



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

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

OFFICE USE ONLY

APPLICATION #: OSP-0879

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: AEIRO

Manufacturer's Technical Representative: Charlie Waddell

Mailing Address: 1600 N. Collins Blvd., Suite 2100, Richardson, TX 75080

Telephone: (540) 798-5239

Email: cwaddell@aeiro-iaq.com

**Product Information**

Product Name: C150 Air Filtration System

Product Model Number(s): C150

Product Category: Air Conditioning Units

Product Sub-Category: Air Filters

General Description: The C150 is a multi-stage filtration system with pre-filter, activated carbon filter, HEPA filter, soft bipolar ionization, and redundant fans.

Mounting Description: Suspended Rigid and Spring Vibration Isolated

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

**Applicant Information**

Applicant Company Name: DCL Labs, LLC

Contact Person: Nastya Veyngerova

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085

Email: nastya.veyngerova@shaketest.com

Title: Seismic Test Engineer



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
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**California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)**

Company Name: THE VMC GROUP

Name: Kenneth Tarlow

California License Number: S2851

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

Telephone: (832) 627-2214

Email: ken.tarlow@thevmcgroup.com

**Certification Method**

GR-63-Core

ICC-ES AC156

IEEE 344

IEEE 693

NEBS 3

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

**Testing Laboratory**

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)

Contact Person: Josh Sailer

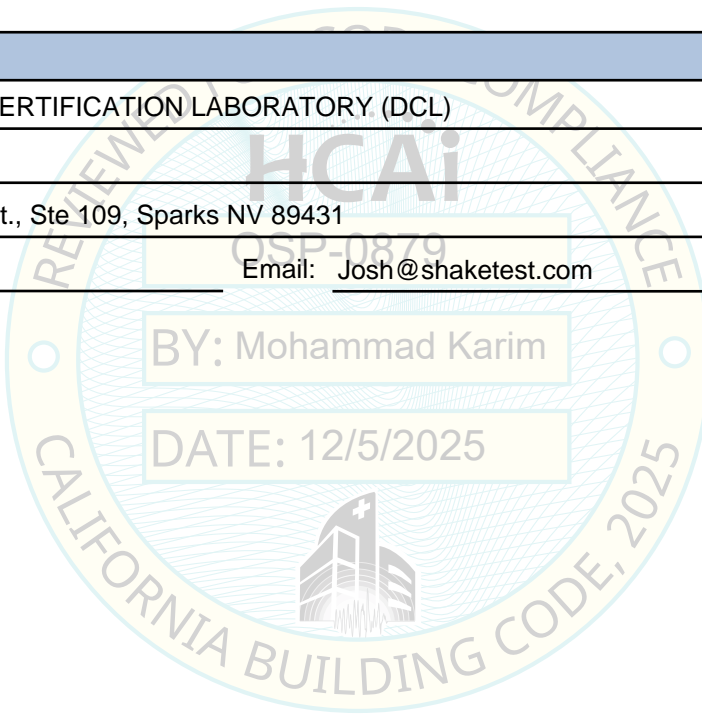
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

Telephone: (775) 358-5085

Email: Josh@shaketest.com

BY: Mohammad Karim

DATE: 12/5/2025





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**Seismic Parameters**

Certified Response Spectral Acceleration Factors:( $F_p/W_p$ )

Horizontal	(A Flx-H), g=	<u>3.20</u>	(A Rig-H), g=	<u>2.15</u>
Vertical	(A Flx-V), g=	<u>1.67</u>	(A Rig-V), g=	<u>0.67</u>

SDS (Design spectral response acceleration at short period, g) = 2.0 @ z/h = 1.0; 2.5@z/h=0

Hf (Force amplification height factor) = 3.5 at z/h=1.0; 1.0 at z/h=0

Ru (Structure ductility reduction factor) = 1.3 at z/h=1.0; 1.0 at z/h=0

I<sub>p</sub> (Importance factor) = 1.5

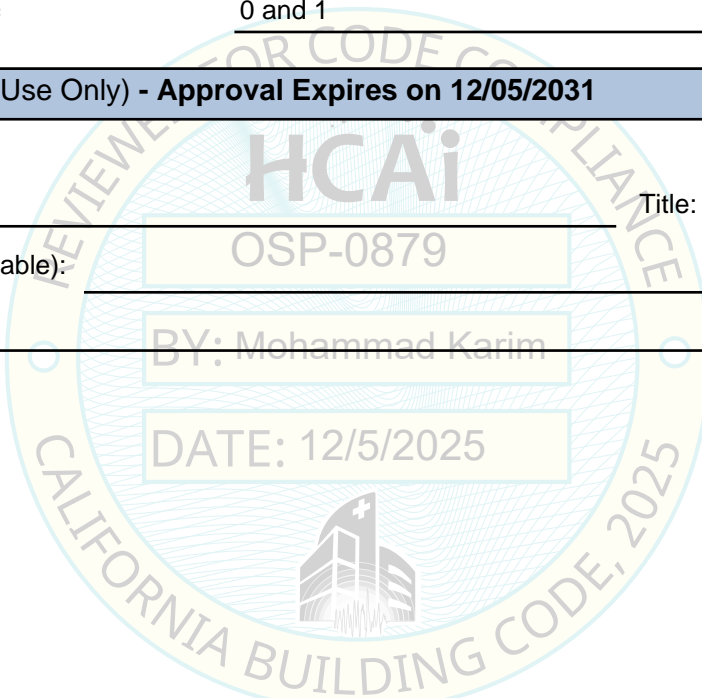
z/h (Height ratio factor) = 0 and 1

**HCAI Approval (For Office Use Only) - Approval Expires on 12/05/2031**

Date: 12/5/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Condition of Approval (if applicable): OSP-0879



**Special Seismic Certification**  
**Table 1 - Certified Components**



**DCL Project Number:** 51004-2501

**Manufacturer:** AEIRO (Assembled by Guangdong Mixwell Technology Co. Ltd.)\*

**Product Line:** C150 Air Filtration System

**Certified product Construction:** Cold-rolled Steel, Galvanized Carbon Steel

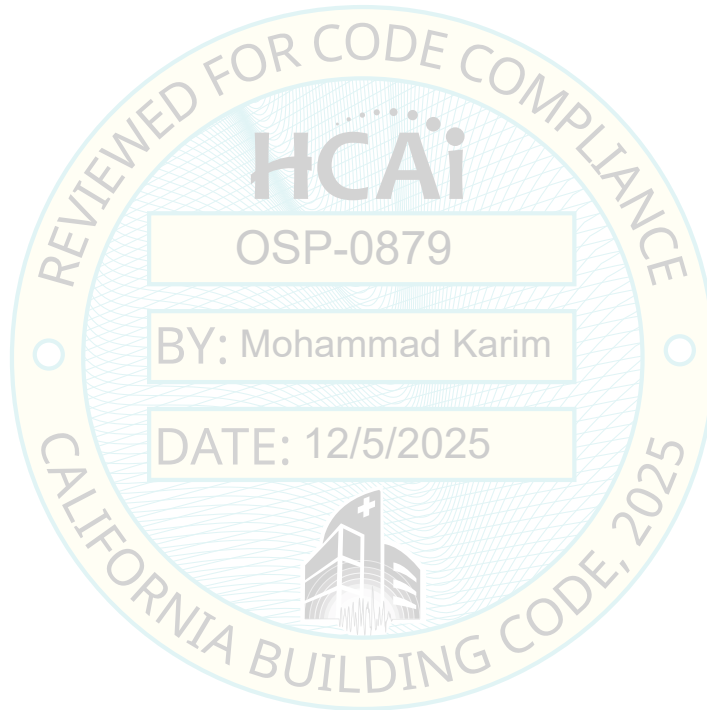
**Mounting:** Ceiling Suspended with and without Spring Isolators

**Certified Seismic Levels:** Sds = 2.00g with z/h = 1.0 and Sds = 2.50g with z/h=0.0

**Factors for Force Amplification and Structure Ductility Reduction:** Hf = 3.5 at z/h=1.0; 1.0 at z/h=0 and Rμ = 1.3 at z/h=1.0; 1.0 at z/h=0

Model Number	Description	Max. Dimensions [ in. ]			Max. Weight [ lb. ]	Unit
		Depth	Width	Height		
C150	Air purifier with integrated multi-stage air filter	25.4	24.0	14.0	52	UUT-01a,b

\* Guangdong Mixwell Technology Co. Ltd. Is ISO 9001 certified.



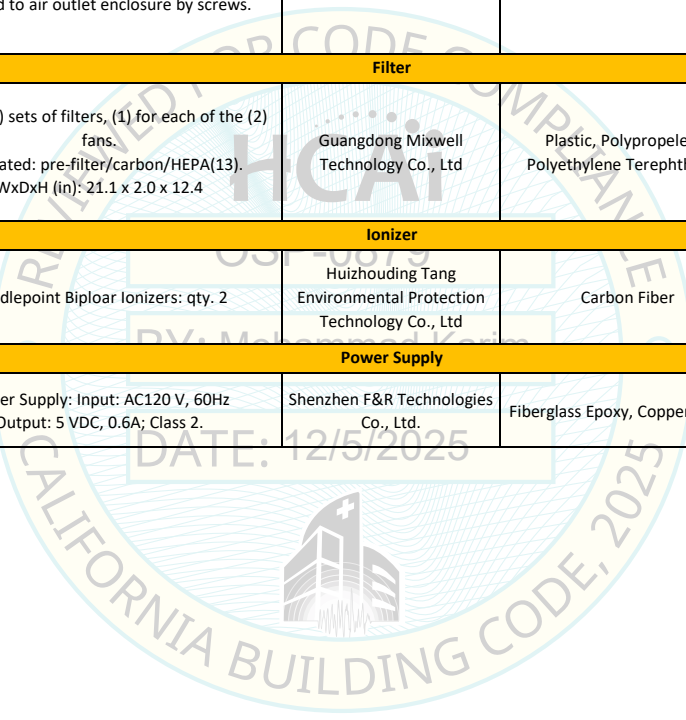
**Special Seismic Certification**  
**Table 2 - Certified Subcomponents**



DCL Project Number: 51004-2501

Product Line: C150 Air Filtration System

Enclosure					
Model Number	Description	Manufacturer	Material	Weight [ lb. ]	Unit
C150	SPCC, painted cold-rolled steel, sheet metal stamping and bending forming, matte white spray paint. Secured to air inlet guard by screws.	Shenzhen Rillsong Intelligent Electrical Technology Corporation	Cold-rolled Steel, Galvanized Carbon Steel	33	UUT-01a,b
AF312A	Control PCB box and cover. All colors, rated 5VA, 75°C.	LG Chem Huizhou Petrochemical Co., Ltd	Acrylonitrile Butadiene Styrene	<1	UUT-01a,b
Fan					
DH176F2-055-000	(2) Fans: Electric centrifugal fan unit; 310VDC, 52W, 0.17A. Motor Insulation system: Class F. Secured to air outlet enclosure by screws.	Fans-tech Electric Co., Ltd	Plastic, Aluminum	6	UUT-01a,b
Filter					
C150F	Filters: (2) sets of filters, (1) for each of the (2) fans. Integrated: pre-filter/carbon/HEPA(13). WxDxH (in): 21.1 x 2.0 x 12.4	Guangdong Mixwell Technology Co., Ltd	Plastic, Polypropelene, Polyethylene Terephthalate	2	UUT-01a,b
Ionizer					
YTP-B4	Needlepoint Bipolar Ionizers: qty. 2	Huizhouding Tang Environmental Protection Technology Co., Ltd	Carbon Fiber	<1	UUT-01a,b
Power Supply					
RS_AR1300U_POWER	Power Supply: Input: AC120 V, 60Hz Output: 5 VDC, 0.6A; Class 2.	Shenzhen F&R Technologies Co., Ltd.	Fiberglass Epoxy, Copper, Silicon	<1	UUT-01a,b



**Special Seismic Certification**

**Table 3 - Tested Units**



**DCL Project Number:** 51004-2501

**Manufacturer:** AEIRO (Assembled by Guangdong Mixwell Technology Co. Ltd.)

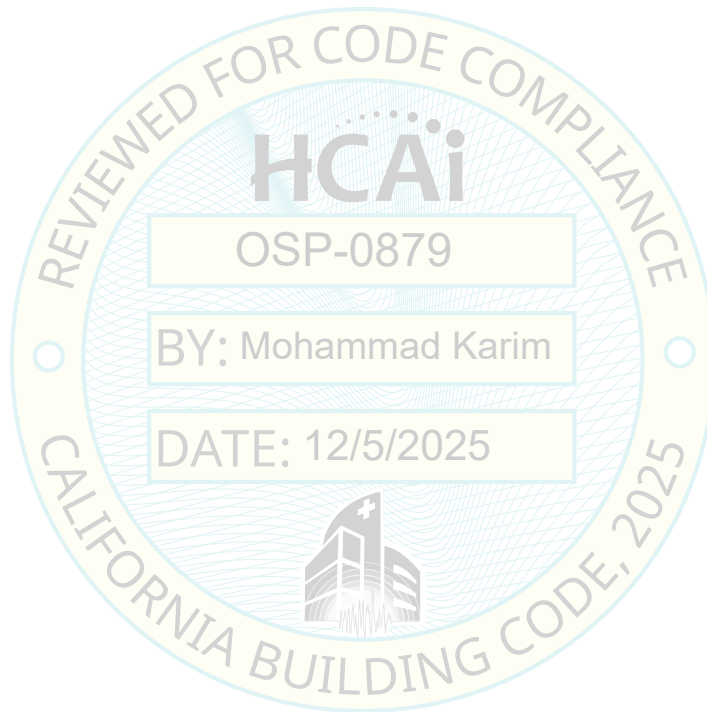
**Product Line:** C150 Air Filtration System

**Mounting:** Ceiling Suspended with and without Spring Isolators

**Certified Seismic Levels:** Sds = 2.00g with z/h = 1.0 and Sds = 2.50g with z/h=0.0

**Factors for Force Amplification and Structure Ductility Reduction:** Hf = 3.5 at z/h=1.0; 1.0 at z/h=0 and Rμ = 1.3 at z/h=1.0; 1.0 at z/h=0

Model Number	Description	Dimensions [ in. ]			Weight [ lb. ]	Unit
		Length	Width	Height		
C150	Air purifier with integrated multi-stage air filter	25.4	24.0	14.0	52	UUT-01a,b



# UNIT UNDER TEST (UUT) Summary Sheet



## UUT-01a

**DCL Repot Number:** 51004-2501

**Test Dates:** 11/19/25 - 11/20/25

**Manufacturer:** AEIRO

**Product Line:** C150 Air Filtration System

**Model Number:** C150

**Product Construction Summary:** Cold-rolled Steel, Galvanized Carbon Steel

**Options / Component Summary:** Shenzhen Rillsong Intelligent Electrical Technology Corporation cold-rolled steel/galvanized carbon steel enclosure (C150), LG Chem Huizhou Petrochemical Co., Ltd acrylonitrile butadiene styrene enclosure control PCB box and cover (AF312A), Fans-tech Electric Co., Ltd plastic/aluminum fan (DH176F2-055-000), Guangdong Mixwell Technology Co., Ltd plastic/polypropelene/polyethylene terephthalate filter (C150F), Huizhouding Tang Environmental Protection Technology Co., Ltd carbon fiber ionizer (YTP-B4), Shenzhen F&R Technologies Co., Ltd. fiberglass epoxy/copper/silicon power supply (RS\_AR1300U\_POWER).

**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

### UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
52	25.4	24.0	14.0	N/A	N/A	N/A

### Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H <sub>f</sub>	R <sub>μ</sub>	I <sub>p</sub>	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

**Unit Mounting Description:** UUT-01a was tested in a ceiling suspended rigid configuration using (4) 3/8" Grade 5 threaded hanger rods that were braced with Unistrut and VMC rod stiffeners. All hardware was 3/8" and carbon steel. UUT-01a used three rod stiffeners and a 17 1/4" piece of Unistrut. The rod stiffeners were spaced approximately 8 3/8" and 7 3/4" apart measured on-center in the z-direction. The rods were spaced 19 7/8" apart measured on-center in the x-direction and 17 3/8" apart on-center in the y-direction. Each threaded rod was mounted to the ceiling fixture with a channel nut, a 1 5/8" x 1 5/8" x 1/4" plate washer, a flat washer and a nut. Each rod used two nuts and three flat washers to secure two VMC SB-125 seismic cable brackets to manufacturer-provided brackets. This seismic cable bracket connected, via 1/8" galvanized cable, to another seismic cable bracket that was attached to the ceiling fixture. Manufacturer-provided brackets were attached to the UUT-01a using 2 manufacturer-provided screws per bracket.



# UNIT UNDER TEST (UUT) Summary Sheet



## UUT-01b

**DCL Repot Number:** 51004-2501

**Test Dates:** 11/19/25 - 11/20/25

**Manufacturer:** AEIRO

**Product Line:** C150 Air Filtration System

**Model Number:** C150

**Product Construction Summary:** Cold-rolled Steel, Galvanized Carbon Steel

**Options / Component Summary:** Shenzhen Rillsong Intelligent Electrical Technology Corporation cold-rolled steel/galvanized carbon steel enclosure (C150), LG Chem Huizhou Petrochemical Co., Ltd acrylonitrile butadiene styrene enclosure control PCB box and cover (AF312A), Fans-tech Electric Co., Ltd plastic/aluminum fan (DH176F2-055-000), Guangdong Mixwell Technology Co., Ltd plastic/polypropelene/polyethylene terephthalate filter (C150F), Huizhouding Tang Environmental Protection Technology Co., Ltd carbon fiber ionizer (YTP-B4), Shenzhen F&R Technologies Co., Ltd. fiberglass epoxy/copper/silicon power supply (RS\_AR1300U\_POWER).

**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

### UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
52	25.4	24.0	14.0	N/A	N/A	N/A

### Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H <sub>f</sub>	R <sub>μ</sub>	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

**Unit Mounting Description:** UUT-01b was tested in a ceiling suspended spring isolated configuration using (4) 3/8" Grade 5 threaded hanger rods that were braced with Unistrut and VMC rod stiffeners. All hardware was 3/8" and carbon steel. The threaded rods were braced with Unistrut and VMC rod stiffeners. UUT-01b used two rod stiffeners and a 9 3/4" long piece of Unistrut. For UUT-01b the rod stiffeners were spaced approximately 8" apart measured on-center in the z-direction. The rods were spaced 19 7/8" apart measured on-center in the x-direction and 17 3/8" apart on-center in the y-direction. Each rod used two nuts and three flat washers to secure two VMC SB-125 seismic cable brackets to manufacturer-provided brackets. This seismic cable bracket connected, via 1/8" galvanized cable, to another seismic cable bracket that was attached to the ceiling fixture. Manufacturer-provided brackets were attached to the UUT-01b using 2 manufacturer-provided screws per bracket. UUT-01b was tested in ceiling suspended isolated configuration using (4) VMC HSP-1C-50 isolator. Each isolator box was attached to the ceiling fixture using a channel nut, flat washer and a bolt. Each rod was mounted to the isolator box using (4) nuts, (3) flat washers, a fender washer and a rubber flat washer.

