



**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-0225**

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Condair, Ltd.

Manufacturer's Technical Representative: Andrew Paterson

Mailing Address: 2470 Fenton Road, Ottawa, ON K1T3T7

Telephone: (866) 667-8321 Email: andrew.paterson@condair.com

**Product Information**

Product Name: SETC Steam Exchange, EL Electrode, SAM-e, Mini SAM-e

Product Model Number(s): SETC Steam Exchange, EL Electrode, SAM-e, Mini SAM-e

Product Category: Air Conditioning Units

Product Sub-Category: Humidification Systems

General Description: SETC units are steam exchange humidifiers. EL units are electrode steam humidifiers. SAM-e and Mini SAM-e units are steam distributors.

Mounting Description: Rigid and In-Duct as detailed on the application - Location (Other) -> Floor, Wall and In-Duct as de

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: VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

Title: President





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

Company Name: THE VMC GROUP  
Name: Kenneth Tarlow California License Number: S2851  
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814  
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

**Certification Method**

GR-63-Core  ICC-ES AC156  IEEE 344  IEEE 693  NEBS 3  
 Other (Please Specify): \_\_\_\_\_

**Testing Laboratory**

Company Name: ANCO ENGINEERS, INC.  
Contact Person: Conor Byrne  
Mailing Address: 1965 33rd Street, Suite A, Boulder CO 80301  
Telephone: (303) 443-7580 Email: conor@ancoengineer.com

Company Name: CLARK TESTING LABORATORY, INC.  
Contact Person: Devon Lohr  
Mailing Address: 1801 Route 51, Jefferson Hills PA 15025  
Telephone: (412) 387-1001 Email: dlohr@clarktesting.com

Company Name: NATIONAL TECHNICAL SYSTEMS (NTS)  
Contact Person: Brad Isbell  
Mailing Address: 7800 Highway 20 West, Huntsville AL 35806  
Telephone: (256) 837-4411 Email: Brad.isbell@nts.com





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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.50

SDS (Design spectral response acceleration at short period, g) = 2.00

$a_p$  (Amplification factor) = 2.5

$R_p$  (Response modification factor) = 6.0

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

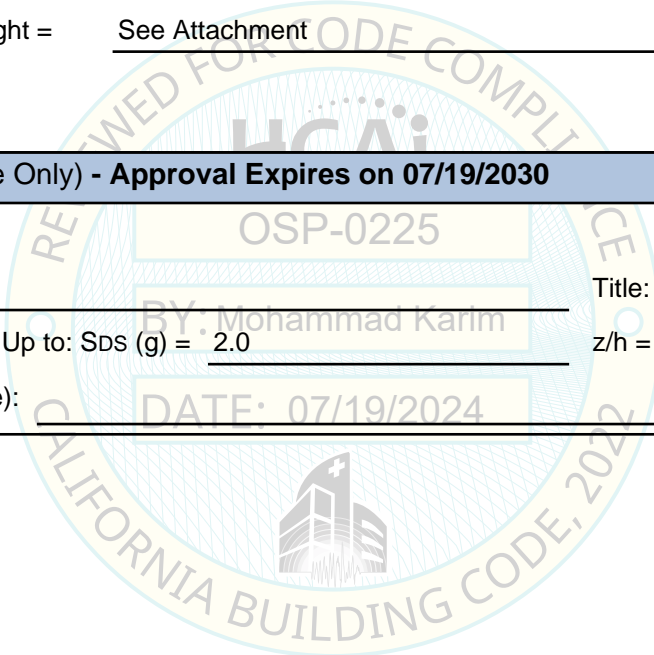
**HCAI Approval (For Office Use Only) - Approval Expires on 07/19/2030**

Date: 7/19/2024

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): DATE: 07/19/2024



**Table 1A: Certified Components EL DUCT/EL SPACE**

Model	Width [ in ]	Depth [ in ]	Height [ in ]	Weight [ lb ]		Construction Material	UUT
				Dry	Wet		
EL DUCT 5	16.5	14.4	26.4	45.0	55.0	1mm CRS	Extrapolated
EL SPACE 5	16.5	14.4	35.4	83.0	113.0	1mm CRS	Extrapolated
EL DUCT 10	16.5	14.4	26.4	45.0	55.0	1mm CRS	Extrapolated
EL SPACE 10	16.5	14.4	35.4	83.0	113.0	1mm CRS	UUT-1
EL DUCT 20	16.5	14.4	26.4	45.0	55.0	1mm CRS	Interpolated
EL SPACE 20	16.5	14.4	35.4	83.0	113.0	1mm CRS	Interpolated
EL DUCT 30	16.5	14.4	26.4	45.0	55.0	1mm CRS	Interpolated
EL SPACE 30	16.5	14.4	35.4	83.0	113.0	1mm CRS	Interpolated
EL DUCT 50	20.9	15.8	30.7	85.0	150.0	1mm CRS	Interpolated
EL SPACE 50	20.9	15.8	39.7	123.0	188.0	1mm CRS	Interpolated
EL DUCT 75	20.9	15.8	30.7	85.0	150.0	1mm CRS	Interpolated
EL SPACE 75	20.9	15.8	39.7	123.0	188.0	1mm CRS	Interpolated
EL DUCT 100	20.9	15.8	30.7	85.0	150.0	1mm CRS	Interpolated
EL SPACE 100	20.9	15.8	39.7	123.0	188.0	1mm CRS	UUT-2
EL DUCT 150	20.9	15.8	30.7	120.0	245.0	1mm CRS	Interpolated
EL DUCT 200	39.4	15.8	30.7	120.0	245.0	1mm CRS	UUT-3

Notes:

1. CRS=Cold Rolled Carbon Steel
2. All EL DUCT / EL SPACE units are wall-mounted

**Table 1B: Certified Components SETC**

Model	Width [ in ]	Depth [ in ]	Height [ in ]	Weight [ lb ]		Construction Material	UUT
				Dry	Wet		
SETC-50	25.75	18.0	23.0	147.5	224.5	18 GA CRS	UUT-5
SETC-100	44.5	20.8	31.8	202.0	377.0	18 GA CRS	Interpolated
SETC-175	44.5	20.8	31.8	202.0	377.0	18 GA CRS	Interpolated
SETC-250	44.5	27.2	31.8	202.0	377.0	18 GA CRS	Interpolated
SETC-375	44.5	27.2	31.8	202.0	377.0	18 GA CRS	Interpolated
SETC-525	44.5	42.7	31.8	202.0	377.0	18 GA CRS	Interpolated
SETC-750	44.5	42.7	31.8	202.0	377.0	18 GA CRS	Interpolated
SETC-1050	45.0	60.0	32.0	703.0	1384.0	18 GA CRS	UUT-4

Notes:

1. CRS=Cold Rolled Carbon Steel
2. Floor Mounted Units

**Table 1C: Certified Components Mini SAM-e (In-Duct)**

Size	Width [ in ]	Depth [ in ]	Height [ in ]	Weight [ lb ]	Construction Material	UUT
8in x 8in	8.0	7.2	7.9	6.0	Base: 1.5 mm 304 SS Steam tubes: 1.2 mm SS	Extrapolated
12in x 8in	11.1	6.6	7.9	12.0	Base: 1.5 mm 304 SS Steam tubes: 1.2 mm SS	UUT-6
12-24in x 8-24in	11.1 - 23.1	6.6	7.9 - 23.9	12.0 - 30.0	Base: 1.5 mm 304 SS Steam tubes: 1.2 mm SS	Interpolated
24in x 24in	23.1	6.6	23.9	30.0	Base: 1.5 mm 304 SS Steam tubes: 1.2 mm SS	UUT-7
30in x 30in	30.0	6.8	30.1	42.7	Base: 1.5 mm 304 SS Steam tubes: 1.2 mm SS	Interpolated
36in x 36in	36.0	6.8	35.8	57.0	Base: 1.5 mm 304 SS Steam tubes: 1.2 mm SS	UUT-12

Note: Mini SAM-e components (except mounting hardware) constructed of 304 Stainless Steel

**Table 1D: Certified Components SAM-e (In-Duct)**

Size	Width [ in ]	Depth [ in ]	Height [ in ]	Weight [ lb ]	Construction Material	UUT
18in x 18in	13.1	8.5	15.0	21.0	Base: 2.2 mm 304 SS Steam tubes: 1.2 mm SS	UUT-8
18-60in x 18-60in	13.1 - 55.1	8.5	15.0 - 47.5	21.0 - 145.0	Base: 2.2 mm 304 SS Steam tubes: 1.2 mm SS	Interpolated
60in x 60in	55.1	8.5	47.5	145.0	Base: 2.2 mm 304 SS Steam tubes: 1.2 mm SS	UUT-9

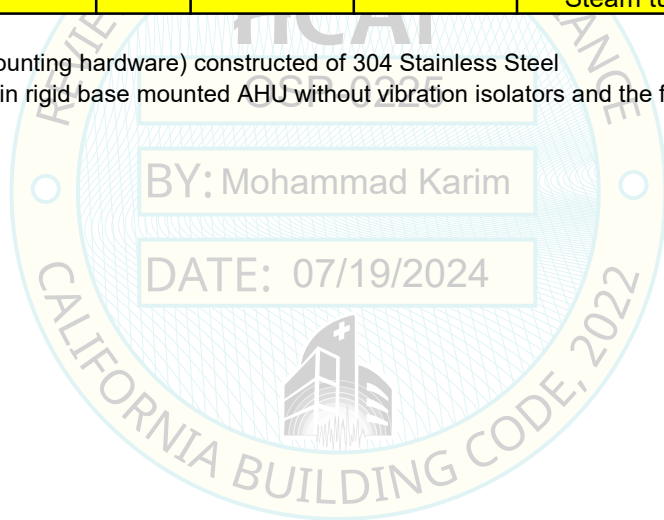
Note: SAM-e components (except mounting hardware) constructed of 304 Stainless Steel

**Table 1E: Certified Components SAM-e (Floor)**

Size	Width [ in ]	Depth [ in ]	Height [ in ]	Weight [ lb ]	Construction Material	UUT
18in x 18in	13.1	8.5	15.0	21.0	Base: 2.2 mm 304 SS Steam tubes: 1.2 mm SS	UUT-10
18-144 in x 18-144 in	13.1 - 139.1	8.5	15.0 - 131.5	21.0 - 669.0	Base: 2.2 mm 304 SS Steam tubes: 1.2 mm SS	Interpolated
144in x 144in	139.1	8.5	131.5	669.0	Base: 2.2 mm 304 SS Steam tubes: 1.2 mm SS	UUT-11

Notes:

1. SAM-e components (except mounting hardware) constructed of 304 Stainless Steel
2. Units can be installed only within rigid base mounted AHU without vibration isolators and the floor units must be rigidly supported at the base and top



**Table 2A: Certified Subcomponents - EL DUCT/SPACE Steam Cylinders**

Model	Manufacturer	Part No.	Weight [ lbs ]	UUT
202	Condair Ltd.	1519002	2.1	UUT-1
203	Condair Ltd.	1519003	2.3	Interpolated
204	Condair Ltd.	1519004	2.0	Interpolated
303	Condair Ltd.	1519023	3.7	Interpolated
305	Condair Ltd.	1519025	3.8	Interpolated
309	Condair Ltd.	1519029	3.5	Interpolated
311	Condair Ltd.	1519031	3.8	Interpolated
321	Condair Ltd.	1509020	3.8	Interpolated
407	Condair Ltd.	1519047	5.5	Interpolated
411	Condair Ltd.	1519051	5.0	Interpolated
421	Condair Ltd.	1519040	5.4	Interpolated
603	Condair Ltd.	1519083	13.0	Interpolated
605	Condair Ltd.	1519085	11.1	Interpolated
621	Condair Ltd.	1519080	10.1	UUT-2, UUT-3

**Table 3A: Certified Subcomponents - EL DUCT/EL SPACE Fill Valves**

Model	Manufacturer	Part No.	Weight [ lbs ]	UUT
Single Valve 0.5 l/min.	Invensys	2573515	0.5	UUT-1
Single Valve 1.2 l/min.	Invensys	2573522	0.5	Interpolated
Single Valve 2.0 l/min.	Invensys	2573523	0.5	Interpolated
Single Valve 3.3 l/min.	Invensys	2573524	0.5	UUT-2, UUT-3
Dual Valve 3.3 l/min & 0.5l/min.	Invensys	2574133	0.6	UUT-1
Dual Valve 3.3 l/min & 1.2l/min.	Invensys	2574134	0.6	Interpolated
Dual Valve 3.3 l/min & 2.0l/min.	Invensys	2574135	0.6	Interpolated
Dual Valve 3.3 l/min & 3.3l/min.	Invensys	2574136	0.5	UUT-2, UUT-3
Drain Valve	Asco electric	1456000	0.9	UUT-1, UUT-2, UUT-3
Fill Cup Assembly	Condair Ltd.	2574143	2.1	UUT-1
Large Fill Cup Assembly	Condair Ltd.	2574142	2.2	UUT-2, UUT-3
Small Steam Line 0.875"	Goodyear	2574131	1.4	UUT-1
Large Steam Line 1.75"	Goodyear	2574132	0.9	UUT-2, UUT-3

**Table 4A: Miscellaneous Subcomponents EL DUCT/EL SPACE**

Subcomponent [ MFR ]	Model	Part No.	Weight [ lbs ]	UUT
Reusable Cable Tie [ Hellermann Tyton ]	200 Cyl Size	2574138	0.2	UUT-1
	600 Cyl Size	2574139	0.2	UUT-2, UUT-3
Cylinder Plugs [ Condair Ltd. ]	Cylinder Plugs	2577737	2.3	UUT-1
	Cylinder Plugs	2573529	0.2	Interpolated
	Super Plug	2574140	1.0	Interpolated
	Super Plug	2574141	1.0	UUT-2, UUT-3
	High Water Sensor Plug	2577738	0.2	UUT-1, UUT-2, UUT-3
Blower Pack [ Condair Ltd. ]	Distribution Assembly	2573805	2.4	UUT-1, UUT-2
	Diffuser Assembly	2573806	4.7	UUT-1, UUT-2
Blower Pack [ APEM ]	Switch Assembly	2573807	0.1	UUT-1, UUT-2
Blower Pack [ Selco ]	Thermostat Assembly	2573808	0.1	UUT-1, UUT-2
Blower Pack [ American Zettler ]	Relay Assembly	2573809	0.4	UUT-1, UUT-2
Blower Pack [ Hartland Controls ]	Capacitor 8uF	2573810	0.2	UUT-1, UUT-2
	Capacitor 20uF	2573811	0.1	UUT-1, UUT-2
Blower Pack [ EBM-PAPST 2ME068 ]	Fan Assembly	2573812	3.0	UUT-1, UUT-2
Blower Pack [ Wiedmuller ]	Spare fastener kit	2573813	1.0	UUT-1, UUT-2
Blower Pack [ Qualitec Electronics ]	Power Cable	2573814	1.0	UUT-1, UUT-2
Main Contactor [ Hartland Controls ]	30 amps/ single phase	2574148	0.8	UUT-1
	30 amps/ three phase	2574149	1.2	Interpolated
	40 amps/ three phase	2574150	1.8	Interpolated
	50 amps/ three phase	2574151	1.2	Interpolated
	62 amps/ three phase	2574152	1.7	UUT-2, UUT-3
Terminal Block [ Cooper/Bussman ]	95 amps, 2 pole	2574153	0.4	UUT-1
	95 amps, 3 pole	2574154	0.5	Interpolated
	150 amps, 3 pole	2574155	0.8	UUT-2
	310 amps, 3 pole	2574156	1.0	UUT-3
Terminal Block [ Condair Ltd. ]	Driver Board	2570437	0.9	UUT-1, UUT-2, UUT-3
Switches [ Multicomp ]	On/Off	2569654	1.0	UUT-1, UUT-2, UUT-3
Switches [ APEM ]	SPST 208-240V	1473010	0.1	UUT-1, UUT-2, UUT-3
Switches [ Lamp Industries ]	Interlock IDM 423	1323091	0.4	UUT-1, UUT-2, UUT-3
Fuses [ Little Fuse ]	3A	2523523	1.1	UUT-1, UUT-2
	4A	2559659	1.0	UUT-3
Fuses [ Ilasco ]	Ground Clamp (small)	2574158	0.2	UUT-1
	Ground Clamp (large)	2574370	0.2	UUT-2, UUT-3
Fuses [ Condair Ltd. ]	PCB Fault Remote	2574171	0.8	UUT-1, UUT-2, UUT-3
Integrated Controller [ Condair Ltd. ]	EL processor	2576572	0.5	UUT-1, UUT-2, UUT-3

**Table 2B: Certified SETC 50-1050 Cabinets**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
Service door, SE 50	Condair Ltd.	2520283	3.5	UUT-5
Service door mini	Condair Ltd.	2523709	5.0	Interpolated
Service door, single	Condair Ltd.	2524402	10.0	Interpolated
Service door, double	Condair Ltd.	2524401	15.0	Interpolated
Service door triple	Condair Ltd.	2523704	20.0	UUT-4
Door, Front GS-SE	Condair Ltd.	2535268	19.0	UUT-4
Panel, electrical cabinet	Condair Ltd.	2535266	10.4	UUT-4, UUT-5
Panel, SE 50 rear	Condair Ltd.	2520292	5.0	UUT-4
Panel, tank rear	Condair Ltd.	2523593	8.9	UUT-4
Panel, SE 50 electrical rear	Condair Ltd.	2520281	3.4	UUT-5
Panel, electrical rear	Condair Ltd.	2523590	6.8	UUT-4
Panel, SE 50 tank top	Condair Ltd.	2520300	3.7	UUT-5
Panel, top tank mini	Condair Ltd.	2523707	5.0	Interpolated
Panel, top tank single	Condair Ltd.	2524395	12.0	Interpolated
Panel, top tank single	Condair Ltd.	2524396	12.0	Interpolated
Panel, top tank	Condair Ltd.	2523701	17.9	UUT-4
Panel, SE 50 top	Condair Ltd.	2520291	2.8	UUT-5
Panel, top plumbing	Condair Ltd.	2523706	5.6	Interpolated
Panel, top plumbing	Condair Ltd.	2524399	8.4	Interpolated
Panel, top plumbing	Condair Ltd.	2524400	11.0	Interpolated
Panel, top plumbing	Condair Ltd.	2523703	12.3	UUT-4
Panel, SE 50 tank left	Condair Ltd.	2520295	5.5	UUT-5
Panel, left	Condair Ltd.	2523705	9.0	Interpolated
Panel, left	Condair Ltd.	2524393	12.5	Interpolated
Panel, left	Condair Ltd.	2524394	16.0	Interpolated
Panel, left	Condair Ltd.	2523598	18.8	UUT-4
Panel, electrical Bottom	Condair Ltd.	2520290	3.1	UUT-5
Panel, electrical Bottom	Condair Ltd.	2523708	4.9	Interpolated
Panel, electrical Bottom	Condair Ltd.	2524398	6.6	Interpolated
Panel, electrical Bottom	Condair Ltd.	2523702	8.4	UUT-4
Panel, SE 50 tank bottom	Condair Ltd.	2520297	4.6	UUT-5
Base, assembly single tank	Condair Ltd.	2525209	26.0	Interpolated
Base, assembly double tank	Condair Ltd.	2525210	36.0	Interpolated
Base, assembly triple tank	Condair Ltd.	2525211	46.0	UUT-4
Panel, SE 50 tank front	Condair Ltd.	2520267	4.8	UUT-5
Panel, SE 50 tank front	Condair Ltd.	2520264	6.0	UUT-5
Panel, SE 50 electrical front	Condair Ltd.	2520270	8.0	UUT-5
Panel, SE 50 right	Condair Ltd.	2520282	4.0	UUT-5
Enclosure, SE 50 transformer	Condair Ltd.	2549857	4.0	UUT-5
Panel, processor display	Condair Ltd.	2542453	3.5	UUT-4, UUT-5

**Table 3B: Certified SETC 50-1050 Electrical**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
Processor board	Condair Ltd.	2553861	1.0	UUT-4, UUT-5
Remote fault board	Condair Ltd.	2550184	2.1	UUT-4, UUT-5
Driver board	Condair Ltd.	2535504	1.1	UUT-4, UUT-5
Transformer, 120/240 - 24 VAC, 150 VA	Hammond Power Solutions	PH150PG	6.1	UUT-4, UUT-5



**Table 4B: Certified SETC 50-1050 Water Tank**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
Cover plate clean out port	Condair Ltd.	2520461	1.1	UUT-5
Cover plate clean out port	Condair Ltd.	2547539	2.1	UUT-4
Tank	Condair Ltd.	2520458	32.1	UUT-5
Tank	Condair Ltd.	2553711	143.0	Interpolated
Tank, single HE	Condair Ltd.	2569331	143.0	Interpolated
Tank, double HE	Condair Ltd.	2569328	200.0	Interpolated
Tank, triple HE	Condair Ltd.	2569326	250.0	UUT-4
Heat exchanger, mini	Condair Ltd.	2520460	33.1	UUT-5
Heat exchanger, mini	Condair Ltd.	2530901	34.0	Interpolated
Heat exchanger	Condair Ltd.	2530902	35.0	UUT-4
Steam trap	Condair Ltd.	1508849	25.0	UUT-4, UUT-5
Fill Valve, dual	Invensys	127.462.0	0.6	UUT-4, UUT-5
Drain pump	Hanning Elektro-Werke	612.049.119	2.0	UUT-4, UUT-5
Float board	Condair Ltd.	2511137	1.0	UUT-4, UUT-5
Float chamber mounting bracket	Condair Ltd.	1113777	0.4	UUT-4, UUT-5
Float chamber	Condair Ltd.	1115933	0.4	UUT-4, UUT-5

**Table 2C: Certified Mini SAM-e Header/Separator**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
8" Duct Width	Condair Ltd.	2607252	4.0	Extrapolated
12" Duct Width	Condair Ltd.	1509811	5.0	UUT-6
	Condair Ltd.	1509814	5.0	Interpolated
18" Duct Width	Condair Ltd.	1509812	10.0	Interpolated
	Condair Ltd.	1509832	10.0	Interpolated
24" Duct Width	Condair Ltd.	1509833	15.0	Interpolated
	Condair Ltd.	1509813	15.0	UUT-7
30" Duct Width	Condair Ltd.	2607317	20.0	Interpolated
36" Duct Width	Condair Ltd.	2607291	25.0	UUT-12

**Table 3C: Certified Mini SAM-e Tube Insulation**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
8" Duct Height	Condair Ltd.	2538866	1.1	UUT-6
10" Duct Height	Condair Ltd.	2538867	1.3	Interpolated
12" Duct Height	Condair Ltd.	2538868	1.4	Interpolated
14" Duct Height	Condair Ltd.	2538869	1.5	Interpolated
16" Duct Height	Condair Ltd.	2538870	1.6	Interpolated
18" Duct Height	Condair Ltd.	2538871	1.8	Interpolated
20" Duct Height	Condair Ltd.	2538872	1.9	Interpolated
22" Duct Height	Condair Ltd.	2538873	2.0	Interpolated
24" Duct Height	Condair Ltd.	2538874	2.1	UUT-7
26" Duct Height	Condair Ltd.	2608474	2.3	Interpolated
28" Duct Height	Condair Ltd.	2608476	2.4	Interpolated
30" Duct Height	Condair Ltd.	2608478	2.5	Interpolated
32" Duct Height	Condair Ltd.	2608479	2.7	Interpolated
34" Duct Height	Condair Ltd.	2608480	2.8	Interpolated
36" Duct Height	Condair Ltd.	2608481	2.9	UUT-12

**Table 4C: Certified Mini SAM-e Tubes**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
8" Duct Height	Condair Ltd.	1509788	1.1	UUT-6
10" Duct Height	Condair Ltd.	1509789	1.5	Interpolated
12" Duct Height	Condair Ltd.	1509790	1.9	Interpolated
	Condair Ltd.	1509797	1.9	Interpolated
	Condair Ltd.	1509804	1.9	Interpolated
14" Duct Height	Condair Ltd.	1509791	2.3	Interpolated
	Condair Ltd.	1509798	2.3	Interpolated
	Condair Ltd.	1509805	2.3	Interpolated
16" Duct Height	Condair Ltd.	1509792	2.7	Interpolated
	Condair Ltd.	1509799	2.7	Interpolated
	Condair Ltd.	1509806	2.7	Interpolated
18" Duct Height	Condair Ltd.	1509793	3.1	Interpolated
	Condair Ltd.	1509800	3.1	Interpolated
	Condair Ltd.	1509807	3.1	Interpolated
20" Duct Height	Condair Ltd.	1509794	3.3	Interpolated
	Condair Ltd.	1509801	3.3	Interpolated
	Condair Ltd.	1509808	3.3	Interpolated
22" Duct Height	Condair Ltd.	1509795	3.7	Interpolated
	Condair Ltd.	1509802	3.7	Interpolated
	Condair Ltd.	1509809	3.7	Interpolated
24" Duct Height	Condair Ltd.	1509796	4.1	Interpolated
	Condair Ltd.	1509803	4.1	Interpolated
	Condair Ltd.	1509810	4.1	UUT-7
26" Duct Height	Condair Ltd.	2507562	4.5	Interpolated
28" Duct Height	Condair Ltd.	2605768	4.9	Interpolated
30" Duct Height	Condair Ltd.	2607573	5.4	Interpolated
32" Duct Height	Condair Ltd.	2607578	5.8	Interpolated
34" Duct Height	Condair Ltd.	2607583	6.2	Interpolated
36" Duct Height	Condair Ltd.	2607558	6.6	UUT-12

**Table 2D: Certified SAM-e (In-Duct) Header/Separator**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" Duct Width	Condair Ltd.	1503269	20.0	UUT-8
	Condair Ltd.	1503309	20.0	Interpolated
24" Duct Width	Condair Ltd.	1503270	22.9	Interpolated
	Condair Ltd.	1503310	22.9	Interpolated
30" Duct Width	Condair Ltd.	1503271	25.8	Interpolated
	Condair Ltd.	1503311	25.8	Interpolated
36" Duct Width	Condair Ltd.	1503272	28.7	Interpolated
	Condair Ltd.	1503312	28.7	Interpolated
	Condair Ltd.	1506789	28.7	Interpolated
	Condair Ltd.	1506797	28.7	Interpolated
42" Duct Width	Condair Ltd.	1503273	31.6	Interpolated
	Condair Ltd.	1503313	31.6	Interpolated
48" Duct Width	Condair Ltd.	1503274	34.5	Interpolated
	Condair Ltd.	1503314	34.5	Interpolated
	Condair Ltd.	1506790	34.5	Interpolated
	Condair Ltd.	1506798	34.5	Interpolated
54" Duct Width	Condair Ltd.	1503275	37.3	Interpolated
	Condair Ltd.	1503315	37.3	Interpolated
60" Duct Width	Condair Ltd.	1503316	40.0	Interpolated
	Condair Ltd.	1506791	40.0	Interpolated
	Condair Ltd.	1506799	40.0	Interpolated
	Condair Ltd.	1503276	40.0	UUT-9

**Table 3D: Certified SAM-e (In-Duct) Steam Tubes**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" Duct Height	Condair Ltd.	1503388	1.1	UUT-8
24" Duct Height	Condair Ltd.	1503389	2.3	Interpolated
	Condair Ltd.	1503411	2.3	Interpolated
30" Duct Height	Condair Ltd.	1503390	3.6	Interpolated
	Condair Ltd.	1503412	3.6	Interpolated
	Condair Ltd.	1509391	3.6	Interpolated
36" Duct Height	Condair Ltd.	1503391	5.0	Interpolated
	Condair Ltd.	1503413	5.0	Interpolated
	Condair Ltd.	1509392	5.0	Interpolated
	Condair Ltd.	1503440	5.0	Interpolated
42" Duct Height	Condair Ltd.	1503392	6.2	Interpolated
	Condair Ltd.	1503414	6.2	Interpolated
	Condair Ltd.	1509393	6.2	Interpolated
	Condair Ltd.	1503441	6.2	Interpolated
48" Duct Height	Condair Ltd.	1503393	7.5	Interpolated
	Condair Ltd.	1503415	7.5	Interpolated
	Condair Ltd.	1509394	7.5	Interpolated
	Condair Ltd.	1503442	7.5	Interpolated
54" Duct Height	Condair Ltd.	1503394	8.7	Interpolated
	Condair Ltd.	1503416	8.7	Interpolated
	Condair Ltd.	1509395	8.7	Interpolated
	Condair Ltd.	1503443	8.7	Interpolated
60" Duct Height	Condair Ltd.	1503395	10.0	Interpolated
	Condair Ltd.	1503417	10.0	Interpolated
	Condair Ltd.	1509396	10.0	Interpolated
	Condair Ltd.	1503444	10.0	UUT-9

**Table 4D: Certified SAM-e (In-Duct) Mounting Frames**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" / 24" Duct Height	Condair Ltd.	1504697	8.1	UUT-8
30" / 36" Duct Height	Condair Ltd.	1503469	10.1	Interpolated
42" / 48" / 54" / 60" Duct Height	Condair Ltd.	1503470	15.1	UUT-9

**Table 5D: Certified SAM-e (In-Duct) Tube Insulation**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" Duct Height	Condair Ltd.	2538844	1.1	UUT-8
24" Duct Height	Condair Ltd.	2538845	1.5	Interpolated
30" Duct Height	Condair Ltd.	2538846	1.9	Interpolated
36" Duct Height	Condair Ltd.	2538847	2.3	Interpolated
42" Duct Height	Condair Ltd.	2538848	2.7	Interpolated
48" Duct Height	Condair Ltd.	2538849	3.1	Interpolated
54" Duct Height	Condair Ltd.	2538850	3.5	Interpolated
60" Duct Height	Condair Ltd.	2538851	3.9	UUT-9

**Table 2E: Certified SAM-e (Floor) Header/Separator**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" Width	Condair Ltd.	1503269	20.0	UUT-10
	Condair Ltd.	1503309	20.0	Interpolated
24" Width	Condair Ltd.	1503270	21.4	Interpolated
	Condair Ltd.	1503310	21.4	Interpolated
30" Width	Condair Ltd.	1503271	22.9	Interpolated
	Condair Ltd.	1503311	22.9	Interpolated
36" Width	Condair Ltd.	1503272	24.3	Interpolated
	Condair Ltd.	1503312	24.3	Interpolated
	Condair Ltd.	1506789	24.3	Interpolated
	Condair Ltd.	1506797	24.3	Interpolated
42" Width	Condair Ltd.	1503273	25.7	Interpolated
	Condair Ltd.	1503291	25.7	Interpolated
	Condair Ltd.	1503313	25.7	Interpolated
48" Width	Condair Ltd.	1503274	27.2	Interpolated
	Condair Ltd.	1503292	27.2	Interpolated
	Condair Ltd.	1503314	27.2	Interpolated
	Condair Ltd.	1506790	27.2	Interpolated
	Condair Ltd.	1506798	27.2	Interpolated
54" Width	Condair Ltd.	1503275	28.6	Interpolated
	Condair Ltd.	1503293	28.6	Interpolated
	Condair Ltd.	1503315	28.6	Interpolated
60" Width	Condair Ltd.	1503276	30.0	Interpolated
	Condair Ltd.	1503294	30.0	Interpolated
	Condair Ltd.	1503316	30.0	Interpolated
	Condair Ltd.	1506791	30.0	Interpolated
	Condair Ltd.	1506799	30.0	Interpolated
66" Width	Condair Ltd.	1503277	31.4	Interpolated
	Condair Ltd.	1503295	31.4	Interpolated
	Condair Ltd.	1503317	31.4	Interpolated
72" Width	Condair Ltd.	1503278	32.9	Interpolated
	Condair Ltd.	1503296	32.9	Interpolated
	Condair Ltd.	1503318	32.9	Interpolated
	Condair Ltd.	1503331	32.9	Interpolated
	Condair Ltd.	1506792	32.9	Interpolated
	Condair Ltd.	1506800	32.9	Interpolated
78" Width	Condair Ltd.	1503279	34.3	Interpolated
	Condair Ltd.	1503297	34.3	Interpolated
	Condair Ltd.	1503319	34.3	Interpolated
	Condair Ltd.	1503332	34.3	Interpolated
84" Width	Condair Ltd.	1503280	35.7	Interpolated
	Condair Ltd.	1503298	35.7	Interpolated
	Condair Ltd.	1503320	35.7	Interpolated
	Condair Ltd.	1503333	35.7	Interpolated
	Condair Ltd.	1506794	35.7	Interpolated
	Condair Ltd.	1506801	35.7	Interpolated
90" Width	Condair Ltd.	1503281	37.2	Interpolated
	Condair Ltd.	1503299	37.2	Interpolated
	Condair Ltd.	1503321	37.2	Interpolated
	Condair Ltd.	1503334	37.2	Interpolated
96" Width	Condair Ltd.	1503282	38.6	Interpolated
	Condair Ltd.	1503300	38.6	Interpolated
	Condair Ltd.	1503322	38.6	Interpolated
	Condair Ltd.	1503335	38.6	Interpolated
	Condair Ltd.	1506795	38.6	Interpolated
	Condair Ltd.	1506802	38.6	Interpolated

**Table 2E: Certified SAM-e (Floor) Header/Separator, Continued**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
102" Width	Condair Ltd.	1503283	40.0	Interpolated
	Condair Ltd.	1503301	40.0	Interpolated
	Condair Ltd.	1503323	40.0	Interpolated
	Condair Ltd.	1503336	40.0	Interpolated
108" Width	Condair Ltd.	1503284	41.5	Interpolated
	Condair Ltd.	1503302	41.5	Interpolated
	Condair Ltd.	1503324	41.5	Interpolated
	Condair Ltd.	1503337	41.5	Interpolated
	Condair Ltd.	1506796	41.5	Interpolated
	Condair Ltd.	1506807	41.5	Interpolated
114" Width	Condair Ltd.	1506803	41.5	Interpolated
	Condair Ltd.	1503285	42.9	Interpolated
	Condair Ltd.	1503303	42.9	Interpolated
	Condair Ltd.	1503325	42.9	Interpolated
120" Width	Condair Ltd.	1503338	42.9	Interpolated
	Condair Ltd.	1503286	44.3	Interpolated
	Condair Ltd.	1503304	44.3	Interpolated
	Condair Ltd.	1503326	44.3	Interpolated
	Condair Ltd.	1503339	44.3	Interpolated
	Condair Ltd.	1507729	44.3	Interpolated
	Condair Ltd.	1506808	44.3	Interpolated
126" Width	Condair Ltd.	1506804	44.3	Interpolated
	Condair Ltd.	1503287	45.7	Interpolated
	Condair Ltd.	1503305	45.7	Interpolated
	Condair Ltd.	1503327	45.7	Interpolated
132" Width	Condair Ltd.	1503340	45.7	Interpolated
	Condair Ltd.	1503288	47.2	Interpolated
	Condair Ltd.	1503306	47.2	Interpolated
	Condair Ltd.	1503328	47.2	Interpolated
	Condair Ltd.	1503341	47.2	Interpolated
	Condair Ltd.	1507730	47.2	Interpolated
	Condair Ltd.	1506809	47.2	Interpolated
	Condair Ltd.	1506805	47.2	Interpolated
138" Width	Condair Ltd.	1506810	47.2	Interpolated
	Condair Ltd.	1503289	48.6	Interpolated
	Condair Ltd.	1503307	48.6	Interpolated
	Condair Ltd.	1503329	48.6	Interpolated
	Condair Ltd.	1503342	48.6	Interpolated
	Condair Ltd.	1507730	48.6	Interpolated
	Condair Ltd.	1506809	48.6	Interpolated
	Condair Ltd.	1506805	48.6	Interpolated
144" Width	Condair Ltd.	1506810	48.6	Interpolated
	Condair Ltd.	1503308	50.0	Interpolated
	Condair Ltd.	1503330	50.0	Interpolated
	Condair Ltd.	1503343	50.0	Interpolated
	Condair Ltd.	1507731	50.0	Interpolated
	Condair Ltd.	1507732	50.0	Interpolated
	Condair Ltd.	1506808	50.0	Interpolated
	Condair Ltd.	1506811	50.0	Interpolated
	Condair Ltd.	1503290	50.0	UUT-11

**Table 3E: Certified SAM-e (Floor) Steam Tubes**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" Height	Condair Ltd.	1503388	1.1	UUT-10
24" Height	Condair Ltd.	1503389	2.3	Interpolated
	Condair Ltd.	1503411	2.3	Interpolated
30" Height	Condair Ltd.	1503390	3.6	Interpolated
	Condair Ltd.	1503412	3.6	Interpolated
	Condair Ltd.	1509391	3.6	Interpolated
36" Height	Condair Ltd.	1503391	5.0	Interpolated
	Condair Ltd.	1503413	5.0	Interpolated
	Condair Ltd.	1509392	5.0	Interpolated
	Condair Ltd.	1503440	5.0	Interpolated
42" Height	Condair Ltd.	1503392	6.2	Interpolated
	Condair Ltd.	1503414	6.2	Interpolated
	Condair Ltd.	1509393	6.2	Interpolated
	Condair Ltd.	1503441	6.2	Interpolated
48" Height	Condair Ltd.	1503393	7.5	Interpolated
	Condair Ltd.	1503415	7.5	Interpolated
	Condair Ltd.	1509394	7.5	Interpolated
	Condair Ltd.	1503442	7.5	Interpolated
54" Height	Condair Ltd.	1503394	8.7	Interpolated
	Condair Ltd.	1503416	8.7	Interpolated
	Condair Ltd.	1509395	8.7	Interpolated
	Condair Ltd.	1503443	8.7	Interpolated
60" Height	Condair Ltd.	1503395	10.0	Interpolated
	Condair Ltd.	1503417	10.0	Interpolated
	Condair Ltd.	1509396	10.0	Interpolated
	Condair Ltd.	1503444	10.0	Interpolated
66" Height	Condair Ltd.	1503396	11.3	Interpolated
	Condair Ltd.	1503418	11.3	Interpolated
	Condair Ltd.	1509397	11.3	Interpolated
	Condair Ltd.	1503445	11.3	Interpolated
72" Height	Condair Ltd.	1503397	12.6	Interpolated
	Condair Ltd.	1503419	12.6	Interpolated
	Condair Ltd.	1509398	12.6	Interpolated
	Condair Ltd.	1503446	12.6	Interpolated
78" Height	Condair Ltd.	1503398	13.9	Interpolated
	Condair Ltd.	1503220	13.9	Interpolated
	Condair Ltd.	1509399	13.9	Interpolated
	Condair Ltd.	1503447	13.9	Interpolated
84" Height	Condair Ltd.	1503399	15.2	Interpolated
	Condair Ltd.	1503421	15.2	Interpolated
	Condair Ltd.	1509400	15.2	Interpolated
	Condair Ltd.	1503448	15.2	Interpolated
90" Height	Condair Ltd.	1503400	16.5	Interpolated
	Condair Ltd.	1503422	16.5	Interpolated
	Condair Ltd.	1509401	16.5	Interpolated
	Condair Ltd.	1503449	16.5	Interpolated
96" Height	Condair Ltd.	1503401	17.8	Interpolated
	Condair Ltd.	1503423	17.8	Interpolated
	Condair Ltd.	1509402	17.8	Interpolated
	Condair Ltd.	1503450	17.8	Interpolated
102" Height	Condair Ltd.	1503402	19.1	Interpolated
	Condair Ltd.	1503424	19.1	Interpolated
	Condair Ltd.	1509403	19.1	Interpolated
	Condair Ltd.	1503451	19.1	Interpolated

**Table 3E: Certified SAM-e (Floor) Steam Tubes, Continued**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
108" Height	Condair Ltd.	1503403	20.4	Interpolated
	Condair Ltd.	1503425	20.4	Interpolated
	Condair Ltd.	1509404	20.4	Interpolated
	Condair Ltd.	1503452	20.4	Interpolated
114" Height	Condair Ltd.	1503404	21.7	Interpolated
	Condair Ltd.	1503426	21.7	Interpolated
	Condair Ltd.	1509405	21.7	Interpolated
	Condair Ltd.	1503453	21.7	Interpolated
120" Height	Condair Ltd.	1503405	23.0	Interpolated
	Condair Ltd.	1503427	23.0	Interpolated
	Condair Ltd.	1509406	23.0	Interpolated
	Condair Ltd.	1503454	23.0	Interpolated
126" Height	Condair Ltd.	1503406	24.3	Interpolated
	Condair Ltd.	1503428	24.3	Interpolated
	Condair Ltd.	1509407	24.3	Interpolated
	Condair Ltd.	1503455	24.3	Interpolated
132" Height	Condair Ltd.	1503407	25.6	Interpolated
	Condair Ltd.	1503429	25.6	Interpolated
	Condair Ltd.	1509408	25.6	Interpolated
	Condair Ltd.	1503456	25.6	Interpolated
138" Height	Condair Ltd.	1503408	26.9	Interpolated
	Condair Ltd.	1503430	26.9	Interpolated
	Condair Ltd.	1509409	26.9	Interpolated
	Condair Ltd.	1503457	26.9	Interpolated
144" Height	Condair Ltd.	1503409	28.2	Interpolated
	Condair Ltd.	1503431	28.2	Interpolated
	Condair Ltd.	1509410	28.2	Interpolated
	Condair Ltd.	1503458	28.2	UUT-11

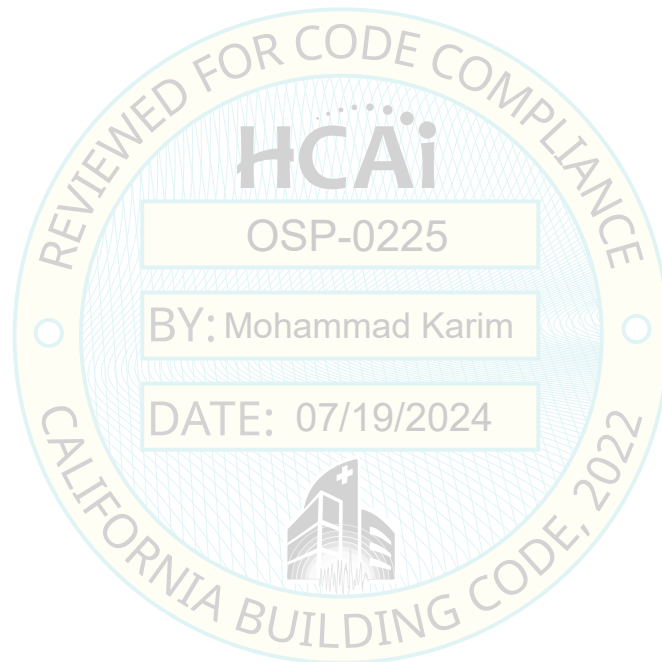
**Table 4E: Certified SAM-e (Floor) Tube Insulation**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
18" Height	Condair Ltd.	2538844	1.1	UUT-10
24" Height	Condair Ltd.	2538845	1.5	Interpolated
30" Height	Condair Ltd.	2538846	1.9	Interpolated
36" Height	Condair Ltd.	2538847	2.3	Interpolated
42" Height	Condair Ltd.	2538848	2.7	Interpolated
48" Height	Condair Ltd.	2538849	3.1	Interpolated
54" Height	Condair Ltd.	2538850	3.5	Interpolated
60" Height	Condair Ltd.	2538851	3.9	Interpolated
66" Height	Condair Ltd.	2538852	4.3	Interpolated
72" Height	Condair Ltd.	2538853	4.7	Interpolated
78" Height	Condair Ltd.	2538854	5.1	Interpolated
84" Height	Condair Ltd.	2538855	5.5	Interpolated
90" Height	Condair Ltd.	2538856	5.9	Interpolated
96" Height	Condair Ltd.	2538857	6.3	Interpolated
102" Height	Condair Ltd.	2538858	6.7	Interpolated
108" Height	Condair Ltd.	2538859	7.1	Interpolated
114" Height	Condair Ltd.	2538860	7.5	Interpolated
120" Height	Condair Ltd.	2538861	7.9	Interpolated
126" Height	Condair Ltd.	2538862	8.3	Interpolated
132" Height	Condair Ltd.	2538863	8.7	Interpolated
138" Height	Condair Ltd.	2538864	9.1	Interpolated
144" Height	Condair Ltd.	2538865	9.5	UUT-11

**Table 5E: Certified SAM-e (Floor) Mounting Frame**

Subcomponent	Manufacturer	Part No.	Weight [ lbs ]	UUT
16" to 27"	Condair Ltd.	1503469	10.1	UUT-10
28" to 51"	Condair Ltd.	1503470	15.1	Interpolated
52" to 99"	Condair Ltd.	1503471	20.1	Interpolated
100" to 147"	Condair Ltd.	1503472	30.1	UUT-11

Note: See last page for seismic brace components.







# UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

Test Report: NTS PR3033136-TR-15

Model Line	Model Number	Manufacturer
EL Space	EL Space 010	Condair

**Product Construction Summary**

1 mm cold formed carbon steel

**Options / Subcomponent Summary**

Steam Cylinders: Condair; Fill Valves: Invensys, ASCO Electric, Goodyear; Reusable Cable Tie: Hellermann Tyton; Cylinder Plugs: Condair; Blower Pack: Condair, APEM, Selco, American Zettler, Hartland Controls, EBM-PAPST 2ME068, Wiedmuller, Qualitec Electronics; Main Contactor: Hartland Controls; Terminal Block: Cooper Bussman, Condair; Switches: Multicomp, APEM, Lamp Industries; Fuses: Little Fuse, IlSCO, Condair; Integrated Controller: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
113	16.5	14.4	35.4	N/A	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 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		-	-	-	-	-	-	-

**Test Mounting Details**

Wall mounted using: (4) 3/8" diameter lag bolts.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-2

Test Report: NTS PR3033136-TR-15

Model Line	Model Number	Manufacturer
EL Space	EL Space 100	Condair

**Product Construction Summary**

1 mm cold formed carbon steel

**Options / Subcomponent Summary**

Steam Cylinders: Condair; Fill Valves: Invensys, ASCO Electric, Goodyear; Reusable Cable Tie: Hellermann Tyton; Cylinder Plugs: Condair; Blower Pack: Condair, APEM, Selco, American Zettler, Hartland Controls, EBM-PAPST 2ME068, Wiedmuller, Qualitec Electronics; Main Contactor: Hartland Controls; Terminal Block: Cooper Bussman, Condair; Switches: Multicomp, APEM, Lamp Industries; Fuses: Little Fuse, IlSCO, Condair; Integrated Controller: Condair

**UUT Properties**

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
188	20.9	15.8	39.7	N/A	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 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		-	-	-	-	-	-	-

**Test Mounting Details**

Wall mounted using: (4) 3/8" diameter lag bolts.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-3

Test Report: NTS PR3033136-TR-15

Model Line	Model Number	Manufacturer
EL Duct	EL Duct 200	Condair

**Product Construction Summary**

1 mm cold formed carbon steel

**Options / Subcomponent Summary**

Steam Cylinders: Condair; Fill Valves: Invensys, ASCO Electric, Goodyear; Reusable Cable Tie: Hellermann Tyton; Cylinder Plugs: Condair; Main Contactor: Hartland Controls; Terminal Block: Cooper Bussman, Condair; Switches: Multicomp, APEM, Lamp Industries; Fuses: Little Fuse, IlSCO, Condair; Integrated Controller: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
245	39.4	15.8	30.7	N/A	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 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		-	-	-	-	-	-	-

**Test Mounting Details**

Wall mounted using: (4) 3/8" diameter lag bolts.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-4

Test Report: NTS PR3033136-TR-15

Model Line	Model Number	Manufacturer
SETC	SETC-1050	Conair

**Product Construction Summary**

18 gauge cold formed carbon steel

**Options / Subcomponent Summary**

Cabinets: Conair; Processor board: Conair; Remote Fault Board: Conair; Transformer: Hammond Power Solutions; Water Tank: Conair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
1,384	45.0	60.0	32.0	15.0	16.0	25.0

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 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		-	-	-	-	-	-	-

**Test Mounting Details**

UUT-4 was rigidly floor mounted to the shake table using (24) 3/8" diameter Grade 5 bolts.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-5

Test Report: ANCO 3316.01; UUT-4

Model Line	Model Number	Manufacturer
SETC	SETC-50	Condair

**Product Construction Summary**

18 gauge cold formed carbon steel

**Options / Subcomponent Summary**

Cabinets: Condair; Processor board: Condair; Remote Fault Board: Condair; Transformer: Hammond Power Solutions; Water Tank: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
225	25.8	18.0	23.0	N/A	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 2022	ICC-ES AC156	2.50	1.0	1.5	4.43	3.32	1.68	0.68
		-	-	-	-	-	-	-

**Test Mounting Details**

UUT-5 was rigidly floor mounted to the shake table using (8) 3/8" diameter Grade 5 bolts.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-6

Test Report: Clark 15-0621; UUT-1

Model Line	Model Number	Manufacturer
Mini SAM-e (In-Duct)	Mini SAM-e 12x8	Condair

### Product Construction Summary

Header: 1.5 mm 304 Stainless Steel; Steam Tubes: 1.2 mm Stainless Steel

### Options / Subcomponent Summary

12" Duct Width Header/Separator: Condair; 8" Duct Height Tube: Condair; 8" Duct Height Tube Insulation: Condair

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
12	11.1	6.6	7.9	N/A	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 2022	ICC-ES AC156	2.00	1.0	1.5	2.40	1.33	1.34	0.54
		-	-	-	-	-	-	-

### Test Mounting Details

Duct-mounted using: standard duct installation kit supplied with each Mini SAM-e. The kit includes a top rail that braces the steam tubes which then screw mounts to the side of the duct using #10 x ¾ inch sheet metal screws (2 required per rail). (2) top rails required for 3" center Mini SAM-e, (1) top rail required for Mini SAM-e 6 inch centers. Base of the SAM-e is secured with (2) ¼" sheet metal screws that secure the steam entry side of the steam header.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-7

Test Report: Clark 15-0621; UUT-2

Model Line	Model Number	Manufacturer
Mini SAM-e (In-Duct)	Mini SAM-e 24x24	Condair

**Product Construction Summary**

Header: 1.5 mm 304 Stainless Steel; Steam Tubes: 1.2 mm Stainless Steel

**Options / Subcomponent Summary**

24" Duct Width Header/Separator: Condair; 24" Duct Height Tube: Condair; 24" Duct Height Tube Insulation: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
30	23.1	6.6	23.9	N/A	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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54
		-	-	-	-	-	-	-

**Test Mounting Details**

Duct-mounted using: standard duct installation kit supplied with each Mini SAM-e. The kit includes a top rail that braces the steam tubes which then screw mounts to the side of the duct using #10 x 3/4 inch sheet metal screws (2 required per rail). (2) top rails required for 3" center Mini SAM-e, (1) top rail required for Mini SAM-e 6 inch centers. Base of the SAM-e is secured with (2) 1/4" sheet metal screws that secure the steam entry side of the steam header.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-8

Test Report: Clark 15-0621; UUT-3

Model Line	Model Number	Manufacturer
SAM-e (In-Duct)	SAM-e Ducted 18x18	Condair

**Product Construction Summary**

Header: 2.2 mm 304 Stainless Steel; Steam Tubes: 1.2mm Stainless Steel

**Options / Subcomponent Summary**

18" Duct Width Header/Separator: Condair; 18" Duct Height Tube: Condair; 18" Mounting Frame: Condair; 18" Duct Height Tube Insulation: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
21	13.1	8.5	15.0	N/A	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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54
		-	-	-	-	-	-	-

**Test Mounting Details**

Duct-mounted using: seismic duct mount kit supplied with each seismic SAM-e. The base of the SAM-e (duct mount) is secured with (4) manifold mounting brackets. Each floor mount bracket is secured to the base of the SAM-e with (2) 5/16" hex locknuts, which are then in turn secured to the duct floor with (4) #10 x 3/4 inch sheet metal screws. The top of the SAM-e mounting frame (duct mount) is secured to the duct ceiling with (4) #10 x 3/4 inch sheet metal screws.



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





# UNIT UNDER TEST (UUT) Summary Sheet

**UUT-9**

Test Report: Clark 15-0621; UUT-4

Model Line	Model Number	Manufacturer
SAM-e (In-Duct)	SAM-e Ducted 60x60	Condair

**Product Construction Summary**

Header: 2.2 mm 304 Stainless Steel; Steam Tubes: 1.2mm Stainless Steel

**Options / Subcomponent Summary**

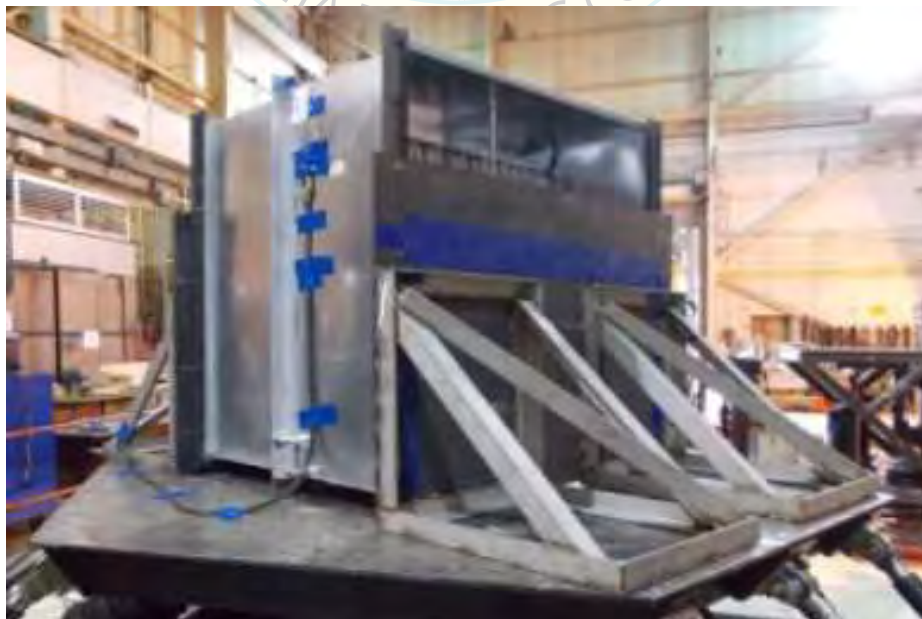
60" Duct Width Header/Separator: Condair; 60" Duct Height Tube: Condair; 60" Mounting Frame: Condair; 60" Duct Height Tube Insulation: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
145	55.1	8.5	47.5	N/A	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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54
		-	-	-	-	-	-	-

**Test Mounting Details**

Duct-mounted using: seismic duct mount kit supplied with each seismic SAM-e. The base of the SAM-e (duct mount) is secured with (4) manifold mounting brackets. Each floor mount bracket is secured to the base of the SAM-e with (2) 5/16" hex locknuts, which are then in turn secured to the duct floor with (4) #10 x 3/4 inch sheet metal screws. The top of the SAME mounting frame (duct mount) is secured to the duct ceiling with (4) #10 x 3/4 inch sheet metal screws.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-10

Test Report: Clark 15-0621; UUT-5

Model Line	Model Number	Manufacturer
SAM-e (Floor)	SAM-e Floor 18x18	Condair

**Product Construction Summary**

Header: 2.2 mm 304 Stainless Steel; Steam Tubes: 1.2mm Stainless Steel

**Options / Subcomponent Summary**

18" Duct Width Header/Separator: Condair; 18" Duct Height Tube: Condair; 18" Mounting Frame: Condair; 18" Duct Height Tube Insulation: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
21	13.1	8.5	15.0	N/A	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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54
		-	-	-	-	-	-	-

**Test Mounting Details**

UUT-10 was rigidly supported at the base and top with seismic brace kits with use limited to rigid base mounted AHU without vibration isolators. The seismic brace kit is comprised of standard and optional parts already available for order. The base of the SAM-e Floor is secured with (4) manifold floor mounting brackets. Each floor mount bracket is secured to the base of the SAM-e with (2) 5/16" hex locknuts, which in turn are secured to the floor with (2) 5/16" diameter bolts. The top of the SAM-e mounting frame is secured using the SAM-e seismic brace that connects to the top rail of the SAM-e and in turn is secured to the ceiling of the air handler with two 5/16" diameter bolts per span of seismic brace.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-11

Test Report: Clark 15-0621; UUT-6

Model Line	Model Number	Manufacturer
SAM-e (Floor)	SAM-e Floor 144x144	Condair

**Product Construction Summary**

Header: 2.2 mm 304 Stainless Steel; Steam Tubes: 1.2mm Stainless Steel

**Options / Subcomponent Summary**

144" Duct Width Header/Separator: Condair; 144" Duct Height Tube: Condair; 144" Mounting Frame: Condair; 144" Duct Height Tube Insulation: Condair

UUT Properties						
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
669	139.1	8.5	131.5	N/A	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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54
		-	-	-	-	-	-	-

**Test Mounting Details**

SAM-e Floor components are rigidly supported at the base and top with seismic brace kits with use limited to rigid base mounted AHU without vibration isolators. The seismic brace kit is comprised of standard and optional parts already available for order. The base of the SAM-e Floor is secured with (4) manifold floor mounting brackets. Each floor mount bracket is secured to the base of the SAM-e with (2) 5/16" hex locknuts, which in turn are secured to the floor with (2) 5/16" diameter bolts. The top of the SAM-e mounting frame is secured using the SAM-e seismic brace that connects to the top rail of the SAM-e and in turn is secured to the ceiling of the AHU with (2) 5/16" diameter bolts per span of seismic brace.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-12

Test Report: Clark 23-01272; UUT-13

Model Line	Model Number	Manufacturer
Mini SAM-e (In-Duct)	Mini SAM-e 36x36	Condair

### Product Construction Summary

Header: 1.5 mm 304 Stainless Steel; Tubes: 1.2 mm Stainless Steel

### Options / Subcomponent Summary

36" Duct Width Header/Separator: Condair; 36" Duct Height Tube: Condair; 36" Duct Height Tube Insulation: Condair

### UUT Properties

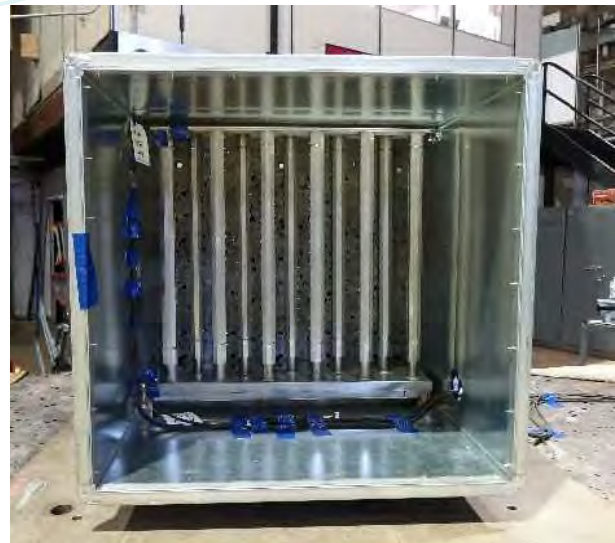
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
57	36.0	6.8	35.8	N/A	N/A	N/A

### 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 2022	ICC-ES AC156	2.03	1.0	1.5	3.25	2.44	1.36	0.55
		-	-	-	-	-	-	-

### Test Mounting Details

Mounted to duct using (4) 5/16"-18 Grade 5 hex bolts at the top and (4) 1/4"-20 Grade 5 hex bolts at the bottom. The duct was mounted to the wall fixture using (8) 3/8"-16 Grade 5 hex bolts.



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