APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0594

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Kohler Power Systems

Manufacturer's Technical Representative: Brady Eifrid

Mailing Address: N7650 CTH LS, Sheboygan, WI 53083

Telephone: (920) 457-4441 Email: Brady.eifrid@kohler.com

Product Information

Product Name: Kohler Diesel

Product Model Number(s): KD610, KD700, KD750, KD800, KD900, KD1000, KD1250, KD1350, KD1500, KD1600, KD1750, KD2000, KD2250, KD2500, KD2800, KD3000, KD3250

Product Category: Emergency and Standby Power Systems

Product Sub-Category: Generators

General Description: Diesel generator sets mounted on and off tank with or without external spring isolators.

Mounting Description: Base Mounted Rigid and Spring Vibration Isolated -

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: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

Title: President

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

Company Name: THE VMC GROUP

Name: Kenneth Tarlow California License Number: S2851

Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814

Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

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

☐ Other (Please Specify):

Testing Laboratory

Company Name: U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, CONSTRUCTION ENGINEERING RESEARCH LABORATORY (CERL)

Contact Person: James Wilcoski

Mailing Address: 2902 Newmark Dr., Champaign IL 61822-1076

Telephone: (217) 352-6511 Email: ERDCinfo@usace.army.mil

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)

Contact Person: Kelly Laplace

Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

Telephone: (775) 358-5085 Email: Kelly@shaketest.com

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)

Contact Person: Amarnath Kasalanati

Mailing Address: 325 Davis Hall, Berkeley CA 94720-1729

Telephone: (510) 642-3437 Email: peer_center@berkeley.edu

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 0.9 (Rigid); 1.5 (Spring Isolated)

S_{DS} (Design spectral response acceleration at short period, g) = 2.0

a_p (Amplification factor) = 1.0 (Rigid); 2.5 (Spring Isolated)

R_p (Response modification factor) = 2.5 (Rigid); 2.0 (Spring Isolated)

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 03/20/2031

Date: 3/20/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.0 z/h = 0

Condition of Approval (if applicable):

Table 1a - Certified Gensets Off Tank

Model	Max Rating [kW]	Config.	Dimensional Data [in]			Max Weight[1] [lb]	Mounting Configuration	UUT
			Max Length	Max Width	Max Height			
KD610	610	Open	141.7	74.8	84.7	11,505	Rigid/Isolated	Extrapolated
		Open	141.5	74.8	84.8	11,650	Rigid	UUT-11
		Enclosed	262.8	74.8	136.9	15,495	Rigid/Isolated	Interpolated
KD700	700	Open	141.7	74.8	84.7	12,345		
		Enclosed	262.8	74.8	136.9	16,335		
KD750	750	Open	141.7	74.8	84.7	12,875		
		Enclosed	264.0	75.0	137.0	16,600	Rigid	UUT-12
		Enclosed	262.8	74.8	136.9	16,865	Rigid/Isolated	Interpolated
KD800	800	Open	167.2	82.7	92.2	16,440		
	800	Enclosed	303.4	103.0	131.9	23,340		
KD900	900	Open	167.2	82.7	92.2	17,131		
	900	Enclosed	303.4	103.0	131.9	24,031		
KD1000	1000	Open	167.2	82.7	92.2	17,821		
	1000	Enclosed	303.4	103.0	131.9	24,721		
KD1250	1250	Open	222.0	86.0	98.0	30,191		
	1250	Enclosed	410.2	119.2	140.9	41,671		
KD1250-A	1250	Open	203.9	86.0	98.0	30,191		
	1250	Enclosed	410.2	119.2	140.9	41,671		
KD1350	1350	Open	203.9	86.0	98.0	30,191		
	1350	Enclosed	410.2	119.2	140.9	41,671		
KD1500	1500	Open	222.0	86.0	98.0	30,191		
	1500	Enclosed	410.2	119.2	140.9	41,671		
KD1600	1600	Open	222.0	93.7	101.6	30,191		
	1600	Enclosed	410.2	119.2	140.9	41,671		
KD1750	1750	Open	222.0	93.7	101.6	30,191		
	1750	Enclosed	410.2	119.2	140.9	41,671		
KD2000	2000	Open	263.0	114.8	130.0	48,516		
	2000	Enclosed	503.0	137.0	163.0	66,344		
KD2250	2250	Open	263.0	114.8	130.0	49,222		
	2250	Enclosed	503.0	137.0	163.0	67,050		
KD2500	2500	Open	270.6	114.8	130.0	51,913		
	2500	Enclosed	500.0	137.0	163.0	70,500	Rigid	UUT-13
KD2800	2800	Open	301.0	125.0	136.0	69,240	Rigid/Isolated	Interpolated
KD2800	2800	Open	297.0	137.6	136.1	68,239		
KD3000	3000	Open	301.0	125.0	136.0	69,240		
KD3000	3000	Open	297.0	137.6	136.1	68,239		
KD3250	3250	Open	301.0	125.0	136.0	69,240	Isolated	UUT-7
KD3250	3250	Open	297.0	137.6	136.0	61,870	Isolated	UUT-14

[1]Maximum weight includes Wet Genset + Full Fuel Tank (Weight calculated with #2 Diesel)
All gensets EPA Tier 2

Table 1b - Certified Gensets On Tank

Model	Max Rating [kW]	Config.	Dimensional Data [in]			Max Weight[1] [lb]	Mounting Configuration	UUT
			Max Length	Max Width	Max Height			
KD610	610	Open	172.9	74.8	105.6	19,851	Rigid/Isolated	Extrapolated
		Enclosed	403.5	119.9	179.3	67,575		
KD700	700	Open	172.9	74.8	105.6	20,691		
		Enclosed	403.5	119.9	179.3	68,415		
KD750	750	Open	172.9	74.8	105.6	21,221		
		Enclosed	403.5	119.9	179.3	68,945		
KD800	800	Open	360.0	99.8	146.2	62,589		
	800	Enclosed	360.0	103.0	171.9	74,050	Rigid	UUT-01
	800	Enclosed	360.0	103.0	171.9	74,052	Rigid/Isolated	Interpolated
KD900	900	Open	435.0	99.8	146.2	72,636		
	900	Enclosed	435.0	103.0	171.9	77,928		
KD1000	1000	Open	435.0	99.8	146.2	73,326		
	1000	Enclosed	435.0	103.0	171.9	78,618		
KD1250	1250	Open	438.9	116.3	147.0	95,023		
	1250	Enclosed	438.9	119.2	180.9	104,120		
KD1250-A	1250	Open	438.9	116.3	147.0	95,023		
	1250	Enclosed	438.9	119.2	180.9	104,120		
KD1350	1350	Open	438.9	116.3	147.0	95,023		
	1350	Enclosed	438.9	119.2	180.9	104,120		
KD1500	1500	Open	438.9	116.3	148.0	95,023		
	1500	Enclosed	438.9	119.2	180.9	104,120		
KD1600	1600	Open	438.9	116.3	148.0	95,023		
	1600	Enclosed	438.9	119.2	180.9	104,120		
KD1750	1750	Open	438.9	116.3	148.0	95,023		
	1750	Enclosed	438.9	119.2	180.9	104,120		
KD2000	2000	Open	442.0	134.3	171.1	98,223		
	2000	Enclosed	531.0	137.0	188.0	116,051		
KD2250	2250	Open	442.0	134.3	171.1	98,929		
	2250	Enclosed	531.0	137.0	188.0	116,757		
KD2500	2500	Open	442.0	134.3	171.1	101,620		
	2500	Enclosed	531.0	137.0	207.0	120,000	Isolated	UUT-2

Notes:

[1]Maximum weight includes Wet Genset + Full Fuel Tank (Weight calculated with #2 Diesel)

All gensets EPA Tier 2

Table 2 - Certified Enclosures

Model Range	Part Number	Type	Manufacturer	Weight [lb]	UUT
KD610-750	11401085047-KA3	Aluminum Sound Level 1	Kohler	2,730	Extrapolated
	11401085047-KA1	Aluminum Sound Level 2		3,300	
	11401085047-KA2	Aluminum Sound Level 3		3,990	UUT-12
KD800-1000	114010157XX	Aluminum Sound Level 1		3,916	Interpolated
	114010035XX	Aluminum Sound Level 2		4,674	UUT-01
KD1250-1750	114010354XX	Aluminum Sound Level 1		6,346	Interpolated
	114010204XX	Aluminum Sound Level 2		8,181	
KD2000-2500 (KD62V12)[1]	114010319XX	Aluminum Sound Level 1		11,154	UUT-02
	114010263XX	Aluminum Sound Level 2		15,261	Interpolated
KD2000-2500 (KD62V12A)[1]	114011255XX	Aluminum Sound Level 1		13,311	
	114011216XX	Aluminum Sound Level 2		17,828	UUT-13

[1] Indicates the type of engine model the enclosures pairs with. Refer to table 4 for differentiation of engine m

Table 3 - Certified Tanks

Model Range	Tank Capacity (gal)	Manufacturer	Notes	Weight[1] [lb]	UUT
KD610-KD750	550	Kohler	Carbon Steel	8,623	Extrapolated
	632			8,346	
	1,279			15,033	
	2,530			28,545	
	3,785			40,212	
	5,025			52,080	
KD800-1000	918			14,428	
	1,749			21,387	
	2,793			30,076	
	3,426			37,225	
	4,158			42,878	
	5,120			51,849	UUT-01
KD1250-1750	1,549			22,484	Extrapolated
	2,605			31,044	
	2,960			33,929	
	5,076			54,033	
KD2000-2500	2,266			32,359	
	3,733			43,868	
	4,346			49,707	UUT-02

[1]Wet weight with assumed fuel density of 7lb/gal

Table 4 - Certified Engines

Model Range	Model	Manufacturer	Operating Weight [lb]	UUT
KD610-3250	KD18L06	Kohler	4,286	UUT-11, UUT-12
	KD610-KD750		4,286	Interpolated
	KD800		4,630	UUT-01
	KD900		4,630	Interpolated
	KD1000		4,630	
	KD1250		7,055	
	KD1250-A		7,055	
	KD1350		7,055	
	KD1500		9,006	
	KD1600		9,006	
	KD1750		9,006	
	KD2000 (KD62V12)[1]		22,000	
	KD2250 (KD62V12)[1]		22,000	
	KD2500 (KD62V12)[1]		22,000	UUT-02
	KD2800 (KD83V16)[1]		26,801	Inteprolated
	KD3000 (KD83V16)[1]		26,802	
	KD3250 (KD83V16)[1]		26,803	UUT-07
	KD2000 (KD62V12A)[1]		19,698	Inteprolated
	KD2250 (KD62V12A)[1]		19,698	
	KD2500 (KD62V12A)[1]		19,698	UUT-13
	KD2800 (KD83V16A)[1]		24,291	Inteprolated
	KD3000 (KD83V16A)[1]		24,292	
	KD3250 (KD83V16A)[1]		24,293	UUT-14

[1]Addtional model number included to differentiate between older generation engines (UUT-02,-07) and newer generation engines (UUT-13,-14).

Table 5 - Certified Fuel/Water Separators

Model Range	Manufacturer	Part Number	Weight [lb]	UUT
KD610-KD1750	Parker/Racor	LDP160	7	UUT-1, UUT-11, UUT-12
KD2000-KD3250	Parker/Racor	DLDP160	16	UUT-02, UUT-13, UUT-07, UUT-14

Table 6 - Certified Block Heaters

Model Range	Manufacturer	PartNumber	Weight [lb]	UUT
KD610 - KD3250	Kim Hotstart	CSM Series Style A	37	Extrapolated
		CSM Series Style B	54	UUT-01, UUT-02, UUT-07, UUT-13, UUT-14
	PTI [2]	Topstart Series[1]	35	UUT-01,UUT-02, UUT-12, UUT-13a,b

[1] Includes Control Box

[2] Carlor is now PTI

Table 7 - Certified Air Filters

Model Range	Manufacturer	Standard Duty Air Filter Assembly			Heavy Duty Air Filter Assembly		
		Part Number	Weight [lb]	UUT	Part Number	Weight [lb]	UUT
KD610-KD750	Kohler	30801168701	9	UUT-11	10801002801	44	UUT-12
KD800		10801001001	9	Extrapolated (Lower Mass than Heavy Duty)	30801086201	44	UUT-01
KD900		10801001001	9		30801086201	44	Interpolated
KD1000		10801001001	9		30801086201	44	
KD1250		10801001001	9		30801086201	44	
KD1250-A		10801001001	9		30801086201	44	
KD1350		10801001001	9		30801086201	44	
KD1500		10801001001	9		30801086201	44	
KD1600		10801001001	9		30801086201	44	
KD1750		10801001001	9		30801086201	44	
KD2000		30801168701	17		10801002801	88	
KD2250		30801168701	17		10801002801	88	
KD2500		30801168701	17		10801002801	88	UUT-02, UUT-13
KD2800		30801168701	17		10801002801	88	Interpolated
KD3000		30801168701	17		10801002801	88	
KD3250		30801168701	17		10801002801	88	UUT-07, UUT-14

Table 8A - Certified Alternators

Model Range	Part Number	Power Rating [kW]	Manufacturer	Weight [lb]	UUT
KD610-KD1750	ECO40-2L / KH02953TO4D	610	MeccAlte [branded Kohler]	3,386	Extrapolated
	ECO40-VL / KH03546TO4D	610-700		3,863	UUT-11
	ECO43-1S / KH02970TO4D	700-750		4,233	UUT-12
	ECO43-2S / KH03450TO4D	750		4,718	Interpolated
	ECO40-VL / ALT-KH03544TO4D	800		3,732	
	ECO43-1S / ALT-KH02970TO4D	800		4,123	
	ECO43-2S / ALT-KH03450TO4D	800		4,608	UUT-01
	ECO43-2S / ALT-KH03450TO4D	900		4,608	Interpolated
	ECO43-2M / ALT-KH04070TO4D	800, 900, 1000		5,225	
	ECO43-2L / ALT-KH04830TO4D	900, 1000, 1250		5,864	
	ECO43-VL / ALT-KH05520TO4D	1000		6,504	
	ECO43-VL / KH05520TO4D	1250, 1350		6,504	
	ECO46-1S / KH03850TO4D	1250, 1350, 1500		6,636	
	ECO46-1.5S / KH04590TO4D	1250, 1500, 1600		7,452	
	ECO46-2S / KH04920TO4D	1350, 1500, 1600, 1750		7,859	
	ECO46-1L / KH05740TO4D	1350, 1500, 1600, 1750		8,400	
	ECO46-1.5L / KH06400TO4D	1750		9,392	
	ECO46-2L / KH06810TO4D	1250, 1350, 1500, 1600, 1750		9,656	
	ECO46-VL / KH08200TO4D	1750		11,600	UUT-03A, UUT-03B

Table 8B - Certified Alternators

Model Range	Part Number	Power Rating [kW]	Manufacturer	Weight [lb]	UUT
KD800-KD3250	LSA 52.3 S7 / KH04970TO4D	2000	Leroy Somer [branded Kohler]	8,800	UUT-04A, UUT-04B
	LS641-L65 / KH05641TO4D	1250, 1350, 1500, 1600, 1750		9,316	Interpolated
	LS641-L70 / KH06361TO4D	2000, 2250		9,916	
	LS641-VL75 / KH06721TO4D	1250, 1350, 1500, 1600, 1750		9,316	
	LS641-VL90 / KH07620TO4D	2000, 2250		11,140	
	LS641-VL95 / KH07800TO4D	2000, 2250, 2500		11,296	
	LS642-VL95 / KH07801TO4D	2000, 2250, 2500		11,296	
	LSA52.3 L9 / KH05790TO4D	2250		9,738	
	LS841-S60 / KH06221TO4D	2000, 2250		10,254	
	LS841-M70 / KH07001TO4D	2000, 2250, 2500		10,890	
	LS841-L75 / KH07771TO4D	2000, 2250, 2500, 2800, 3250		11,768	
	LS841-VL85 / KH08431TO4D	2000, 2250, 2500, 2800, 3000, 3250		12,355	
	LS842 S60 / KH06220TO4D	2000, 2250		10,010	
	LS842 M70 / KH07000TO4D	2000, 2250, 2500		10,646	
	LSA52.3 L12 / KH06930TO4D	2000, 2250, 2500		10,836	
	LS842 L75 / KH07770TO4D	2000, 2250		11,526	
	LS842 VL85 / KH08430TO4D	2000, 2250, 2500, 2800, 3000		12,113	
	LS842 L75 / KH07770TO4D	2500		12,290	UUT-06A, UUT-06B
	LS842 L75 / KH07770TO4D	2800		12,290	Interpolated
	LS941-VL60 / KH07640TO4D	2000, 2250, 2500, 2800, 3000, 3250		19,187	Interpolated
	LS941-VL70 / KH08590TO4D	2000, 2250, 2500, 2800, 3000, 3250		19,888	UUT-14
	LS941-XL80 / KH09390TO4D	2000, 2250, 2500, 2800, 3000, 3250		20,763	Extrapolated

Table 8C - Certified Alternators

Model Range	Part Number	Power Rating [kW]	Manufacturer	Weight [lb]	UUT
KD2000-KD3250	4P6.6-2600 / KH07080TO4D	2000	Kato [branded Kohler]	13,850	UUT-05A,B
	4P6.6-2600 / KH07080TO4D, KH07081TO4D	2000		13,850	Interpolated
	4P6.6-2800 / KH07630TO4D, KH07633TO4D	2000, 2250		15,637	
	4P6.7-2975 / KH08100TO4D, KH08101TO4D	2250, 2500		17,723	UUT-13
	4P6.7-3400 / KH09270TO4D, KH09271TO4D	2000, 2250, 2500		17,820	Interpolated
	4P6.7-3400 / KH09270TO4D	2500		17,820	UUT-02
	4P6.7-3400 / KH09270TO4D, KH09271TO4D	2800		17,820	Interpolated
	4P9.X-2100 / KH06670TO4D, KH06671TO4D	2800, 3000		18,011	
	4P9.X-2400 / KH07631TO4D, KH07634TO4D	2000, 2250, 2500, 2800, 3000, 3250		19,907	
	4P9.X-2700 / KH07632TO4D, KH07635TO4D	2000, 2250, 2500, 2800, 3000, 3250		21,318	
	4P9.X-2950 / KH09370TO4D, KH09371TO4D	2800, 3000, 3250		24,030	
	4P9.X-2950 / KH09370TO4D	3250		23,324	UUT-07
	4P9.X-3200 / KH10171TO4D, KH10172TO4D	2800, 3000, 3250		25,419	Extrapolated

Table 9 - Certified Radiators

Model Range	Customer Part Number	Manufacturer	Operating Weight [lb]	UUT
KD610-KD750	50C	AKG	1,164	UUT-11, UUT-12
KD800	40C	WABTEC, [branded Kohler]	1,100	Interpolated
	50C		1,263	UUT-01
KD900	40C		1,100	Interpolated
	50C		1,376	
KD1000	40C		1,100	
	50C		1,376	
KD1250	40C		1,940	
	50C		2,291	
KD1250-A	40C		1,585	
	50C		2,022	
KD1350	40C		1,585	
	50C		2,022	
KD1500	40C		1,969	
	50C		2,291	
KD1600	40C		2,291	
	50C		2,526	
KD1750	40C		2,291	
	50C		2,526	
KD2000	40C		6,700	
	50C		7,630	
KD2250	40C		6,700	
	50C		7,630	
KD2500	40C		6,700	
	50C		7,630	UUT-02, UUT-13
KD2800	40C		12,740	Interpolated
	50C		12,740	
KD3000	40C		12,740	
	50C		12,740	
KD3250	40C		12,740	
	50C		12,570	UUT-14
			12,740	UUT-07

Table 10 - Certified Controllers

Model Range	Customer Model	Manufacturer	Weight [lb]	UUT
KD610-KD3250	APM802	Kohler	<10	UUT-01, UUT-02, UUT-12, UUT-13
	APM603: KD Small Pedestal	Kohler	<10	UUT-08A,B
	APM603: KD Large Pedestal	Kohler	<10	UUT-09A,B, UUT-11, UUT-14

Table 11 - Certified Skids

Model	Material	Manufacturer	UUT
KD610-KD750	Carbon Steel	Kohler [1]	UUT-11,
KD800			UUT-01
KD900			Interpolated
KD1000			Interpolated
KD1250, KD1250-A			Interpolated
KD1350			Interpolated
KD1500			Interpolated
KD1600			Interpolated
KD1750			Interpolated
KD2000			Interpolated
KD2250			Interpolated
KD2500			UUT-02, UUT-13
KD2800			Interpolated
KD3000			Interpolated
KD3250			UUT-07, UUT-14

[1] Kohler holds design control of skid designs. United Alloy manufactured skids for UUT-11 and UUT-12.

Table 12 - Miscellaneous Components

Model Range	Description	Model Number	MFR	Weight [lb]	UUT
KD800-3250	Oil Level Regulator	Ren Series	Cummins Filtration	9	UUT-01, UUT-02
KD610-3250	Oil Level Regulator	LM Series	Murphy	<10	UUT-12, UUT-13, UUT-14
KD800-1000	Redundant Starter(s)	KD27V12: 10702004501	Kohler	75	UUT-01
KD1250-1350	Redundant Starter(s)	KD36V16: 10702004301	Kohler	75	UUT-01
KD1500-1750	Redundant Starter(s)	KD45V20: 10702004301	Kohler	150	UUT-01
KD2000-2500	Redundant Starter(s)	10702003701, 30702250701	Kohler	141	UUT-01, UUT-13
KD2800-3250	Redundant Starter(s)	10702003701, 30702250701	Kohler	141	UUT-01, UUT-14
KD800-3250	Battery Rack (for redundant starters)	10701000345-MA1	Kohler	44	UUT-01
		10701000445-MA1		74	UUT-02
		10702002401-MA2		122	UUT-13, UUT-14
KD610-1750	Generator Heater	10210000101-KA1	Kohler	5	UUT-01
		10210000101-KA2		5	UUT-02
KD610-2500	DC Light Package	11412000300-KA1 11412000300-KA2 11412000300-KA3	Kohler	1	UUT-01, UUT-02, UUT-13
KD610-2500	Ventilating Fan	11412013600-KA3 11412014000-KA3 11412006400-KA1 11412004000-KA1 11412000500-KA1	Kohler	35	UUT-01, UUT-02, UUT13
KD610-2500	Enclosure Heater	11412006300-KA1 11412000400-KA1 11412003900-KA1	Kohler / Berko	25	UUT-01, UUT-02, UUT13
KD610-750	Motorized Air Inlet, Al	VCD-23	Greenheck	-	UUT-12
KD800-2500		Series 1000	Tamco	230	UUT-02
					INterpolated
KD800-2500	Motorized Air Inlet, Insulated Aluminum	Series 9000	Tamco	230	UUT-01, UUT-13
KD800-2500	Motorized Air Inlet, Galvanized	VCD-23	Greenheck	670	Interpolated
KD800-2500	Motorized Air Outlet, Al	Series 1000	Tamco	207	Interpolated
KD800-2500	Motorized Air Outlet, Insulated Aluminum	Series 9000	Tamco	207	Interpolated
					UUT-01
KD2000-2500	Motorized Air Outlet, Galvanized	VCD-23	Greenheck	605	UUT-13
KD610-750	Gravity Air Outlet, Al	WD-320	Greenheck	-	UUT-12
KD800-2500		Series 7000	Tamco	163	Interpolated
					UUT-02
KD610-2500	External Emergency Stop	11412013600-KA1	Kohler	25	Extrapolated
		11412014000-KA1		25	Extrapolated
		11412006500-KA1		25	UUT-01
		11412004100-KA1		25	UUT-02
		11412012900-KA1		25	UUT-13

Table 12 - Miscellaneous Components (continued)

Model Range	Description	Model Number	MFR	Weight [lb]	UUT
KD1250-1750	Stepdown Transformer	11605000900-KA2	Square D	370	Interpolated
		11605000900-KA1		395	UUT-02
KD2000-2500		11605000700-KA1		395	Interpolated
		11605000700-KA2		370	UUT-13
KD1250-2500	Transformer Disconnect Switch	11605000800-KA1	Square D	18	UUT-02
KD610-2500	5 gal OSHPD/IBC Spill Containment with 95% shutoff	GM58956-TA71	Kohler	55	UUT-01, UUT-02
KD610-2500	3 Alarm Fuel Tank Panel, FDEP, 220" Hrns (24V)	GM61192-TA34	Kohler	8	UUT-01, UUT-02
KD610-2500	High Fuel Switch (FDEP approved) (24V)	GM61192-TA26	Kohler	13	UUT-01, UUT-02
KD610-2500	Fuel in Basin switch (FDEP approved)	GM61276-TA33	Kohler	4	UUT-01, UUT-02
KD610-2500	Emergency Vent, IBC	GM84330-TA4	Clay and Bailey	22	UUT-01, UUT-02
KD6100-3250	Alternator Air Filter	10801001401-KA1 10801001501-KA1 10801002601-KA1 10201012801-KA1 10201013001-KA1 10201012801-KA1 10201013201-KA1 10201013201-KA3 10201013001-KA1	Kohler	25	UUT-01, UUT-02
KD610-3250	Battery Charger (s)	MSM-20-24V-U1	LaMarche	11	UUT-01, UUT-02, UUT-12, UUT-13, UUT-14
KD610-3250	Automatic Redundant Battery Selector	ES-82649 "ARBS-4800-150"	LaMarche	124	UUT-13

Table 13 - Circuit Breakers

Model Range	Manufacturer	Description	Alternator Range	Weight [lb]	UUT
KD800-2500	Schneider	H-Frame	120/208, 127/220, 139/240, 220/380, 240/416, 254/440, 277/480, 230/400, 240/415, 347/600	5	UUT-1
		J-Frame		5	Interpolated
		L-Frame		15	
		M-Frame		14	
		P-Frame		38	
		R-Frame		53	
		NW-Frame		180	UUT-1
KD2000-3250	Schneider	MTZ-Frame	220/380, 240/416, 277/480, 347/600	279	UUT-14
KD800-3250	ABB	Emax 2	120/208, 127/220, 139/240, 220/380, 240/416, 254/440, 277/480, 230/400, 240/415, 347/600	314	UUT-13

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-1

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KD800	Kohler

Product Construction Summary

Diesel powered electrical generator set 800 kW, Aluminum Enclosure, and 4,973 gal carbon steel tank

Options / Subcomponent Summary

Enclosure, Fuel Tank, Engine, Alternator, Radiator

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
74,050	360.0	103.0	171.9	4.0	3.8	9.3

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-1 with fuel tank was rigidly connected to the shake test fixture using (18) 7/8" diameter Grade 8 bolts. Engine and alternator were internally isolated with mounts provided by the manufacturer.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-2

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KD2500	Kohler

Product Construction Summary

Diesel powered electrical generator set 2500 kW, Aluminum Enclosure, and 4,143 gal carbon steel tank

Options / Subcomponent Summary

Enclosure, Fuel Tank, Engine, Alternator, Radiator

UUT Properties

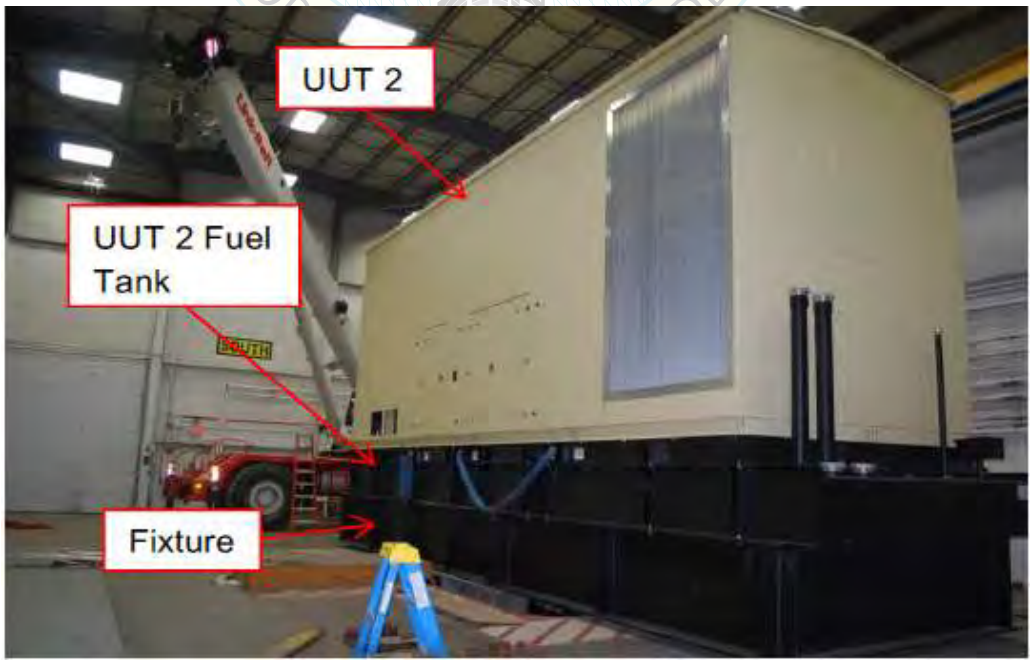
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
120,000	535.5	137.0	207.0	7.3	2.8	5.3

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-2 was isolated using (12) VMC Group M2SSH-1E-6500N spring isolators to the fuel tank. The tank was rigidly connected to the shake table using (20) 7/8" Grade 8 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-3A

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	ECO46-VL	MeccAlte

Product Construction Summary

Alternator manufactured by MeccAlte

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
11,600	81.1	37.8	57.1	25.5	23.3	25.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-3A was rigidly mounted to the shake table using (4) 20mm diameter Class 10 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-3B

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	ECO46-VL	MeccAlte

Product Construction Summary

Alternator manufactured by MeccAlte

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
11,600	81.1	37.8	57.1	29.5	24.3	29.8

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-3B was attached to the shaft fixture using (22) 20mm diameter Class 10 bolts and rigidly mounted to the shake table using (4) 20mm diameter Class10 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-4A

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KH04970TO4D	Leroy Somer

Product Construction Summary

Alternator manufactured by Leroy Somer

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8,800	64.0	42.5	58.5	13.0	11.0	30.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-4A was rigidly mounted to the shake table using (4) 20mm diameter Class 10 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-4B

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KH04970TO4D	Leroy Somer

Product Construction Summary

Alternator manufactured by Leroy Somer

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8,800	64.0	42.5	58.5	>33.3	29.0	5.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-4B was attached to the shaft fixture using (12) 5/8" diameter Grade 5 bolts and (16) M12 Class 10.9 bolts. UUT-4B was rigidly mounted to the shake table using (4) 3/4" diameter Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-5A

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KH0708TO4D	Kato

Product Construction Summary

Alternator manufactured by Kato

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
13,850	69.0	101.0	73.0	30.0	23.0	30.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-5A was rigidly mounted to the shake table using (4) 20mm diameter Class 10 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-5B

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KH0708TO4D	Kato

Product Construction Summary

Alternator manufactured by Kato

Options / Subcomponent Summary

N/A

UUT Properties

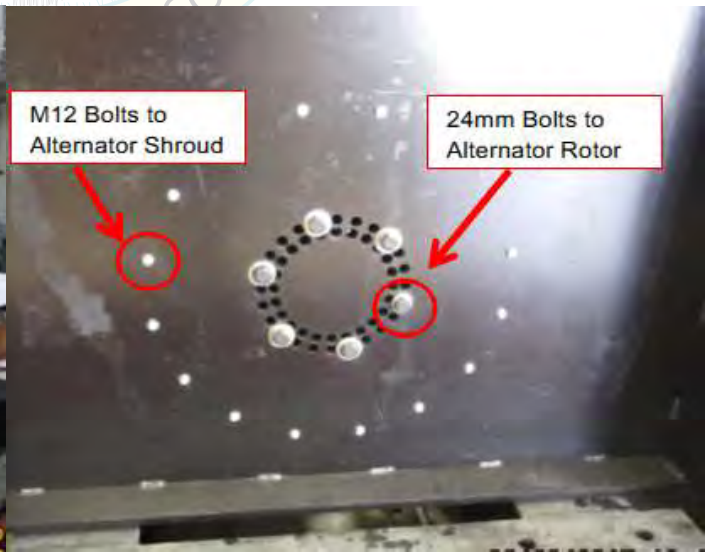
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
13,850	69.0	101.0	73.0	>33.3	21.0	31.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-5B was attached to the shaft fixture using (6) 24mm diameter Class 8.8 bolts and (16) M12 Class 10.9 bolts. UUT-5B was rigidly mounted to the shake table using (4) 3/4" diameter Grade 8 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-6A

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KH07770TO4D	Leroy Somer

Product Construction Summary

Alternator manufactured by Leroy Somer

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
12,290	53.0	95.0	59.0	12.0	27.0	20.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-6A was rigidly mounted to the shake table using (4) 20mm diameter Class 10 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-6B

Test Report: VMA-50771-01E (Test Performed at CERL, Report by VMC)

Model Line	Model Number	Manufacturer
KD	KH07770TO4D	Leroy Somer

Product Construction Summary

Alternator manufactured by Leroy Somer

Options / Subcomponent Summary

N/A

UUT Properties

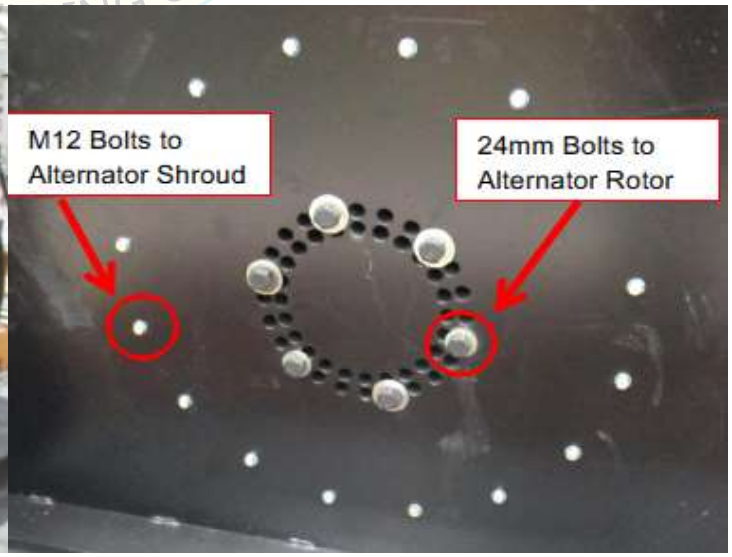
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
12,290	53.0	95.0	59.0	>33.3	21.5	19.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-6B was attached to the shaft fixture using (6) 24mm diameter Class 8.8 bolts and (16) M12 Class 10.9 bolts. UUT-6B was rigidly mounted to the shake table using (4) 3/4" diameter Grade 8 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-7

Test Report: 30561-1701 (Test Performed at CERL, Report by DCL)

Model Line	Model Number	Manufacturer
KD	KD3250	Kohler

Product Construction Summary

Diesel powered electrical generator set 3250 kW, No Enclosure and No Tank

Options / Subcomponent Summary

Engine, Alternator, Radiator

UUT Properties

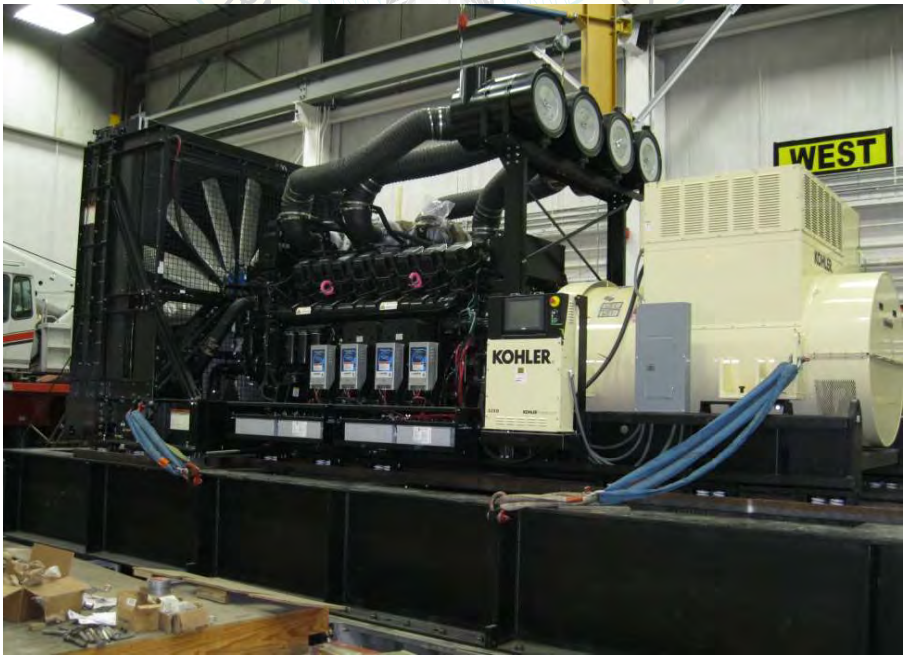
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
69,240	301.0	125.0	136.0	3.0	3.5	6.5

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-7 was isolated using (18) VMC Group M2SSH-1E-6500N spring isolators. UUT-7 was attached to the isolators using (1) 3/4" diameter Grade 8 bolt per isolator. Isolators were welded to C-Channel adaptors with 1/4" fillet welds. The C-Channel adaptors were attached to the shake table interface fixture using (48) 3/4" diameter Grade 8 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-8A

Test Report: 30827-1801 (Test Performed at DCL, Report by DCL); UUT-5A

Model Line	Model Number	Manufacturer
KD	APM603: KD Small Pedestal	Kohler

Product Construction Summary

Kohler APM603: KD Pedestal Small

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
108	29.0	8.0	54.0	32.5	11.0	>33.3

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-8A was rigidly mounted to the shake table using (4) 1/2" diameter Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-8B

Test Report: 30827-1801 (Test Performed at DCL, Report by DCL); UUT-5B

Model Line	Model Number	Manufacturer
KD	APM603: KD Small Pedestal	Kohler

Product Construction Summary

Kohler APM603: KD Pedestal Small

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
108	29.0	8.0	54.0	7.0	4.0	7.5

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-8B was mounted to the interface fixture via attached C-channel with (4) 1/2" diameter Grade 8 bolts. The table interface fixture was mounted to (4) VMC Group MSSH-1E-825N spring isolators using (4) 3/4" Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-9A

Test Report: 30827-1801 (Test Performed at DCL, Report by DCL); UUT-6A

Model Line	Model Number	Manufacturer
KD	APM603: KD Large Pedestal	Kohler

Product Construction Summary

Kohler APM603: KD Pedestal Large

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
135	30.0	13.0	48.0	9.0	7.5	18.5

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-9A was rigidly mounted to the shake table using (4) 3/8" diameter Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-9B

Test Report: 30827-1801 (Test Performed at DCL, Report by DCL); UUT-6B

Model Line	Model Number	Manufacturer
KD	APM603: KD Large Pedestal	Kohler

Product Construction Summary

Kohler APM603: KD Pedestal Large

Options / Subcomponent Summary

N/A

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
135	30.0	13.0	48.0	9.0	4.0	5.5

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-9B was mounted to the interface fixture via attached C-channel with (4) 3/8" diameter Grade 8 bolts. The table interface fixture was mounted to (4) VMC Group MSSH-1E-825N spring isolators using (4) 3/4" Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-11

Test Report: 31445-2001 (Test Performed at PEER, Report by DCL)

Model Line	Model Number	Manufacturer
KD	KD610	Kohler

Product Construction Summary

Painted Carbon Steel Skid

Options / Subcomponent Summary

Engine, Radiator (Diesel), Alternator, Controller, 12 VDC Battery, Breaker, Block Heater, Skid Base, and Air Filter

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
11,650	141.5	74.8	84.8	4.0	3.5	6.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-11 was rigidly mounted to the shake table using (10) 3/4" diameter Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-12

Test Report: 31445-2001 (Test Performed at PEER, Report by DCL)

Model Line	Model Number	Manufacturer
KD	KD750	Kohler

Product Construction Summary

Painted Carbon Steel Skid, Aluminum Enclosure

Options / Subcomponent Summary

Engine, Radiator (Diesel), Alternator, Controller, 12 VDC Battery, Breaker, Block Heater, Skid Base, Air Filter, Fuel Tank, Louvers and Light Kit

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
16,600	264.0	75.0	137.0	4.0	3.5	6.5

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	2.00	0.0	1.5	2.00	0.80	1.34	0.54
		-	-	-	-	-	-	-

Test Mounting Details

UUT-12 was rigidly mounted to the shake table using (14) 3/4" diameter Grade 8 bolts.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-13

Test Report: 22584-2301 (Test Performed at CERL, Report by DCL)

Model Line	Model Number	Manufacturer
KD	KD2500	Kohler

Product Construction Summary

Painted Carbon Steel Skid, Aluminum Enclosure

Options / Subcomponent Summary

Enclosure, Fuel/Water Separator, Block Heater, Air Filter, Radiator, Controller, Redundant Starter, Battery Rack, Motorized Air Inlet (Aluminum), Motorized Air Inlet (Galvanized), Automatic Redundant Battery Selector, Engine, Alternator

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
70,500	137.0	500.0	163.0	3.0	2.5	6.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	1.75	1.0	1.5	2.80	2.10	-	-
		2.00	0.0	1.5	-	-	1.34	0.54

Test Mounting Details

UUT-13 was rigidly mounted to the shake table using (20) 3/4" diameter Grade 8 bolts. The generator was isolated from the lifting frame with (10) VMC M2SSH-1e-6500N and (2) VMC M2SSH-1E-5980N spring isolators. Each isolator was welded to the lifting base, and the generator was attached to each isolator with (1) 3/4 Grade 8 bolt.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-13A

Test Report: 23739-2401 (Test Performed at DCL, Report by DCL)

Model Line	Model Number	Manufacturer
KD	Topstart Series	PTI

Product Construction Summary

Painted Carbon Steel Mounting Brackets

Options / Subcomponent Summary

Block Heater

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
35	10.5	17.8	20.1	8.5	27.0	27.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	1.75	1.0	1.5	2.80	2.10	-	-
		2.00	0.0	1.5	-	-	1.34	0.54

Test Mounting Details

UUT-13a was base mounted to shake table fixture brackets using (2) manufacturer-provided 0.14" thick steel mounting brackets. Manufacturer-provided mounting brackets were attached to the unit using (4) M8 Grade 8.8 hardware. The manufacturer-provided mounting brackets were attached to shake table fixture brackets using (4) M10 Grade 8.8 hardware.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-13B

Test Report: 23739-2401 (Test Performed at DCL, Report by DCL)

Model Line	Model Number	Manufacturer
KD	Topstart Series	PTI

Product Construction Summary

Painted Carbon Steel Mounting Brackets

Options / Subcomponent Summary

Block Heater

UUT Properties

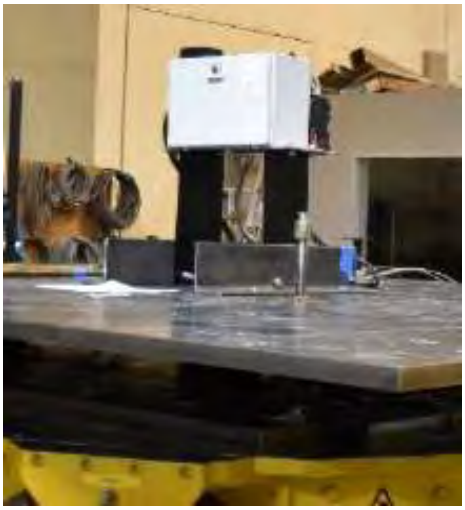
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
35	10.5	17.8	20.1	6.5	5.0	6.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	1.75	1.0	1.5	2.80	2.10	-	-
		2.00	0.0	1.5	-	-	1.34	0.54

Test Mounting Details

UUT-13b was base mounted to shake table fixture brackets using (2) manufacturer-provided 0.14" thick steel mounting brackets. Manufacturer-provided mounting brackets were attached to the unit using (4) M8 Grade 8.8 hardware. The manufacturer-provided mounting brackets were attached to shake table fixture brackets using (4) M10 Grade 8.8 hardware. The shake table interface plate was attached to the shake table using VMC MSSH-1E spring isolators.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-14

Test Report: 32366-2401 (Test Performed at CERL, Report by DCL)

Model Line	Model Number	Manufacturer
KD	KD3250	Kohler

Product Construction Summary

Painted Carbon Steel Skid

Options / Subcomponent Summary

Fuel/Water Separator, Block Heater, Air Filter, Alternator, Radiator, Engine

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
61,870	297.0	137.6	136.0	4.0	2.0	6.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2022	ICC-ES AC156	1.75	1.0	1.5	2.80	2.10	-	-
		2.00	0.0	1.5	-	-	1.34	0.54

Test Mounting Details

UUT-14 was isolated using (18) VMC Group M2SSH-1E-6150N spring isolators. The isolators were connected to the equipment using (1) 3/4 Grade 8 bolt each, and were connected to the shake table using (4) 5/8" diameter Grade 8 bolts per isolator.

All units were filled with contents and maintained structural integrity and functionality after AC-156 test.