



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

**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: Emergency and Standby Power Systems

Product Type: Generators

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

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

Mounting Description: Rigid or spring vibration isolated, on or off fuel tanks, and with or without enclosures.

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: The VMC Group

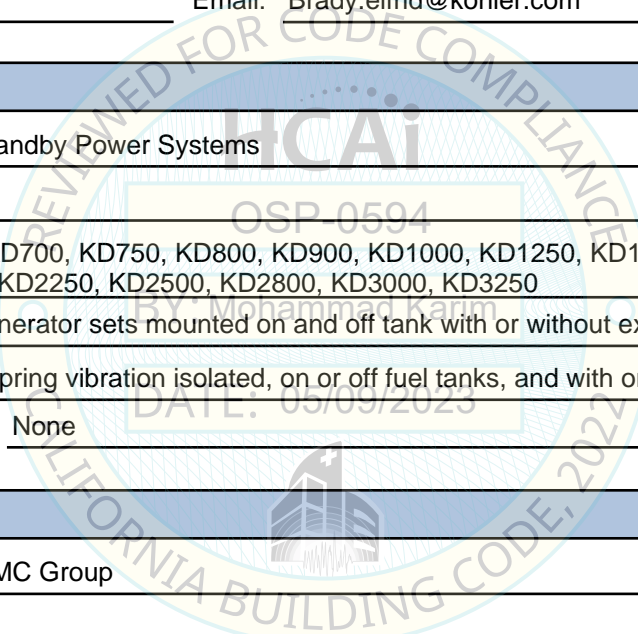
Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thvmcgroup.com

Title: President





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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) 373-6763 Email: James.wilcoski@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: Pacific Earthquake Engineering Research Center (PEER)
Contact Person: Amarnath Kasalanati
Mailing Address: 1301 South 46th St., Bldg. 420, Richmond CA 94720-1729
Telephone: (510) 642-3437 Email: Amarnath1@berkeley.edu





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Seismic Parameters

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

SDS (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 05/09/2029

Date: 5/9/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 0

Condition of Approval (if applicable): DATE: 05/09/2023

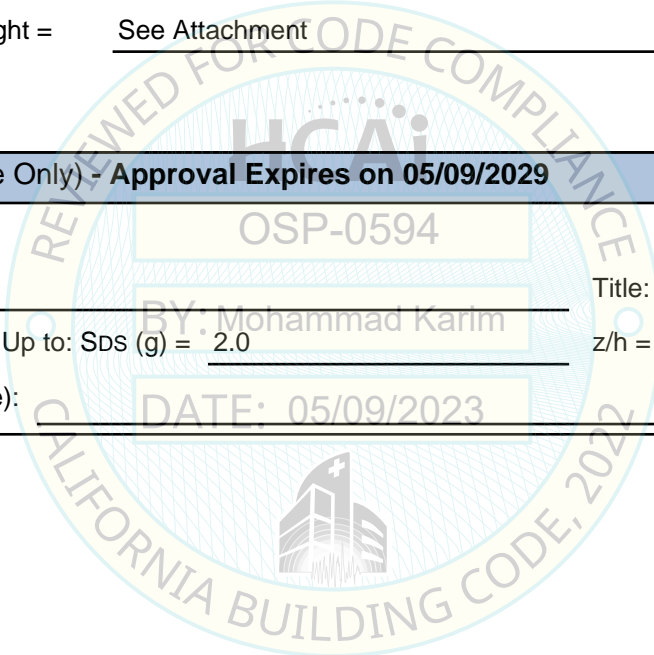


Table 1 - Certified Gensets Off Tank

Model	Max Rating [kW]	Configuration	EPA Rating	Dimensional Data [in]			Max Weight ¹ [lbs]	Mounting Configuration	UUT
				Max Length	Max Width	Max Height			
KD610	610	Open	Tier 2	141.7	74.8	84.7	11,505	Rigid/Isolated	Extrapolated
		Open	Tier 2	141.5	74.8	84.8	11,650	Rigid	UUT-11
KD700	700	Enclosed	Tier 2	262.8	74.8	136.9	15,495	Rigid/Isolated	Interpolated
		Open	Tier 2	141.7	74.8	84.7	12,345		
KD750	750	Enclosed	Tier 2	262.8	74.8	136.9	16,335	Rigid	UUT-12
		Open	Tier 2	141.7	74.8	84.7	12,875		
KD800	800	Open	Tier 2	264.0	75.0	137.0	16,600	Rigid/Isolated	Interpolated
	800	Enclosed	Tier 2	262.8	74.8	136.9	16,865		
KD900	900	Open	Tier 2	167.2	82.7	92.2	16,440		
	900	Enclosed	Tier 2	303.4	103.0	131.9	23,340		
KD1000	1000	Open	Tier 2	167.2	82.7	92.2	17,131		
	1000	Enclosed	Tier 2	303.4	103.0	131.9	24,031		
KD1250	1250	Open	Tier 2	167.2	82.7	92.2	17,821		
	1250	Enclosed	Tier 2	303.4	103.0	131.9	24,721		
KD1250-A	1250	Open	Tier 2	222.0	86.0	98.0	30,191		
	1250	Enclosed	Tier 2	410.2	119.2	140.9	41,671		
KD1350	1350	Open	Tier 2	203.9	86.0	98.0	30,191		
	1350	Enclosed	Tier 2	410.2	119.2	140.9	41,671		
KD1500	1500	Open	Tier 2	203.9	86.0	98.0	30,191		
	1500	Enclosed	Tier 2	410.2	119.2	140.9	41,671		
KD1600	1600	Open	Tier 2	222.0	86.0	98.0	30,191		
	1600	Enclosed	Tier 2	410.2	119.2	140.9	41,671		
KD1750	1750	Open	Tier 2	222.0	93.7	101.6	30,191		
	1750	Enclosed	Tier 2	410.2	119.2	140.9	41,671		
KD2000	2000	Open	Tier 2	222.0	93.7	101.6	30,191		
	2000	Enclosed	Tier 2	410.2	119.2	140.9	41,671		
KD2250	2250	Open	Tier 2	273.9	126.1	130.2	53,000		
	2250	Enclosed	Tier 2	505.5	137.0	182.0	70,349		
KD2500	2500	Open	Tier 2	273.9	126.1	130.2	53,000		
	2500	Enclosed	Tier 2	505.5	137.0	182.0	70,349		
KD2800	2800	Open	Tier 2	273.9	126.1	130.2	59,598		
KD3000	3000	Open	Tier 2	505.5	137.0	182.0	71,588		
KD3250	3250	Open	Tier 2	301.0	125.0	136.0	69,240		
	3250	Open	Tier 2	301.0	125.0	136.0	69,240	Isolated	UUT-07

Table 2 - Certified Gensets On Tank

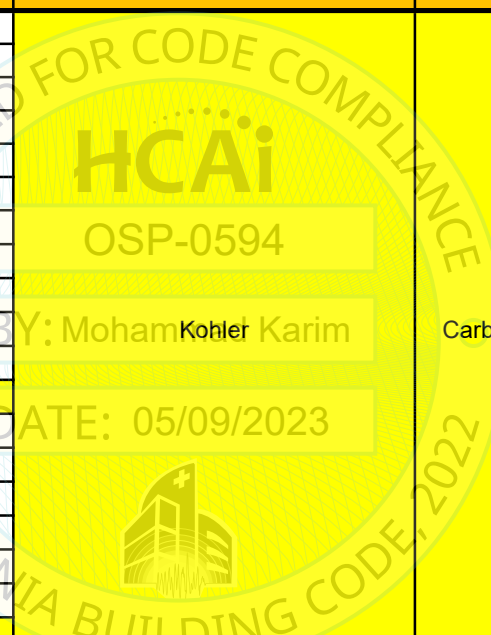
Model	Max Rating [kW]	Configuration	EPA Rating	Dimensional Data [in]			Max Weight ¹ [lbs]	Mounting Configuration	UUT		
				Max Length	Max Width	Max Height					
KD610	610	Open	Tier 2	172.9	74.8	105.6	19,851	Rigid/Isolated	Extrapolated		
		Enclosed	Tier 2	403.5	119.9	179.3	67,575				
KD700	700	Open	Tier 2	172.9	74.8	105.6	20,691				
		Enclosed	Tier 2	403.5	119.9	179.3	68,415				
KD750	750	Open	Tier 2	172.9	74.8	105.6	21,221				
		Enclosed	Tier 2	403.5	119.9	179.3	68,945				
KD800	800	Open	Tier 2	360.0	99.8	146.2	62,589				
	800	Enclosed	Tier 2	360.0	103.0	171.9	74,050			Rigid	UUT-01
KD900	900	Open	Tier 2	435.0	99.8	146.2	72,636			Rigid/Isolated	Interpolated
	900	Enclosed	Tier 2	435.0	103.0	171.9	77,928				
KD1000	1000	Open	Tier 2	435.0	99.8	146.2	73,326				
	1000	Enclosed	Tier 2	435.0	103.0	171.9	78,618				
KD1250	1250	Open	Tier 2	438.9	116.3	147.0	95,023				
	1250	Enclosed	Tier 2	438.9	119.2	180.9	104,120				
KD1250-A	1250	Open	Tier 2	438.9	116.3	147.0	95,023				
	1250	Enclosed	Tier 2	438.9	119.2	180.9	104,120				
KD1350	1350	Open	Tier 2	438.9	116.3	147.0	95,023				
	1350	Enclosed	Tier 2	438.9	119.2	180.9	104,120				
KD1500	1500	Open	Tier 2	438.9	116.3	148.0	95,023				
	1500	Enclosed	Tier 2	438.9	119.2	180.9	104,120				
KD1600	1600	Open	Tier 2	438.9	116.3	148.0	95,023				
	1600	Enclosed	Tier 2	438.9	119.2	180.9	104,120				
KD1750	1750	Open	Tier 2	438.9	116.3	148.0	95,023				
	1750	Enclosed	Tier 2	438.9	119.2	180.9	104,120				
KD2000	2000	Open	Tier 2	535.5	134.3	165.2	107,396				
	2000	Enclosed	Tier 2	535.5	137.0	207.0	120,603				
KD2250	2250	Open	Tier 2	535.5	134.3	165.2	107,396				
	2250	Enclosed	Tier 2	535.5	137.0	207.0	120,603				
KD2500	2500	Open	Tier 2	535.5	134.3	165.2	113,994				
	2500	Enclosed	Tier 2	535.5	137.0	207.0	121,295				
	2500	Enclosed	Tier 2	535.5	137.0	207.0	120,000	Isolated	UUT-02		

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

Table 2 - Certified Enclosures

Model Range	Part Number	Type	Manufacturer	Weight [lbs]	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	114010319XX	Aluminum Sound Level 1		11,154	UUT-02

Table 3 - Certified Tanks

Model Range	Usable Capacity [gallons]	Manufacturer	Notes	Weight ¹ [lbs]	UUT
KD610-KD750	491	 <p>HCAi OSP-0594 BY: Moham Kohler Karim DATE: 05/09/2023</p>	Carbon Steel	8,623	Extrapolated
	596			8,346	
	1,216			15,033	
	2,438			28,545	
	3,668			40,212	
	4,870			52,080	
KD800-1000	829			14,428	UUT-01
	1,658			21,387	
	2,690			30,076	
	3,316			37,225	
	4,035			42,878	
4,973	51,849				
KD1250-1750	1,411			22,484	Extrapolated
	2,456			31,044	
	2,821			33,929	
	4,911			54,033	
KD200-2500	2,072			32,359	UUT-02
	3,533			43,868	
	4,143	49,707			

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

Table 4 - Certified Engines

Model Range	Model	Manufacturer	Operating Weight [lbs]	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	UUT-02
	KD1750		9,006	
	KD2000		20,503	Interpolated
	KD2250		20,503	
	KD2500		20,503	UUT-02
	KD2800		24,913	Interpolated
	KD3000		24,913	
KD3250	24,913	UUT-07		

Table 5 - Certified Fuel/Water Separators

Model Range	Manufacturer	Part Number	Weight [lbs]	UUT	
KD610-KD750	Parker/Racor	LDP160	7	UUT-11, UUT-12	
KD800	Parker/Racor	LDP160	7	UUT-01	
KD900	Parker/Racor	LDP160	7	Interpolated	
KD1000	Parker/Racor	LDP160	7		
KD1250	Parker/Racor	LDP160	7		
KD1250-A	Parker/Racor	LDP160	7		
KD1350	Parker/Racor	LDP160	7		
KD1500	Parker/Racor	LDP160	7		
KD1600	Parker/Racor	LDP160	7		
KD1750	Parker/Racor	LDP160	7		
KD2000	Parker/Racor	DLDP160	16		
KD2250	Parker/Racor	DLDP160	16		
KD2500	Parker/Racor	DLDP160	16		UUT-02
KD2800	Parker/Racor	DLDP160	16		Interpolated
KD3000	Parker/Racor	DLDP160	16		
KD3250	Parker/Racor	DLDP160	16	UUT-07	

Table 6 - Certified Block Heaters

Model Range	Manufacturer	PartNumber	Weight [lbs]	UUT
KD610 - KD3250	Kim Hotstart	CSM Series Style A	37	Extrapolated
		CSM Series Style B	54	UUT-01, UUT-02, UUT-07
	PTI ²	Topstart Series ¹	29	UUT-01,UUT-02, UUT-12

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 [lbs]	UUT	Part Number	Weight [lbs]	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
KD2800		30801168701	17		10801002801	88		Interpolated
KD3000		30801168701	17		10801002801	88		
KD3250		30801168701	17		10801002801	88		UUT-07

Table 8A - Certified Alternators

Model Range	Part Number	Power Rating [kW]	Weight [lbs]	Manufacturer	UUT
KD610- KD1750	ECO40-2L / KH02953TO4D	610	3,386	MeccAlte [branded Kohler]	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		UUT-01
	ECO43-2S / ALT-KH03450TO4D	800	4,608		
	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		UUT-03A,B
	ECO46-VL / KH08200TO4D	1750	11,600		

Table 8B - Certified Alternators

Model Range	Part Number	Power Rating [kW]	Weight [lbs]	Manufacturer	UUT
KD800- KD3000	LSA 52.3 S7 / KH04970TO4D	2000	8,800	Leroy Somer [branded Kohler]	UUT-04A,B
	LS641-L65 / KH05641TO4D	1250, 1350, 1500, 1600, 1750	9,316		Interpolated
	LS641-VL75 / KH06721TO4D				
	LSA52.3 L9 / KH05790TO4D	2250	9,738		
	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		
LS842 L75 / KH07770TO4D	2800	12,290	Interpolated		

Table 8C - Certified Alternators

Model Range	Part Number	Power Rating [kW]	Weight [lbs]	Manufacturer	UUT	
KD2000- KD3250	4P6.6-2600 / KH07080TO4D	2000	13,850	Kato [branded Kohler]	UUT-05A,B	
	4P6.6-2800 / KH07630TO4D	2000, 2250	15,637		Interpolated	
	4P6.7-2975 / KH08100TO4D	2250, 2500	17,723			
	4P6.7-3400 / KH09270TO4D	2000, 2250	17,820		UUT-02	
	4P6.7-3400 / KH09270TO4D	2500	17,820			
	4P6.7-3400 / KH09270TO4D	2800	17,820		Interpolated	
	4P9.X-2100 / KH06670TO4D	2800, 3000	18,328			
	4P9.X-2400 / KH07631TO4D	2800, 3000, 3250	20,224			
	4P9.X-2700 / KH07632TO4D	2800, 3000, 3250	21,724			
	4P9.X-2950 / KH09370TO4D	2800, 3000	23,324			
	4P9.X-2950 / KH09370TO4D	3250	23,324			UUT-07

Table 9 - Certified Radiators

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

Table 10 - Certified Controllers

Model Range	Customer Model	Weight [lbs]	Manufacturer	UUT
KD800-KD3250	APM802	<10	Kohler	UUT-01, UUT-02, UUT-12
	APM603: KD Small Pedestal	<10	Kohler	UUT-08A,B
	APM603: KD Large Pedestal	<10	Kohler	UUT-09A,B, UUT-11

Table 11 - Certified Skids

Model	Material	Manufacturer	UUT
KD610-KD750	Carbon Steel	Kohler ¹	UUT-11, UUT-12
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
KD2800			Interpolated
KD3000			Interpolated
KD3250			UUT-07

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	Weight [lbs]	MFR	UUT
KD800-3250	REN Oil Level Regualtor	Real Series	9	Cummins Filtration	UUT-01, UUT-02
KD610-KD3250	Oil Lever Regulator	LM Series	-	Murphy	UUT-12
KD800-3250 KD800-1000	Redundant Starter(s)	KD27V12: 10702004501	75	Kohler	UUT-01
KD1250-KD1350	Redundant Starter(s)	KD36V16- 10702004301	75	Kohler	UUT-01
KD1500-KD1750	Redundant Starter(s)	KD45V20: 10702004301	150	Kohler	UUT-01
KD2000-2500	Redundant Starter(s)	KD62V12: 10702003701	141	Kohler	UUT-01
KD2800-3250	Redundant Starter(s)	KD83V16: 10702003701	141	Kohler	UUT-01
KD800-3250	Battery Rack (for redundant starters)	10701000345-MA1	44	Kohler	UUT-01
		10701000445-MA1	74		UUT-02
KD610-3250	Generator Heater	10210000101-KA1	5	Kohler	UUT-01
		10210000101-KA2	5		UUT-02
KD610-2500	DC Light Package	11412000300-KA1 11412000300-KA2 11412000300-KA3	1	Kohler	UUT-01, UUT-02
KD610-2500	Ventilating Fan	11412013600-KA3 11412014000-KA3 11412006400-KA1 11412004000-KA1 11412000500-KA1	35	Kohler	UUT-01, UUT-02
KD610-2500	Enclosure Heater	11412006300-KA1 11412000400-KA1 11412003900-KA1	25	Kohler / Berko	UUT-01, UUT-02
KD610-KD750	Motorized Air Inlet, Al	VCD-23	-	Greenheck	UUT-12
KD800-2500		Series 1000	207	Tamco	UUT-02
KD800-2500	Motorized Air Inlet, Insulated Aluminum	Series 9000	207	Tamco	UUT-01
KD800-2500	Motorized Air Outlet, Al	Series 1000	207	Tamco	Interpolated
KD800-2500	Motorized Air Outlet, Insulated Aluminum	Series 9000	207	Tamco	UUT-01
KD610-750	Gravity Air Outlet, Al	WD-320	-	Greenheck	UUT-12
KD800-2500		Series 7000	163	Tamco	UUT-02
KD610-2500	External Emergency Stop	11412013600-KA1	25	Kohler	Extrapolated
		11412014000-KA1	25		Extrapolated
		11412006500-KA1	25		UUT-01
		11412004100-KA1	25		UUT-02
KD1250-2500	Stepdown Transformer	11605000900-KA2	370	Square D	Interpolated
		11605000900-KA1	395	Square D	UUT-02
KD1250-2500	Transformer Disconnect Switch	11412007700-KA4	18	Square D	UUT-02
KD610-2500	5 gal OSHPD/IBC Spill Containment with 95% shutoff	GM58956-TA71	55	Kohler	UUT-01, UUT-02
KD610-2500	3 Alarm Fuel Tank Panel, FDEP, 220" Hrns (24V)	GM61192-TA34	8	Kohler	UUT-01, UUT-02
KD610-2500	High Fuel Switch (FDEP approved) (24V)	GM61192-TA26	13	Kohler	UUT-01, UUT-02
KD610-2500	Fuel in Basin switch (FDEP approved)	GM61276-TA33	4	Kohler	UUT-01, UUT-02
KD610-2500	Emergency Vent, IBC	GM84330-TA4	22	Clay and Bailey	UUT-01, UUT-02
KD6100-3250	Alternator Air Filter	10801001401-KA1 10801001501-KA1 10801002601-KA1 10201012801-KA1 10201013001-KA1 10201012801-KA1 10201013201-KA1 10201013001-KA1	25	Kohler	UUT-01, UUT-02
KD610-3250	Battery Charger (s)	MSM-20-24V-U1	11	LaMarche	UUT-01, UUT-02, UUT-12



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

Test Report: VMA-50771-01E

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

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

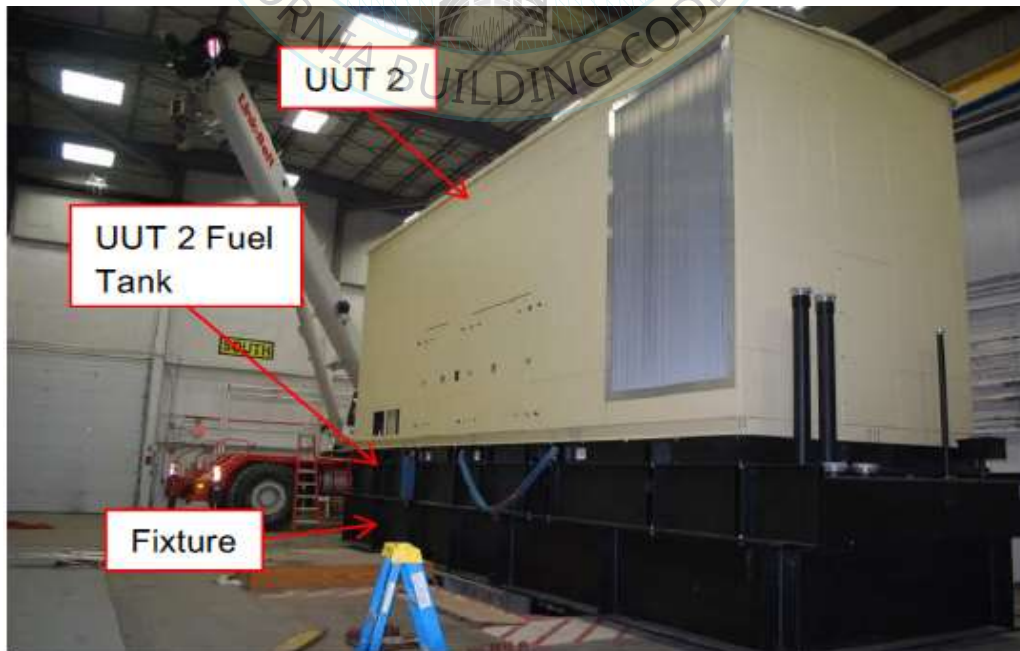
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
120,000	535.5	137.0	207.0	7.3	2.8	5.3

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

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

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

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

Model Line	Model Number	Manufacturer
KD	KH04970TO4D	Leroy Somer

Product Construction Summary

Alternator manufactured by Leroy Somer

Options / Subcomponent Summary

N/A

UUT Properties

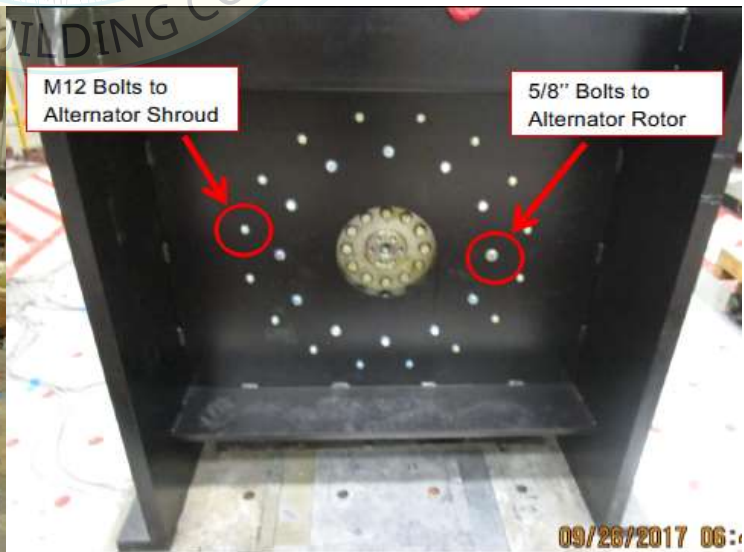
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8,800	64.0	42.5	58.5	>33.3	29.0	5.0

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

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

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

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

Model Line	Model Number	Manufacturer
KD	KH07770TO4D	Leroy Somer

Product Construction Summary

Alternator manufactured by Leroy Somer

Options / Subcomponent Summary

N/A

UUT Properties

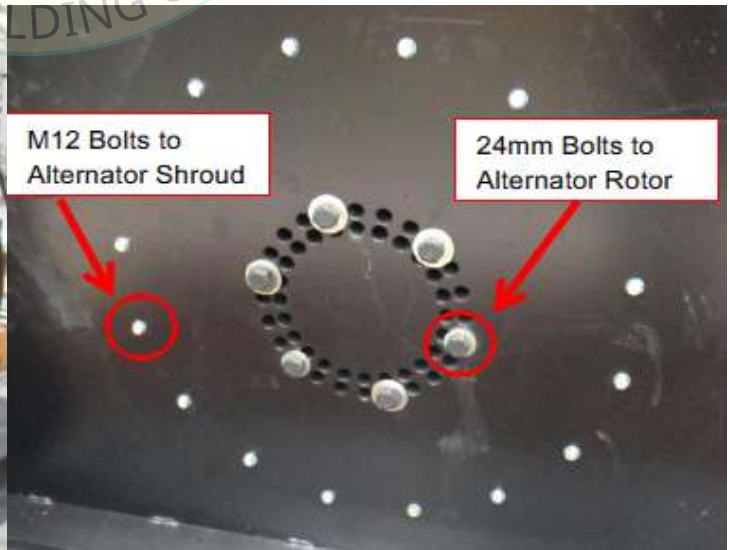
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
12,290	53.0	95.0	59.0	>33.3	21.5	19.0

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

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; 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; 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; 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; 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

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

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.