



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

**APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY	
APPLICATION #:	OSP – 0307

**OSHPD Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Genesis Air, Inc. & IAQ Solutions, Inc.

Manufacturer's Technical Representative: Brandon Hawkins

Mailing Address: 52002 CR 7350, Suite D, Lubbock, TX 79424

Telephone: (806) 745-7000 Email: [brandon.hawkins@gensisair.com](mailto:brandon.hawkins@gensisair.com)

**Product Information**

Product Name: Populated Catalyst Panels

Product Type: Catalyst Panel Air Filtration System

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

General Description: These are placed in the airstream within an Air Handling Unit. Seismic enhancements made to test units and modifications required to address anomalies observed during test will be incorporated into production units.

Mounting Description: Vertical filtration panels are attached at the top & bottom only for installation in rigid and flexibly supported conditions. Panels installed in ducts or in horizontal position are *excluded* from this OSP certification.

**Applicant Information**


Applicant Company Name: The VMC Group

Contact Person: John P. Giuliano, PE

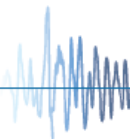
Mailing Address: 113 Main Street, Bloomingdale, NJ, 07403

Telephone: (973) 838-1780 Email: [john.giuliano@thvmcgroup.com](mailto:john.giuliano@thvmcgroup.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:  Date: 8/6/19  
Title: President Company Name: The VMC Group

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





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

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

Company Name: The VMC Group

Name: Ken Tarlow California License Number: SE2851

Mailing Address: 113 Main Street, Bloomingdale, NJ, 07403

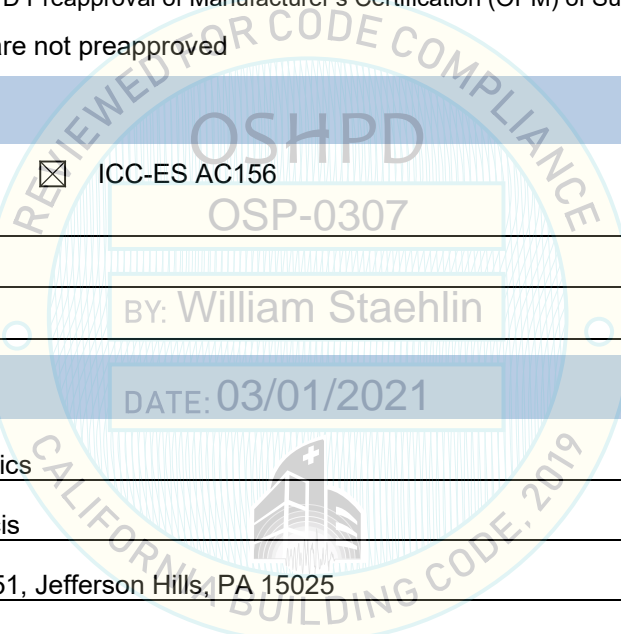
Telephone: (973) 838-1780 Email: ken.tarlow@thvmcgroup.com

**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): \_\_\_\_\_



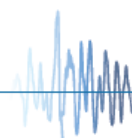
**Testing Laboratory**

Company Name: Clark Dynamics

Contact Name: Robert Francis

Mailing Address: 1801 Route 51, Jefferson Hills, PA 15025

Telephone: (417) 387-1001 Email: [rfrancis@clarkdynamics.com](mailto:rfrancis@clarkdynamics.com)





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
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**Seismic Parameters**

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

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 4.50

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

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

$R_p$  (Equipment or component response modification factor) = 2.0

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachments

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

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

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

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

$S_{D1}$  (Design spectral response acceleration at 1 second period, g) = \_\_\_\_\_

$R$  (Response modification coefficient) = \_\_\_\_\_

$\Omega_0$  (System overstrength factor) = by William Staehlin

$C_d$  (Deflection amplification factor) = \_\_\_\_\_

$I_p$  (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  No

**List of Attachments Supporting Special Seismic Certification**

Test Report(s)  Drawings  Calculations  Manufacturer's Catalog

Other(s) (Please Specify): \_\_\_\_\_

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

Signature: William Staehlin

Date: March 1, 2021

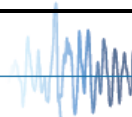
Print Name: William Staehlin

Title: Senior Structural Engineer

Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = 2.0

$z/h$  = 1.0

Condition of Approval (if applicable): Panels installed in ducts or in horizontal position are excluded from this OSP certification.



**Table 1 - Genesis Air / IAQ Solutions Populated Catalyst Panel (PCP) Compounds**

Compound	Height [ in ]	Width [ in ]	PCP Standards				UV Lamps			Weight[ lbs ]		UUT
			Qty	Widths [ in ]			Qty	Length [ in ]	Rating [ Amps ]	Galvanized	Stainless	
1212	12.0	12.0	1	12			2	12.0	0.45	7	6	Extrapolated
1216	12.0	16.0	1	16			2	16.0	0.59	8	7	Extrapolated
1220	12.0	20.0	1	20			2	20.0	0.73	9	8	Extrapolated
1221	12.0	21.0	1	21			2	20.0	0.73	9	8	Extrapolated
1224	12.0	24.0	1	24			2	24.0	1.04	10	9	Extrapolated
1228	12.0	28.0	2	16	12		2	28.0	1.21	12	11	Extrapolated
1232	12.0	32.0	2	22	9		2	31.0	1.32	13	12	Extrapolated
1233	12.0	33.0	2	24	9		2	31.0	1.32	13	12	Extrapolated
1236	12.0	36.0	2	24	12		2	36.0	1.50	14	13	Extrapolated
1237	12.0	37.0	2	24	13		2	36.0	1.50	14	13	Extrapolated
1240	12.0	40.0	2	20	20		2	40.0	1.69	15	14	Extrapolated
1241	12.0	41.0	2	21	20		2	40.0	1.69	15	14	Extrapolated
1244	12.0	44.0	2	24	20		2	44.0	1.82	16	15	Extrapolated
1245	12.0	45.0	2	24	21		2	44.0	1.82	16	15	Extrapolated
1246	12.0	46.0	2	24	22		2	44.0	1.82	16	15	Extrapolated
1248	12.0	48.0	2	24	24		2	48.0	1.96	17	15	Extrapolated
1252	12.0	52.0	3	24	16	12	2	51.5	2.07	19	17	Extrapolated
1253	12.0	53.0	3	24	20	9	2	51.5	2.07	19	18	UUT1
1256	12.0	56.0	3	24	22	9	2	55.0	2.21	20	18	Interpolated
1257	12.0	57.0	3	24	24	9	2	55.0	2.21	20	18	Interpolated
1259	12.0	59.0	3	21	21	17	2	59.0	2.34	21	19	Interpolated
1260	12.0	60.0	3	24	24	12	2	59.0	2.34	21	19	Interpolated
1261	12.0	61.0	3	24	24	14a	2	59.0	2.34	21	19	Interpolated
1262	12.0	62.0	3	24	24	14b	2	59.0	2.34	21	20	UUT1
1612	16.0	12.0	1	12			3	12.0	0.67	10	9	Interpolated
1616	16.0	16.0	1	16			3	16.0	0.89	11	10	Interpolated
1620	16.0	20.0	1	20			3	20.0	1.10	12	11	Interpolated
1621	16.0	21.0	1	21			3	20.0	1.10	12	11	Interpolated
1624	16.0	24.0	1	24			3	24.0	1.56	13	12	Interpolated
1628	16.0	28.0	2	16	12		3	28.0	1.81	16	14	Interpolated
1632	16.0	32.0	2	22	9		3	31.0	1.98	17	15	Interpolated
1633	16.0	33.0	2	24	9		3	31.0	1.98	17	15	Interpolated
1636	16.0	36.0	2	24	12		3	36.0	2.26	18	16	Interpolated
1637	16.0	37.0	2	24	13		3	36.0	2.26	18	16	Interpolated

**Table 1 - Genesis Air / IAQ Solutions PCP Compounds Continued**

Compound	Height [ in ]	Width [ in ]	PCP Standard(s)				UV Lamp(s)			Weight[ lbs ]		UUT
			Qty	Widths [ in ]			Qty	Length [ in ]	Rating [ Amps ]	Galvanized	Stainless	
1640	16.0	40.0	2	20	20		3	40.0	2.53	19	17	Interpolated
1641	16.0	41.0	2	21	20		3	40.0	2.53	19	17	Interpolated
1644	16.0	44.0	2	24	20		3	44.0	2.72	20	18	Interpolated
1645	16.0	45.0	2	24	21		3	44.0	2.72	20	18	Interpolated
1646	16.0	46.0	2	24	22		3	44.0	2.72	20	19	Interpolated
1648	16.0	48.0	2	24	24		3	48.0	2.94	21	19	Interpolated
1652	16.0	52.0	3	24	16	12	3	51.5	3.10	24	21	Interpolated
1653	16.0	53.0	3	24	20	9	3	51.5	3.10	24	22	Interpolated
1656	16.0	56.0	3	24	22	9	3	55.0	3.32	25	22	Interpolated
1657	16.0	57.0	3	24	24	9	3	55.0	3.32	25	23	Interpolated
1659	16.0	59.0	3	21	21	17	3	59.0	3.51	26	23	Interpolated
1660	16.0	60.0	3	24	24	12	3	59.0	3.51	26	23	Interpolated
1661	16.0	61.0	3	24	24	14a	3	59.0	3.51	26	24	Interpolated
1662	16.0	62.0	3	24	24	14b	3	59.0	3.51	26	24	Interpolated
2012	20.0	12.0	1	12			3	12.0	0.67	11	10	Interpolated
2016	20.0	16.0	1	16			3	16.0	0.89	12	11	Interpolated
2020	20.0	20.0	1	20			3	20.0	1.10	13	12	Interpolated
2021	20.0	21.0	1	21			3	20.0	1.10	14	12	Interpolated
2024	20.0	24.0	1	24			3	24.0	1.56	14	13	Interpolated
2028	20.0	28.0	2	16	12		3	28.0	1.81	18	16	Interpolated
2032	20.0	32.0	2	22	9		3	31.0	1.98	19	17	Interpolated
2033	20.0	33.0	2	24	9		3	31.0	1.98	19	17	Interpolated
2036	20.0	36.0	2	24	12		3	36.0	2.26	20	18	Interpolated
2037	20.0	37.0	2	24	13		3	36.0	2.26	20	18	Interpolated
2040	20.0	40.0	2	20	20		3	40.0	2.53	21	19	Interpolated
2041	20.0	41.0	2	21	20		3	40.0	2.53	22	19	Interpolated
2044	20.0	44.0	2	24	20		3	44.0	2.72	22	20	Interpolated
2045	20.0	45.0	2	24	21		3	44.0	2.72	23	20	Interpolated
2046	20.0	46.0	2	24	22		3	44.0	2.72	23	21	Interpolated
2048	20.0	48.0	2	24	24		3	48.0	2.94	23	21	Interpolated
2052	20.0	52.0	3	24	16	12	3	51.5	3.10	27	24	Interpolated
2053	20.0	53.0	3	24	20	9	3	51.5	3.10	27	25	Interpolated
2056	20.0	56.0	3	24	22	9	3	55.0	3.32	28	25	Interpolated
2057	20.0	57.0	3	24	24	9	3	55.0	3.32	29	26	Interpolated



**Table 1 - Genesis Air / IAQ Solutions PCP Compounds Continued**

Compound	Height [ in ]	Width [ in ]	PCP Standard(s)				UV Lamp(s)			Weight[ lbs ]		UUT
			Qty	Widths [ in ]			Qty	Length [ in ]	Rating [ Amps ]	Galvanized	Stainless	
2059	20.0	59.0	3	21	21	17	3	59.0	3.51	29	26	Interpolated
2060	20.0	60.0	3	24	24	12	3	59.0	3.51	29	26	Interpolated
2061	20.0	61.0	3	24	24	14a	3	59.0	3.51	30	27	Interpolated
2062	20.0	62.0	3	24	24	14b	3	59.0	3.51	30	27	Interpolated
2412	24.0	12.0	1	12			4	12.0	0.90	13	12	UUT2
2416	24.0	16.0	1	16			4	16.0	1.18	14	13	UUT2
2420	24.0	20.0	1	20			4	20.0	1.47	16	14	Interpolated
2421	24.0	21.0	1	21			4	20.0	1.47	16	14	UUT2
2424	24.0	24.0	1	24			4	24.0	2.08	17	15	Interpolated
2428	24.0	28.0	2	16	12		4	28.0	2.42	21	19	UUT2
2432	24.0	32.0	2	22	9		4	31.0	2.64	22	20	Interpolated
2433	24.0	33.0	2	24	9		4	31.0	2.64	23	20	Interpolated
2436	24.0	36.0	2	24	12		4	36.0	3.01	24	21	Interpolated
2437	24.0	37.0	2	24	13		4	36.0	3.01	24	21	Interpolated
2440	24.0	40.0	2	20	20		4	40.0	3.38	25	22	Interpolated
2441	24.0	41.0	2	21	20		4	40.0	3.38	25	23	Interpolated
2444	24.0	44.0	2	24	20		4	44.0	3.63	26	23	Interpolated
2445	24.0	45.0	2	24	21		4	44.0	3.63	26	24	Interpolated
2446	24.0	46.0	2	24	22		4	44.0	3.63	27	24	Interpolated
2448	24.0	48.0	2	24	24		4	48.0	3.92	27	25	Interpolated
2452	24.0	52.0	3	24	16	12	4	51.5	4.13	32	28	Interpolated
2453	24.0	53.0	3	24	20	9	4	51.5	4.13	32	28	UUT2
2456	24.0	56.0	3	24	22	9	4	55.0	4.42	33	29	Interpolated
2457	24.0	57.0	3	24	24	9	4	55.0	4.42	33	30	Interpolated
2459	24.0	59.0	3	21	21	17	4	59.0	4.68	34	30	Interpolated
2460	24.0	60.0	3	24	24	12	4	59.0	4.68	34	30	Interpolated
2461	24.0	61.0	3	24	24	14a	4	59.0	4.68	34	31	Interpolated
2462	24.0	62.0	3	24	24	14b	4	59.0	4.68	35	31	UUT2

**Notes**

- 1) The racks range from 12" to 148" in height
- 2) The racks range from 12" to 148" in width
- 3) All PCP Compound units are 5-13/16" deep
- 4) All PCP Compound units are manufactured by Genesis Air, Inc or IAQ Solutions, Inc.
- 5) All racks are galvanized steel
- 6) All racks are either front loaded or side loaded

**Table 2 - Genesis Air / IAQ Solutions Air Populated Catalyst Panel Rack Setup**

Rows of Compounds	Columns of Compounds			
	1	2	3	4
1	X	X	X	X
2	X	X	X	X
3	X	UUT1	X	X
4	X	X	X	X
5	X	X	X	X
6	X	UUT2	X	UUT2

**Table 3 - Genesis Air / IAQ Solutions Populated Catalyst Panel Electrical Box**

Genesis Air / IAQ Solutions Part Number	Height [ in ]	Width [ in ]	Depth [ in ]	Weight [ lbs ]	Manufacturer	UUT
4CKB-4	20	20	6	60	Genesis Air / IAQ Solutions	UUT3, UUT4



**Table 4 - Certified Catalyst Panel Subcomponents**

Component (MFR)	Genesis Air / IAQ Solutions Part Number	Notes	Material	Weight <sup>1</sup> [ lbs ]	UUT
Ballast (Fulham)	WH5-120-L	120VAC 50/60Hz	Al	1.00	UUT1, UUT2
UV Lamp (First Light)	12.0"	0.224 A	Glass	0.18	UUT1
	16.0"	0.296 A	Glass	0.22	UUT1
	20.0"	0.367 A	Glass	0.25	UUT1
	24.0"	0.519 A	Glass	0.27	Interpolated
	28.0"	0.604 A	Glass	0.30	UUT1
	31.5"	0.659 A	Glass	0.32	Interpolated
	36.0"	0.752 A	Glass	0.35	Interpolated
	40.0"	0.844 A	Glass	0.39	Interpolated
	44.0"	0.908 A	Glass	0.43	Interpolated
	48.0"	0.981 A	Glass	0.47	Interpolated
	51.5"	1.033 A	Glass	0.50	UUT1, UUT2
55.0"	1.105 A	Glass	0.51	Interpolated	
59.0"	1.170 A	Glass	0.52	UUT1, UUT2	
Rack (Genesis Air / IAQ Solutions / Texas Sheet Metal, 7Cs)	Side-load or Front-load (face-load)	12 ga Galvanized for all uprights; 18 galvanized for the rest.	Sheet Metal	4.5lb/ft2 (155/350)	UUT1, UUT2
Ballast Tray (Genesis Air / IAQ Solutions / Texas Sheet Metal, 7Cs)	12B-G	18 ga <b>Galvanized</b> or 304 Stainless Steel	Sheet Metal	2 (8)	UUT1
	12B-S	18 ga Galvanized or 304 <b>Stainless Steel</b>	Sheet Metal	2 (4)	UUT1
	16B-G	18 ga Galvanized or 304 Stainless Steel	Sheet Metal	2.75	Interpolated
	16B-S	18 ga Galvanized or 304 Stainless Steel	Sheet Metal	2.75	Interpolated
	20B-G	18 ga Galvanized or 304 Stainless Steel	Sheet Metal	3.25	Interpolated
	20B-S	18 ga Galvanized or 304 Stainless Steel	Sheet Metal	3.25	Interpolated
	24B-G	18 ga <b>Galvanized</b> or 304 Stainless Steel	Sheet Metal	4 (48)	UUT2
24B-S	18 ga Galvanized or 304 <b>Stainless Steel</b>	Sheet Metal	4 (8)	UUT2	
Spacer (Genesis Air / IAQ Solutions / Texas Sheet Metal, 7Cs)	Air gap filler on rack; varies per AHU; non-structural	18 ga Galvanized	Sheet Metal	4.5lb/ft2 (14/10)	UUT1, UUT2
Catalyst Media (Lewcott)	Titanium Oxide mesh that fills the panel	TiO2	Fiberglass	0.5lb/ft2 (12/32)	UUT1, UUT2

**Note:** <sup>1</sup>Unless otherwise noted, items with a weight in parentheses represent the total weight; the number without is lb/ft of the component.



**Table 5 - Certified Electrical Box Subcomponents**

Component (MFR)	Genesis Air / IAQ Solutions Part Number	Notes	Material	Weight [ lbs ]	UUT
Contactor (ABB)	C-1	30A, 600VAC	Plastic	0.75	UUT3, UUT4
Current Sensor (Senva)	CS-1	2.5-50A, 50/60 Hz	Plastic	0.10	UUT3, UUT4
	CS-2	2.5-50A, 50/60 Hz	Plastic	0.10	UUT3, UUT4
	CS-3	2.5-50A, 50/60 Hz	Plastic	0.10	UUT3, UUT4
	CS-4	2.5-50A, 50/60 Hz	Plastic	0.10	UUT3, UUT4
Safety Bypass (ABB)	PB-1	8A @ 120V	Plastic	0.50	UUT3, UUT4
Differential Pressure Switch (Dwyer)	PS-1	15A @ 120VAC, 60 Hz	Metal	0.75	UUT3, UUT4
Hour Meter (Redington)	TMR-1	20-300VAC/DC, 50/60z	Plastic	0.10	UUT3, UUT4
Transformer (RIB)	XFMR-1	100VA, 50/60 Hz	Metal	4.00	UUT3, UUT4
Fuse Holder (Ferraz Shawmut)	FB-1	30A, 600VAC/VDC	Plastic	0.10	UUT3, UUT4
	FB-2	30A, 600VAC/VDC	Plastic	0.10	UUT3, UUT4
	FB-3	30A, 600VAC/VDC	Plastic	0.10	UUT3, UUT4
	FB-4	30A, 600VAC/VDC	Plastic	0.10	UUT3, UUT4
Terminal Block (ABB)	ACC-1	25A, 600V	Plastic	0.10	UUT3, UUT4
Mini-Fuse Holder (Phoenix Contac)	MF-1	8A, 600V	Plastic	0.10	UUT3, UUT4
Cabinet (Universal Enclosure Systems)	ENC-1	14-Gauge Carbon Steel	Sheet Metal	40.00	UUT3, UUT4



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-01A

EL 10268

Model Line	Model Number	Manufacturer
Populated Catalyst Panels	Qty (3) 1262G / Qty (2) 1253SS / Qty (1) 1253G	Genesis Air / IAQ Solutions

### Product Construction Summary

*Primary Columns:* 12-Gauge Galvanized Carbon Steel  
*Compound Tray, Top & Bottom Hat Channels:* 18-Gauge Galvanized Carbon Steel

### Options / Subcomponent Summary

*Ballast:* Fulham / WHS-120-L ; *UV Lamp:* First Light / 51.5", 59.0 ; *Rack:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Ballast Tray:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs / 12B-G, 12B-S ; *Spacer:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Catalyst Media:* Lewcott

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
292	8	130	40	13.4	33.5	7.8

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>Ds</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

### Test Mounting Details

The UUT was rigid mounted to the fixture using qty (34) #10 self-tapping screws along the top frame and qty (34) #10 self-tapping screws along the bottom frame. The fixture was rigid mounted to the shake table.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-01B

EL 10268

Model Line	Model Number	Manufacturer
Populated Catalyst Panels	Qty (3) 1262G / Qty (2) 1253SS / Qty (1) 1253G	Genesis Air / IAQ Solutions

### Product Construction Summary

*Primary Columns:* 12-Gauge Galvanized Carbon Steel  
*Compound Tray, Top & Bottom Hat Channels:* 18-Gauge Galvanized Carbon Steel

### Options / Subcomponent Summary

*Ballast:* Fulham / WHS-120-L ; *UV Lamp:* First Light / 51.5", 59.0 ; *Rack:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Ballast Tray:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs / 12B-G, 12B-S ; *Spacer:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Catalyst Media:* Lewcott

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
292	8	130	40	3.5	N/A	24.6

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

### Test Mounting Details

The UUT was rigid mounted to the fixture using qty (34) #10 self-tapping screws along the top frame and qty (34) #10 self-tapping screws along the bottom frame. The fixture was flexibly mounted to the shake table using MSSH-1E spring isolators.



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





# UNIT UNDER TEST (UUT) Summary Sheet

UUT-02A

EL 10268

Model Line	Model Number	Manufacturer
Populated Catalyst Panels	Qty (6) 2412G / Qty (2) 2416G / Qty (2) 2421G / Qty (2) 2421G / Qty (2) 2428SS / Qty (2) 2453G / Qty (2) 2462 SS	Genesis Air / IAQ Solutions

### Product Construction Summary

*Primary Columns:* 12-Gauge Galvanized Carbon Steel  
*Compound Tray, Top & Bottom Hat Channels:* 18-Gauge Galvanized Carbon Steel

### Options / Subcomponent Summary

*Ballast:* Fulham / WHS-120-L ; *UV Lamp:* First Light / 12.0", 16.0", 20.0", 28.0", 51.5", 59.0 ; *Rack:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Ballast Tray:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs / 24B-G, 24B-S ; *Spacer:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Catalyst Media:* Lewcott

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
750	12	83	148	3.7	27.4	27.4

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>Ds</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

### Test Mounting Details

The UUT was rigid mounted to the fixture using qty (28) #10 self-tapping screws along the top frame and qty (28) #10 self-tapping screws along the bottom frame. The fixture was rigid mounted to the shake table.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-02B

EL 10286

Model Line	Model Number	Manufacturer
Populated Catalyst Panels	Qty (6) 2412G / Qty (2) 2416G / Qty (2) 2421G / Qty (2) 2421G / Qty (2) 2428SS / Qty (2) 2453G / Qty (2) 2462 SS	Genesis Air / IAQ Solutions

### Product Construction Summary

*Primary Columns:* 12-Gauge Galvanized Carbon Steel  
*Compound Tray, Top & Bottom Hat Channels:* 18-Gauge Galvanized Carbon Steel

### Options / Subcomponent Summary

*Ballast:* Fulham / WHS-120-L ; *UV Lamp:* First Light / 12.0", 16.0", 20.0", 28.0", 51.5", 59.0 ; *Rack:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Ballast Tray:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs / 24B-G, 24B-S ; *Spacer:* Genesis Air, IAQ Solutions, Texas Sheet Metal, 7Cs ; *Catalyst Media:* Lewcott

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
750	12	83	148	11.4	5.7	7.1

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

### Test Mounting Details

The UUT was rigid mounted to the fixture using qty (28) #10 self-tapping screws along the top frame and qty (28) #10 self-tapping screws along the bottom frame. The fixture was flexibly mounted to the shake table using MSSH-1E spring isolators.



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





# UNIT UNDER TEST (UUT) Summary Sheet

UUT-03A

EL 10268

Model Line	Model Number	Manufacturer
Electrical Panel Box	4CKB-4	Genesis Air / IAQ Solutions

**Product Construction Summary**

Cabinet: 14-Gauge Carbon Steel

**Options / Subcomponent Summary**

Cabinet: Universal Enclosure Systems / ENC-1 ; Contactor: ABB / C-1 ; Current Sensor: Senva / CS-1, 2, 3, 4 ; Safety Bypass: ABB / PB-1 ; Differential Pressure Switch: Dwyer / PS-1 ; Hour Meter: Redington / TMR-1 ; Transformer: RIB / XFMR-1 ; Fuse Holder: Ferraz Shawmut / FB-1, 2, 3, 4 ; Terminal Block: ABB / ACC-1 ; Mini-Fuse Holder: Phoenix Contact / MF-1

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
65	6	20	20	18.7	33.6	7.8

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S <sub>Ds</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

**Test Mounting Details**

The UUT was rigid mounted to the fixture using qty (4) 5/16"-18 all-thread with nut, lock, and flat washer. The fixture was rigid mounted to the shake table.



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





# UNIT UNDER TEST (UUT) Summary Sheet

UUT-03B

EL 10268

Model Line	Model Number	Manufacturer
Electrical Panel Box	4CKB-4	Genesis Air / IAQ Solutions

**Product Construction Summary**

*Cabinet:* 14-Gauge Carbon Steel

**Options / Subcomponent Summary**

*Cabinet:* Universal Enclosure Systems / ENC-1 ; *Contactor:* ABB / C-1 ; *Current Sensor:* Senva / CS-1, 2, 3, 4 ;  
*Safety Bypass:* ABB / PB-1 ; *Differential Pressure Switch:* Dwyer / PS-1 ; *Hour Meter:* Redington / TMR-1 ; *Transformer:*  
 RIB / XFMR-1 ; *Fuse Holder:* Ferraz Shawmut / FB-1, 2, 3, 4 ; *Terminal Block:* ABB / ACC-1 ;  
*Mini-Fuse Holder:* Phoenix Contact / MF-1

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
65	6	20	20	3.5	N/A	N/A

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S <sub>Ds</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

**Test Mounting Details**

The UUT was rigid mounted to the fixture using qty (4) 5/16"-18 all-thread with nut, lock, and flat washer. The fixture was flexibly mounted to the shake table using MSSH-1E spring isolators.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-04A

EL 10268

Model Line	Model Number	Manufacturer
Electrical Panel Box	4CKB-4	Genesis Air / IAQ Solutions

**Product Construction Summary**

*Cabinet:* 14-Gauge Carbon Steel

**Options / Subcomponent Summary**

*Cabinet:* Universal Enclosure Systems / ENC-1 ; *Contactor:* ABB / C-1 ; *Current Sensor:* Senva / CS-1, 2, 3, 4 ; *Safety Bypass:* ABB / PB-1 ; *Differential Pressure Switch:* Dwyer / PS-1 ; *Hour Meter:* Redington / TMR-1 ; *Transformer:* RIB / XFMR-1 ; *Fuse Holder:* Ferraz Shawmut / FB-1, 2, 3, 4 ; *Terminal Block:* ABB / ACC-1 ; *Mini-Fuse Holder:* Phoenix Contact / MF-1

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
65	6	20	20	13.1	33.2	7.8

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S <sub>Ds</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

**Test Mounting Details**

The UUT was rigid mounted to the fixture using qty (4) 5/16"-18 all-thread with nut, lock, and flat washer. The fixture was rigid mounted to the shake table.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-04B

EL 10268

Model Line	Model Number	Manufacturer
Electrical Panel Box	4CKB-4	Genesis Air / IAQ Solutions

**Product Construction Summary**

*Cabinet:* 14-Gauge Carbon Steel

**Options / Subcomponent Summary**

*Cabinet:* Universal Enclosure Systems / ENC-1 ; *Contactor:* ABB / C-1 ; *Current Sensor:* Senva / CS-1, 2, 3, 4 ; *Safety Bypass:* ABB / PB-1 ; *Differential Pressure Switch:* Dwyer / PS-1 ; *Hour Meter:* Redington / TMR-1 ; *Transformer:* RIB / XFMR-1 ; *Fuse Holder:* Ferraz Shawmut / FB-1, 2, 3, 4 ; *Terminal Block:* ABB / ACC-1 ; *Mini-Fuse Holder:* Phoenix Contact / MF-1

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
65	6	20	20	3.5	N/A	9.5

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

**Test Mounting Details**

The UUT was rigid mounted to the fixture using qty (4) 5/16"-18 all-thread with nut, lock, and flat washer. The fixture was flexibly mounted to the shake table using MSSH-1E spring isolators.



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