

FOR REFERENCE ONLY



Note 1:

Voltage Code:

60 Hz Voltages

A = 120 / 240 VAC (Single Phase / 3 Lead)
D = 120 / 240 VAC (Single or Three Phase / 12 Lead)
(Full capacity single or three phase; cannot be reconnected for 277/480V)
G = 120 / 208 VAC (Three Phase / 12 Lead)
H = 231 / 400 VAC (Three Phase / 12 Lead) *(Adjustable from 380V to 416V)*
J = 120 / 240 VAC (Three Phase / 12 Lead)
K = 277 / 480 VAC (Three Phase / 12 Lead)
L = 346 / 600 VAC (Three Phase / 3 Lead)
X = Full Capacity All Voltages *(Only with Direct Excitation)*

50 Hz Voltages

M = 110 / 220 VAC (Single Phase / 3 Lead)
N = 115 / 200 VAC (Single Phase / 12 Lead)
P = 100 / 200 VAC (Three Phase / 12 Lead) *(Adjustable to 240V)*
R = 231 / 400 VAC (Three Phase / 12 Lead) *(Adjustable from 380V to 416V)*
S = 480 VAC (Three Phase / 3 Lead)

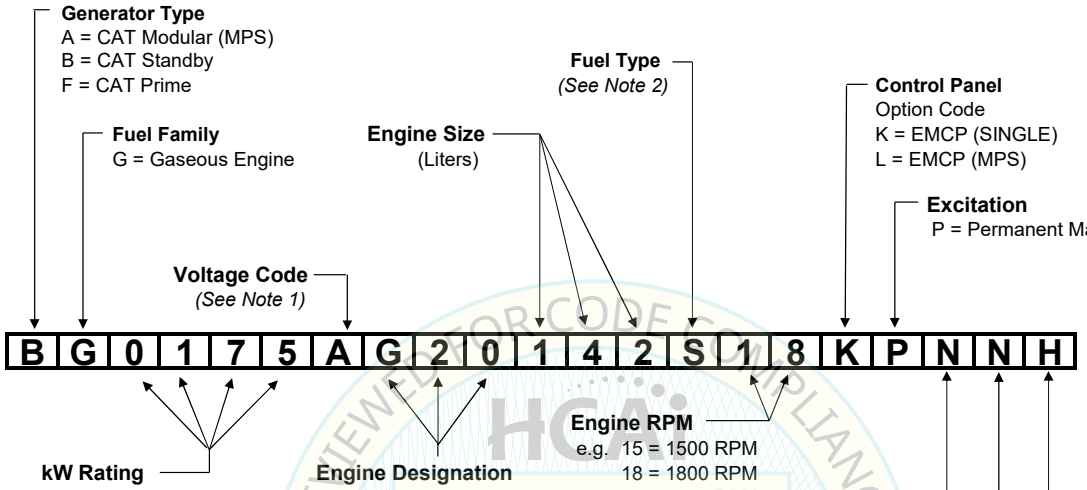
Note 2:

Fuel Type:

N = Natural Gas (NG)
S = Natural Gas (Low Pressure) NG
V = Liquid Propane Vapor Withdraw (LPV)
L = Liquid Propane Withdraw (LPL)
P = Dual Fuel NG (Normal) / LPL Secondary
R = Dual Fuel NG (Normal) / LPV Secondary
Q = Dual Fuel NG (Low Pressure) / LPL Secondary
T = Dual Fuel NG (Low Pressure) / LPV Secondary
U = Natural Gas OR LPV

FOR REFERENCE ONLY

Type Code Legend for Configured Generators - 2018 and Later



Note 1:
Voltage Code:
60 Hz Voltages

A = 120 / 240 VAC (Single Phase / 3 Lead)
D = 120 / 240 VAC (Single or Three Phase / 12 Lead)
(Full capacity single or three phase; cannot be reconnected for 277/480V)
G = 120 / 208 VAC (Three Phase / 12 Lead)
J = 120 / 240 VAC (Three Phase / 12 Lead)
K = 277 / 480 VAC (Three Phase / 12 Lead)
L = 600 VAC (Three Phase / 3 Lead)

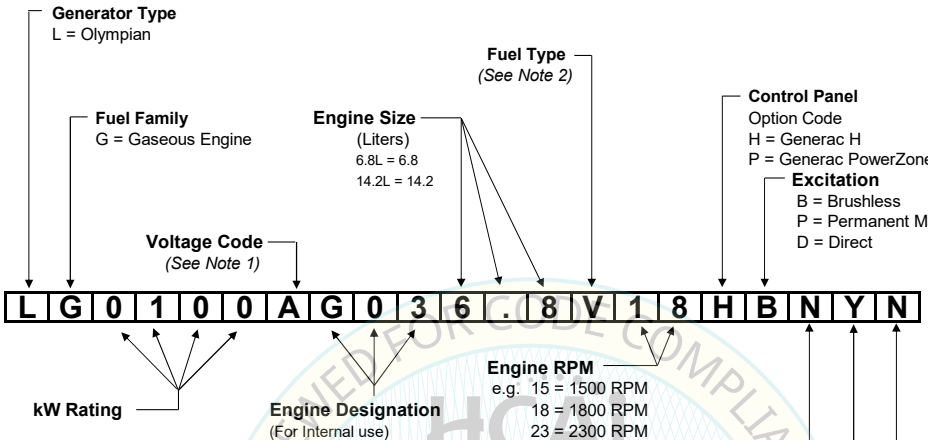
50 Hz Voltages

M = 110 / 220 VAC (Single Phase / 3 Lead)
R = 231 / 400 VAC (Three Phase / 12 Lead) *(Adjustable from 380V to 416V)*

Note 2:
Fuel Type:

L = Liquid Propane Withdraw (LPL)
N = Natural Gas
P = Dual Fuel NG (Normal) / LPL Secondary
R = Dual Fuel NG (Normal) / LPV Secondary
S = Natural Gas (Low Pressure) NG
V = Liquid Propane Vapor Withdraw (LPV)

Type Code Legend for Configured Generators - 2010 and Later



Note 1:
Voltage Code:
60 Hz Voltages

A = 120 / 240 VAC (Single Phase / 3 Lead)
D = 120 / 240 VAC (Single or Three Phase / 12 Lead)
(Full capacity single or three phase; cannot be reconnected for 277/480V)
G = 120 / 208 VAC (Three Phase / 12 Lead)
J = 120 / 240 VAC (Three Phase / 12 Lead)
K = 277 / 480 VAC (Three Phase / 12 Lead)
L = 346/600 VAC (Three Phase / 3 Lead)

50 Hz Voltages

M = 110 / 220 VAC (Single Phase / 3 Lead)
R = 231 / 400 VAC (Three Phase / 12 Lead) *(Adjustable from 380V to 416V)*

Note 2:
Fuel Type:

L = Liquid Propane Withdraw (LPL)
N = Natural Gas (NG)
P = Dual Fuel NG (Normal) / LPL Secondary
R = Dual Fuel NG (Normal) / LPV Secondary
S = Natural Gas (Low Pressure) NG
V = Liquid Propane Vapor Withdraw (LPV)

UUT-1 Test Summary

Testing Lab: QualTech NP
Testing Report: Q1218.0 - Rev2 and amendment dated 09/12/2019
Testing Unit Num: Q1218-01-01-01 with enclosure

Model Number	Nominal Capacity	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (mm)	Width (mm)	Height (mm)
SG0035AG035.4N18HBSNA	35 kW	2,179	Base - Rigid Mount	X	Front-Back	4.5	2857	965	1258
				Y	Side-Side	5.2			
				Z	Vertical	14.6			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Refer to Nomenclature for model breakdown.

Attachment Method: Four (4) - 5/8"Ø grade 8 bolts front and back (8 total)
Seismic Modifications: none
Test Anomaly: none

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	AC 156	2.44	0.0	2.44g	0.98g	1.63g	0.66g

Figure 1.1: Unit on the shake table

Figure 1.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity (at Sds = 2.0g, z/h = 1.0 equivalent to Sds = 2.44g, z/h = 0).
Unit remained functional per manufacture requirements after final unit shake table test (Sds = 2.98g ,z/h = 1.00). Bolt of alternator sheared off at Sds = 2.98g, z/h=1.0 test.

UUT-1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Enclosure	n/a	S - Level 1A	Generac	Carbon Steel
Engine	527 lbs	G5.4L	Generac	Cast Iron
Alternator	n/a	35 kW	Generac	Steel Laminations & Cooper Windings
Mufflers	n/a	G5.4L	Generac	Aluminized Steel and Stainless Components
Radiator System	n/a	35 kW	Generac	Copper(Fins)-Steel(Mounting Flanges)-Brass(Tanks, Support Pl & Tubes)
Battery	n/a	HP-31E	Exide	Carbon steel, aluminum, copper and plastic
Control Panel	n/a	Generac Control Panel	Generac	Carbon steel enclosure and electrical components

UUT-2 Test Summary

Testing Lab: QualTech NP
Testing Report: Q1218.0 - Rev2
Testing Unit Num: Q1218-02-01-01

Model Number	Nominal Capacity	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (mm)	Width (mm)	Height (mm)
MG0300KG1313.3N23GPNYE	300 kW	6,390	Base - Rigid Mount	X	Front-Back	7.4	3455	1463	1747
				Y	Side-Side	6.3			
				Z	Vertical	14.7			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Refer to Nomenclature for model breakdown.

Attachment Method: Five (5) - 5/8"Ø grade 8 bolts front and back (10 total)
Seismic Modifications: none
Test Anomaly: none

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	AC 156	2.50	1.0	4.00g	3.00g	1.68g	0.68g

Figure 2.1: Unit on the shake table

Figure 2.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity with exception of enclsoure which partially opened during the seismic test. Subcomponent was removed from justification. Unit remained functional per manufacture requirements after shake table test

UUT-2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Engine	2160 lbs	G13.3L	Generac	Cast Iron
Alternator	n/a	300 kW	Generac	Steel Laminations & Cooper Windings
Mufflers	n/a	G13.3L	Generac	Aluminized Steel and Stainless Components
Radiator System	n/a	300 kW	Generac	Copper(Fins)-Steel(Mounting Flanges)-Brass(Tanks, Support Pl & Tubes)
Battery	n/a	COM8D-P	Exide	Carbon steel, aluminum, copper and plastic
Control Panel	n/a	Generac Control Panel	Generac	Carbon steel enclosure and electrical components

UUT-3 Test Summary

Testing Lab: University of Buffalo
Testing Report: UB CSEE/SEESL-2019-05 - Rev2
Testing Unit Num: UUT-5

Model Number	Nominal Capacity	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (mm)	Width (mm)	Height (mm)
SG0035KG035.4N18HBSY	35 kW	1,877	Base - Rigid Mount	X	Front-Back	9.1	2857	965	1258
				Y	Side-Side	5.4			
				Z	Vertical	14.6			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Refer to Nomenclature for model breakdown.

Attachment Method Four (4) - 5/8"Ø grade 5 bolts front and back (8 total)

Seismic Modifications none

Test Anomaly none

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	AC 156	2.50	1.0	4.00g	3.00g	1.68g	0.68g

Figure 3.1: Unit on the shake table

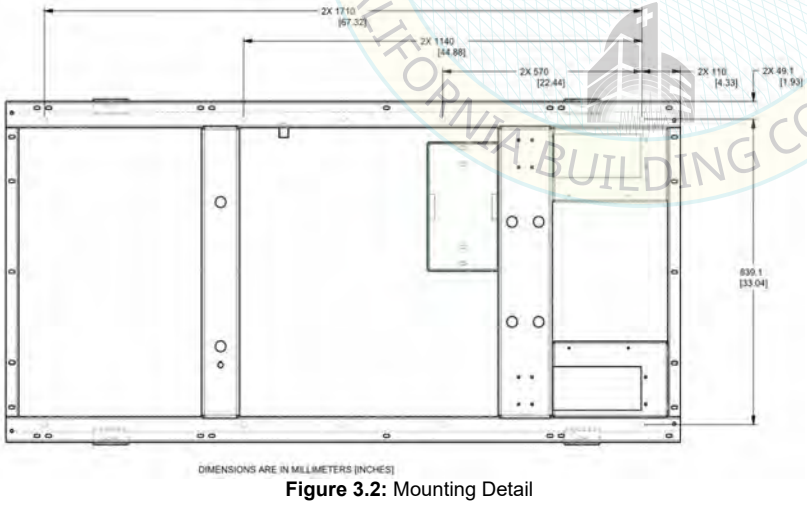


Figure 3.2: Mounting Detail

Figure 3.3: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-3 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Enclosure	n/a	S - Level 1A	Generac	Aluminium
Engine	527 lbs	G5.4L	Generac	Cast Iron
Alternator	n/a	35 kW	Generac	Steel Laminations & Cooper Windings
Mufflers	n/a	G5.4L	Generac	Aluminized Steel and Stainless Components
Radiator System	n/a	35 kW	Generac	Al (Fins) - Steel (Mounting Flanges) - Al (Tanks, Support Pl & Tubes)
Battery	n/a	115-2422	Caterpillar	Carbon steel, aluminum, copper and plastic
Control Panel	n/a	Generac Control Panel	Generac	Carbon steel enclosure and electrical components

UUT-4 Test Summary

Testing Lab: University of Buffalo
Testing Report: UB CSEE/SEESL-2019-05 - Rev2
Testing Unit Num: UUT-6

Model Number	Nominal Capacity	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (mm)	Width (mm)	Height (mm)
SG0200GG2014.2S18PPLY	200 kW	8,395	Base - Rigid Mount	X	Front-Back	8.8	4588	1463	2726.0
				Y	Side-Side	6.8			
				Z	Vertical	16.0			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Refer to Nomenclature for model breakdown.

Attachment Method: Five (5) - 5/8"Ø grade 5 bolts front and back (10 total)
Seismic Modifications: none
Test Anomaly: Enclosure door and control panel door opened during test.
These elements included as mass only - removed from list and justified from alternate test.

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	AC 156	2.50	1.0	4.00g	3.00g	1.68g	0.68g

Figure 4.1: Unit on the shake table

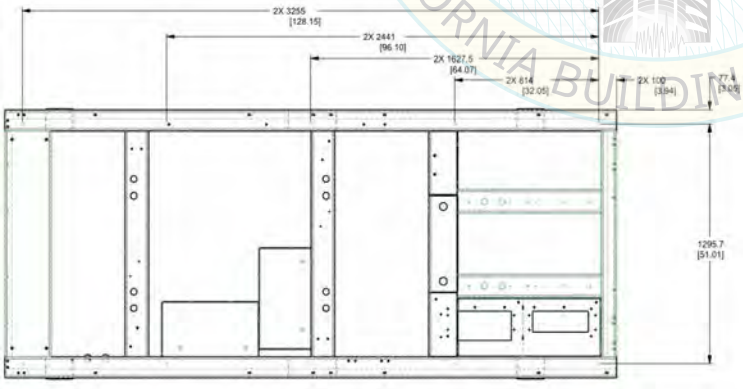


Figure 4.2: Mounting Detail

Figure 4.3: Mounting Photo

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-4 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Enclosure	not evaluated - mass equivalent included			
Engine	2480 lbs	G14.2L	Generac	Cast Iron
Alternator	n/a	200 kW	WEG	Steel Laminations & Cooper Windings
Mufflers	n/a	G14.2L	Generac	Aluminized Steel and Stainless Components
Radiator System	n/a	200 kW	Generac	Al (Fins) - Steel (Mounting Flanges) - Al (Tanks, Support Pl & Tubes)
Battery	n/a	115-2422	Caterpillar	Carbon steel, aluminum, copper and plastic
Control Panel	not evaluated - mass equivalent included			

UUT-5 Test Summary

Testing Lab: University of Buffalo
Testing Report: UB CSEE/SEESL-2019-05 - Rev2
Testing Unit Num: UUT-7

Model Number	Nominal Capacity	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (mm)	Width (mm)	Height (mm)
SG0400KG3021.9S18KPEY	400 kW	10,635	Base - Rigid Mount	X	Front-Back	8.4	5890	1954	3281
				Y	Side-Side	5.0			
				Z	Vertical	16.6			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Refer to Nomenclature for model breakdown.

Attachment Method: Six (6) - 5/8"Ø grade 5 bolts front and back (12 total)

Seismic Modifications: Enclosure modified by extending closure rod.

Test Anomaly: none

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	AC 156	2.44	0.0	2.44g	0.98g	1.63g	0.66g

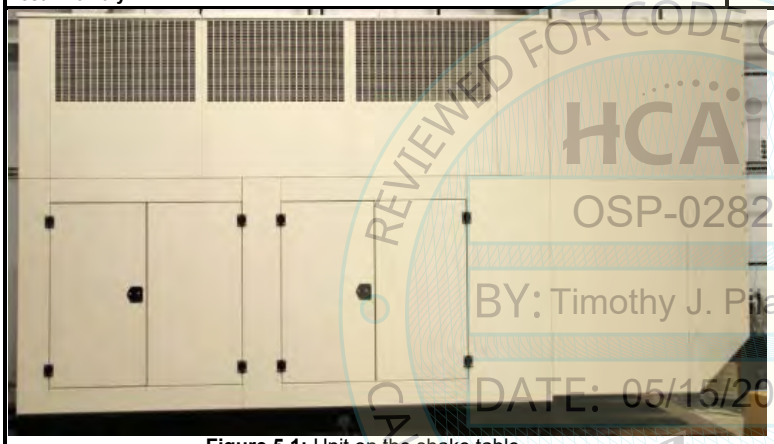


Figure 5.1: Unit on the shake table

Figure 5.2: Modification

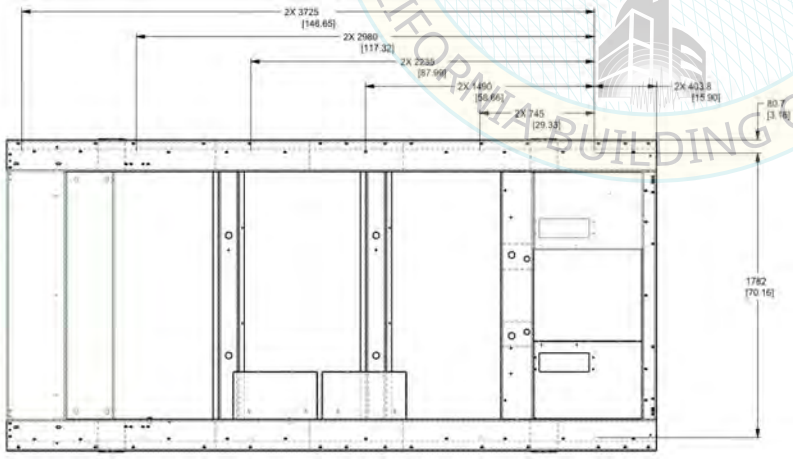


Figure 5.3: Mounting Detail

Figure 5.4: Mounting Photo

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-5 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Enclosure	n/a	E - Level 3	Generac	Aluminum
Engine	3130 lbs	G21.9L	Generac	Cast Iron
Alternator	n/a	400 kW	Generac	Steel Laminations & Cooper Windings
Mufflers	n/a	G21.9L	Generac	Aluminized Steel and Stainless Components
Radiator System	n/a	400 kW	Generac	Al (Fins) - Steel (Mounting Flanges) - Al (Tanks, Support Pl & Tubes)
Battery	n/a	153-5710	Caterpillar	Carbon steel, aluminum, copper and plastic
Control Panel	n/a	Caterpillar Control Panel	Generac	Carbon steel enclosure and electrical components

UUT-6 Test Summary

Testing Lab: University of Buffalo
Testing Report: UB CSEE/SEESL-2019-05 - Rev2
Testing Unit Num: UUT-8

Model Number	Nominal Capacity	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (mm)	Width (mm)	Height (mm)
SG0500GG3025.8S18PPEY	500 kW	15,635	Base - Rigid Mount	X	Front-Back	4.9	5890	1954	3281
				Y	Side-Side	7.0			
				Z	Vertical	13.6			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Refer to Nomenclature for model breakdown.

Attachment Method: Six (6) - 5/8"Ø grade 5 bolts front and back (12 total)

Seismic Modifications: Enclosure modified by extending closure rod.

Test Anomaly: none

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	AC 156	2.44	0.0	2.44g	0.98g	1.63g	0.66g

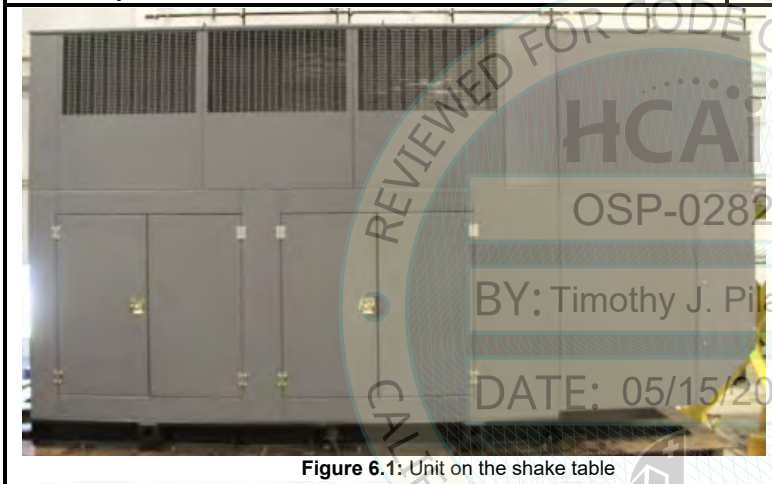


Figure 6.1: Unit on the shake table

Figure 6.2: Modification

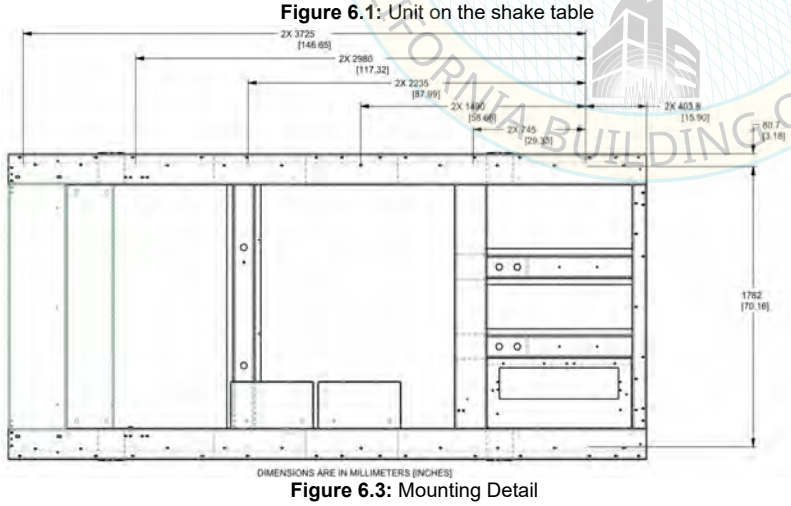


Figure 6.3: Mounting Detail

Figure 6.4: Mounting Photo

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-6 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Enclosure	n/a	E - Level 3	Generac	Aluminum
Engine	4076 lbs	G25.8L	Generac	Cast Iron
Alternator	n/a	500 kW	WEG	Steel Laminations & Cooper Windings
Mufflers	n/a	G25.8L	Generac	Aluminized Steel and Stainless Components
Radiator System	n/a	500 kW	Generac	Al (Fins) - Steel (Mounting Flanges) - Al (Tanks, Support Pl & Tubes)
Battery	n/a	COM8D-P	Exide	Carbon steel, aluminum, copper and plastic
Control Panel	n/a	Generac Control Panel	Generac	Carbon steel enclosure and electrical components