



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0562

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [X] New [ ] Renewal

Manufacturer Information

Manufacturer: Samsung

Manufacturer's Technical Representative: Sam Yoon

Mailing Address: 776 Henrietta Creek Road, Suite 100, Roanoke, TX 76262

Telephone: 888-699-6067 x 235 Email: sam.yoon@samsunghvac.com

Product Information

Product Name: Samsung Commercial VRF Product Line

Product Type: Split Air Conditioning Units

Product Model Number: See Attachment
(List all unique product identification numbers and/or part numbers)

General Description: Split system including heating and air-conditioning units. Seismic enhancements and
modifications required to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Outdoor units are rigid base mounted; indoor units are rigid suspended or rigid wall mounted.

Outdoor Unit FRAME UB-2 (Table 1e) require protruding diagonal angle struts on unit ext. - see UUT Sheets.

Applicant Information

Applicant Company Name: Samsung

Contact Person: Sam Yoon

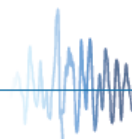
Mailing Address: 776 Henrietta Creek Road, Suite 100, Roanoke, TX 76262

Telephone: 888-699-6067 x 235 Email: sam.yoon@samsunghvac.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in
accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 03/26/2018

Title: Senior Product Manager Company Name: Samsung





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION**

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

Company Name: Buehler & Buehler Structural Engineers, Inc.

Name: Scott Hooker California License Number: S3937

Mailing Address: 600 Q St. Suite 200, Sacramento, CA 95811

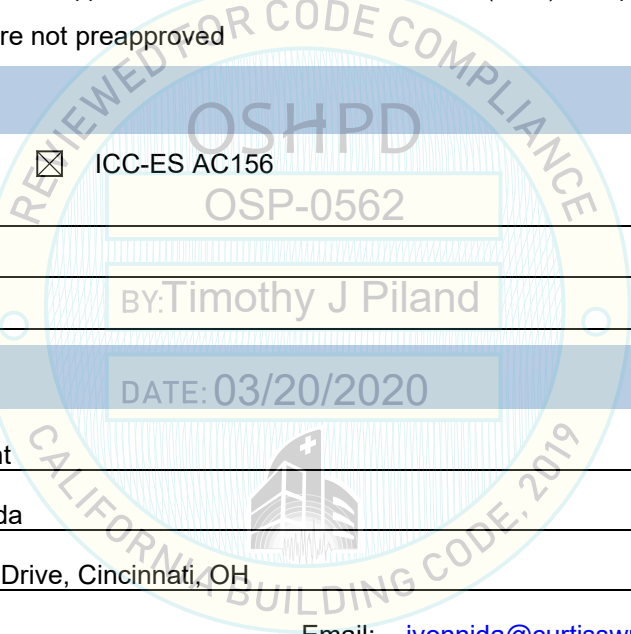
Telephone: (916) 443-0303 Email: [Shooker@bbse.com](mailto:Shooker@bbse.com)

**Supports and Attachments Preapproval**

- Supports and attachments are preapproved under OPM- \_\_\_\_\_  
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

**Certification Method**

- Testing in accordance with:  ICC-ES AC156
- Other (Please Specify): \_\_\_\_\_



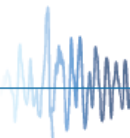
**Testing Laboratory**

Company Name: Curtiss-Wright

Contact Name: Jason VonNida

Mailing Address: 4600 E Tech Drive, Cincinnati, OH

Telephone: 1-513-528-7900 Email: [jvonnida@curtisswright.com](mailto:jvonnida@curtisswright.com)





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [ ] No

Design Basis of Equipment or Components (Fp/Wp) = See attached

Sds (Design spectral response acceleration at short period, g) = See attached

ap (In-structure equipment or component amplification factor) = 2.5

Rp (Equipment or component response modification factor) = 6.0

Omega\_0 (System overstrength factor) = 2

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = See attached

Equipment or Component Natural Frequencies (Hz) = See UUT Sheets

Overall dimensions and weight (or range thereof) = See attached

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [ ] Yes [X] No

Design Basis of Equipment or Components (V/W) =

Sds (Design spectral response acceleration at short period, g) =

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega\_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: [ ] Yes [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [ ] Drawings [ ] Calculations [ ] Manufacturer's Catalog

[X] Other(s) (Please Specify): Equipment matrix, UUT sheets, Manufacturer's Cut sheets, ISO 9001 certificates

OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2025

Signature: [Signature] Date: March 20, 2019
Print Name: Timothy J. Piland Title: SSE
Special Seismic Certification Valid Up to: Sds (g) = See Above z/h = See Above
Condition of Approval (if applicable):

**Table 1a. Certified Product List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

Group A: DVM S Outdoor Unit

Mounting: Rigid Base Mount

Model Number	No modules	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
AM072FXVAFH/AA	1	72,000	Extrapolated	30.1	34.6	66.7	413.4	
AM072FXVAFH2AA	1	72,000	Extrapolated	30.1	34.6	66.7	413.4	
AM072FXVAFR/AA	1	72,000	Extrapolated	30.1	34.6	66.7	417.8	
AM072FXVAFR2AA	1	72,000	Extrapolated	30.1	34.6	66.7	417.8	
AM072FXVAJH/AA	1	72,000	Extrapolated	30.1	34.6	66.7	424.4	
AM072FXVAJH2AA	1	72,000	Extrapolated	30.1	34.6	66.7	424.4	
AM072FXVAJR/AA	1	72,000	Extrapolated	30.1	34.6	66.7	433.2	
<b>AM072FXVAJR2AA</b>	<b>1</b>	<b>72,000</b>	<b>UUT-1a</b>	<b>30.1</b>	<b>34.6</b>	<b>66.7</b>	<b>443.2</b>	
AM096FXVAJH/AA	1	96,000	Interpolated	30.1	51	66.7	540.1	
AM096FXVAJH2AA	1	96,000	Interpolated	30.1	51	66.7	540.1	
AM096FXVAJR/AA	1	96,000	Interpolated	30.1	51	66.7	553.4	
AM096FXVAJR2AA	1	96,000	Interpolated	30.1	51	66.7	553.4	
AM096FXVAFH/AA	1	96,000	Interpolated	30.1	51	66.7	623.9	
AM096FXVAFH2AA	1	96,000	Interpolated	30.1	51	66.7	623.9	
AM096FXVAFR/AA	1	96,000	Interpolated	30.1	51	66.7	637.1	
AM096FXVAFR2AA	1	96,000	Interpolated	30.1	51	66.7	637.1	
AM120FXVAJH/AA	1	120,000	Interpolated	30.1	51	66.7	540.1	
AM120FXVAJH2AA	1	120,000	Interpolated	30.1	51	66.7	540.1	
AM120FXVAJR/AA	1	120,000	Interpolated	30.1	51	66.7	553.4	
AM120FXVAJR2AA	1	120,000	Interpolated	30.1	51	66.7	553.4	
AM120FXVAFH/AA	1	120,000	Interpolated	30.1	51	66.7	623.9	
AM120FXVAFH2AA	1	120,000	Interpolated	30.1	51	66.7	623.9	
AM120FXVAFR/AA	1	120,000	Interpolated	30.1	51	66.7	637.1	
AM120FXVAFR2AA	1	120,000	Interpolated	30.1	51	66.7	637.1	
AM144FXVAFH/AA	1	144,000	Interpolated	30.1	51	66.7	657.0	
AM072KXVTFH/AA	2	144,000	Interpolated	30.1	51	66.7	657.0	
AM144FXVAFH2AA	1	144,000	Interpolated	30.1	51	66.7	657.0	
AM144FXVAFR/AA	1	144,000	Interpolated	30.1	51	66.7	672.4	
AM144FXVAFR2AA	1	144,000	Interpolated	30.1	51	66.7	672.4	
AM072KXVTFR/AA	2	144,000	Interpolated	30.1	51	66.7	672.4	
AM144FXVAJH/AA	1	144,000	Interpolated	30.1	51	66.7	672.4	
AM072KXVTJH/AA	2	144,000	Interpolated	30.1	51	66.7	672.4	
AM144FXVAJH2AA	1	144,000	Interpolated	30.1	51	66.7	672.4	
AM144FXVAJR/AA	1	144,000	Interpolated	30.1	51	66.7	692.3	
AM144FXVAJR2AA	1	144,000	Interpolated	30.1	51	66.7	692.3	
AM072KXVTJR/AA	2	144,000	Interpolated	30.1	51	66.7	692.3	
AM168HXVAFH/AA	1	168,000	Interpolated	30.1	51	66.7	716.5	
AM168HXVAFH2AA	1	168,000	Interpolated	30.1	51	66.7	716.5	
AM168HXVAJH/AA	1	168,000	Interpolated	30.1	51	66.7	719.0	
AM168HXVAJH2AA	1	168,000	Interpolated	30.1	51	66.7	719.0	
AM168HXVAFR/AA	1	168,000	Interpolated	30.1	51	66.7	727.0	
AM168HXVAFR2AA	1	168,000	Interpolated	30.1	51	66.7	727.0	
AM168HXVAJR/AA	1	168,000	Interpolated	30.1	51	66.7	727.0	
AM168HXVAJR2AA	1	168,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAFH/AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
AM096KXVTFH/AA	2	192,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAFH2AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAJH/AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
AM096KXVTJH/AA	2	192,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAJH2AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAFR/AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAFR2AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
AM096KXVTFR/AA	2	192,000	Interpolated	30.1	51	66.7	727.0	
AM096KXVTJR/AA	2	192,000	Interpolated	30.1	51	66.7	727.0	
AM192HXVAJR/AA	1	192,000	Interpolated	30.1	51	66.7	727.0	
<b>AM192HXVAJR2AA</b>	<b>1</b>	<b>192,000</b>	<b>UUT-2a</b>	<b>30.1</b>	<b>51</b>	<b>66.7</b>	<b>727.0</b>	



Piping interconnection between multiple units must be a flexible connection

No of modules indicates multiple combinations of individual modules with flexible connection in between for listed capacity

**Table 1b. Certified Product List**

Group B: DVM S Water Outdoor Unit  
Mounting: Rigid Base Mount

$S_{DS} = 2.30g @ z/h = 1.0$   
 $S_{DS} = 2.50g @ z/h = 0.0$

$F_p / W_p = 1.73$   
 $F_p / W_p = 1.13$

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
AM038KXWDCH/AA	38,200	Interpolated	13.0	29.5	31.5	161	
AM048KXWDCH/AA	47,800	Interpolated	13.0	29.5	31.5	191	
<b>AM055KXWDCH/AA</b>	<b>54,600</b>	<b>UUT-1b</b>	<b>13.0</b>	<b>29.5</b>	<b>31.5</b>	<b>201</b>	
AM072HXWAFR/AA	72,000	Interpolated	21.5	30.3	39.4	353	
AM072HXWAJR/AA	72,000	Interpolated	21.5	30.3	39.4	368	
AM096HXWAFR/AA	96,000	Interpolated	21.5	30.3	39.4	353	
AM096HXWAJR/AA	96,000	Interpolated	21.5	30.3	39.4	368	
AM120HXWAFR/AA	120,000	Interpolated	21.5	30.3	39.4	353	
<b>AM120HXWAJR/AA</b>	<b>120,000</b>	<b>UUT-2b</b>	<b>21.5</b>	<b>30.3</b>	<b>39.4</b>	<b>368</b>	
AM192HXWAFR/AA	192,000	Interpolated	21.5	43.3	39.4	529	
AM192HXWAJR/AA	192,000	Interpolated	21.5	43.3	39.4	545	
AM240KXWAFR/AA	270,000	Interpolated	21.5	43.3	39.4	604	
<b>AM240KXWAJR/AA</b>	<b>270,000</b>	<b>UUT-3b</b>	<b>21.5</b>	<b>43.3</b>	<b>39.4</b>	<b>611</b>	

**Table 1c. Certified Product List**

Group C: DVM Chiller Outdoor Unit  
Mounting: Rigid Base Mount

DATE: 03/20/2020

$S_{DS} = 2.30g @ z/h = 1.0$   
 $S_{DS} = 2.50g @ z/h = 0.0$

$F_p / W_p = 1.73$   
 $F_p / W_p = 1.13$

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
<b>AG010KSVAJH/AA*</b>	<b>120,000</b>	<b>UUT-1c</b>	<b>30.1</b>	<b>70.7</b>	<b>66.7</b>	<b>971</b>	
AG010KSVAFH/AA*	120,000	Interpolated	30.1	70.7	66.7	971	
AG015KSVAJH/AA*	168,000	Interpolated	30.1	70.7	66.7	986	
<b>AG015KSVAFH/AA*</b>	<b>168,000</b>	<b>UUT-2c</b>	<b>30.1</b>	<b>70.7</b>	<b>66.7</b>	<b>986</b>	

\* Indicates requirement of seismic modification, see UUT sheet

**Table 1d. Certified Product List**

Group D: DVM S Concealed and Exposed Floor Standing Indoor Unit  
Mounting: Rigid Floor Mount

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$



Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
<b>AM006JNFDCH/AA</b>	<b>6,000</b>	<b>UUT-1d</b>	<b>37.2</b>	<b>8.7</b>	<b>23.6</b>	<b>50.7</b>	
AM006JNGDCH/AA	6,000	Interpolated	46.0	8.7	23.6	57.3	
AM009JNFDCH/AA	9,000	Interpolated	37.2	8.7	23.6	50.7	
AM009JNGDCH/AA	9,000	Interpolated	46.0	8.7	23.6	57.3	
AM012JNFDCH/AA	12,000	Interpolated	37.2	8.7	23.6	50.7	
AM012JNGDCH/AA	12,000	Interpolated	46.0	8.7	23.6	57.3	
AM018JNFDCH/AA	18,000	Interpolated	48.2	8.7	23.6	62.8	
AM018JNGDCH/AA	18,000	Interpolated	57.1	8.7	23.6	69.4	
AM024JNFDCH/AA	24,000	Interpolated	48.2	8.7	23.6	62.8	
<b>AM024JNGDCH/AA</b>	<b>24,000</b>	<b>UUT-2d</b>	<b>57.1</b>	<b>8.7</b>	<b>23.6</b>	<b>69.4</b>	

**Table 1e. Certified Product List**

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Group E: Outdoor Unit FRAME UB2-Single Units  
Mounting: Rigid Base Mount

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
AM036FXMDCH/AA*	38,000	Extrapolate	13	37	47.6	220.5	
AM048FXMDCH/AA*	48,000	UUT-1e	13	37	47.6	220.5	
AM053FXMDCH/AA*	53,000	UUT-2e	13	37	47.6	227.1	
AM060MXMDCH/AA*	60,000	UUT-3e	13	37	55.9	286.6	


\* Indicates requirement of seismic modification, see UUT sheet

**Table 1f. Certified Product List**

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Group F: DVM S Slim Duct Indoor Unit - Frame Type: Slim 1, 2, & 3  
Mounting: Suspended


Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
AM007FNLDCH/AA	7,500	UUT-1f	35.4	23.6	7.8	54	
AM009FNLDCH/AA	9,500	Interpolated	35.4	23.6	7.8	54	
AM012FNLDCH/AA	12,000	Interpolated	35.4	23.6	7.8	54	
AM018FNLDCH/AA	18,000	UUT-2f	43.3	23.6	7.8	66.1	
AM024FNLDCH/AA	24,000	Interpolated	43.3	23.6	7.8	66.1	
AM030FNLDCH/AA	30,000	UUT-3f	51.2	27.2	11.6	88.2	
AM036FNLDCH/AA	36,000	Interpolated	51.2	27.2	11.6	88.2	
AM048FNLDCH/AA	48,000	UUT-4f	51.2	27.2	11.6	91.5	

**Table 1g. Certified Product List**

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Group G: DVM S High Static Pressure Ducted Indoor Unit - Frame Type: MA2  
Mounting: Suspended

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
AM054JNHDCH/AA	54,000	UUT-1g	47.2	25.6	14.2	137.8	

**Table 1h. Certified Product List**

Group H: DVM S Big Duct Indoor Unit  
Mounting: Suspended

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
Samsung DVM S Series, HSP (High Static) Ducted Unit - Frame Type: Big Duct							
AM076FNHDCH/AA	76,800	UUT-1h	48.8	40.9	18.5	196.2	
AM096FNHDCH/AA	96,000	UUT-2h	48.8	40.9	18.5	196.2	
Samsung DVM S Series, OAP Duct (Outside Air Processing) Unit - Frame Type: Big Duct							
AM072JNESCH/AA	72,000	Interpolated	53.1	35.8	17.7	198.4	
AM096JNESCH/AA	96,000	UUT-3h	53.1	38.8	17.7	198.4	

**Table 1i. Certified Product List**

Group I: DVM S Duct S Indoor Unit  
Mounting: Suspended

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
Samsung DVM S Series, Duct S Ducted Unit - Frame Type: GD 1, 2, & 3							
AM006RNMDCH/AA	6,300	Extrapolated	33.4	27.6	9.8	69.0	
AM007MNMDCH/AA	7,500	UUT-1i	33.4	27.6	9.8	69.0	
AM009MNMDCH/AA	9,500	Interpolated	33.4	27.6	9.8	69.0	
AM012MNMDCH/AA	12,000	Interpolated	33.4	27.6	9.8	69.0	
AM015MNMDCH/AA	15,000	Interpolated	33.4	27.6	9.8	69.0	
AM018MNMDCH/AA	18,000	Interpolated	33.4	27.6	9.8	69.0	
AM018RNMDCH/AA	18,000	Interpolated	47.3	27.6	9.8	73.6	
AM024MNHDCH/AA	24,000	Interpolated	47.3	27.6	9.8	73.6	
AM027MNHDCH/AA	27,000	Interpolated	47.3	27.6	9.8	73.6	
AM030MNHDCH/AA	30,000	Interpolated	47.3	27.6	9.8	73.6	
AM036MNHDCH/AA*	36,000	Interpolated	51.2	27.6	11.8	101.4	
AM048MNHDCH/AA*	48,000	UUT-2i	51.2	27.6	11.8	101.4	

\* Indicates requirement of seismic modification, see UUT sheet

**Table 1j. Certified Product List**

Group J: Mode Control Units  
Mounting: Suspended

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
MCU-S1NEK1N	54,000	UUT-1j	13.2	16.1	7.8	24.3	
MCU-S2NEK2N	96,000	Interpolated	28.7	18.4	7.7	46.3	
MCU-S4NEK3N	192,000	Interpolated	28.7	18.5	7.8	54.1	
MCU-S6NEK2N	192,000	UUT-2j	28.7	18.5	7.8	62.8	

**Table 1k. Certified Product List**

Group K: DVM S Cassette Indoor Unit

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Mounting: Suspended

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
Samsung DVM S Series, 4-Way Cassette (includes Mini)							
<b>AM005KNNDCH/AA</b>	<b>5,000</b>	<b>UUT-1k</b>	<b>22.6</b>	<b>22.6</b>	<b>9.8</b>	<b>26.5</b>	
AM005NNNDCH/AA	5,000	Interpolated	22.6	22.6	9.8	26.5	
AM007KNNDCH/AA	7,500	Interpolated	22.6	22.6	9.8	26.5	
AM007NNNDCH/AA	7,500	Interpolated	22.6	22.6	9.8	26.5	
AM009FNNDCH/AA	9,500	Interpolated	22.6	22.6	10.3	26.5	
AM009NNNDCH/AA	9,500	Interpolated	22.6	22.6	9.8	26.5	
AM012FNNDCH/AA	12,000	Interpolated	22.6	22.6	10.3	26.5	
AM012NNNDCH/AA	12,000	Interpolated	22.6	22.6	9.8	26.5	
AM018FNNDCH/AA	18,000	Interpolated	22.6	22.6	10.3	26.5	
AM018NNNDCH/AA	18,000	Interpolated	22.6	22.6	9.8	26.5	
AM020FNNDCH/AA	20,000	Interpolated	22.6	22.6	10.3	26.5	
AM020NNNDCH/AA	20,000	Interpolated	22.6	22.6	9.8	26.5	
AM006RN4DCH/AA	6,300	Interpolated	33.1	33.1	8	33.1	
AM009FN4DCH/AA	9,000	Interpolated	33.1	33.1	8	33.1	
AM009RN4DCH/AA	9,000	Interpolated	33.1	33.1	8	33.1	
AM012FN4DCH/AA	12,000	Interpolated	33.1	33.1	8	33.1	
AM012RN4DCH/AA	12,000	Interpolated	33.1	33.1	8	33.1	
AM018FN4DCH/AA	18,000	Interpolated	33.1	33.1	8	33.1	
AM018RN4DCH/AA	18,000	Interpolated	33.1	33.1	9.7	36.4	
AM024FN4DCH/AA	24,000	Interpolated	33.1	33.1	8	33.1	
AM024RN4DCH/AA	24,000	Interpolated	33.1	33.1	9.7	36.4	
AM030FN4DCH/AA	30,000	Interpolated	33.1	33.1	11.3	40.8	
AM036FN4DCH/AA	36,000	Interpolated	33.1	33.1	11.3	40.8	
<b>AM048FN4DCH/AA</b>	<b>48,000</b>	<b>UUT-2k</b>	<b>33.1</b>	<b>33.1</b>	<b>11.3</b>	<b>40.8</b>	
Samsung DVM S Series, 360 Cassette							
<b>AM009KN4DCH/AA</b>	<b>9,000</b>	<b>UUT-3k</b>	<b>37.3</b>	<b>37.3</b>	<b>11.1</b>	<b>46.3</b>	
AM012KN4DCH/AA	12,000	Interpolated	37.3	37.3	11.1	46.3	
AM018KN4DCH/AA	18,000	Interpolated	37.3	37.3	11.1	46.3	
AM024KN4DCH/AA	24,000	Interpolated	37.3	37.3	11.1	46.3	
AM036KN4DCH/AA*	36,000	Interpolated	37.3	37.3	14.4	52.9	
<b>AM048KN4DCH/AA*</b>	<b>48,000</b>	<b>UUT-4k</b>	<b>37.3</b>	<b>37.3</b>	<b>14.4</b>	<b>52.9</b>	

\* Indicates requirement of seismic modification, see UUT sheet

**Table 1l. Certified Product List**

Group L: DVM S Wall-Mounted Indoor Unit

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Mounting: Wall Mounted

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Depth (in)	Width (in)	Height (in)	Operating Weight (lbs)	Shape
AM005MNVDC/AA	5,000	Extrapolate	9.7	29.5	9.8	17.9	
AM007MNVDC/AA	7,500	Extrapolate	9.7	29.5	9.8	17.9	
AM009MNVDC/AA	9,500	Extrapolate	9.7	29.5	9.8	18.1	
<b>AM012MNVDC/AA</b>	<b>12,000</b>	<b>UUT-1l</b>	<b>10.3</b>	<b>32.5</b>	<b>10.3</b>	<b>21.6</b>	
AM015MNVDC/AA	15,000	Interpolate	10.3	32.5	10.3	21.6	
AM018MNVDC/AA*	18,000	Interpolate	11.6	41.9	11.9	32.2	
AM024MNVDC/AA*	24,000	Interpolate	11.6	41.9	11.9	32.2	
<b>AM028MNVDC/AA*</b>	<b>28,000</b>	<b>UUT-2l</b>	<b>11.6</b>	<b>41.9</b>	<b>11.9</b>	<b>32.2</b>	
<b>AM032MNQDC/AA*</b>	<b>31,700</b>	<b>UUT-3l</b>	<b>9.9</b>	<b>50.4</b>	<b>13.6</b>	<b>40.8</b>	

\* Indicates requirement of seismic modification, see UUT sheet



**Table 2a. Certified Sub-Component List**

Group A: DVM S Outdoor Unit  
Mounting: Rigid Base Mount

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

<b>Compressor</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DS-GB052FAVBSG	69.7	58,500Btu/h	220V	6.1	Samsung	Cast Iron	UUT-1a
DS-GB052FBVASG	69.7	58,500Btu/h	380V	6.1	Samsung	Cast Iron	Interpolated
DS4GJ5066EVASG	78.0	73,500Btu/h	220V	7.7	Samsung	Cast Iron	Interpolated
DS-GB066FAVBSG	79.4	73,000Btu/h	380V	7.6	Samsung	Cast Iron	UUT-2a
DS-GB066FAVB	78.0	73,000Btu/h	380V	7.6	Samsung	Cast Iron	UUT-3a

<b>Heat Exchanger</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-14514A	73.0	Φ7x2Rx60C, Large	-	-	Samsung	Al Fin / Cu Tube	UUT-1a
DB96-14515A	73.0	Φ7x2Rx60C, Large	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-14516B	106.7	Φ7x3Rx60C, Large	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-20545A	127.0	Φ7.94x3Rx60C, Large	-	-	Samsung	Al Fin / Cu Tube	UUT-2a
DB96-21927A	141.3	Φ7x3Rx66C, Large	-	-	Samsung	Al Fin / Cu Tube	UUT-3a

<b>Printed Circuit Board</b>							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-03340A	0.2	-	-	NOVASEZ	ABS Plastic	UUT-1a,
	DB92-03752A	0.2	-	-	NOVASEZ	ABS Plastic	UUT-2a, UUT-3a
Hub	DB92-03342B	0.6	-	-	NOVASEZ	ABS Plastic	UUT-3a
	DB92-03342A	0.7	-	-	NOVASEZ	ABS Plastic	UUT-1a, UUT-2a
Inverter	DB92-03526C	2.7	-	-	YOUNGREEM Tech	ABS Plastic	Interpolated
	DB92-03526B	3.5	-	-	YOUNGREEM Tech	ABS Plastic	UUT-1a
	DB92-03526A	3.8	-	-	YOUNGREEM Tech	ABS Plastic	UUT-2a
	DB92-03337B	3.6	-	-	YOUNGREEM Tech	ABS Plastic	Interpolated
	DB92-03337A	3.6	-	-	YOUNGREEM Tech	ABS Plastic	UUT-3a
EMI	DB92-02806A	1.2	-	-	NOVASEZ	ABS Plastic	UUT-1a, UUT-2a
	DB93-12089D	1.7	-	-	NOVASEZ	ABS Plastic	Interpolated
	DB92-03343A	1.2	-	-	NOVASEZ	ABS Plastic	UUT-3a
Fan	DB92-02807B	0.4	-	-	NOVASEZ	ABS Plastic	UUT-1a
	DB92-02807A	0.6	-	-	NOVASEZ	ABS Plastic	UUT-2a, UUT-3a
	DB92-03339A	0.6	-	-	NOVASEZ	ABS Plastic	Interpolated
Comm.	DB93-13404A	0.2	-	-	NOVASEZ	ABS Plastic	UUT-1a, UUT-2a, UUT-3a

<b>Expansion Valve</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-04065A	0.1	-	-	-	SANHUA	CU	UUT-1a
DB62-05606A	0.6	-	-	-	SANHUA	CU	UUT-1a, (2x) UUT-3a
DB62-11205B	0.3	-	-	-	SANHUA	CU	UUT-2a
DB62-09643A	0.6	-	-	-	SANHUA	CU	UUT-2a
DB62-04066A	0.1	-	-	-	SANHUA	CU	UUT-3a

<b>Service Valve</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-10812A	1.1	-	-	-	DUNAN	CU	UUT-1a, UUT-3a
DB62-10811A	0.6	-	-	-	DUNAN	CU	UUT-1a
DB62-07617A	0.7	-	-	-	ESSEN	CU	UUT-2a
DB62-07615A	1.4	-	-	-	ESSEN	CU	Interpolated
DB62-07618A	1.7	-	-	-	ESSEN	CU	Interpolated
DB62-07613A	2.1	-	-	-	ESSEN	CU	UUT-2a
DB62-11366A	1.7	-	-	-	DUNAN	CU	UUT-3a

<b>Pressure Sensor</b>							
Part Number	Weight (lb)	Quantity (per UUT)	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB32-00191D	0.1	1	-	-	SAGINQMIA	CU	Interpolated
DB32-00194B	0.1	-	-	-	SAGINQMIA	CU	UUT-1a
DB32-00193B	0.1	1	-	-	SAGINQMIA	CU	Interpolated
DB32-00195B	0.1	-	-	-	SAGINQMIA	CU	UUT-1a
DB32-00194A	0.1	1	-	-	SAGINQMIA	CU	UUT-2a, UUT-3a
DB32-00195A	0.1	1	-	-	SAGINQMIA	CU	UUT-2a, UUT-3a

**Table 2a. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

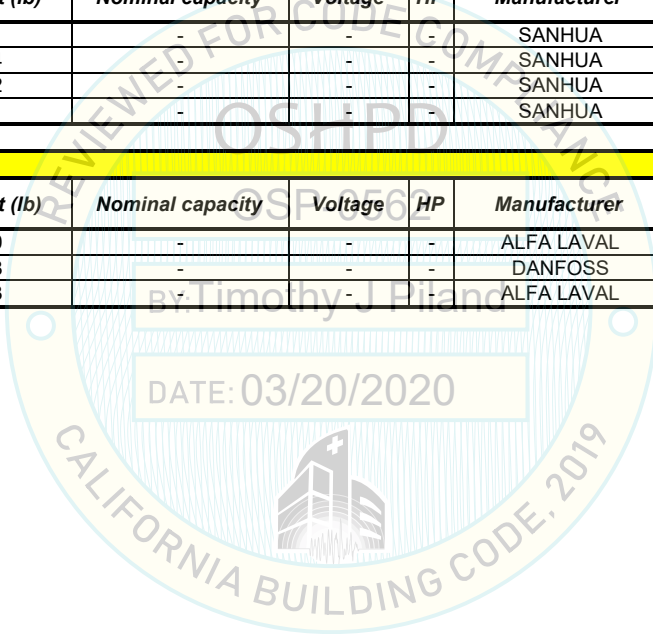
Group A: DVM S Outdoor Unit  
Mounting: Rigid Base Mount

<b>Pressure Switch</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB34-00071B	0.2	-	-	-	SHINHAN	CU	UUT-1a, (2x) UUT-2a
DB34-00082A	0.2	-	-	-	MATWEL	CU	(2x) UUT-3a

<b>4 Way Valve</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-02834A	1.5	-	-	-	SANHUA	CU	UUT-1a
DB62-03348A	2.5	-	-	-	SANHUA	CU	Interpolated
DB62-08209A	3.0	-	-	-	SANHUA	CU	UUT-2a
DB62-05043A	7.1	-	-	-	SANHUA	CU	UUT-3a

<b>Solenoid Valve</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-07588A	0.1	-	-	-	SANHUA	CU	(2x) UUT-1a, (3x) UUT-2a
DB62-04150A	0.4	-	-	-	SANHUA	CU	(2x) UUT-1a, (2x) UUT-2a
DB62-07588B	0.2	-	-	-	SANHUA	CU	(3x) UUT-3a
DB62-04149B	0.1	-	-	-	SANHUA	CU	(2x) UUT-3a

<b>Subcooler</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-16377E	3.0	-	-	-	ALFA LAVAL	CU +STS	UUT-1a
DB96-18993C	3.8	-	-	-	DANFOSS	CU+STS	UUT-2a
DB96-20497A	6.3	-	-	-	ALFA LAVAL	CU+STS	UUT-3a



**Table 2b. Certified Sub-Component List**

Group B: DVM S Water Outdoor Unit  
Mounting: Rigid Base Mount

$S_{Ds} = 2.30g @ z/h = 1.0 F_p / W_p = 1.73$   
 $S_{Ds} = 2.50g @ z/h = 0.0 F_p / W_p = 1.13$

Compressor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
UG8T300FUBJUSG	37.5	30,500Btu/h	220V	3.2	Samsung	Cast Iron	Extrapolated
UG5T450FUEJXSG	50.7	46,500Btu/h	220V	4.9	Samsung	Cast Iron	UUT-1b
DS-GB052FAVBSG	69.7	58,500Btu/h	380V	6.1	Samsung	Cast Iron	Interpolated
DS-GB052FBVASG	69.7	58,500Btu/h	220V	6.1	Samsung	Cast Iron	Interpolated
DS4GJ5066EVASG	78.0	73,000Btu/h	220V	7.6	Samsung	Cast Iron	Interpolated
DS-GB066FAVBSG	79.4	73,000Btu/h	380V	7.6	Samsung	Cast Iron	UUT-2b, UUT-3b

Heat Exchanger							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-22505B	16.3	-	-	-	ALFA LAVAL	Al Fin / Cu Tube	Extrapolated
DB96-22504B	20.2	-	-	-	ALFA LAVAL	Al Fin / Cu Tube	UUT-1b
DB96-16309D	30.0	-	-	-	ALFA LAVAL	Al Fin / Cu Tube	UUT-2b
DB96-16309C	41.2	-	-	-	ALFA LAVAL	Al Fin / Cu Tube	Interpolated
DB96-22740B	77.1	-	-	-	ALFA LAVAL	Al Fin / Cu Tube	UUT-3b

Printed Circuit Board							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-03322B	0.4	-	-	Samsung	ABS Plastic	UUT-1b
	DB92-03979A	0.2	-	-	Samsung	ABS Plastic	UUT-2b, UUT-3b
Water Hub	DB92-02931A	0.4	-	-	NOVASEZ	ABS Plastic	UUT-1b, UUT2b, UUT-3b
Hub	DB92-03342A	0.7	-	-	NOVASEZ	ABS Plastic	UUT-2b, UUT-3b
Inverter	DB92-03689A	4.4	-	-	YOUNGREEM Tech	ABS Plastic	Interpolated
	DB92-03691A	5.9	-	-	YOUNGREEM Tech	ABS Plastic	Interpolated
	DB92-03691A	6.3	-	-	YOUNGREEM Tech	ABS Plastic	UUT-1b
	DB92-03527C	4.5	-	-	YOUNGREEM Tech	ABS Plastic	UUT-3b
	DB92-03527A	4.5	-	-	YOUNGREEM Tech	ABS Plastic	UUT-2b
EMI	DB93-11110D	1.3	-	-	Sangshin Electronics	ABS Plastic	UUT-1b
	DB92-02806A	1.2	-	-	NOVASEZ	ABS Plastic	UUT-3b
	DB93-12089D	1.7	-	-	NOVASEZ	ABS Plastic	UUT-2b
Comm.	DB93-13404A	0.2	-	-	NOVASEZ	ABS Plastic	UUT-2b, UUT-3b

Check Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-06190B	0.2	-	-	-	SANHUA	CU	UUT-1b, UUT-2b
DB62-01400G	0.1	-	-	-	SANHUA	CU	UUT-2b
DB62-06187B	0.4	-	-	-	SANHUA	CU	UUT-2b, UUT-3b
DB62-06188B	0.3	-	-	-	SANHUA	CU	UUT-2b, UUT-3b
DB62-07620A	0.6	-	-	-	SANHUA	CU	UUT-3b

Service Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-09658A	0.6	-	-	-	SANHUA	CU	Interpolated
DB62-09654A	0.3	-	-	-	SANHUA	CU	UUT-1b
DB62-03173A	1.0	-	-	-	SANHUA	CU	UUT-1b
DB62-10812A	0.6	-	-	-	DUNAN	CU	UUT-2b, UUT-3b
DB62-10811A	1.1	-	-	-	DUNAN	CU	UUT-2b
DB62-07613A	2.2	-	-	-	ESSEN	CU	UUT-3b

4 Way Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-02838A	0.7	-	-	-	SANHUA	CU	UUT-1b
DB62-02834A	1.4	-	-	-	SANHUA	CU	UUT-2b
DB62-02834A	1.4	-	-	-	SANHUA	CU	Interpolated
DB62-08209A	2.8	-	-	-	SANHUA	CU	Interpolated
DB62-05043A	6.7	-	-	-	SANHUA	CU	UUT-3b



**Table 2b. Certified Sub-Component List**

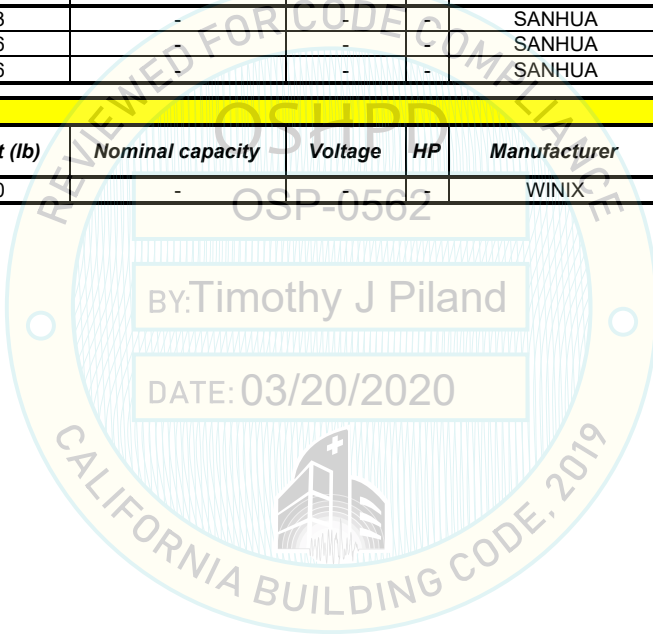
Group B: DVM S Water Outdoor Unit  
Mounting: Rigid Base Mount

$S_{Ds} = 2.30g @ z/h = 1.0 F_p / W_p = 1.73$   
 $S_{Ds} = 2.50g @ z/h = 0.0 F_p / W_p = 1.13$

Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-07588B	0.2	-	-	-	SANHUA	CU	UUT-1b
DB62-04064A	0.1	-	-	-	SANHUA	CU	UUT-1b
DB62-04149B	0.1	-	-	-	SANHUA	CU	UUT-1b, UUT-3b
DB62-07588A	0.1	-	-	-	SANHUA	CU	UUT-2b, (2x) UUT-3b
DB62-04149A	0.1	-	-	-	SANHUA	CU	UUT-2b
DB62-09632A	0.7	-	-	-	SANHUA	CU	(2x) UUT-2b
DB62-04065A	0.1	-	-	-	SANHUA	CU	UUT-2b,
DB62-09633A	0.7	-	-	-	SANHUA	CU	UUT-3b
DB62-09071A	0.3	-	-	-	SAGINOMIA	CU	UUT-2b, UUT-3b

Main EEV Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-11205A	0.3	-	-	-	SANHUA	CU	UUT-1b
DB62-05606A	0.6	-	-	-	SANHUA	CU	UUT-2b
DB62-09643A	0.6	-	-	-	SANHUA	CU	UUT-3b

Fusible							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB63-00448B	0.0	-	-	-	WINIX	CU	UUT-1b, UUT-2b, UUT-3b



**Table 2c. Certified Sub-Component List**

Group C: DVM Chiller Outdoor Unit  
Mounting: Rigid Base Mount

S<sub>DS</sub> = 2.30g @ z/h = 1.0  
S<sub>DS</sub> = 2.50g @ z/h = 0.0

F<sub>p</sub> / W<sub>p</sub> = 1.73  
F<sub>p</sub> / W<sub>p</sub> = 1.13

Compressor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DS4GJ5066EVASG	78.0	73,500Btu/h	220V	7.7	Samsung	Cast Iron	UUT-2c
DS-GB070FAVASG	82.5	77,700Btu/h	380V	8.1	Samsung	Cast Iron	UUT-1c

Heat Exchanger							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-22260A	154.8	-	-	-	Samsung	Al Fin / Cu Tube	UUT-1c, UUT-2c

Plate Type Heat Exchanger							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-18184B	40.6	-	-	-	ALFA LAVAL	Stainless Steel	UUT-2c

Fan Motor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB31-00330J	44.0	-	-	0.8	SSIN	CU, Al	UUT-1c, UUT-2c
DB31-00676A	44.0	-	-	0.8	SSIN	CU, Al	UUT-1c, UUT-2c

Printed Circuit Board							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-03913A	0.4	-	-	Samsung	ABS Plastic	UUT-1c, UUT-2c
Hub	DB92-03342A	0.7	-	-	NOVASEZ	ABS Plastic	UUT-1c, UUT-2c
Inverter	DB92-03527A	4.5	-	-	YOUNGREEM Tech	ABS Plastic	UUT-1c
	DB92-03345B	4.6	-	-	YOUNGREEM Tech	ABS Plastic	UUT-2c
EMI	DB93-12089D	1.7	-	-	NOVASEZ	ABS Plastic	UUT-1c
	DB92-03335B	1.5	-	-	SANGSHIN ELECTRONICS CO.	ABS Plastic	UUT-2c
Fan	DB92-02807A	0.6	-	-	NOVASEZ	ABS Plastic	UUT-1c, UUT-2c
Comm.	DB93-13404A	0.2	-	-	NOVASEZ	ABS Plastic	UUT-1c, UUT-2c

Check Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-06187B	0.4	-	-	-	SANHUA	CU	UUT-1c, UUT-2c

4 Way Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-05043A	7.1	-	-	-	SANHUA	CU	UUT-1c, UUT-2c

Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-04149B	0.1	-	-	-	SANHUA	CU	(4x)UUT-1c, (4x)UUT-2c
DB62-07588B	0.2	-	-	-	SANHUA	CU	(3x)UUT-1c, (3x)UUT-2c
DB62-04066A	0.2	-	-	-	SANHUA	CU	UUT-1c, UUT-2c

Main EEV Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-05606A	0.6	-	12V (DC)	-	SANHUA	CU	UUT-1c, UUT-2c

Fusible							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB63-00448B	0.04	-	-	-	WINX	CU	UUT-1c, UUT-2c

**Table 2d. Certified Sub-Component List**

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Group D: DVM S Concealed and Exposed Floor Standing Indoor Unit  
Mounting: Rigid Floor Mount

Heat Exchanger							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DFS96-0018A	6.4	Φ7x2Rx60C L581	-	-	DAIHAN CLIMATE CONTROL	Al Fin / Cu Tube	UUT-1d
DFS96-0036B	7.0	Φ7x2Rx60C L581	-	-	DAIHAN CLIMATE CONTROL	Al Fin / Cu Tube	Interpolated
DFS96-0056B	10.3	Φ7x2Rx60C L860	-	-	DAIHAN CLIMATE CONTROL	Al Fin / Cu Tube	Interpolated
DFS96-0071B	10.6	Φ7x2Rx60C L860	-	-	DAIHAN CLIMATE CONTROL	Al Fin / Cu Tube	UUT-2d

Fan Motor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DFS30-0005A	6.3	424W	220V	0.6	OYANG KONGJOKI	CU, Iron, Plastic, PVC, AL	UUT-1d
DFS30-0006A	6.3	424W	220V	0.6	OYANG KONGJOKI	CU, Iron, Plastic, PVC, AL	Interpolated
DFS30-0007A	6.3	424W	220V	0.6	OYANG KONGJOKI	CU, Iron, Plastic, PVC, AL	Interpolated
DFS30-0008A	6.5	490W	220V	0.7	OYANG KONGJOKI	CU, Iron, Plastic, PVC, AL	UUT-2d

Printed Circuit Board							
Part Number	Weight (lb)	Nominal Capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB92-02786A	0.5	-	-	-	NOVASEZ	ABS Plastic	UUT-1d, UUT-2d

Expansion Valve							
Part Number	Weight (lb)	Nominal Capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-11471A	0.4	-	-	-	SANHUA	Cu	UUT-1d
DB62-11472A	0.5	-	-	-	SANHUA	Cu	UUT-2d

Service Valve							
Part Number	Weight (lb)	Nominal Capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DFS96-1001A	0.3	-	-	-	DONGJOO METAL	Cu	UUT-1d
DFS96-2001B	0.1	-	-	-	DONGJOO METAL	Cu	UUT-1d
DFS96-1003A	0.4	-	-	-	DONGJOO METAL	Cu	UUT-2d
DFS96-2003B	0.2	-	-	-	DONGJOO METAL	Cu	UUT-2d

**Table 2e. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

Group E: Outdoor Unit FRAME UB2-Single Units  
Mounting: Rigid Base Mount

<b>Compressor</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
UG5T450FUEJX	50.7	46,500 Btu/h	220V	4.87	Samsung	Cast Iron	UUT-1e, UUT-2e
DS-GB052FBVA	69.5	58,500 Btu/h	220V	6.12	Samsung	Cast Iron	UUT-3e
<b>Heat Exchanger</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB75-00506C	25.2	Φ7 x 2R x 56C	-	-	Samsung	Al Fin / Cu Tube	UUT-1e
DB75-00527A	32.1	Φ8 x 2R x 56C	-	-	Samsung	Al Fin / Cu Tube	UUT-2e
DB96-19525A	28.1	Φ7 x 2.5R x 66C	-	-	Jiangsu Clean & Cool Seiko Technology Co., Ltd. (Seiko)	Al Fin / Cu Tube	UUT-3e
<b>Fan Motor</b>							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB31-00579	4.6	125W	310V	0.17	SCD	Al	UUT-1e, UUT-2e
DB31-00643	6.6	139W	310V	0.19	SCD	Al	UUT-3e
<b>Printed Circuit Board</b>							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-03322	0.4	-	-	Samsung	ABS Plastic	UUT-1e, UUT-2e, UUT-3e
		0.4	-	-	XINAN	ABS Plastic	UUT-1e, UUT-2e, UUT-3e
EMI	DB93-11110	1.8	-	-	Sangshin Electronics	ABS Plastic	UUT-1e, UUT-2e, UUT-3e
		1.8	-	-	XINAN	ABS Plastic	UUT-1e, UUT-2e, UUT-3e
Inverter	DB93-11113	2.1	-	-	NELCOM	ABS Plastic	UUT-1e, UUT-2e
	DB92-03687	1.6	-	-	XINAN	ABS Plastic	UUT-3e
<b>Expansion Valve</b>							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
EEV	DB62-05606A	0.6	-	-	SANHUA	Cu	UUT-1e, UUT-2e, UUT-3e
EEV	DB62-04064A	0.6	-	-	SANHUA	Cu	UUT-1e, UUT-2e
EEV	DB62-04065A	0.6	-	-	SANHUA	Cu	UUT-3e
<b>Service Valve</b>							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Valve,Service	DB62-09659A	0.5	-	-	SANHUA	Cu	UUT-1e, UUT-2e
Valve,Service	DB62-09660A	0.5	-	-	SANHUA	Cu	UUT-1e, UUT-2e
Valve,Service	DB62-04750A	0.6	-	-	SANHUA	Cu	UUT-3e
Valve,Service	DB62-05630A	0.8	-	-	SANHUA	Cu	UUT-3e



**Table 2f. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

Group F: DVM S Slim Duct Indoor Unit - Frame Type: Slim 1, 2, & 3  
Mounting: Suspended

Heat Exchanger						
Part Number	Weight (lb)	Nominal capacity	Voltage	Manufacturer	Material	Interpolated / Included With Test
DB96-16704A	5.5	Φ7 x 3R x 12C	-	YWSZ	Al Fin / Cu Tube	UUT-1f
DB96-05122A	7.4	Φ7 x 3R x 12C	-	YWSZ	Al Fin / Cu Tube	UUT-2f
DB96-15711A	8.3	Φ7 x 2R x 14C	-	Jiangsu Clean & Cool Seiko Technology Co., Ltd.	Al Fin / Cu Tube	UUT-3f
DB96-15712A	12.4	Φ7 x 3R x 14C	-	Jiangsu Clean & Cool Seiko Technology Co., Ltd.	Al Fin / Cu Tube	UUT-4f

Fan Motor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB31-00377	7.1	25W	208-230 V	0.03	CRBSM	Cu + Al	UUT-1f
DB31-00314	8.3	60W	208-230 V	0.08	CRBSM	Cu + Al	UUT-2f
DB31-00427	9.7	183W	DC 311V	0.24	SPG	Cu + Al	UUT-3, UUT-4f

Printed Circuit Board						
Description	Part Number	Weight (lb)	Nominal Capacity	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-02781	0.5	-	Samsung	ABS Plastic	UUT-2f, UUT-4f
	DB92-02784	0.4	-	Samsung	ABS Plastic	UUT-1f, UUT-3f

DATE: 03/20/2020

**Table 2g. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

Group G: DVM S High Static Pressure Ducted Indoor Unit - Frame Type: MA2  
Mounting: Suspended

Heat Exchanger						
Part Number	Weight (lb)	Nominal capacity	Voltage	Manufacturer	Material	Interpolated / Included With Test
DB96-23018A	15.7	Φ7 x 4R x 16C	-	YWSZ	Al Fin / Cu Tube	UUT-1g

Fan Motor						
Part Number	Weight (lb)	Nominal capacity	Voltage	Manufacturer	Material	Interpolated / Included With Test
DB31-00603	9.7	183W	DC310V	SINJUN	Cu + Al	UUT-1g

Printed Circuit Board						
Description	Part Number	Weight (lb)	Nominal Capacity	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-02784	0.4	-	Samsung	ABS Plastic	UUT-1g



**Table 2h. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

Group H: DVM S Big Duct Indoor Unit

Mounting: Suspended

Heat Exchanger						
Part Number	Weight (lb)	Nominal capacity	Voltage	Manufacturer	Material	Interpolated / Included With Test
DB96-18507A	27.0	-	-	HANCHANG	Al Fin / Cu Tube	UUT-1h
DB96-15610B	27.0	-	-	HANCHANG	Al Fin / Cu Tube	UUT-2h
DB96-20826A	15.0	-	-	Jiangsu Clean & Cool Seiko Technology Co., Ltd.	Al Fin / Cu Tube	UUT-3h

Fan Motor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB31-00593B	26.5	630W	SC310	0.8	SPG	Cu + Al	UUT-1h, UUT-2h
DB31-00659	26.5	630W	DC310	0.8	SPG	Cu + Al	UUT-3h

Printed Circuit Board							
Description	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-02784	0.4	-	-	Samsung	ABS Plastic	UUT-1h, UUT-2h, UUT-3h
EMI	DB93-12108A	0.5	-	-	NOVASEZ	ABS Plastic	UUT-1h, UUT-2h, UUT-3h
Driver	DB93-12676B	2.0	-	-	NOVASEZ	ABS Plastic	UUT-1h, UUT-2h

Expansion Valve							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB62-05606A	0.60	-	-	-	SANHUA	CU	UUT-1h, UUT-2h, UUT-3h

DATE: 03/20/2020

**Table 2i. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

F<sub>p</sub> / W<sub>p</sub> = 1.88

Group I: DVM S Duct S Indoor Unit

Mounting: Suspended

Heat Exchanger							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-19577A	10.7	Φ7 x 3R x 16C	-	-	YWSZ	Al Fin / Cu Tube	UUT-1i
DB96-19576A	13.3	Φ7 x 3R x 16C	-	-	YWSZ	Al Fin / Cu Tube	Interpolated
DB96-19575A	14.8	Φ7 x 3R x 18C	-	-	YWSZ	Al Fin / Cu Tube	UUT-2i

Fan Motor							
Part Number	Weight (lb)	Nominal capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB31-00639	7.7	153W	DC 310V	0.2	SPG	Cu + Al	UUT-1i
DB31-00641	7.1	244W	DC 310V	0.3	NIDECS	Cu + Al	UUT-2i

Printed Circuit Board							
DB96-17305B	Part Number	Weight (lb)	Nominal Capacity	HP	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-03321*	0.4	-	-	XINAN	ABS Plastic	UUT-1i, UUT-2i

**Table 2j. Certified Sub-Component List**

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Group J: Mode Control Units

Mounting: Suspended

<b>SOL V/V</b>						
Description	Pat Number	Weight (lb)	Nominal capacity	Manufacturer	Material	Interpolated / Included With Test
VPV Type	DB62-11038A	0.6	-	SAGINOMIA	SUS	UUT-1j, UUT-2j

<b>EEV V/V</b>						
Description	Pat Number	Weight (lb)	Nominal capacity	Manufacturer	Material	Interpolated / Included With Test
DPF(Q) Type	DB62-04066A	0.2	-	SANHUA	SUS	UUT-1j, UUT-2j
DPF(Q) Type	DB62-04064A	0.1	-	SANHUA	SUS	UUT-1j, UUT-2j

<b>GAS V/V</b>						
Description	Pat Number	Weight (lb)	Nominal capacity	Manufacturer	Material	Interpolated / Included With Test
FDF Type	DB33-00069A	0.1	-	SANHUA	SUS	UUT-1j, UUT-2j

<b>Printed Circuit Board</b>						
Description	Part Number	Weight (lb)	Nominal Capacity	Manufacturer	Material	Interpolated / Included With Test
Main	DB92-02787	0.5	-	NOVASEZ	ABS Plastic	UUT-1j, UUT-2j

**Table 2k. Certified Sub-Component List**

$S_{DS} = 2.50g @ z/h = 1.0$

$F_p / W_p = 1.88$

Group K: DVM S Cassette Indoor Unit

Mounting: Suspended

<b>Heat Exchanger</b>							
Part Number	Weight (lb)	Nominal Capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB96-17305B	5.24	Φ7 x 2R x 8C	-	-	Samsung	Al Fin / Cu Tube	UUT-1k
DB96-17305A	5.55	Φ7 x 2R x 8C	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-17384A	6.15	Φ7 x 2R x 10C	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-22191A	6.64	Φ7 x 2R x 8C	-	-	Samsung	Al Fin / Cu Tube	UUT-3k
DB96-17703B	7.78	Φ7 x 2R x 8C	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-15326A	7.78	Φ7 x 2R x 8C	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-15440A	9.62	Φ7 x 2R x 10C	-	-	Samsung	Al Fin / Cu Tube	Interpolated
DB96-22190A	9.96	Φ7 x 2R x 12C	-	-	Samsung	Al Fin / Cu Tube	UUT-4k
DB96-13911B	11.45	Φ7 x 2R x 12C	-	-	Samsung	Al Fin / Cu Tube	UUT-2k

<b>Fan Motor</b>							
Part Number	Weight (lb)	Nominal Capacity	Voltage	HP	Manufacturer	Material	Interpolated / Included With Test
DB31-00577	4.63	97W	DC310V	0.13	SSCD	Cu + Al	UUT-1k, UUT-3k
DB31-00578	3.53	65W	DC310V	0.09	SSCD	Cu + Al	UUT-2k, UUT-4k

<b>Printed Circuit Board</b>							
Description	Part Number	Weight (lb)	Nominal Capacity		Manufacturer	Material	Interpolated / Included With Test
Main	DB92-02783	0.51	-	-	Samsung	ABS Plastic	UUT-1k, UUT-2k
	DB92-04034	0.63	-	-	NOVASEZ	ABS Plastic	UUT-3k, UUT-4k

**Table 2I. Certified Sub-Component List**

S<sub>DS</sub> = 2.50g @ z/h = 1.0

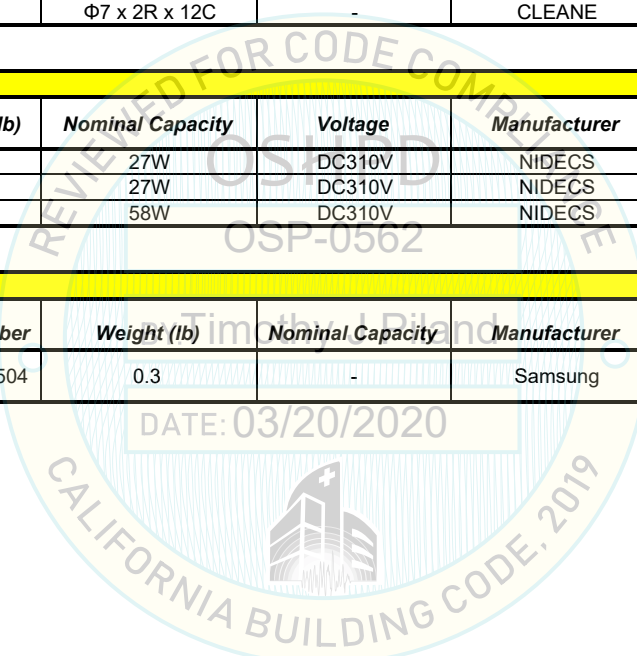
F<sub>p</sub> / W<sub>p</sub> = 1.88

Group L: DVM S Wall-Mounted Indoor Unit  
Mounting: Wall Mounted

<b>Heat Exchanger</b>						
<i>Part Number</i>	<i>Weight (lb)</i>	<i>Nominal capacity</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Material</i>	<i>Interpolated / Included With Test</i>
DB96-19003A	0.8	Φ7 x 1R x 4C	-	YWSZ	Al Fin / Cu Tube	UUT-2I
DB96-19016D	1.1	Φ7 x 2R x 4C	-	YWSZ	Al Fin / Cu Tube	Interpolated
DB96-19002A	1.6	Φ7 x 1R x 8C	-	YWSZ	Al Fin / Cu Tube	UUT-2I
DB96-19001A	2.4	Φ7 x 2R x 6C	-	YWSZ	Al Fin / Cu Tube	UUT-2I
DB96-18994D	4.0	Φ7 x 2R x 10C	-	YWSZ	Al Fin / Cu Tube	UUT-2I
DB96-19016C	0.9	Φ7 x 2R x 3C	-	FENGRU	Al Fin / Cu Tube	Interpolated
DB96-19013C	1.8	Φ7 x 2R x 6C	-	FENGRU	Al Fin / Cu Tube	UUT-1I
DB96-19015E	2.0	Φ7 x 2R x 7C	-	FENGRU	Al Fin / Cu Tube	Interpolated
DB96-19015F	2.1	Φ7 x 2R x 8C	-	FENGRU	Al Fin / Cu Tube	Interpolated
DB96-19012G	2.4	Φ7 x 2R x 8C	-	FENGRU	Al Fin / Cu Tube	UUT-1I
DB96-10764A	2.7	Φ7 x 2R x 6C	-	CLEANE	Al Fin / Cu Tube	UUT-3I
DB96-23472A	5.7	Φ7 x 2R x 12C	-	CLEANE	Al Fin / Cu Tube	UUT-3I

<b>Fan Motor</b>						
<i>Part Number</i>	<i>Weight (lb)</i>	<i>Nominal Capacity</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Material</i>	<i>Interpolated / Included With Test</i>
DB31-00636	1.8	27W	DC310V	NIDECS	Cu + Al	UUT-1I
DB31-00637	1.9	27W	DC310V	NIDECS	Cu + Al	UUT-2I
DB31-00332	3.5	58W	DC310V	NIDECS	Cu + Al	UUT-3I

<b>Printed Circuit Board</b>						
<i>Description</i>	<i>Part Number</i>	<i>Weight (lb)</i>	<i>Nominal Capacity</i>	<i>Manufacturer</i>	<i>Material</i>	<i>Interpolated / Included With Test</i>
Main	DB92-03504	0.3	-	Samsung	ABS Plastic	UUT-1I, UUT-2I, UUT-3I



### UUT-1a Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1913.0  
 Testing Unit Num: Q1913-01-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM072FXVAJH/AA	72,000	443.2	Rigid Base Mounted	X	Front - Back	11.7	30.1	34.6	66.7
				Y	Side - Side	16.6			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Six (6) - 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	Seismic brackets added to mounting	CBC 2016	AC 156	2.75	1.0	4.40g	3.30g	1.91g	0.77g
Test Anomaly	None			2.85	0.0				

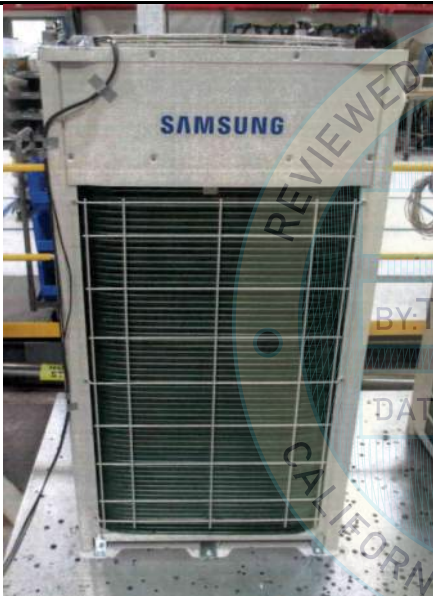


Figure 1a.1: Unit on the shake table

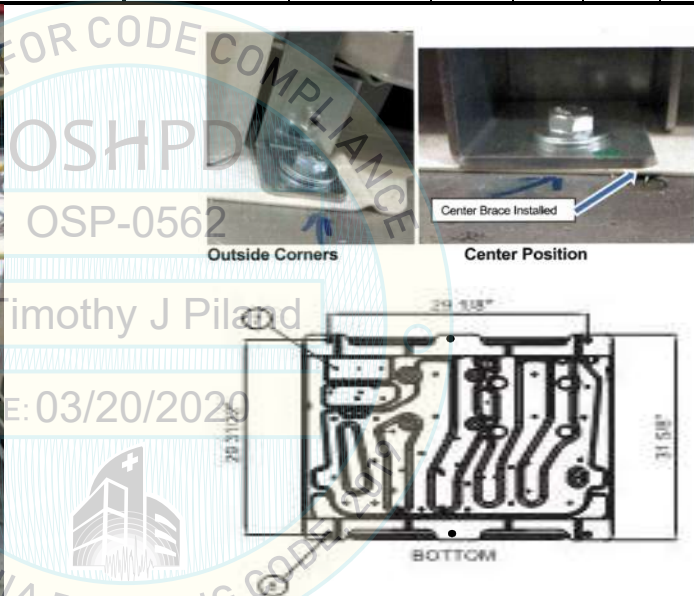


Figure 1a.2: Mounting Details (Plan View and Photo)

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

### UUT-1a Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS-GB052FAVBGS	Samsung	Cast Iron
Heat Exchanger	DB96-14514A	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00330J	Samsung	CU
Printed Circuit Board: Main	DB92-03340A	NOVASEZ	ABS Plastic
Printed Circuit Board: Hub	DB92-03342A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03526B	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB92-02806A	NOVASEZ	ABS Plastic
Printed Circuit Board: Fan	DB92-02807B	NOVASEZ	ABS Plastic
Printed Circuit Board: Comm.	DB93-13404A	NOVASEZ	ABS Plastic
Expansion Valve	DB62-04065A	SANHUA	CU
Expansion Valve	DB62-05606A	SANHUA	CU
Service Valve	DB62-10812A	DUNAN	CU
Service Valve	DB62-10811A	DUNAN	CU
Pressure Sensor	DB32-00194B	SAGINQMIA	CU
Pressure Sensor	DB32-00195B	SAGINQMIA	CU
Pressure Switch	DB34-00071B	SHINHAN	CU
4 Way Valve	DB62-02834A	SANHUA	CU
(2x) Solenoid Valve	DB62-07588A	SANHUA	CU
(2x) Solenoid Valve	DB62-04150A	SANHUA	CU
Subcooler	DB96-16377E	ALFA LAVAL	CU +STS

### UUT-2a Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1913.0  
 Testing Unit Num: Q1913-02-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM192HXVAJR2AA	192,000	727.0	Rigid Base Mounted	X	Front - Back	8.8	30.1	51	66.7
				Y	Side - Side	8.5			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Seismic Parameters																								
Six (6) - 3/8"Ø Grade 5 bolts in mounting holes	<table border="1"> <thead> <tr> <th>Building Code</th> <th>Test Criteria</th> <th>S<sub>Ds</sub> (g)</th> <th>z/h</th> <th colspan="2">Horizontal</th> <th colspan="2">Vertical</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <th>A<sub>FLX-H</sub></th> <th>A<sub>RIG-H</sub></th> <th>A<sub>FLX-V</sub></th> <th>A<sub>RIG-V</sub></th> </tr> </thead> <tbody> <tr> <td>CBC 2016</td> <td>AC 156</td> <td>2.75 2.85</td> <td>1.0 0.0</td> <td>4.40g</td> <td>3.30g</td> <td>1.91g</td> <td>0.77g</td> </tr> </tbody> </table>	Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical						A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>	CBC 2016	AC 156	2.75 2.85	1.0 0.0	4.40g	3.30g	1.91g	0.77g
Building Code		Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical																		
				A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>																		
CBC 2016	AC 156	2.75 2.85	1.0 0.0	4.40g	3.30g	1.91g	0.77g																		
Seismic Modifications: Seismic brackets added to mounting																									
Test Anomaly: None																									

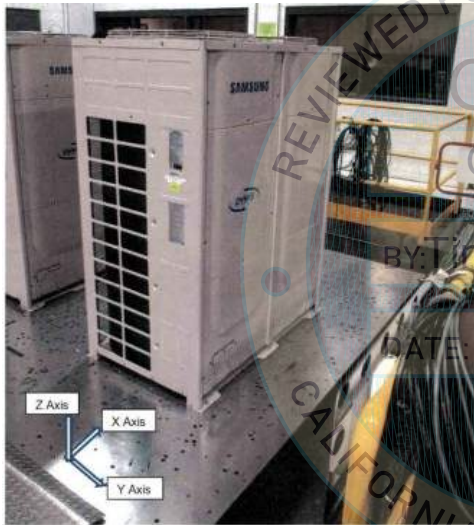


Figure 2a.1: Unit on the shake table



Figure 2a.2: Mounting Details (Plan View and Photo)

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

### UUT-2a Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS-GB066FAVBSG	Samsung	Cast Iron
Heat Exchanger	DB96-20545A	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00675A	Samsung	Al
Fan Motor	DB31-00675B	Samsung	Al
Printed Circuit Board: Main	DB92-03752A	NOVASEZ	ABS Plastic
Printed Circuit Board: Hub	DB92-03342A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03526A	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB92-02806A	NOVASEZ	ABS Plastic
Printed Circuit Board: Fan	DB92-02807A	NOVASEZ	ABS Plastic
Printed Circuit Board: Comm.	DB93-13404A	NOVASEZ	ABS Plastic
Expansion Valve	DB62-11205B	SANHUA	CU
Expansion Valve	DB62-09643A	SANHUA	CU
Service Valve	DB62-07617A	ESSEN	CU
Service Valve	DB62-07613A	ESSEN	CU
Pressure Sensor	DB32-00194A	SAGINQMIA	CU
Pressure Sensor	DB32-00195A	SAGINQMIA	CU
(2x) Pressure Switch	DB34-00071B	SHINHAN	CU
4 Way Valve	DB62-08209A	SANHUA	CU
(2x) Solenoid Valve	DB62-07588A	SANHUA	CU
(2x) Solenoid Valve	DB62-04150A	SANHUA	CU
Subcooler	DB96-18993C	DANFOSS	CU +STS

### UUT-1b Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1934.0  
 Testing Unit Num: Q1934-01-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM055KXWDCH/AA	54,600	201	Rigid Base Mounted	X	Front - Back	12.9	13.0	29.5	31.5
				Y	Side - Side	18.2			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	Seismic brackets added to mounting	CBC 2016	AC 156	2.30	1.0	3.68g	2.76g	1.68g	0.68g
Test Anomaly	None			2.50	0.0				



Figure 1b.1: Unit on the shake table



Figure 1b.2: Mounting Details

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

### UUT-1b Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	UG5T450FUEJXSG	Samsung	Cast Iron
Heat Exchanger	DB96-22504B	Samsung	Al Fin / Cu Tube
Printed Circuit Board: Main	DB92-03322B	Samsung	ABS Plastic
Printed Circuit Board: Water Hub	DB92-02931A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03691A	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB93-11110D	Sangshin Electronics	ABS Plastic
Check Valve	DB62-06190B	SANHUA	CU
Service Valve	DB62-09654A	SANHUA	CU
Service Valve	DB62-03173A	SANHUA	CU
4 Way Valve	DB62-02838A	SANHUA	CU
Valve	DB62-07588B	SANHUA	CU
Valve	DB62-04064A	SANHUA	CU
Valve	DB62-04149B	SANHUA	CU
Main EEV Valve	DB62-11205A	SANHUA	CU
Fusible	DB63-00448B	WINIX	CU

### UUT-2b Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-05-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM120HXWAJR/AA	120,000	368	Rigid Base Mounted	X	Front - Back	11.1	21.5	30.3	39.4
				Y	Side - Side	10.3			
				Z	Vertical	30.9			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	2.65	1.0	4.24g	3.18g	2.08g	0.84g
Test Anomaly	None			3.10	0.0				



Figure 2b.1: Unit on the shake table

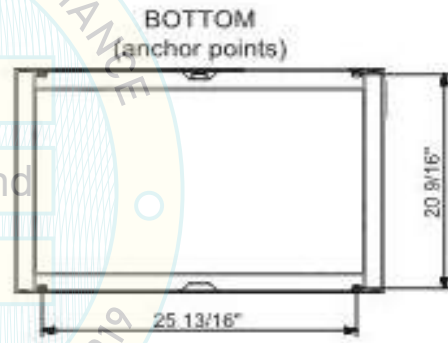


Figure 2b.2: Mounting Detail (Plan View)

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

### UUT-2b Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS-GB066FAVBSG	Samsung	Cast Iron
Heat Exchanger	DB96-16309D	Samsung	Al Fin / Cu Tube
Printed Circuit Board: Main	DB92-03979A	Samsung	ABS Plastic
Printed Circuit Board: Water Hub	DB92-02931A	NOVASEZ	ABS Plastic
Printed Circuit Board: Hub	DB92-03342A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03527A	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB93-12089D	NOVASEZ	ABS Plastic
Printed Circuit Board: Comm	DB93-13404A	NOVASEZ	ABS Plastic
Check Valve	DB62-06190B	SANHUA	CU
Check Valve	DB62-01400G	SANHUA	CU
Check Valve	DB62-06187B	SANHUA	CU
Check Valve	DB62-06188B	SANHUA	CU
Service Valve	DB62-10812A	DUNAN	CU
Service Valve	DB62-10811A	DUNAN	CU
4 Way Valve	DB62-02834A	SANHUA	CU
Valve	DB62-07588A	SANHUA	CU
Valve	DB62-04149A	SANHUA	CU
(2x) Valve	DB62-09632A	SANHUA	CU
Valve	DB62-04065A	SANHUA	CU
Valve	DB62-09071A	SAGINOMIA	CU
Main EEV Valve	DB62-05606A	SANHUA	CU
Fusible	DB63-00448B	WINIX	CU

### UUT-3b Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0, rev2  
 Testing Unit Num: Q1750-06-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM240KXWAJR/AA	270,000	611	Rigid Base Mounted	X	Front - Back	>33.3	21.5	43.3	39.4
				Y	Side - Side	13.6			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	2.65	1.0	4.24g	3.18g	2.08g	0.84g
Test Anomaly	None			3.10	0.0				

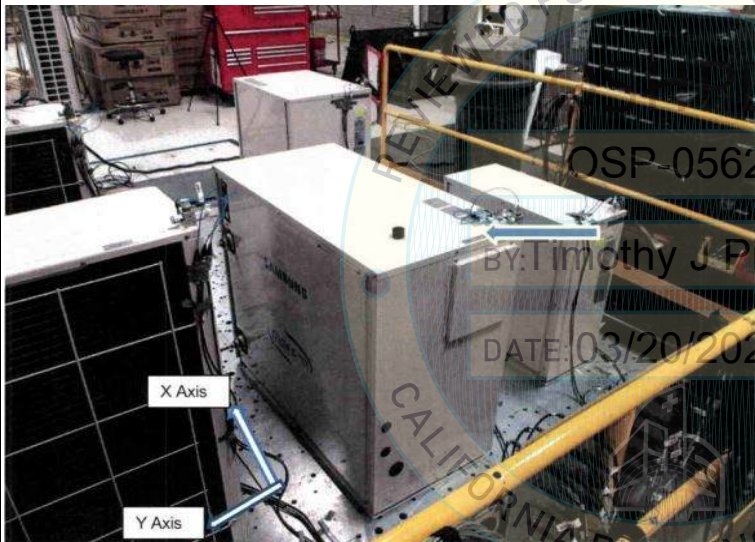


Figure 3b.1: Unit on the shake table

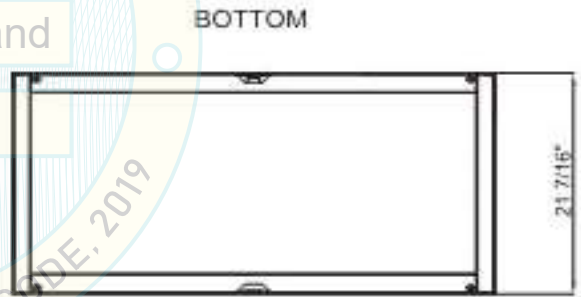


Figure 3b.2: Mounting Detail (Plan View)

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

### UUT-3b Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS-GB066FAVBGS	Samsung	Cast Iron
Heat Exchanger	DB96-22740B	Samsung	Al Fin / Cu Tube
Printed Circuit Board: Main	DB92-03979A	Samsung	ABS Plastic
Printed Circuit Board: Water Hub	DB92-02931A	NOVASEZ	ABS Plastic
Printed Circuit Board: Hub	DB92-03342A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03527C	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB92-02806A	NOVASEZ	ABS Plastic
Printed Circuit Board: Comm	DB93-13404A	NOVASEZ	ABS Plastic
Check Valve	DB62-06187B	SANHUA	CU
Check Valve	DB62-06188B	SANHUA	CU
Check Valve	DB62-07620A	SANHUA	CU
Service Valve	DB62-10812A	DUNAN	CU
(3x) Service Valve	DB62-07613A	ESSEN	CU
4 Way Valve	DB62-05043A	SANHUA	CU
Valve	DB62-04149B	SANHUA	CU
(2x) Valve	DB62-07588A	SANHUA	CU
Valve	DB62-09633A	SANHUA	CU
Valve	DB62-09071A	SAGINOMIA	CU
Main EEV Valve	DB62-09643A	SANHUA	CU
Fusible	DB63-00448B	WINIX	CU



### UUT-1c Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1934.0  
 Testing Unit Num: Q1934-02-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AG010KSVAJH/AA	168,000	971	Rigid Base Mounted	X	Front - Back	10.3	30.1	70.7	66.7
				Y	Side - Side	7.4			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Seismic Modifications	Test Anomaly	Seismic Parameters							
			Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
Eight (8) - 3/8"Ø Grade 5 bolts with double washers in mounting holes	Four (4) additional mounting holes with seismic brackets on each anchorage point.	None	CBC 2016	AC 156	2.30	1.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
		2.50			0.0	3.68g	2.76g	1.68g	0.68g	



Figure 1c.1: Unit on the shake table

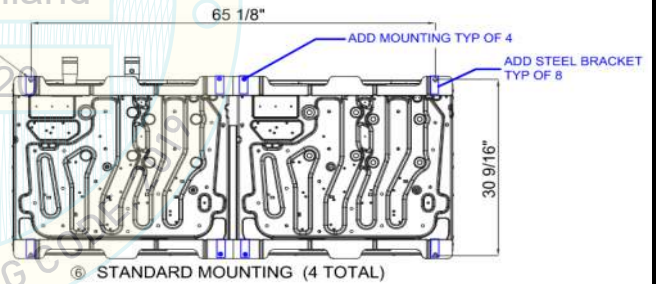


Figure 1c.2: Mounting Detail (Plan View and Photo) with Seismic Modifications

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

### UUT-1c Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS-GB070FAVAG	Samsung	Cast Iron
Heat Exchanger	DB96-22260A	Samsung	Al Fin / Cu Tube
Plate Type Heat Exchanger	DB96-18184B	ALFA LAVAL	Stainless Steel
Fan Motor	DB31-00330J	SSIN	CU, Al
Fan Motor	DB31-00676A	SSIN	CU, Al
Printed Circuit Board: Main	DB92-03913A	Samsung	ABS Plastic
Printed Circuit Board: Hub	DB92-03342A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03527A	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB93-12089D	NOVASEZ	ABS Plastic
Printed Circuit Board: Fan	DB93-12089D	NOVASEZ	ABS Plastic
Printed Circuit Board: Comm	DB93-13404A	NOVASEZ	ABS Plastic
Check Valve	DB62-06190B	SANHUA	CU
4 Way Valve	DB62-02834A	SANHUA	CU
(4x) Valve	DB62-07588A	SANHUA	CU
(3x) Valve	DB62-04149A	SANHUA	CU
Valve	DB62-09632A	SANHUA	CU
Main EEV Valve	DB62-05606A	SANHUA	CU
Fusible	DB63-00448B	WINIX	CU

### UUT-2c Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1913.0  
 Testing Unit Num: Q1913-06-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AG015KSVAFH/AA	168,000	986	Rigid Base Mounted	X	Front - Back	7.4	30.1	70.7	66.7
				Y	Side - Side	7.8			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Twelve (12) - 3/8"Ø Grade 5 bolts with double washers in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	Eight (8) additional mounting holes with seismic brackets on each anchorage point.	CBC 2016	AC 156	2.75	1.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None			2.85	0.0	4.40g	3.30g	1.91g	0.77g



Figure 2c.1: Unit on the shake table

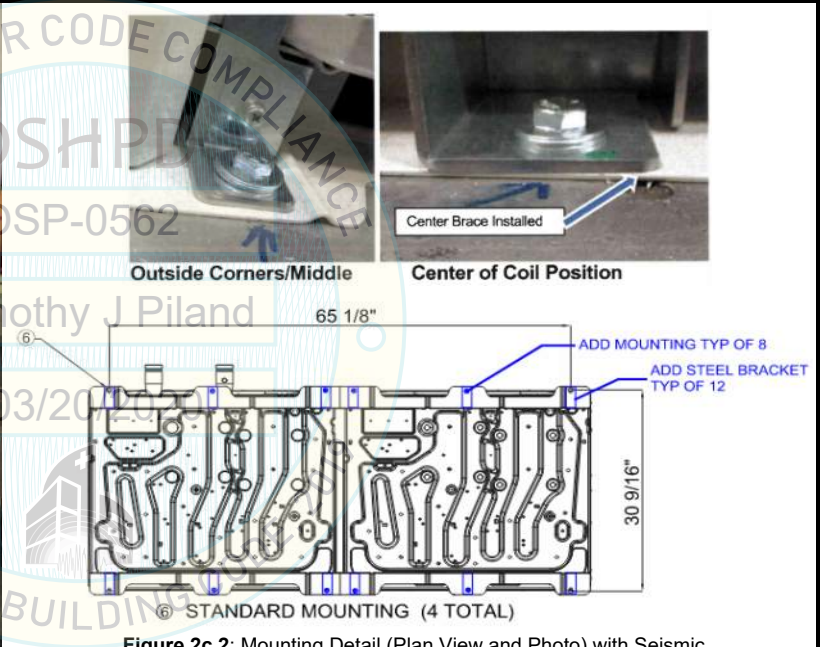


Figure 2c.2: Mounting Detail (Plan View and Photo) with Seismic Modifications

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

### UUT-2c Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS4GJ5066EVASG	Samsung	Cast Iron
Heat Exchanger	DB96-22260A	Samsung	Al Fin / Cu Tube
Plate Type Heat Exchanger	DB96-18184B	ALFA LAVAL	Stainless Steel
Fan Motor	DB31-00330J	SSIN	CU, Al
Fan Motor	DB31-00676A	SSIN	CU, Al
Printed Circuit Board: Main	DB92-03913A	Samsung	ABS Plastic
Printed Circuit Board: Hub	DB92-03342A	NOVASEZ	ABS Plastic
Printed Circuit Board: Inverter	DB92-03527A	YOUNGREEM Tech	ABS Plastic
Printed Circuit Board: EMI	DB93-12089D	NOVASEZ	ABS Plastic
Printed Circuit Board: Fan	DB93-12089D	NOVASEZ	ABS Plastic
Printed Circuit Board: Comm	DB93-13404A	NOVASEZ	ABS Plastic
Check Valve	DB62-06190B	SANHUA	CU
4 Way Valve	DB62-02834A	SANHUA	CU
(4x) Valve	DB62-07588A	SANHUA	CU
(3x) Valve	DB62-04149A	SANHUA	CU
Valve	DB62-09632A	SANHUA	CU
Main EEV Valve	DB62-05606A	SANHUA	CU
Fusible	DB63-00448B	WINIX	CU

### UUT-1d Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-09-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM006JNFDCH/AA	6,000	50.7	Rigid Base Mounted	X	Front - Back	28.9	37.2	8.7	23.6
				Y	Side - Side	31.9			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	2.90	1.0	4.64g	3.48g	2.14g	0.86g
Test Anomaly	None			3.20	0.0				

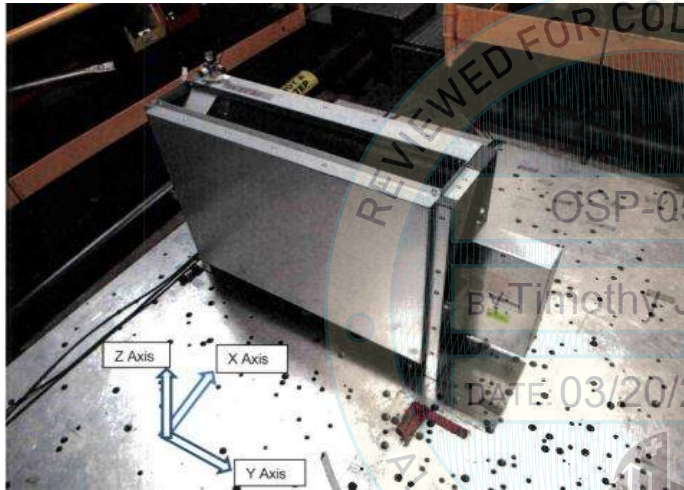


Figure 1d.1: Unit on the shake table

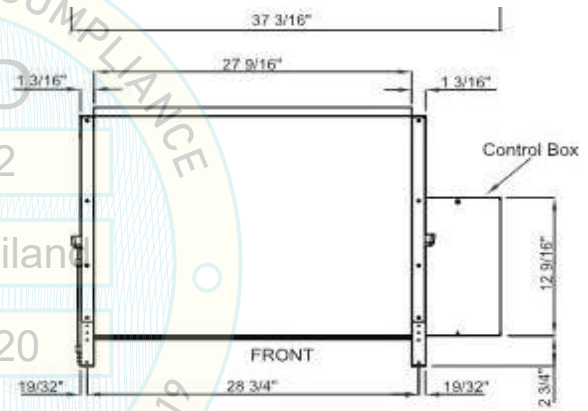


Figure 1d.2: Mounting Detail (Elevation)

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

### UUT-1d Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DFS96-0018A	DAIHAN CLIMATE CONTROL	Al Fin / Cu Tube
Fan Motor	DFS30-0005A	OYANG KONGJOKI	CU, Iron, Plastic, PVC, AL
Printed Circuit Board	DB92-02786A	NOVASEZ	ABS Plastic
Expansion Valve	DB62-11471A	SANHUA	CU
Service Valve	DFS96-1001A	DONGJOO METAL	CU
Service Valve	DFS96-2001B	DONGJOO METAL	CU

### UUT-2d Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-10-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM024JNGDCH/AA	24,000	69.4	Rigid Base Mounted	X	Front - Back	29.1	57.1	8.7	23.6
				Y	Side - Side	31.4			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	2.90	1.0	4.64g	3.48g	2.14g	0.86g
Test Anomaly	None			3.20	0.0				

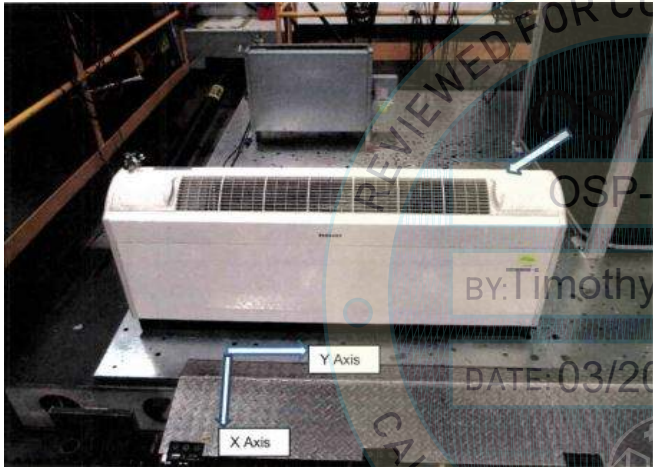


Figure 2d.1: Unit on the shake table

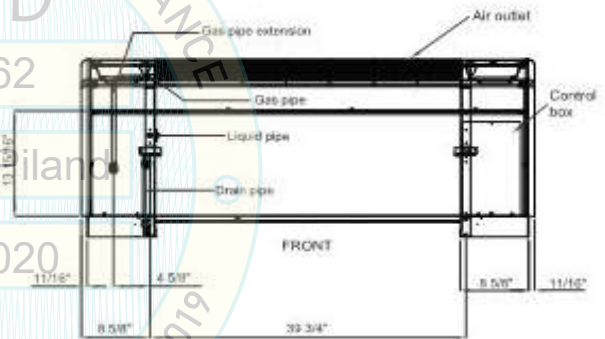


Figure 2d.2: Mounting Detail (Elevation)

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

### UUT-2d Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DFS96-0071B	DAIHAN CLIMATE CONTROL	Al Fin / Cu Tube
Fan Motor	DFS30-0008A	OYANG KONGJOKI	CU, Iron, Plastic, PVC, AL
Printed Circuit Board	DB92-02786A	NOVASEZ	ABS Plastic
Expansion Valve	DB62-11472A	SANHUA	CU
Service Valve	DFS96-1003A	DONGJOO METAL	CU
Service Valve	DFS96-2003B	DONGJOO METAL	CU

### UUT-1e Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-11-01-02

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM048FXMDCH/AA	48,000	220.5	Rigid Base Mounted	X	Front - Back	>33.3	13	37	47.6
				Y	Side - Side	12.9			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of length which was measured from different datum  
 \* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Grade 5 bolts with double washer in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	Two (2) - L2x2x1/8 braces to table with 3/8"Ø Grade 5 bolt and double washer. Four (4) - L2x2x1/8 x 4" long aluminum angle bracket (one each corner). Bracket attached to unit with two (2) - #12 SMS and secure to table with 3/8"Ø Grade 5 bolt and flat washer.	CBC 2016	AC 156	3.00 2.95	1.0 0.0	4.80g	3.60g	1.98g	0.8g
Test Anomaly	None								

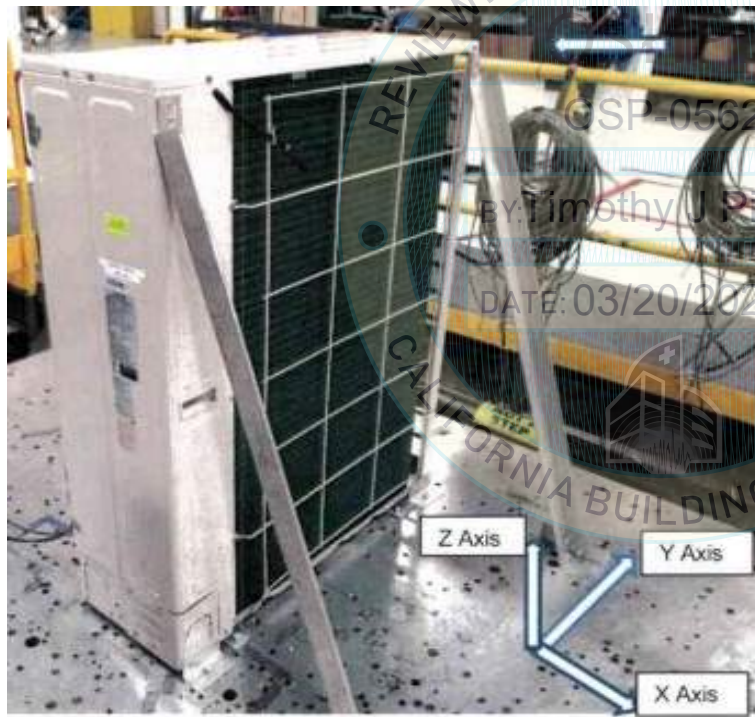


Figure 1e.1: Unit on the shake table

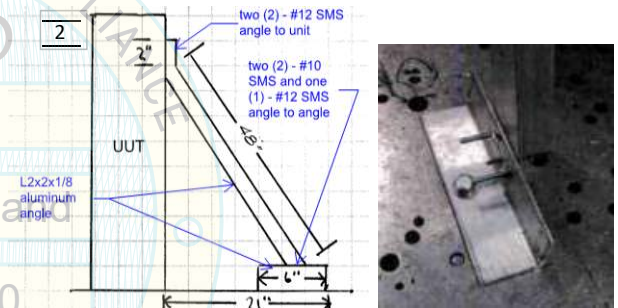


Figure 1e.3: Seismic Modifications (SSK and Photo)

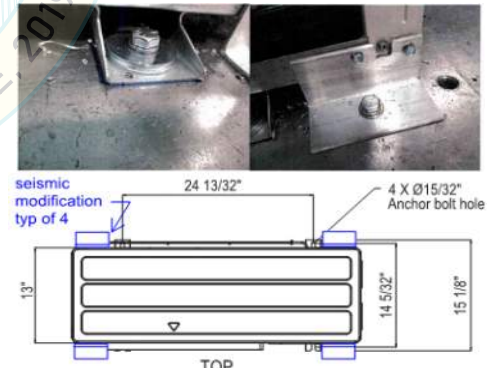


Figure 1e.2: Mounting Details (Plan View and Photo)

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

### UUT-1e Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	UG5T450FUEJX*	Samsung	Cast Iron
Heat Exchanger	DB75-00506C	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00579*	SCD	Al
Printed Circuit Board: Main	DB92-03322*	Samsung	ABS Plastic
Printed Circuit Board: Main	DB92-03323*	XINAN	ABS Plastic
Printed Circuit Board: EMI	DB93-11110*	Sangshin Electronics	ABS Plastic
Printed Circuit Board: EMI	DB93-11110*	XINAN	ABS Plastic
Printed Circuit Board: Inverter	DB93-11113*	NELCOM	ABS Plastic
Expansion Valve	DB62-05606A	SANHUA	CU
Expansion Valve	DB62-04064A	SANHUA	CU
Service Valve	DB62-09659A	SANHUA	CU
Service Valve	DB62-09660A	SANHUA	CU

### UUT-2e Test Summary

Testing Lab: Curtiss-Wright  
Testing Report: Q1750.0  
Testing Unit Num: Q1750-12-01-02

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction		Frequency* (Hz)	Length (in)	Width (in)	Height (in)
				X	Y				
AM053FXMDCH/AA	53,000	227.1	Rigid Base Mounted	X	Front - Back	>33.3	13	37	47.6
				Y	Side - Side	20.7			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of length which was measured from different datum

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Seismic Parameters	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h				
Four (4) - 3/8"Ø Grade 5 bolts in mounting holes	Two (2) - L2x2x1/8 braces to table with 3/8"Ø Grade 5 bolt and double washer. Four (4) - L2x2x1/8 x 4" long aluminum angle bracket (one each corner). Bracket attached to unit with two (2) - #12 SMS and secure to table with 3/8"Ø Grade 5 bolt and flat washer.	CBC 2016	AC 156	3.00 2.95	1.0 0.0	Horizontal		Vertical	
A <sub>FLX-H</sub>						A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>	
4.80g						3.60g	1.98g	0.80g	
Test Anomaly	None								

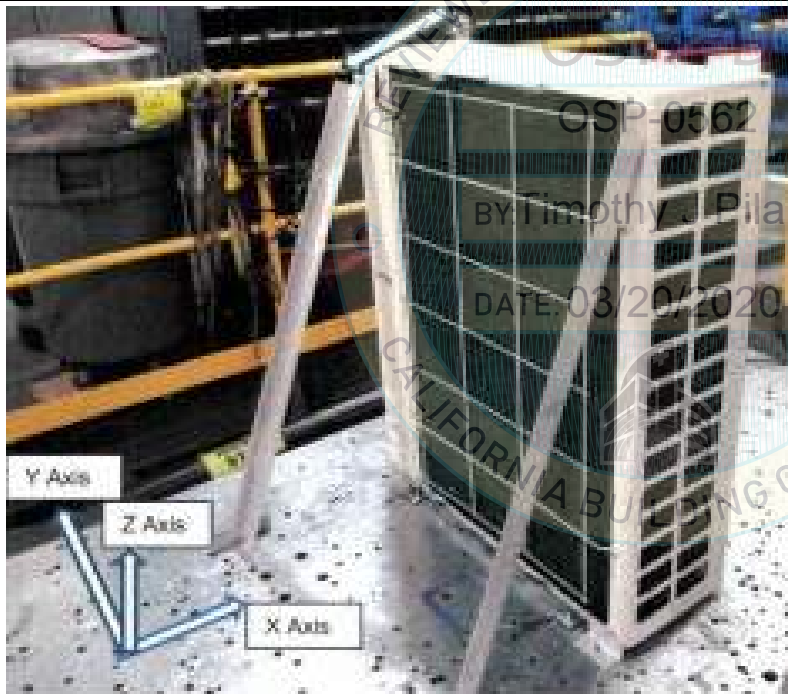


Figure 2e.1: Unit on the shake table

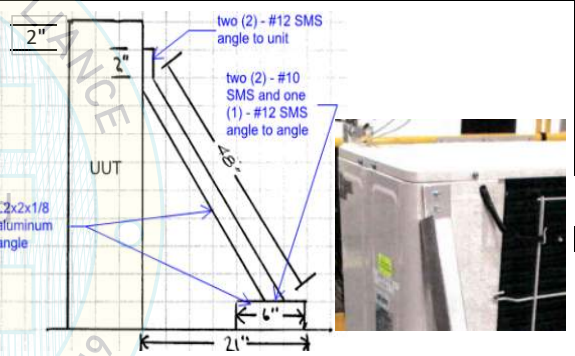


Figure 1e.3: Seismic Modifications (SSK and Photo)

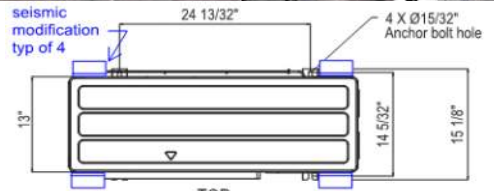


Figure 2e.2: Mounting Details (Plan View and Photo)

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

### UUT-2e Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	UG5T450FUEJX*	Samsung	Cast Iron
Heat Exchanger	DB75-00527A	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00579*	SCD	Al
Printed Circuit Board: Main	DB92-03322*	Samsung	ABS Plastic
Printed Circuit Board: Main	DB92-03323*	XINAN	ABS Plastic
Printed Circuit Board: EMI	DB93-11110*	Sangshin Electronics	ABS Plastic
Printed Circuit Board: EMI	DB93-11110*	XINAN	ABS Plastic
Printed Circuit Board: Inverter	DB93-11113*	NELCOM	ABS Plastic
Expansion Valve	DB62-05606A	SANHUA	CU
Expansion Valve	DB62-04064A	SANHUA	CU
Service Valve	DB62-09659A	SANHUA	CU
Service Valve	DB62-09660A	SANHUA	CU

### UUT-3e Test Summary

Testing Lab: Curtiss-Wright  
Testing Report: Q1750.0  
Testing Unit Num: Q1750-13-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM060MXMDCH/AA	60,000	286.6	Rigid Base Mounted	X	Front - Back	10.2	13	37	55.9
				Y	Side - Side	18.4			
				Z	Vertical	>33.3			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of length which was measured from different datum  
\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	(4) 3/8"Ø Grade 5 bolts in mounting holes	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	Two (2) - L2x2x1/8 braces to table with 3/8"Ø Grade 5 bolt and double washer. Four (4) - L2x2x1/8 x 4" long aluminum angle bracket (one each corner). Bracket attached to unit with two (2) - #12 SMS and secure to table with 3/8"Ø Grade 5 bolt and flat washer.	CBC 2016	AC 156	3.00 2.95	1.0 0.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None					4.80g	3.60g	1.98g	0.80g

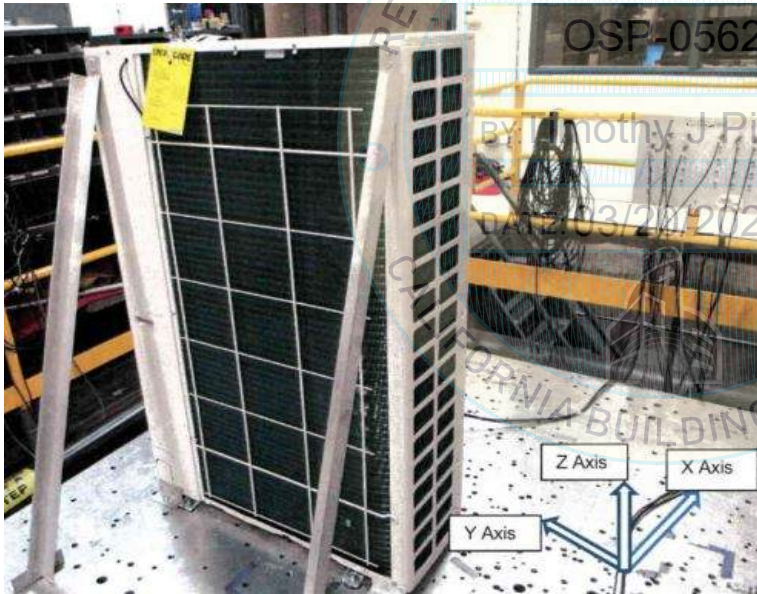


Figure 3e.1: Unit on the shake table

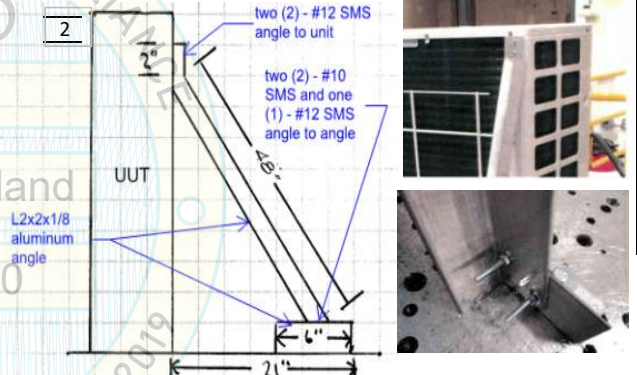


Figure 1e.3: Seismic Modifications (SSK and Photo)

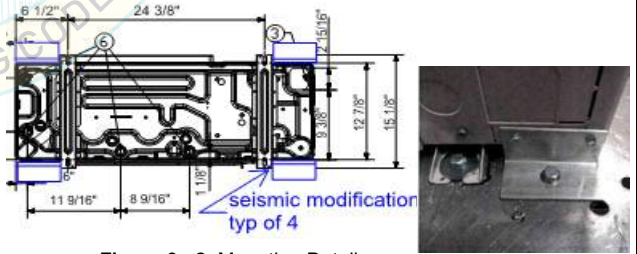


Figure 3e.2: Mounting Details

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

### UUT-3e Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Compressor	DS-GB052FBVA	Samsung	Cast Iron
Heat Exchanger	DB96-19525A	Seiko	Al Fin / Cu Tube
Fan Motor	DB31-00643*	SCD	Al
Printed Circuit Board: Main	DB92-03322*	Samsung	ABS Plastic
Printed Circuit Board: Main	DB92-03323*	XINAN	ABS Plastic
Printed Circuit Board: EMI	DB93-11110*	Sangshin Electronics	ABS Plastic
Printed Circuit Board: EMI	DB93-11110*	XINAN	ABS Plastic
Printed Circuit Board: Inverter	DB92-03687*	XINAN	ABS Plastic
Expansion Valve	DB62-05606A	SANHUA	CU
Expansion Valve	DB62-04065A	SANHUA	CU
Service Valve	DB62-04750A	SANHUA	CU
Service Valve	DB62-05630A	SANHUA	CU

### UUT-1f Test Summary

Testing Lab: Curtiss-Wright  
Testing Report: Q1750.0  
Testing Unit Num: Q1750-14-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM007FNLDCH/AA	7,500	54	Suspended	X	Front - Back	n/a	35.4	23.6	7.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.10 2.95	1.0 0.0	4.96g	3.72g	1.98g	0.8g
Test Anomaly	None								

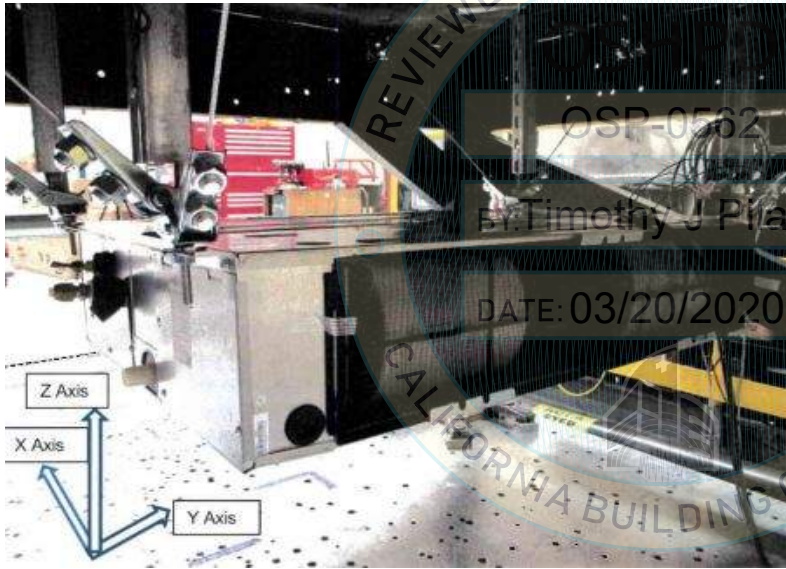


Figure 1f.1: Unit on the shake table

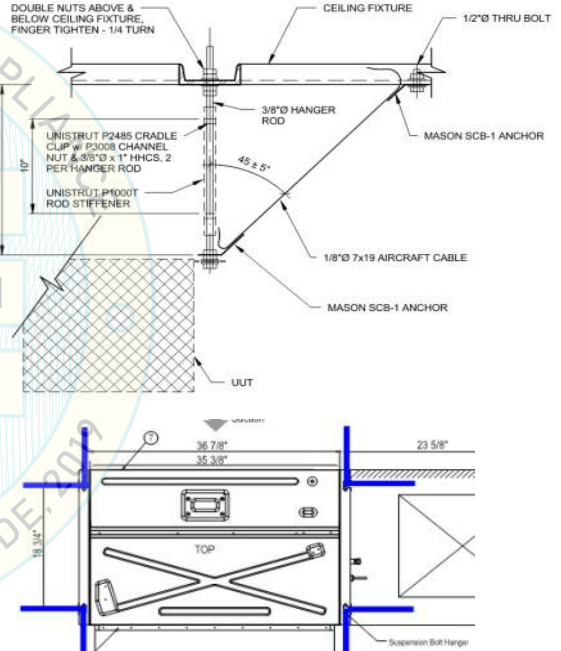


Figure 1f.2: Mounting Detail (Elevation and Plan)

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

### UUT-1f Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-16704A	YWSZ	Al Fin / Cu Tube
Fan Motor	DB31-00377*	CRBSM	Cu + Al
Printed Circuit Board: Main	DB92-02784*	Samsung	ABS Plastic



### UUT-2f Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-15-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM018FNLDC/AA	18,000	66.1	Suspended	X	Front - Back	n/a	43.3	23.6	7.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.05	1.0	4.88g	3.66g	1.98g	0.80g
Test Anomaly	None								

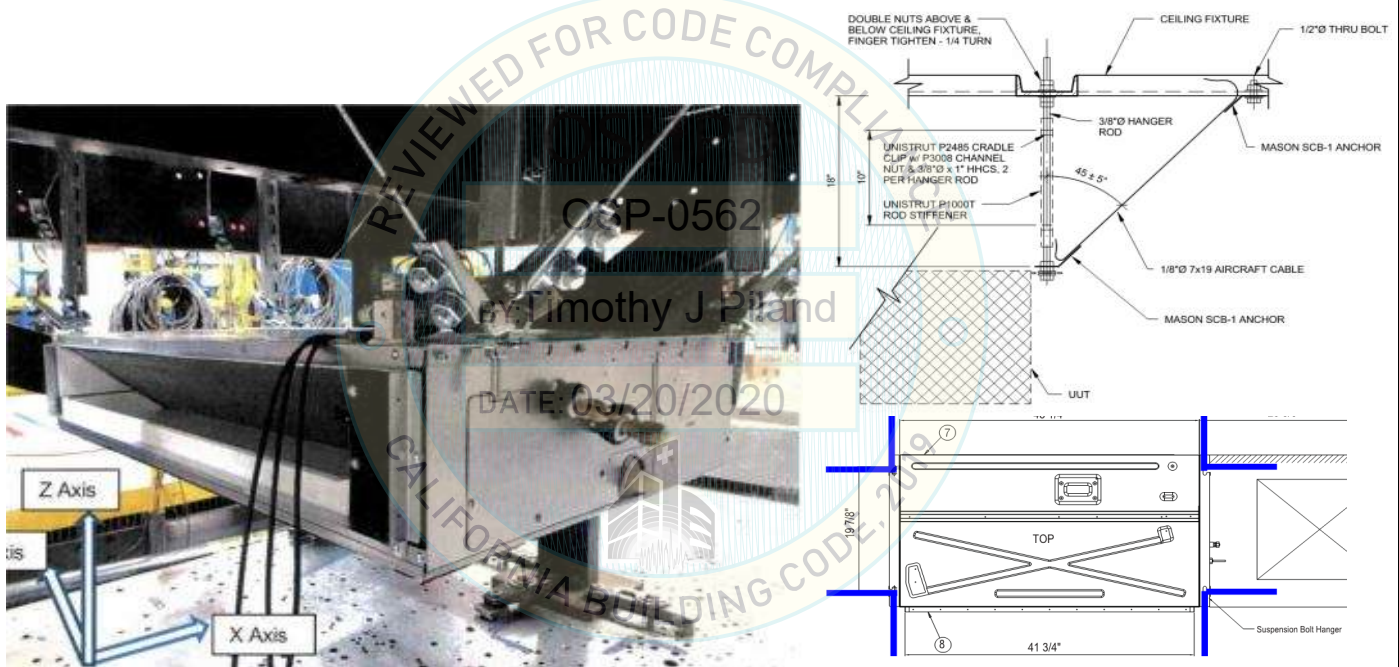


Figure 2f.1: Unit on the shake table

Figure 2f.2: Mounting Detail (Elevation and Plan)

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

### UUT-2f Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-05122A	YWSZ	Al Fin / Cu Tube
Fan Motor	DB31-00314*	CRBSM	Cu + Al
Printed Circuit Board: Main	DB92-02781*	Samsung	ABS Plastic

### UUT-3f Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-16-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM030FNLDCH/AA	30,000	88.2	Suspended	X	Front - Back	n/a	51.2	27.2	11.6
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	4.96g	3.72g	1.98g	0.80g
Test Anomaly	None			2.95	0.0				

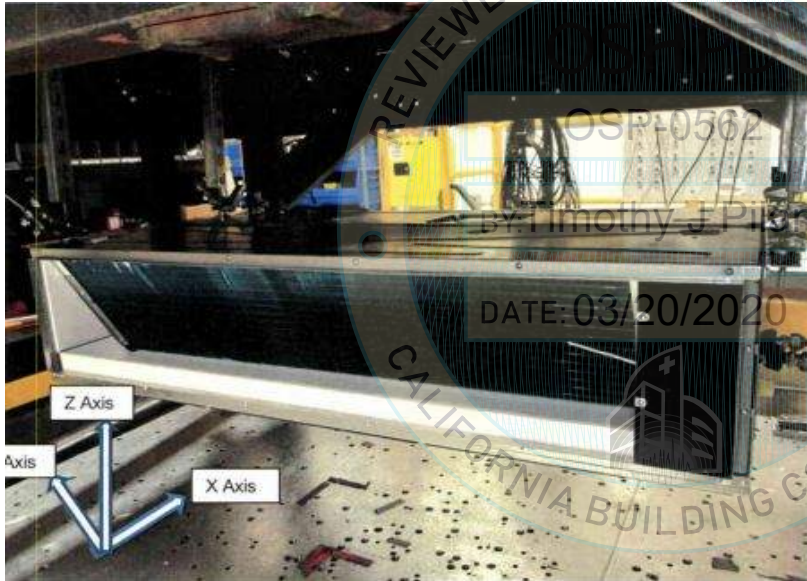


Figure 3f.1: Unit on the shake table

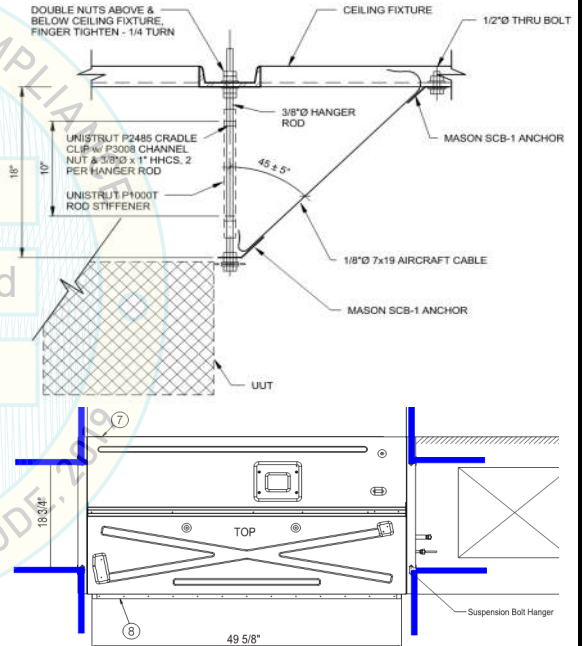


Figure 3f.2: Mounting Detail (Plan and Elevation)

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

### UUT-3f Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-15711A	Jiangsu Clean & Cool Seiko Technology Co., Ltd.	Al Fin / Cu Tube
Fan Motor	DB31-00427*	SPG	Cu + Al
Printed Circuit Board: Main	DB92-02784*	Samsung	ABS Plastic

### UUT-4f Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-17-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM048FNLDCH/AA	48,000	91.5	Suspended	X	Front - Back	n/a	51.2	27.2	11.6
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	4.96g	3.72g	2.01g	0.81g
Test Anomaly	None			3.00	0.0				

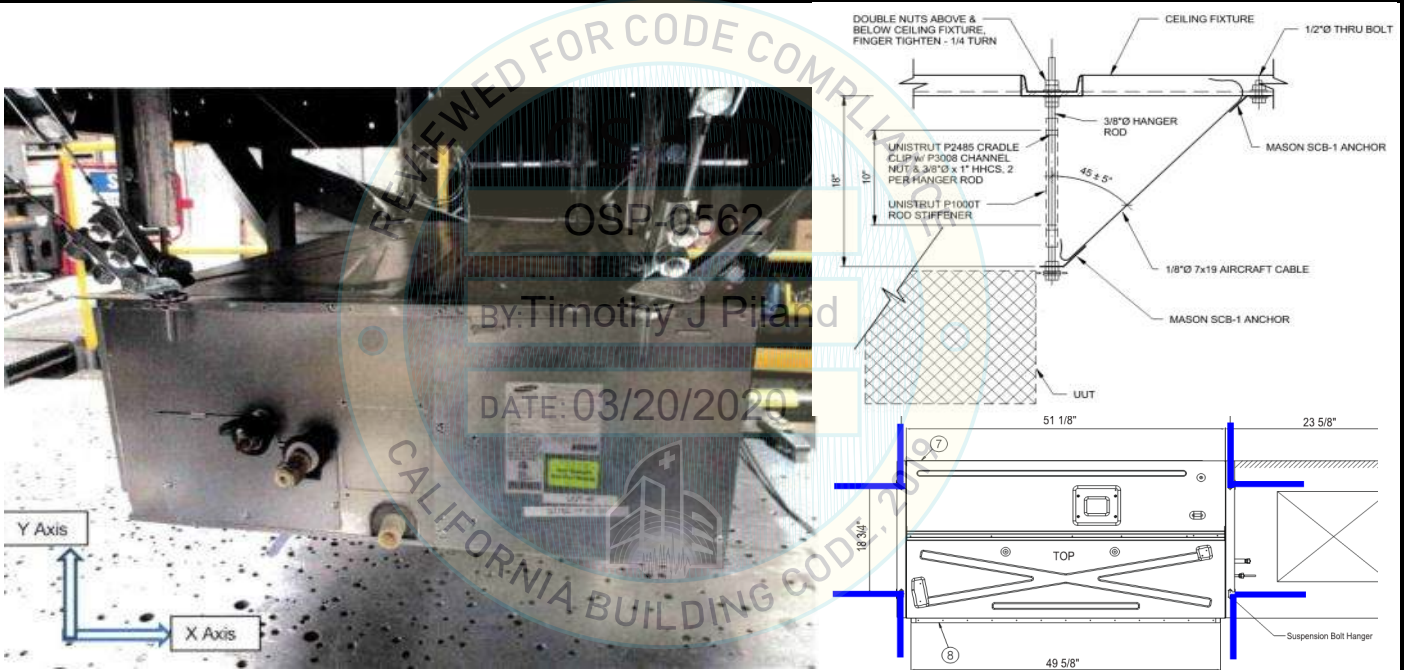


Figure 4f.1: Unit on the shake table

Figure 4f.2: Mounting Detail (Plan and Elevation)

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

### UUT-4f Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-15712A	Jiangsu Clean & Cool Seiko Technology Co., Ltd.	Al Fin / Cu Tube
Fan Motor	DB31-00427*	SPG	Cu + Al
Printed Circuit Board: Main	DB92-02781*	Samsung	ABS Plastic

### UUT-1g Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-18-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM054JNHDC/AA	54,000	137.8	Suspended	X	Front - Back	n/a	47.2	25.6	14.2
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	4.96g	3.72g	1.98g	0.80g
Test Anomaly	None			2.95	0.0				

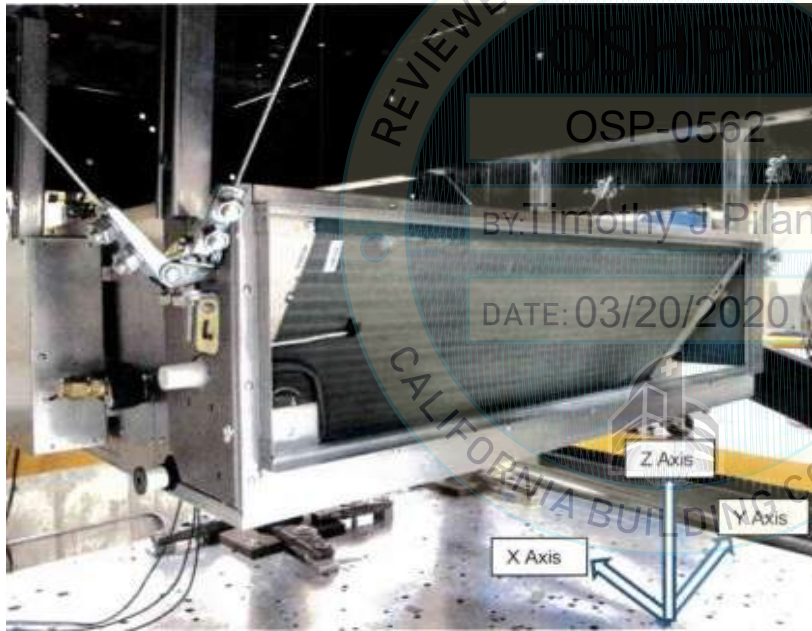


Figure 1g.1: Unit on the shake table

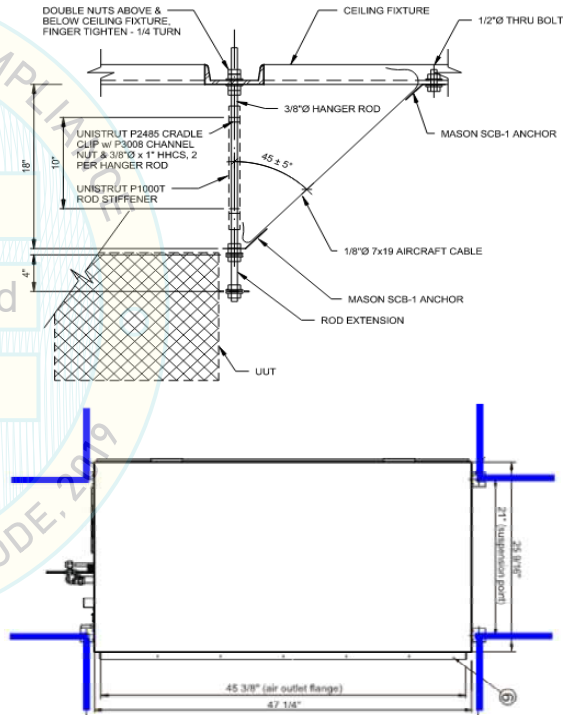


Figure 1g.2: Mounting Detail (Plan and Elevation)

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

### UUT-1g Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-23018A	YWSZ	Al Fin / Cu Tube
Fan Motor	DB31-00603*	SINJUN	Cu + Al
Printed Circuit Board: Main	DB92-02784*	Samsung	ABS Plastic

### UUT-1h Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-19-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM076FNHDCH/AA	76,800	196.2	Suspended	X	Front - Back	n/a	48.8	40.9	18.5
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters				Horizontal		Vertical	
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	4.96g	3.72g	2.08g	0.84g
Test Anomaly	None								



Figure 1h.1: Unit on the shake table

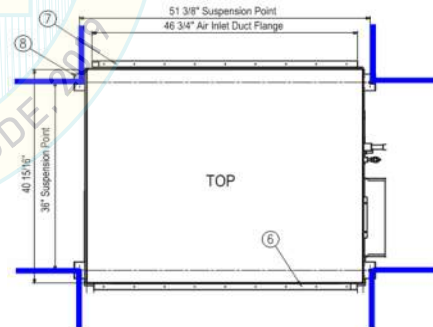
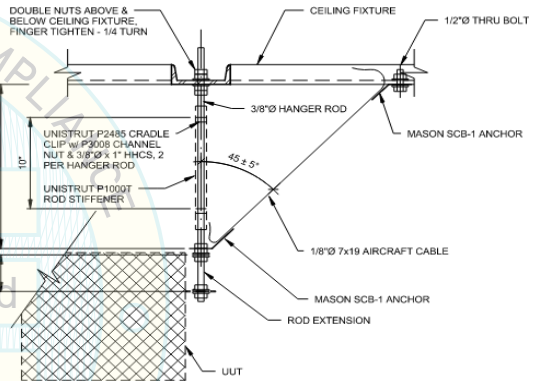


Figure 1h.2: Mounting Detail (Plan and Elevation)

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

### UUT-1h Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-18507A	HANCHANG	Al Fin / Cu Tube
Fan Motor	DB31-00593B	SPG	Cu + Al
Printed Circuit Board: Main	DB92-02784*	Samsung	ABS Plastic
Printed Circuit Board: EMI	DB93-12108A	NOVASEZ	ABS Plastic
Printed Circuit Board: Driver	DB93-12676B	NOVASEZ	ABS Plastic
Expansion Valve	DB62-05606A	SANHUA	CU

### UUT-2h Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-20-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM096FNHDCH/AA	96,000	196.2	Suspended	X	Front - Back	n/a	48.8	40.9	18.5
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	None	CBC 2016	AC 156	3.05	1.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None			3.00	0.0	4.88g	3.66g	2.01g	0.81g

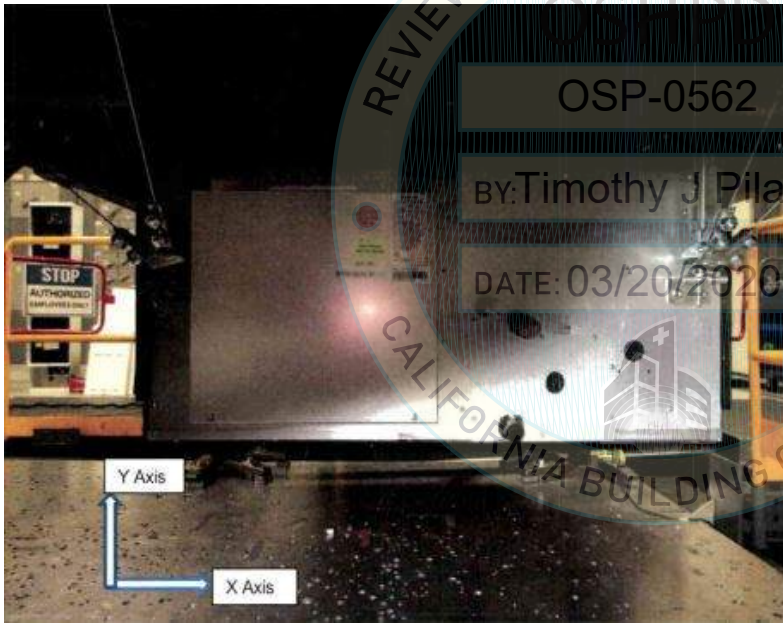


Figure 2h.1: Unit on the shake table

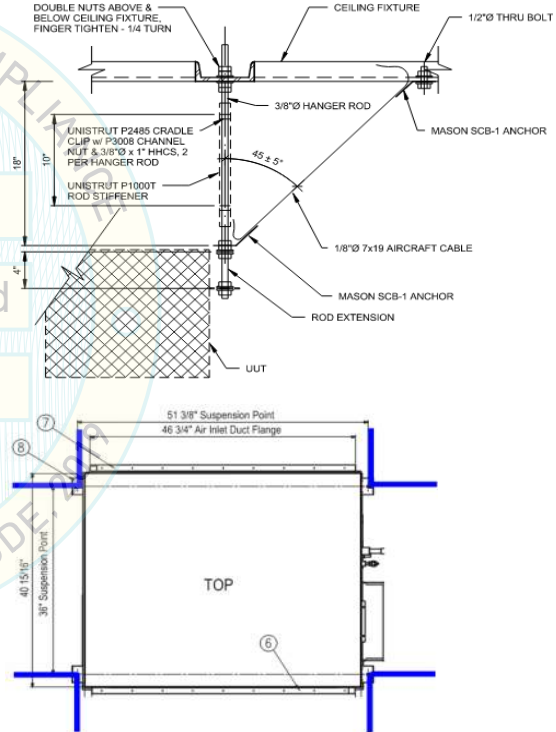


Figure 2h.2: Mounting Detail (Plan and Elevation)

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

### UUT-2h Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-15610B	HANCHANG	Al Fin / Cu Tube
Fan Motor	DB31-00593B	SPG	Cu + Al
Printed Circuit Board: Main	DB92-02784*	Samsung	ABS Plastic
Printed Circuit Board: EMI	DB93-12108A	NOVASEZ	ABS Plastic
Printed Circuit Board: Driver	DB93-12676B	NOVASEZ	ABS Plastic
Expansion Valve	DB62-05606A	SANHUA	CU

### UUT-3h Test Summary

Testing Lab: Curtiss-Wright  
Testing Report: Q1750.0  
Testing Unit Num: Q1750-21-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM096JNESCH/AA	96,000	198.4	Suspended	X	Front - Back	n/a	53.1	38.8	17.7
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of width which was measured at different datum

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.05	1.0	4.88g	3.66g	2.01g	0.81g
Test Anomaly	None			3.00	0.0				

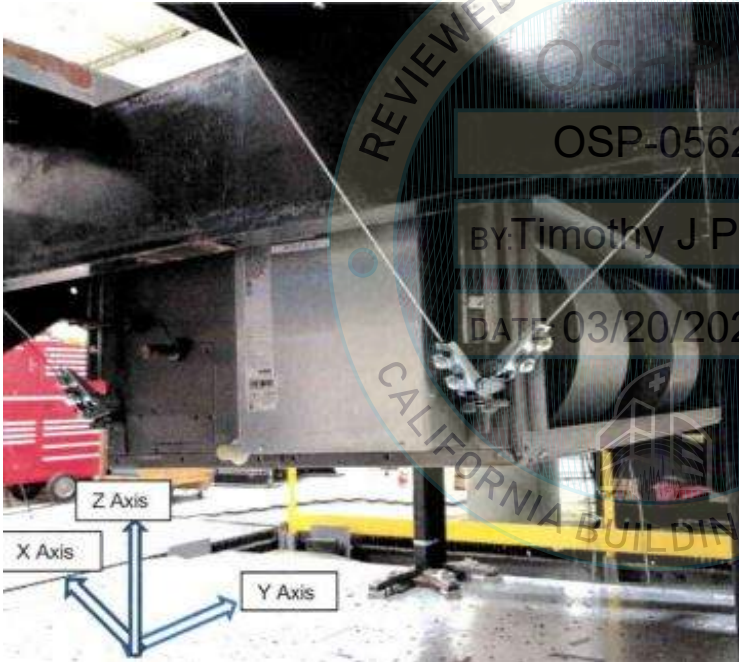


Figure 3h.1: Unit on the shake table

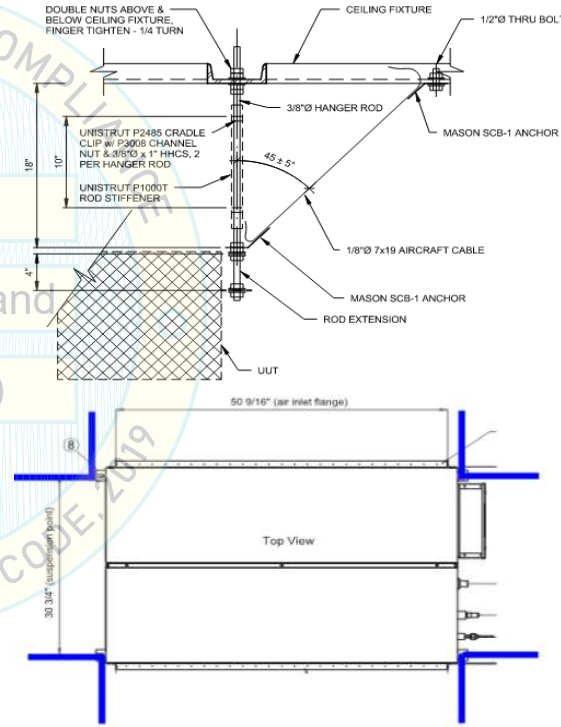


Figure 3h.2: Mounting Detail (Plan and Elevation)

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

### UUT-3h Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-20826A	Jiangsu Clean & Cool Seiko Technology Co., Ltd.	Al Fin / Cu Tube
Fan Motor	DB31-00659*	SPG	Cu + Al
Printed Circuit Board: Main	DB92-02784*	Samsung	ABS Plastic
Printed Circuit Board: EMI	DB93-12108A	NOVASEZ	ABS Plastic
Expansion Valve	DB62-05606A	SANHUA	CU

### UUT-1i Test Summary

Testing Lab: Curtiss-Wright  
Testing Report: Q1750.0  
Testing Unit Num: Q1750-22-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM007MNMDCH/AA	7,500	69.0	Suspended	X	Front - Back	n/a	33.4	27.6	9.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions are catalog values, test report values within 5% of listed with exception of length and width which was measured at different datums

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.05	1.0	4.88g	3.66g	1.98g	0.80g
Test Anomaly	None			2.95	0.0				

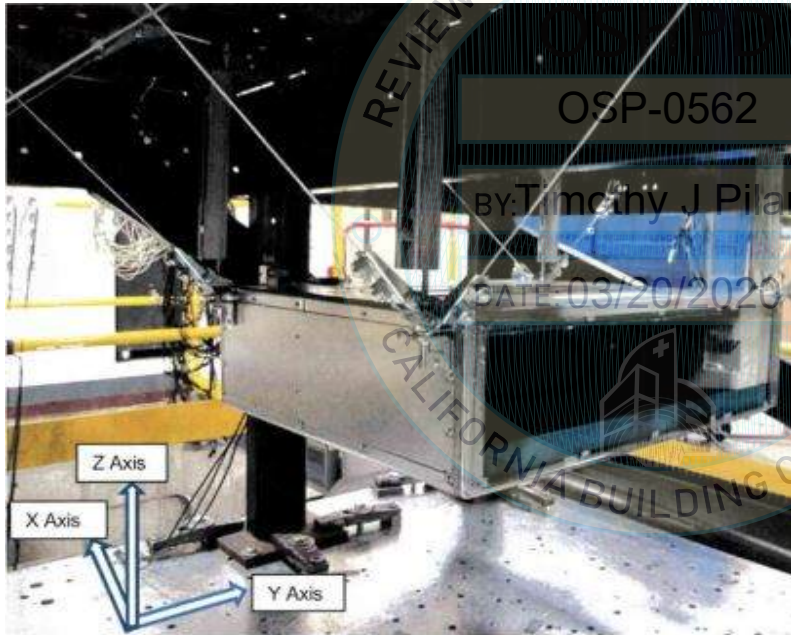


Figure 1i.1: Unit on the shake table

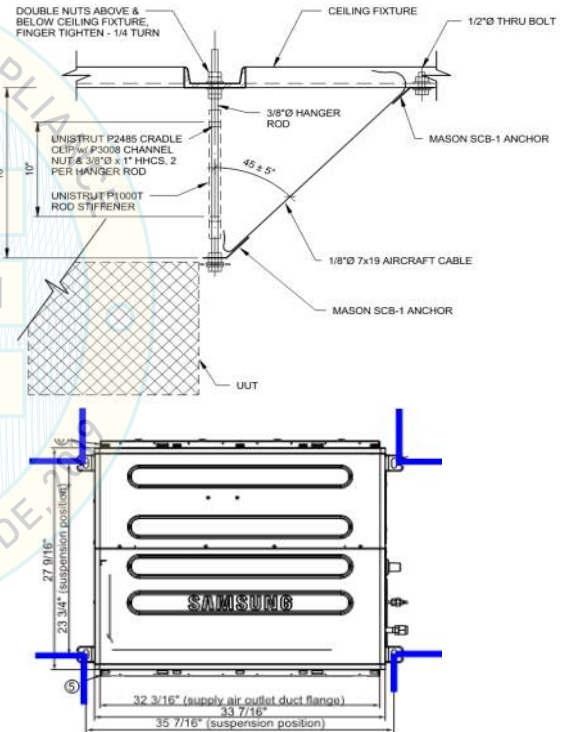


Figure 1i.2: Mounting Detail (Plan and Elevation)

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

### UUT-1i Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-19577A	YWSZ	Al Fin / Cu Tube
Fan Motor	DB31-00639*	SPG	Cu + Al
Printed Circuit Board: Main	DB92-03321*	XINAN	ABS Plastic



### UUT-2i Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-23-01-02

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM048MNHDC/AA	48,000	101.4	Suspended	X	Front - Back	n/a	51.2	27.6	11.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of length which was measured at different datum  
 \* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Seismic Parameters																				
Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	<table border="1"> <thead> <tr> <th>Building Code</th> <th>Test Criteria</th> <th>S<sub>DS</sub> (g)</th> <th>z/h</th> <th colspan="2">Horizontal</th> <th colspan="2">Vertical</th> </tr> <tr> <th>A<sub>FLX-H</sub></th> <th>A<sub>RIG-H</sub></th> <th>A<sub>FLX-V</sub></th> <th>A<sub>RIG-V</sub></th> </tr> </thead> <tbody> <tr> <td>CBC 2016</td> <td>AC 156</td> <td>3.05 2.95</td> <td>1.0 0.0</td> <td>4.88g</td> <td>3.66g</td> <td>1.98g</td> <td>0.80g</td> </tr> </tbody> </table>	Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical		A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>	CBC 2016	AC 156	3.05 2.95	1.0 0.0	4.88g	3.66g	1.98g	0.80g
Building Code		Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical														
A <sub>FLX-H</sub>		A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>																	
CBC 2016	AC 156	3.05 2.95	1.0 0.0	4.88g	3.66g	1.98g	0.80g														
Seismic Modifications (2) additional #12 SMS were added to each mounting ear, see note below																					
Test Anomaly Decorative filter panel (<1 lb) fell during test. Sub-component does not provide any structural resistance and is excluded from certification																					

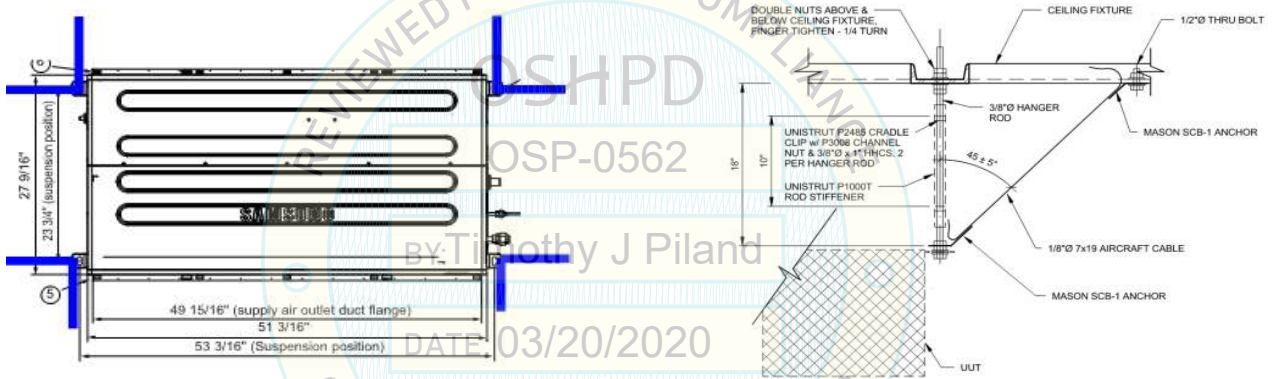


Figure 2i.2: Mounting Detail (Plan and Elevation)



Figure 2i.1: Unit on the shake table



Figure 2i.3: Seismic Modifications

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

### UUT-2i Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-19575A	YWSZ	Al Fin / Cu Tube
Fan Motor	DB31-00641*	NIDECS	Cu + Al
Printed Circuit Board: Main	DB92-03321*	XINAN	ABS Plastic

### UUT-1j Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-24-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
MCU-S1NEK1N	54,000	24.3	Suspended	X	Front - Back	n/a	13.2	16.1	7.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None			2.95	0.0	4.96g	3.72g	1.98g	0.8g



Figure 1j.1: Unit on the shake table

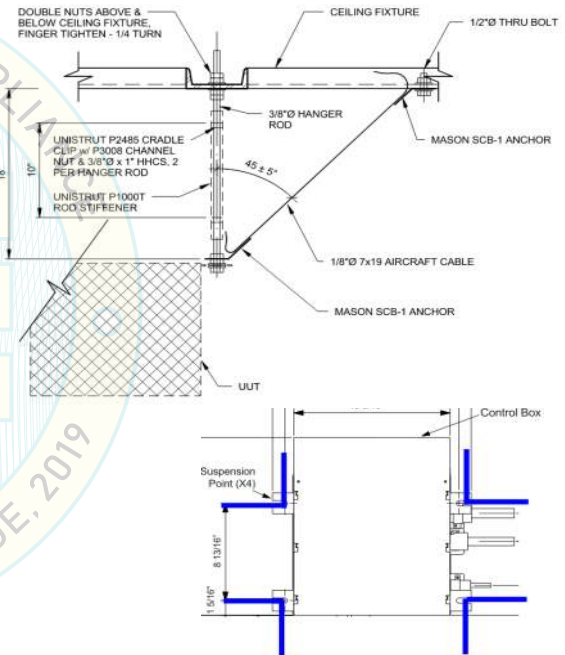


Figure 1j.2: Mounting Detail (Plan and Elevation)

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

### UUT-1j Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
SOL V/V	DB62-11038A	SAGINOMIA	SUS
EEV V/V	DB62-04066A	SANHUA	SUS
EEV V/V	DB62-04064A	SANHUA	SUS
GAS V/V	DB33-00069A	SANHUA	SUS
Printed Circuit Board: Main	DB92-02787*	NOVASEZ	ABS Plastic

### UUT-2j Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-25-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
MCU-S6NEK2N	192,000	62.8	Suspended	X	Front - Back	n/a	28.7	18.5	7.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of length which was measured at different datum  
 \* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>Ds</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None			2.95	0.0	4.96g	3.72g	1.98g	0.80g

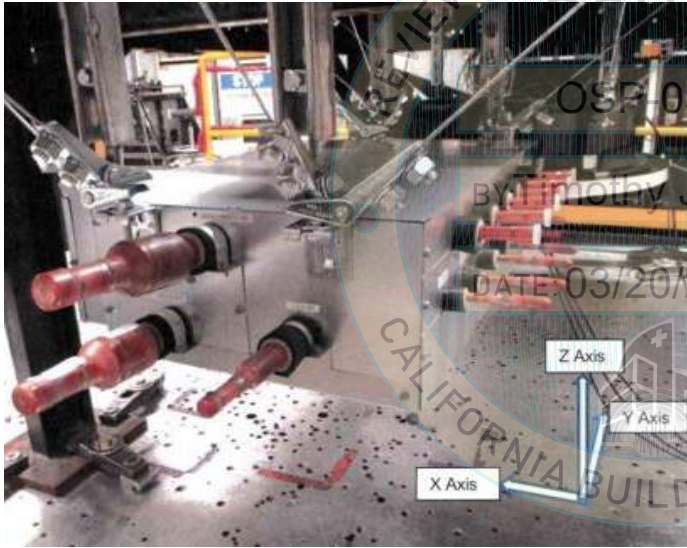


Figure 2j.1: Unit on the shake table

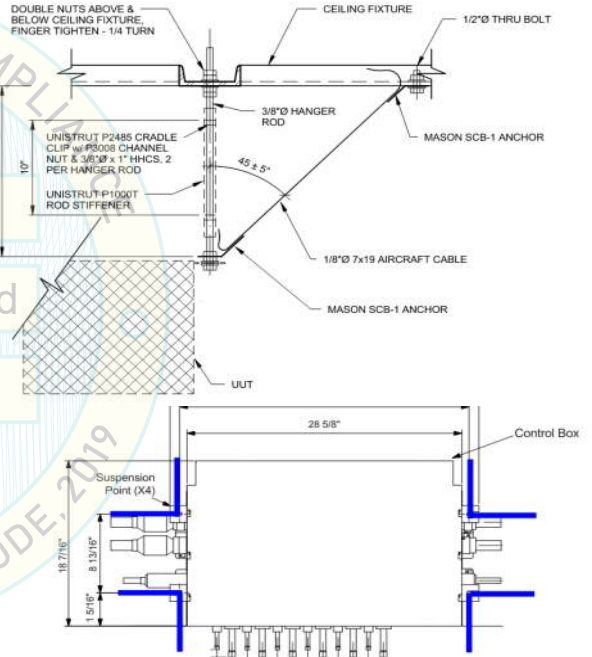


Figure 2j.2: Mounting Detail (Plan and Elevation)

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

### UUT-1j Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
SOL V/V	DB62-11038A	SAGINOMIA	SUS
EEV V/V	DB62-04066A	SANHUA	SUS
EEV V/V	DB62-04064A	SANHUA	SUS
GAS V/V	DB33-00069A	SANHUA	SUS
Printed Circuit Board: Main	DB92-02787*	NOVASEZ	ABS Plastic

### UUT-1k Test Summary

Testing Lab: Curtiss-Wright  
Testing Report: Q1750.0  
Testing Unit Num: Q1750-26-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM005KNNDC/AA	5,000	26.5	Suspended	X	Front - Back	n/a	22.6	22.6	9.8
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values.

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
A <sub>FLX-H</sub>	A <sub>RIG-H</sub>					A <sub>FLX-V</sub>	A <sub>RIG-V</sub>		
Seismic Modifications	None	CBC 2016	AC 156	3.10	1.0	4.96g	3.72g	1.98g	0.80g
Test Anomaly	None			2.95	0.0				

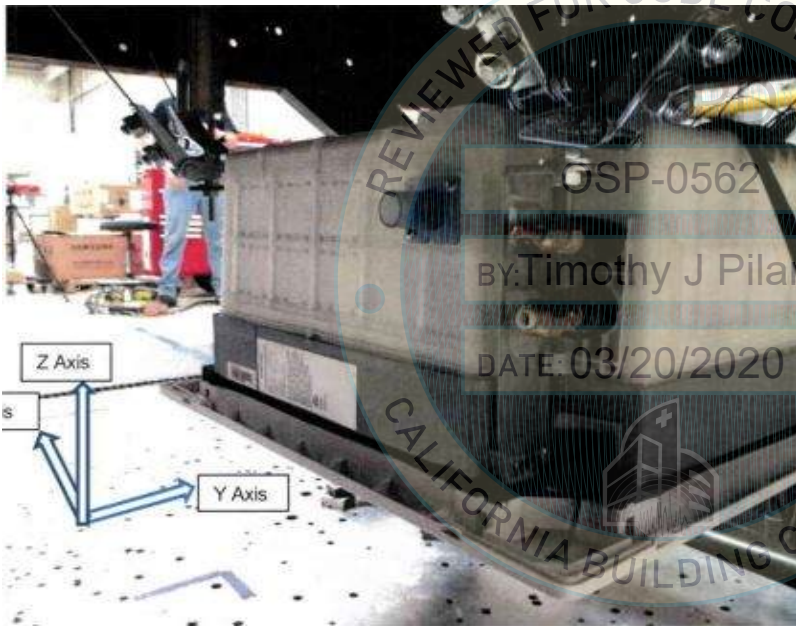


Figure 1k.1: Unit on the shake table

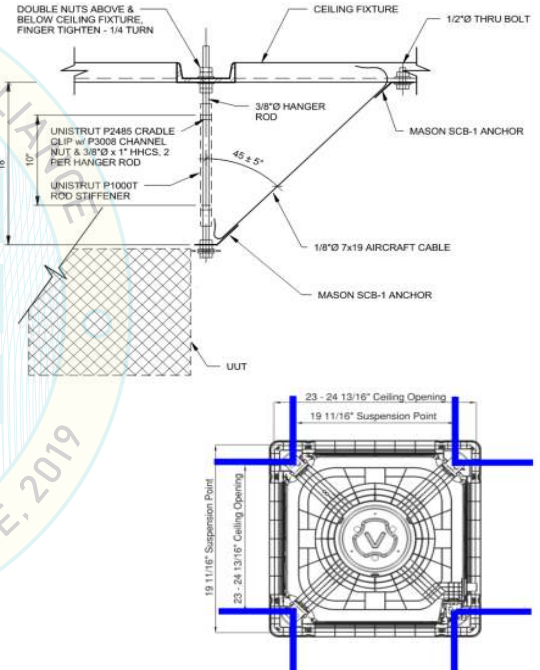


Figure 1k.2: Mounting Detail (Plan and Elevation)

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

### UUT-1k Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-17305B	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00577*	SSCD	Cu + Al
Printed Circuit Board: Main	DB92-02783*	Samsung	ABS Plastic
Panel	PC4SUSMFN	Samsung	ABS Plastic

### UUT-2k Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-27-01-01

Model Number	Nominal Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM048FN4DCH/AA	48,000	40.8	Suspended	X	Front - Back	n/a	33.1	33.1	11.3
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details. The length of the mounting rod was extended.	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal	Vertical		
Seismic Modifications	None	CBC 2016	AC 156	3.05 2.95	1.0 0.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None					4.88g	3.66g	1.98g	0.80g

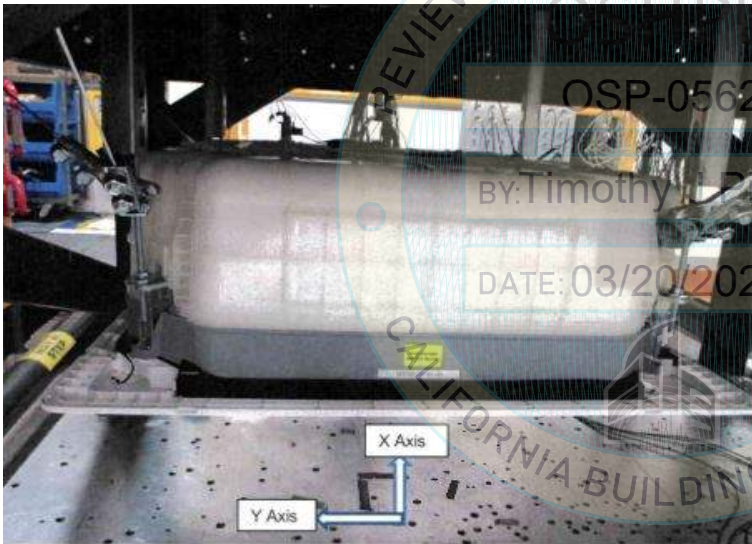


Figure 2k.1: Unit on the shake table

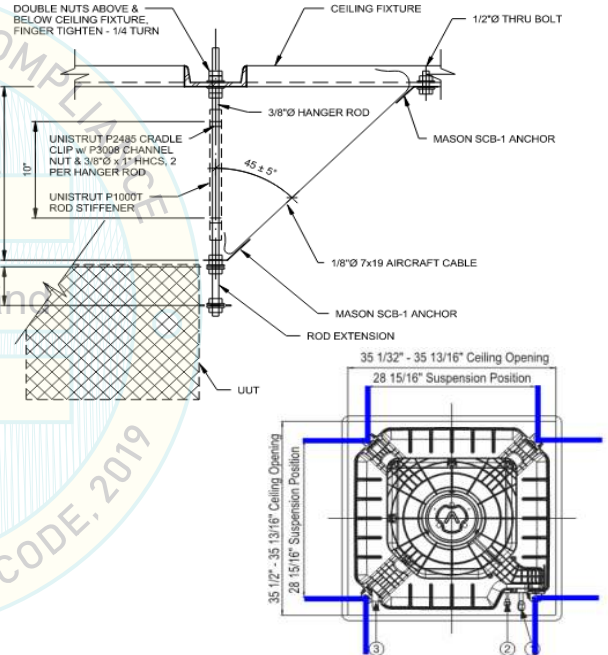


Figure 2k.2: Mounting Detail (Plan and Elevation)

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

### UUT-2k Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-13911B	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00578*	SSCD	Cu + Al
Printed Circuit Board: Main	DB92-02783*	Samsung	ABS Plastic
Panel	PC4NUSKFN	Samsung	ABS Plastic

### UUT-3k Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-28-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM009KN4DCH/AA	9,000	46.3	Suspended	X	Front - Back	n/a	37.3	37.3	11.1
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details length of the mounting rod was extended.	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	None	CBC 2016	AC 156	3.10 2.95	1.0 0.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Test Anomaly	None					4.96g	3.72g	1.98g	0.80g

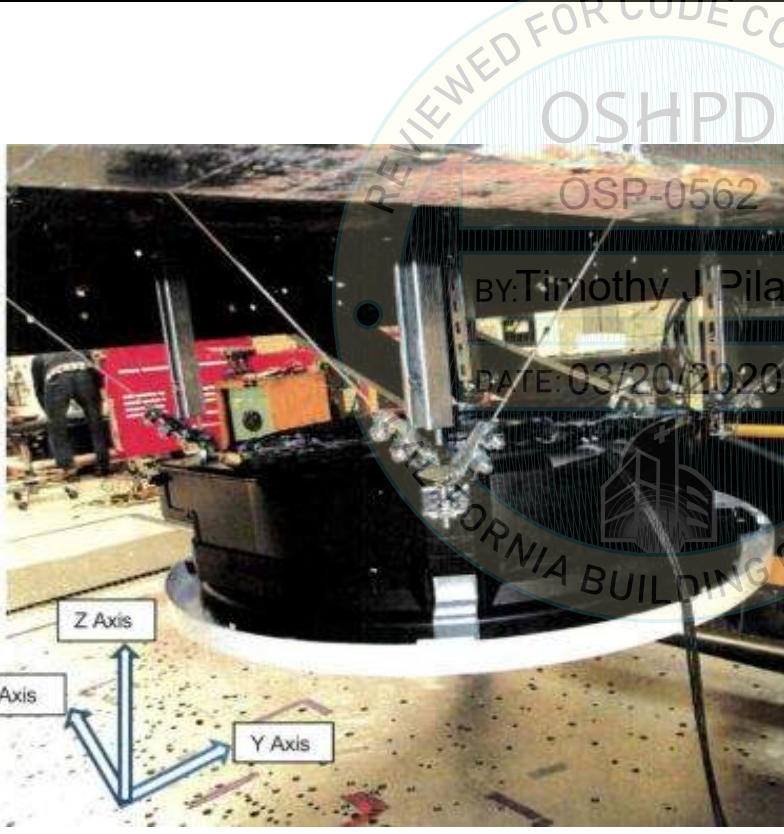


Figure 3k.1: Unit on the shake table

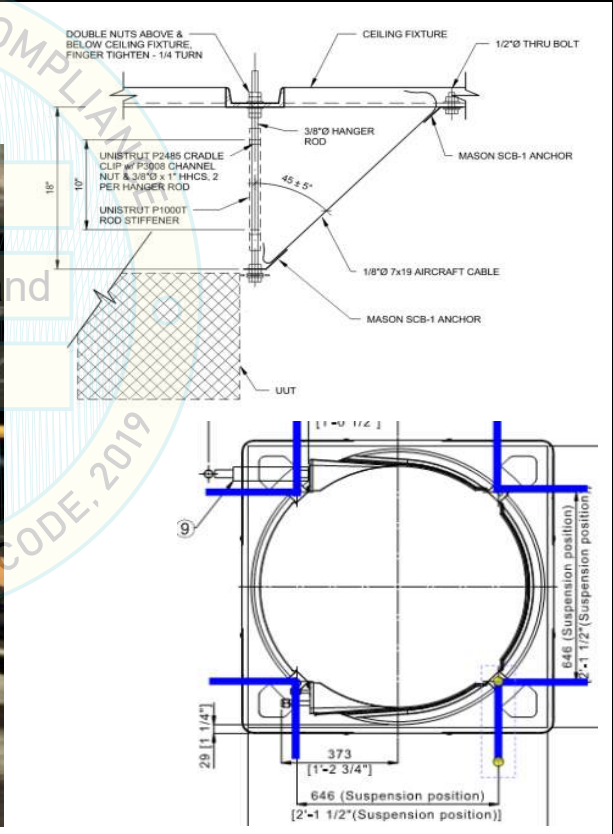


Figure 3k.2: Mounting Detail (Plan and Elevation)

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

### UUT-3k Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-22191A	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00577*	SSCD	Cu + Al
Printed Circuit Board: Main	DB92-04034*	NOVASEZ	ABS Plastic

### UUT-4k Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-29-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Length (in)	Width (in)	Height (in)	
AM048KN4DCH/AA	48,000	52.9	Suspended	X	Front - Back	n/a	37.3	37.3	14.4
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed with exception of height which was measured at different datum  
 \* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Four (4) - 3/8"Ø Hanger rods with rod stiffener and cable bracing per Mounting Details The length of the mounting rod was extended.	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
Seismic Modifications	Two (2) - Clip-Wire DB65-10036B Nylon x 8" long tethering clips.	CBC 2016	AC 156	3.05 2.95	1.0 0.0	4.88g	3.66g	1.98g	0.80g
Test Anomaly	The grill cap (<2 lbs) fell during testing. Sub-component does not provide structural resistance to unit, two (2) - tethering clips as shown are required.								

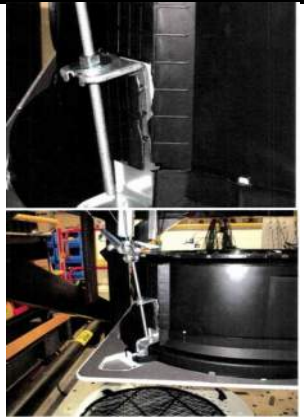
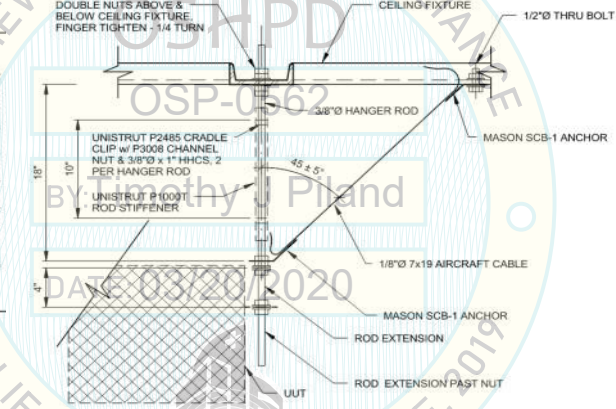
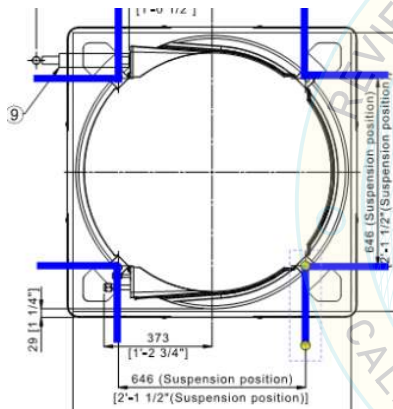


Figure 4k.2: Mounting Detail (Plan, Elevation and Photo)

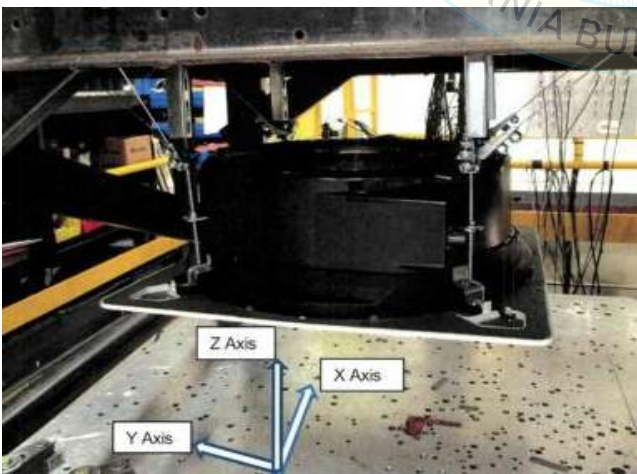


Figure 4k.1: Unit on the shake table

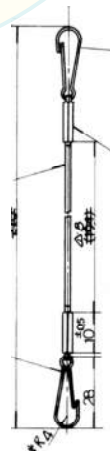
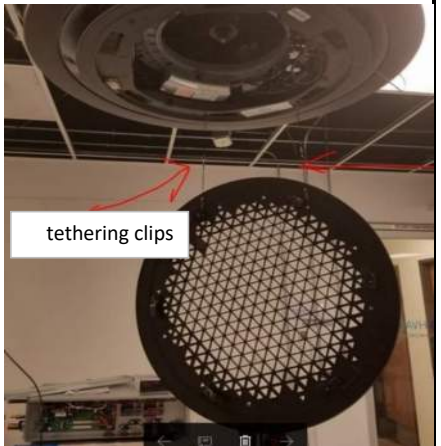


Figure 4k.3: Seismic Modifications (Detail and Example Photo)



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

UUT-4k Summary Tested Sub-Component			
Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-22190A	Samsung	Al Fin / Cu Tube
Fan Motor	DB31-00578*	SSCD	Cu + Al
Printed Circuit Board: Main	DB92-04034*	NOVASEZ	ABS Plastic

### UUT-1I Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-30-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Depth (in)	Width (in)	Height (in)	
AM012MNVDC/AA	12,000	21.6	Wall Mounted	X	Front - Back	n/a	10.3	32.5	10.3
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Five (5) - #14 SMS to backing plate	Seismic Parameters							
Seismic Modifications	None	Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
Test Anomaly	None	CBC 2016	AC 156	3.10	1.0	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
						4.96g	3.72g	2.08g	0.84g



Figure 11.1: Unit on the shake table

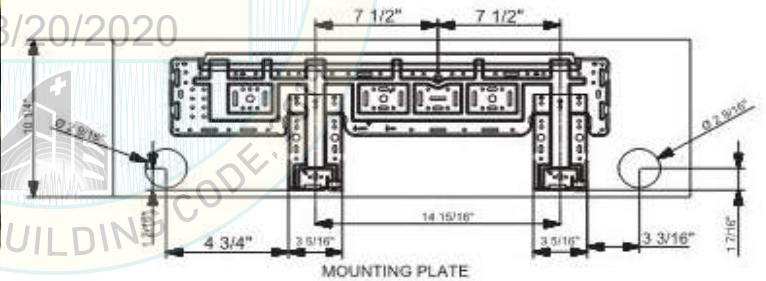
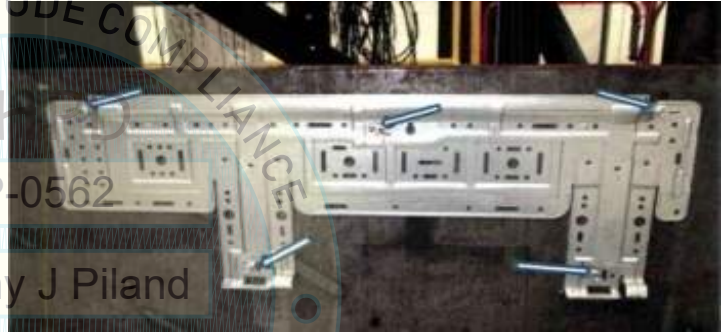


Figure 11.2: Mounting Details

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

### UUT-1I Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-19013C	FENGRU	Al Fin / Cu Tube
Heat Exchanger	DB96-19012G	FENGRU	Al Fin / Cu Tube
Fan Motor	DB31-00636*	NIDECS	Cu + Al
Printed Circuit Board: Main	DB92-03504*	Samsung	ABS Plastic



### UUT-2I Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-31-01-02

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Depth (in)	Width (in)	Height (in)	
AM028MNVDC/AA	28,000	32.2	Wall Mounted	X	Front - Back	n/a	11.6	41.9	11.9
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Seismic Parameters																								
Five (5) - #14 SMS to backing plate	<table border="1"> <thead> <tr> <th>Building Code</th> <th>Test Criteria</th> <th>S<sub>DS</sub> (g)</th> <th>z/h</th> <th colspan="2">Horizontal</th> <th colspan="2">Vertical</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <th>A<sub>FLX-H</sub></th> <th>A<sub>RIG-H</sub></th> <th>A<sub>FLX-V</sub></th> <th>A<sub>RIG-V</sub></th> </tr> </thead> <tbody> <tr> <td>CBC 2016</td> <td>AC 156</td> <td>3.05</td> <td>1.0</td> <td>4.88g</td> <td>3.66g</td> <td>1.98g</td> <td>0.80g</td> </tr> </tbody> </table>	Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical						A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>	CBC 2016	AC 156	3.05	1.0	4.88g	3.66g	1.98g	0.80g
Building Code		Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical																		
				A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>																		
CBC 2016	AC 156	3.05	1.0	4.88g	3.66g	1.98g	0.80g																		
Seismic Modifications Two (2) - 0.022" thick x 1" wide x 3" long straps were added at the top left and right corners of the UUT. The strap was attached to backing plate with one (1) - #14 SMS and to top of unit with one (1) - #8 SMS.																									
Test Anomaly	None																								

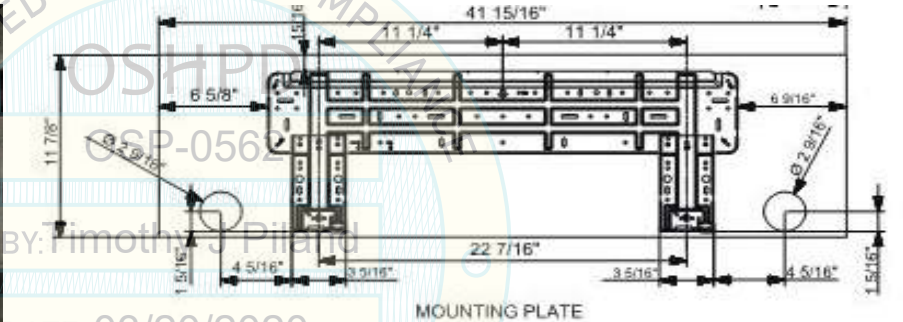
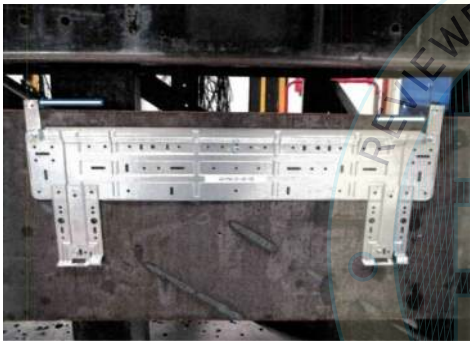


Figure 21.2: Mounting Details

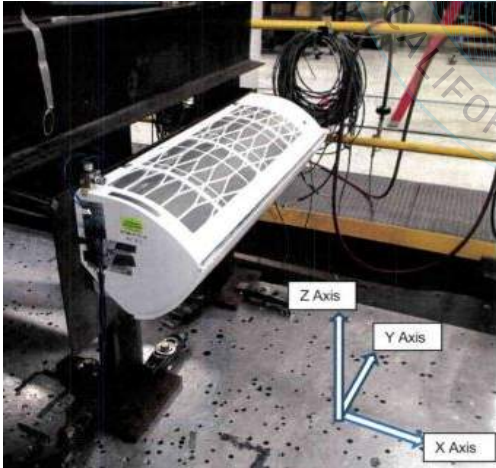


Figure 21.1: Unit on the shake table



Figure 21.3: Seismic Modifications

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

### UUT-2I Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-19003A	YWSZ	Al Fin / Cu Tube
Heat Exchanger	DB96-19002A	YWSZ	Al Fin / Cu Tube
Heat Exchanger	DB96-19001A	YWSZ	Al Fin / Cu Tube
Heat Exchanger	DB96-18994D	YWSZ	Al Fin / Cu Tube
Fan Motor	DB31-00637*	NIDECS	Cu + Al
Printed Circuit Board: Main	DB92-03504*	Samsung	ABS Plastic

### UUT-3I Test Summary

Testing Lab: Curtiss-Wright  
 Testing Report: Q1750.0  
 Testing Unit Num: Q1750-32-01-01

Model Number	Nomical Capacity (Btu/h)	Operating Weight (lbs)	Mounting	Excitation Direction	Frequency* (Hz)	Depth (in)	Width (in)	Height (in)	
AM032MNQDCH/AA	31,700	40.8	Wall Mounted	X	Front - Back	n/a	9.9	50.4	13.6
				Y	Side - Side	n/a			
				Z	Vertical	n/a			

Unit dimensions and weight are catalog values, test report values within 5% of listed

\* Frequencies are for units prior to ICC ES AC-156 testing.

Attachment Method	Six (6) - #14 SMS to backing plate	Seismic Parameters							
		Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
						A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
Seismic Modifications	Two (2) - 0.022" thick x 1" wide x 3" long brackets were added at the top left and right corners of the UUT. The bracket was attached to backing plate with one (1) - #12 SMS and #8 SMS to unit	CBC 2016	AC 156	3.05	1.0	4.88g	3.66g	1.98g	0.8g
Test Anomaly	None								

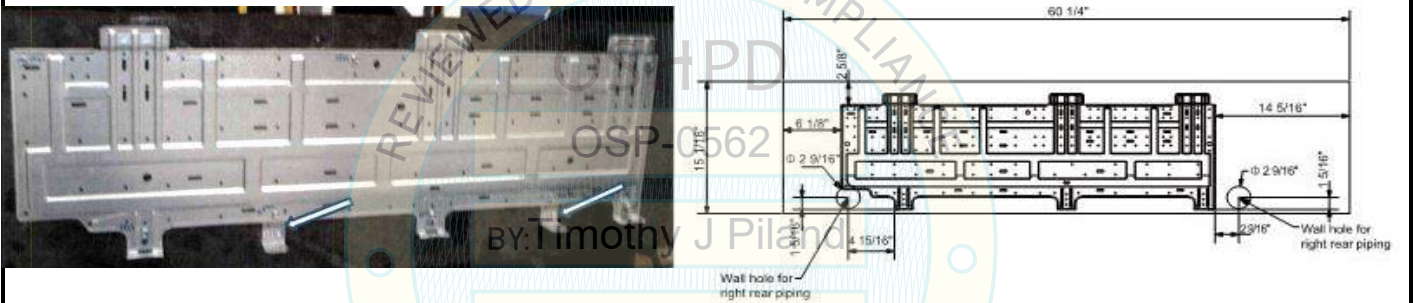


Figure 31.2: Mounting Details

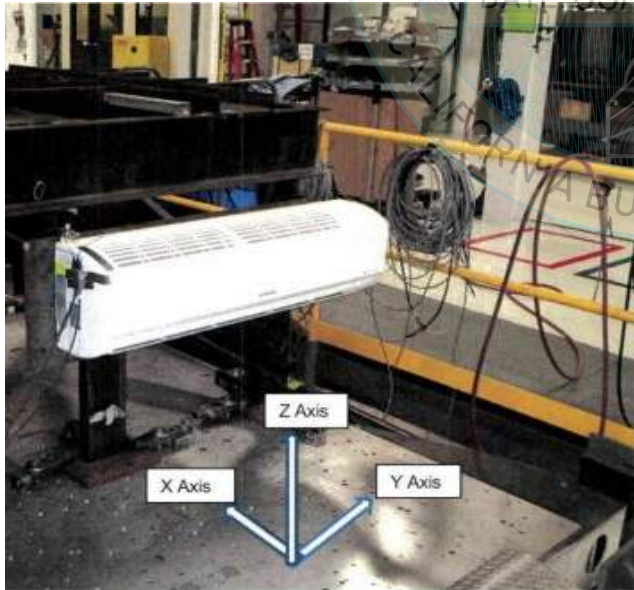


Figure 31.1: Unit on the shake table

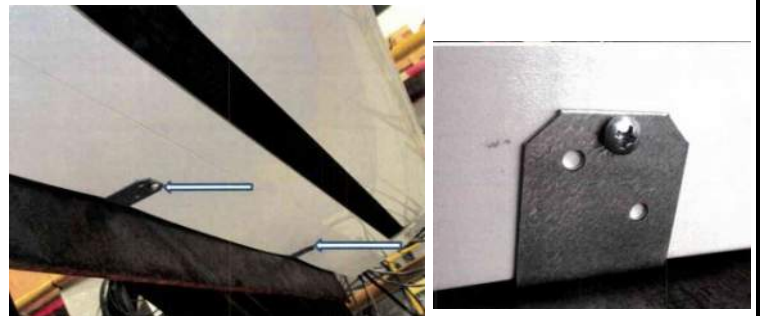


Figure 31.3: Seismic Modifications

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

### UUT-3I Summary Tested Sub-Component

Sub-Component	Part Number	Manufacturer	Material
Heat Exchanger	DB96-10764A	CLEANE	Al Fin / Cu Tube
Heat Exchanger	DB96-23472A	CLEANE	Al Fin / Cu Tube
Fan Motor	DB31-00332*	NIDECS	Cu + Al
Printed Circuit Board: Main	DB92-03504*	Samsung	ABS Plastic