

APPLICATION FOR OSHPD SPECIAL SEISMIC	OFFICE USE ONLY
CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #: OSP – 0623
OSHPD Special Seismic Certification Preapproval (OSP)	
Type: ⊠ New □ Renewal	
Manufacturer Information	
Manufacturer: Cummins Power Generation	
Manufacturer's Technical Representative: B.S. Raghukumar	
Mailing Address: 1400 73 <sup>rd</sup> Ave N.E. Fridley, MN 55432 USA	
Telephone: (763) 574-3302 Email: b.s.rag	hukumar@cummins.com
Product Information	MA
Product Name: Hercules Automatic Transfer Switch	T <sub>1</sub>
Product Type: Automatic Transfer Switch OSP-0623	The state of the s
Product Model Number: See Attachment (List all unique product identification numbers and/or part numbers) hammad Alia	
General Description:  _Automatic Transfer Switches for transferring por 1/3R/4/12/4X rating, 1200A-3000A. Seismic enhancements made to transfers anomalies observed during the tests shall be incorporated into the component of th	ower between utility and generator. NEMA he test units and modifications required to
Mounting Description: Rigid base mounted	20
Applicant Information	.00
Applicant Company Name: Structural Integrity Associates, Inc. dba TF	RU Compliance
Contact Person: Andrew Coughlin, SE	
Mailing Address: 5215 Hellyer Ave, Suite 210, San Jose, CA 94608	
Telephone: (844) 878-0200 Email: <u>acough</u>	nlin@structint.com
I hereby agree to reimburse the Office of Statewide Health F accordance with the California Administrative Code, 2016.	Planning and Development review fees in
Signature of Applicant:	Date: _10/11/2019
Title: Director, TRU Compliance Company Name: Structu	ıral Integrity Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





Page 1 of 3

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)
Company Name: _Structural Integrity Associates, Inc. dba TRU Compliance
Name: Andrew Coughlin, SE California License Number: S6082
Mailing Address: 5215 Hellyer Ave, Suite 210, San Jose, CA 94608
Telephone: (844) 878-0200 Email: acoughlin@structint.com
Supports and Attachments Preapproval
<ul> <li>Supports and attachments are preapproved under OPM-         (Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)</li> <li>Supports and attachments are not preapproved</li> </ul>
Certification Method
<ul> <li>☐ Testing in accordance with:</li> <li>☐ Other (Please Specify):</li> </ul> OSP-0623
BY: Mohammad Aliaari
Testing Laboratory DATE: 12/08/2020
Company Name: Seismic Test Co.
Contact Name: Matt Settergren
Mailing Address: 5959 Trenton Lane N., Plymouth, MN 55442
Telephone: (763) 551-7535 Email: msettergren@tcf.com



Page 2 of 13

12/08/2020

OSP-0623



# OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Seismic Parameters
Design in accordance with ASCE 7-10 Chapter 13: ⊠ Yes ☐ No
Design Basis of Equipment or Components $(F_p/W_p) = 1.39 (S_{DS} = 1.85g); 1.33 (S_{DS} = 2.96g)$
S <sub>DS</sub> (Design spectral response acceleration at short period, g) = 1.85g (z/h = 1.0); 2.96g (z/h = 0.0)
a <sub>p</sub> (In-structure equipment or component amplification factor) =
R <sub>p</sub> (Equipment or component response modification factor) =6.0
$\Omega_0$ (System overstrength factor) =2.0
I <sub>p</sub> (Importance factor) = 1.5
z/h (Height factor ratio) = 1.0 (S <sub>DS</sub> = 1.85g); 0.0 (S <sub>DS</sub> = 2.96g)
Equipment or Component Natural Frequencies (Hz) = See Attachment
Overall dimensions and weight (or range thereof) = See Attachment
Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15:   Yes  No
Design Basis of Equipment or Components (V/W) =
S <sub>DS</sub> (Design spectral response acceleration at short period, g) =
S <sub>D1</sub> (Design spectral response acceleration at 1 second period, g) =
R (Response modification coefficient ) =
Ω <sub>0</sub> (System overstrength factor) = By: Mohammad Aliaari
C <sub>d</sub> (Deflection amplification factor) =
I <sub>P</sub> (Importance factor) = 1.5 DATE: 12/08/2020
Height to Center of Gravit <mark>y above</mark> base =
Equipment or Component Natural Frequencies (Hz) =
Overall dimensions and weight (or range thereof) =
Tank(s) designed in accordance with ASME BPVC, 2015:   Yes No
List of Attachments Supporting Special Seismic Certification
☐ Test Report(s) ☐ Drawings ☐ Calculations ☐ Manufacturer's Catalog
☐ Other(s) (Please Specify): Product and Subcomponent Matrices, UUT Summaries
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025
11 11:
Signature: Date: December 08, 2020
Print Name: Mohammad Aliaari Title: Senior Structural Engineer
Special Seismic Certification Valid Up to : $S_{DS}(g) = \underline{See \ Above}$ $z/h = \underline{See \ Above}$
Condition of Approval (if applicable):

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





Page 3 of 3

# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

### 1801393-CR-001-R1



Manufacturer: Cummins Power Generation

Model Line: CXR Automatic Transfer Switches

TABLE 1

Certified Product Construction Summary:

Enclosure Material: Carbon and Stainless Steels (12 gage)

**Certified Options Summary:** 

Amperage: 1200-3000 Voltage: 208, 480, 600 NEMA Rating: 1, 3R, 4, 12, 4X

**Mounting Configuration:** 

Base mounted - rigid

Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019

Seismic Certification Limits:

 $S_{DS} = 1.85 g$  z/h=1.0  $S_{DS} = 2.96 g$  z/h=0.0

I<sub>P</sub>= 1.5

Model	Model	Dimensions (in) OSP-0			Weight	Ten <sup>1</sup>	Notes	UUT	
Line	Model	Depth	Width	Height	CG Height	(lb)	(lb)	Notes	001
		48.9	39.6	R 89.6	oha <del>17</del> nma	1432	ri 1700	Carbon Steel, NEMA 1	2
	CXRE8,	48.9	39.6	89.6	47	1600	1899	Carbon Steel, NEMA 3R	Interp.
	3 poles	46.6	39.1	90.1	124700/	1400	1683	Carbon Steel, NEMA 4, & 12	Interp.
		46.6	39.1	90.1	47	1300	1563	Stainless Steel, NEMA 4X	Interp.
		48.9	39.6	89.6	47	1700	2018	Carbon Steel, NEMA 1	Interp.
	CXRE8, 4 poles	48.9	39.6	89.6	47	1800	2136	Carbon Steel, NEMA 3R	Interp.
		46.6	39.1	90.1	47	1000	1202	Carbon Steel, NEMA 4, & 12	Interp.
	46.6	39.1	90.1	47	1500	1803	Stainless Steel, NEMA 4X	Interp.	
		57.6	47	89.6	47	2100	2100	Carbon Steel, NEMA 1	Interp.
CXR	CXRF8,	57.6	47	89.6	47	2200	2200	Carbon Steel, NEMA 3R	Interp.
CAR	3 poles	55.1	46.4	90.1	47	2000	2026	Carbon Steel, NEMA 4, & 12	Interp.
		55.1	46.4	90.1	47	1850	1874	Stainless Steel, NEMA 4X	Interp.
		57.6	47	89.6	47	2300	2300	Carbon Steel, NEMA 1	Interp.
	CXRF8,	57.6	47	89.6	47	2400	2400	Carbon Steel, NEMA 3R	Interp.
	4 poles	55.1	46.4	90.1	47	2200	2228	Carbon Steel, NEMA 4, & 12	Interp.
		55.1	46.4	90.1	47	1854	1878	Stainless Steel, NEMA 4X	Interp.
		57.6	47	89.6	47	2200	2200	Carbon Steel, NEMA 1	Interp.
	CXRG8,	57.6	47	89.6	47	2300	2300	Carbon Steel, NEMA 3R	Interp.
	3 poles	55.1	46.4	90.1	47	2000	2026	Carbon Steel, NEMA 4, & 12	Interp.
		55.1	46.4	90.1	47	1854	1878	Stainless Steel, NEMA 4X	3

Additional Notes:

Ten = Weight\*CG Height/Smaller of Depth and Width

# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX





Manufacturer: Cummins Power Generation

Model Line: CXR Automatic Transfer Switches

TABLE 1

**Certified Product Construction Summary:** 

Enclosure Material: Carbon and Stainless Steels (12 gage)

**Certified Options Summary:** 

Amperage: 1200-3000 Voltage: 208, 480, 600 NEMA Rating: 1, 3R, 4, 12, 4X

**Mounting Configuration:** 

Base mounted - rigid

Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019

Seismic Certification Limits:

 $S_{DS} = 1.85 g$  z/h=1.0  $S_{DS} = 2.96 g$  z/h=0.0

I<sub>P</sub>= 1.5

CXRG8, -4 poles -	Depth 57.6	Width	Height	CG Height	/		Notes	UUT	
	57.6	4.7		Co neight	t (lb)	(lb)	\		
		47	R89.6	oha <del>17</del> nma	2400	2400	Carbon Steel, NEMA 1	Interp.	
4 poles	57.6	<b>4</b> 7	89.6	47	2500	2500	Carbon Steel, NEMA 3R	Interp.	
	55.1	46.4	90.1	124700/	2300	2330	Carbon Steel, NEMA 4, & 12	Interp.	
CXRH8,	65	55.2	89.6	47	2500	2129	Carbon Steel, NEMA 1	Interp.	
3 poles	65	55.2	89.6	47	2600	2214	Carbon Steel, NEMA 3R	Interp.	
CXRH8,	65	55.2	89.6	47	2900	2469	Carbon Steel, NEMA 1	Interp.	
4 poles	65	55.2	89.6	47	2980	2537	Carbon Steel, NEMA 3R	1	
			VIA	- Tannaki Iza	ING C	0.			
				BUILL	MAG				
	3 poles CXRH8,	3 poles 65 CXRH8, 65 4 poles 65	3 poles 65 55.2 CXRH8, 65 55.2 4 poles 65 55.2	3 poles 65 55.2 89.6 CXRH8, 65 55.2 89.6 4 poles 65 55.2 89.6	3 poles 65 55.2 89.6 47 4 poles 65 55.2 89.6 47	3 poles 65 55.2 89.6 47 2900 CXRH8, 65 55.2 89.6 47 2980 4 poles 65 55.2 89.6 47 2980	3 poles 65 55.2 89.6 47 2900 2469 4 poles 65 55.2 89.6 47 2980 2537	3 poles 65 55.2 89.6 47 2600 2214 Carbon Steel, NEMA 3R CXRH8, 65 55.2 89.6 47 2900 2469 Carbon Steel, NEMA 1 4 poles 65 55.2 89.6 47 2980 2537 Carbon Steel, NEMA 3R	

Additional Notes:

<sup>1</sup>Ten = Weight\*CG Height/Smaller of Depth and Width

## **SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX**

### 1801393-CR-001-R1



Manufacturer: **Table Description:** Various Subcomponents **Cummins Power Generation TABLE 2** Model Line: **CXR Automatic Transfer Switches** 

 $S_{DS} = 1.85 g z/h = 1.0$ **Building Code: CBC 2019**  $I_P = 1.5$ **Seismic Certification Limits:** 

			$S_{DS} = 2.96 g  z/h = 0.0$	r	
Component Type	Manufacturer	Model PRCODE	Description	Notes	UUT
Controller	Cummins	PC80 Level 2 Contro	ller, E <mark>lectronics &amp;</mark> Plastic	under 10 lbs., 10 amps	1-3
		CXRE8 3 pole		Weight: 400 lbs.	2
		CXRF8 3 pole		Weight: 600 lbs.	Interp
		CXRG8 3 pole - 062	23	Weight: 800 lbs.	3
Transfer Switch	Cummins	CXRH8 3 pole	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Weight: 1000 lbs.	Interp.
Transier Switch		CXRE8 By 4 pole mad	Aliaari WWW	Weight: 600 lbs.	Interp.
		CXRF8 4 pole		Weight: 800 lbs.	Interp.
		CXRG8 4 pole	120	Weight: 1000 lbs.	Interp.
		CXRH8 DATE 4 pole	)20	Weight: 1200 lbs.	1
	Cummins	A060P743 Accessory for 3	3 pole E -Frame TS		2
Solid Neutral		A060U561 Accessory for 3	A060U561 Accessory for 3 pole F/G -Frame TS		3
		A058X344 Accessory for 3	3 pole H -Frame TS		1
Transformer	Hammond HPS	PH500SP Transformer for	o <mark>r heat accessory</mark>	Weight: 14 lbs	2
Transformer	Hammond HPS	PF500MBMH Transformer for	or heat accessory	Weight: 16 lbs	1
Thermostat	Stego	01160.0-00 Thermostat fo	r heater	under 10 amps and lbs	1, 2
Heater	Stego	02810.9-00 Heater		under 10 amps and lbs	1, 2
		N/A Display for Sur	ge Device	Weight: 0.5 lbs	1, 3
Surge Suppressor	Square D	TVS8HIMA18O1 Surge Suppres	sor	Weight: 8.4 lbs	3
		TVS9IMA18O1 Surge Suppres	sor	Weight: 8.4 lbs	1
	Electroswitch Co.	78PJ03A-011 Lockout Relay			1, 2
Protective Relays	Basler Electric	BE1-32R-E2E-E1R-A0N1F Power Relay			1, 2
	Time Mark Co.	360-24V1SEC Timing Relay			1, 2

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

### 1801393-CR-001-R1



Manufacturer: Cummins Power Generation Table Description: Various Subcomponents

Model Line: CXR Automatic Transfer Switches

TABLE 2

Building Code: CBC 2019 Seismic Certification Limits:  $S_{DS} = 1.85 \text{ g} \quad z/h = 1.0$   $S_{DS} = 1.85 \text{ g} \quad z/h = 0.0$ 

Building Code: CBC 201	9	Seismic Certification Limits: $S_{DS} = 2.96  \text{g}$ $z/h = 0.0$							
Component Type	Manufacturer	Model	R CODE Description	Notes	UUT				
		A061V064	E-Frame, 3-P & 4-P, 600V		Extrap.				
		A059 <mark>B822</mark>	H&F-Frame 3-P, G-Frame 3-P & 4-P, 600V		Extrap.				
		A059B832	H-Frame 4-P, 600V		Extrap.				
		A061V062	E-Frame, 3-P & 4-P, 480V		2				
		A059B794	H&F-Frame 3-P, G-Frame 4-P, 480V		Interp.				
Calamaid	Cumanaina	A056H913 <sub>BV</sub> . N	E-Frame, 3-P & 4-P, 208V		Interp.				
Solenoid	Cummins	A054M111	H&F-Frame 3-P, G-Frame 4-P, 208V		Interp.				
		A055L403	H-Frame 4-P, 208V		Interp.				
		A063H825	F-Frame 4-P, G-Frame 3-P, 480V		3				
		A063H826	F-Frame 4-P, G-Frame 3-P, 208V		Interp.				
		A063H827	F-Frame 4-P, G-Frame 3-P, 600V		Interp.				
		A059B800	H-Frame 4-P, 480V		1				
Manual Switch	Cummins	A059A165	Manual Lock Switch/Actuator		1,3				
	Crydom	H16WD6050G	Solid State Relay		1				
Solid State Relays	TE	SSR-480D50R	Solid State Relay		1				
	Allen Bradley	700-SH25VZ25	Solid State Relay		1				

Page 7 of 13

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

### 1801393-CR-001-R1



Manufacturer: Cummins Power Generation Table Description: Enclosures

Model Line: CXR Automatic Transfer Switches

TABLE 3

Building Code: CBC 2019 Seismic Certification Limits:  $S_{DS} = 1.85 g \quad z/h = 1.0$  $S_{DS} = 2.96 q \quad z/h = 0.0$ 

<b>Model Line</b>	Model	Di	mension (	in)	Weight	DE CO Material	Notes	UUT	
(Manufacturer)	Model	Depth	Width	Height	(lb)	Material	Notes		
	Transfor Switch	48.9	39.6	89.6	600			2	
Cummins	Transfer Switch Enclosure	57.6	47	89.6	840	Carbon Steel	NEMA 1 & 3R	Inter	
	Liiciosare	65	55.2	89.6	1110			1	
		46.6	39.1	90.1	696 -	0623 Carbon Steel	NEMA 4 & 12	Inter	
Hoffman	Transfer Switch	55.1	46.4	90.1	850	Carbon Steet	NEMA 4 & 12	Inter	
Hollman	Enclosure <sup>1</sup>	46.6	39.1	90.1	loh733nn	nad Alistainless Steel	NEMA 4X	Inter	
		55.1	46.4	90.1	895	Stainless Steel	NEMA 4X	3	
			<b>V</b>	DATE	12/00	3/2020			
			\ \	DATE	. 12/00	0/2020			
			131		+	73/			
						B			
				00		3 00°.			
				11/1/	THE THE PARTY OF T	in G			
					BUL	DINO			

Additional Notes:

 $^1$ No differences between construction of the stainless and carbon steel enclosures other than material used to construct the enclosure.

Page 8 of 13





Manufacti Model Line						
UUT	Unit Description	Report Number	Testing Laboratory	S <sub>DS</sub>	z/h	I <sub>P</sub>
1	H-Frame, Carbon Steel, NEMA 3R	1801393-TR-001 R2	Seismic Test Co.	1.85	1.0	1.5
				2.96	2.96     0.0       2.0     1.0	
2	E-Frame, Carbon Steel, NEMA 1	1801393-TR-001 R2	Seismic Test Co.	3.2	0.0	1.5
	G-Frame, Stainless Steel, NEMA			2.0	1.0	
3	4X	1801393-TR-001 R2	Seismic Test Co.	3.2	0.0	1.5
		EDFOR CODE C	OMP			
	<u>u</u>	OSHPD	1			
	REL	OSP-0623	CE CE			
		BY: Mohammad Al	iaari			
	0					
	C	DATE: 12/08/2020	100			
		Op.	OF			
		NIA BUILDING	CO			
Notes:						





**UUT 1** 

### 1801393-CR-001-R1

Manufacturer: Cummins Power Generation

Model Line: CXR Automatic Transfer Switches

Model Number: CXRH8, 4 Pole Serial Number: N/A

**Product Construction Summary:** 

12 Gage Carbon Steel Enclosure

#### **Options/Subcomponent Summary:**

Controller: Cummins PC80; Transfer Switch: Cummins 4 Poles A/B/C/N; Solid Neutral: Cummins; Transformer: (1) Hammond HPS & (3) Micron; Power Supply: Delta Electric; Heater: Stego; Thermostat: Stego; Fuse Holder: Ferraz Shawmut; Power Monitoring: Shneider Power Logic Meter, Cummins; Surge Suppressor: Square D Display, Square D Suppressor; Protective Relays: Electrosswitch Co. Lockout Relay, Basler Electric Power Relay, Time Mark Co. Timing Relay; Solenoid: Cummins; Manual Switch: Cummins; Solid State Relays: Crydom, TE, Allen Bradley; NEMA Rating: 3R; Amperage: 2600-3000; Voltage: 480V

		4,	<b>UUT Properties</b>		16						
Weight		Dimension (in)	OSP-0623	Lowest Natural Frequency (Hz)							
(lb)	Depth	Width	Height	Front	Front-Ba <mark>ck</mark>		-Side	Vertical			
2980	65	55.2 <sub>BV</sub> .	Iohar <sup>89,6</sup> ad Ali	aari 2	5.7	6.3		7.1			
		UUT Highest	Passed Seismic Run	Informa	tion			,			
Buildi	ng Code	Test Criter	ia S <sub>DS</sub> (g)	z/h I <sub>P</sub>		A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)		
CDC	CBC 2019		1.85	1.0	1,5	2.00	2.22		0.70		
CBC			2.96	0.0	1.5	2.96	2.22	1.97	0.79		

#### **Test Mounting Details:**





TRU Compliance, by Structural Integrity Associates, Inc.

Unit was rigid mounted to test fixture using twelve (12) 3/8" Grade 8 bolts with 1/2" plate washers and 3/8" flat washers. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.





**UUT 1** 

### 1801393-CR-001-R1

**Manufacturer:** Cummins Power Generation

Model Number: CXRH8, 4 Pole Serial Number: N/A

#### Seismic Upgrades Implemented:

Model Line:

Top and bottom vertical rods attached to the cabinet latch were lengthened by 1/2".

**CXR Automatic Transfer Switches** 









**UUT 2** 

### 1801393-CR-001-R1

Manufacturer: **Cummins Power Generation** 

Model Line: **CXR Automatic Transfer Switches** 

Model Number: CXRE8, 3 Pole **Serial Number:** N/A

**Product Construction Summary:** 

12 Gage Carbon Steel Enclosure

#### Options/Subcomponent Summary:

Controller: Cummins PC80; Transfer Switch: Cummins 3 Poles A/B/C; Solid Neutral: Cummins; Transformer: Hammond HPS; Power Supply: Delta Electric Group; Thermostat: Stego; Heater: Stego; Fuse Holder: Ferraz Shawmut; Power Monitoring: Cummins; Protective Relays: Electrosswitch Co. Lockout Relay, Basler Electric Power Relay, Time Mark Co. Timing Relay; Solenoid: Cummins; NEMA Rating: 1; Amperage: 1200; Voltage: 208V

			UUT	Properties		7				•
Weight		Dimension (in	)		Lowest Natural Frequency (Hz)					
(lb) Depth		Width	Vidth SHeight 23		Front-Back		Side-Side		Vertical	
1432	48.9	39.6	89.6	18.0		7.5		17.0		
		UUT Highe	st Passed	Seismic Run	Informa	tion				
Buildi	ng Code	Test Crit	Test Criteria		z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2019		ICC ESM	ICC ECACTEC 12/0		1.0	1.5	3.20	2.40	2.13	0.85
		ICC-ES AC156 12/0		3.20	0.0					

#### Test Mounting Details:





TRU Compliance, by Structural Integrity Associates, Inc.

Unit was rigid mounted to test fixture using twelve (12) 3/8" Grade 8 bolts with 1/2" plate washers and 3/8" flat washers. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.





UUT3

### 1801393-CR-001-R1

**Manufacturer:** Cummins Power Generation

**Model Line:** CXR Automatic Transfer Switches

Model Number: CXRG8, 3 Pole Serial Number: N/A

**Product Construction Summary:** 

Stainless Steel Hoffman Enclosure

**Options/Subcomponent Summary:** 

Controller: Cummins PC80; Transfer Switch: Cummins 3 Poles A/B/C; Solid Neutral: Cummins; Power Supply: Delta

Electronics Group; Surge Suppressor: Square D Display, Square D Suppressor; Solenoid: Cummins; Manual Switch: Cummins;

NEMA Rating: 4X; Amperage: 2000; Voltage: 480V

			UUT Pr	operties		7				
Weight		Dimension (in	)		Lowest Natural Frequency (Hz)					
(lb)	b) Depth Width SHeight 23 Fro		Fron	Front-Back		-Side	Vertical			
1854	55.1	46.4 90.1		29.6		4.7		6.2		
		UUT Highe	st Passed S	eismic Run	Informa	ition				
Buildi	Building Code		Test Criteria		z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2019		ICC-ES/A	ICC-ES/AC156 12/0		1.0	1.5	3.20	2.40	2.13	0.85
		ICC-ES/ACESO I Z/OD		2 20-4	0.0	7.5				

#### **Test Mounting Details:**





TRU Compliance, by Structural Integrity Associates, Inc.

Unit was rigid mounted to test fixture using six (6) 5/8" Grade 8 bolts with 1/2" plate washers.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.