APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0618

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Baltimore Aircoil Company, Inc.

Manufacturer's Technical Representative: David Wu

Mailing Address: 7600 Dorsey Run Road, Jessup, MD 20794

Telephone: (410) 799-6533 Email: Dwu@baltimoreaircoil.com

Product Information

Product Name: Series 3000E

Product Model Number(s): See Attachment

Product Category: Cooling Towers

Product Sub-Category: NA

General Description: Series 3000E Open Cooling Tower product line used in evaporative cooling applications. Certification covers: upgraded structure option (identified with a suffix "/S" in the model nomenclature); single and multiple cells; galvanized and stainless-steel materials of construction; belt, gear and direct drive; standard, low sound and whisper quiet fans.

Mounting Description: Rigid mounted and restrained spring vibration isolated mounted.

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

Contact Person: Kelly Laplace

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

Telephone: (775) 358-5085 Email: kelly.laplace@thevmcgroup.com

Title: Vice President of Sales: Test and Measurement Division

HCAi OSP-0618 BY: Timothy J. Piland Date: 05/16/2025

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: U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, CONSTRUCTION ENGINEERING RESEARCH LABORATORY (CERL)

Contact Person: James Wilcoski

Mailing Address: 2902 Newmark Dr., Champaign IL 61822-1076

Telephone: (217) 373-4565 Email: james.wilcoski@usace.army.mil

Company Name: UNIVERSITY OF BUFFALO (SEESL)

Contact Person: Scott Weinreber

Mailing Address: 212 Ketter Hall, Buffalo NY 14260

Telephone: (716) 645-4377 Email: sw34@buffalo.edu

Company Name: UNIVERSITY OF NEVADA, RENO (UNR)

Contact Person: Patrick LaPlace

Mailing Address: 1664 N. Virginia Street, Reno NV 89557

Telephone: (775) 784-6937 Email: plaplace@unr.edu

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DATE: 05/16/2025
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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 2.19 Rigid; 3.29 Vibration Isolated

S_{DS} (Design spectral response acceleration at short period, g) = 1.46

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 3.0 Rigid; 2.0 Vibration Isolated

Ω_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

REVIEWED FOR CODE COMPLIANCE
HCAi
OSP-0618
BY: Timothy J. Piland
DATE: 05/16/2025
CALIFORNIA BUILDING CODE, 2022

HCAI Approval (For Office Use Only) - Approval Expires on 05/16/2031

Date: 5/16/2025

Name: Timothy Piland Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: S_{DS} (g) = 1.46 z/h = 1

Condition of Approval (if applicable):

Special Seismic Certification
Table 1 - Certified Components

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project Number: 11654-2501

Manufacturer: Baltimore Aircoil Company, Inc

Product Line: Series 3000E

Mounting: Rigid and Isolated Base Mount

Certified Seismic Levels: Sds 1.46g z/h=1.0

Base Model No.[1,2,3,4,8]	Nominal Box Size[5] [in]	Motor HP	Fan Diameter [in]	Shipping Weight[6] [lbs]	Operating Weight[6,7] [lbs]	Tested Weight [lbs]	Unit Width [in]	Unit Length [in]	Height to Fan Deck [in]	UUT
XES3E-8518-05G/S	18X8.5X80	3	90	8,620	15,760		216.5	101.75	104	
XES3E-8518-05H/S	18X8.5X80	5	90	8,630	15,770	N/A	216.5	101.75	104	Extrapolated
XES3E-8518-05J/S	18X8.5X80	7.5	90	8,660	15,800		216.5	101.75	104	
XES3E-8518-05K/S	18X8.5X80	10	90	8,670	15,810	14,881	216.5	101.75	104	UUT 1A & UUT 1B
S3E-8518-05L/S	18X8.5X80	15	90	8,800	15,940		216.5	101.75	104	
S3E-8518-05M/S	18X8.5X80	20	90	9,710	16,850		216.5	101.75	104	
XES3E-8518-06G/S	18X8.5X96	3	90	9,030	16,700		216.5	101.75	120	
XES3E-8518-06H/S	18X8.5X96	5	90	9,040	16,710		216.5	101.75	120	
XES3E-8518-06J/S	18X8.5X96	7.5	90	9,080	16,750		216.5	101.75	120	
XES3E-8518-06K/S	18X8.5X96	10	90	9,090	16,760		216.5	101.75	120	
S3E-8518-06L/S	18X8.5X96	15	90	9,160	16,830		216.5	101.75	120	
S3E-8518-06M/S	18X8.5X96	20	90	10,030	17,710		216.5	101.75	120	
S3E-8518-06N/S	18X8.5X96	25	90	9,910	17,590		216.5	101.75	120	
S3E-8518-06O/S	18X8.5X96	30	90	9,990	17,670		216.5	101.75	120	
XES3E-8518-07G/S	18X8.5X112	3	90	9,450	19,020		216.5	101.75	136	
XES3E-8518-07H/S	18X8.5X112	5	90	9,460	19,030		216.5	101.75	136	
XES3E-8518-07J/S	18X8.5X112	7.5	90	9,490	19,060		216.5	101.75	136	
XES3E-8518-07K/S	18X8.5X112	10	90	9,500	19,070		216.5	101.75	136	
XES3E-8518-07L/S	18X8.5X112	15	90	9,580	19,150		216.5	101.75	136	
S3E-8518-07M/S	18X8.5X112	20	90	10,440	20,010	N/A	216.5	101.75	136	Interpolated
S3E-8518-07N/S	18X8.5X112	25	90	10,330	19,910		216.5	101.75	136	
S3E-8518-07O/S	18X8.5X112	30	90	10,410	19,980		216.5	101.75	136	
S3E-8518-07P/S	18X8.5X112	40	90	10,450	20,020		216.5	101.75	136	
XES3E-1020-06G/S	20X10X96	3	108	10,330	19,930		240.5	117.25	120	
XES3E-1020-06H/S	20X10X96	5	108	10,340	19,940		240.5	117.25	120	
XES3E-1020-06J/S	20X10X96	7.5	108	10,360	19,960		240.5	117.25	120	
XES3E-1020-06K/S	20X10X96	10	108	10,370	19,970		240.5	117.25	120	
XES3E-1020-06L/S	20X10X96	15	108	10,440	20,040		240.5	117.25	120	
S3E-1020-06M/S	20X10X96	20	108	11,390	20,990		240.5	117.25	120	
S3E-1020-06N/S	20X10X96	25	108	11,380	20,980		240.5	117.25	120	
S3E-1020-06O/S	20X10X96	30	108	11,730	21,330		240.5	117.25	120	
XES3E-1020-07G/S	20X10X112	3	108	10,690	20,980		240.5	117.25	136	
XES3E-1020-07H/S	20X10X112	5	108	10,700	20,990		240.5	117.25	136	
XES3E-1020-07J/S	20X10X112	7.5	108	10,740	21,030		240.5	117.25	136	
XES3E-1020-07K/S	20X10X112	10	108	10,750	21,040		240.5	117.25	136	
XES3E-1020-07L/S	20X10X112	15	108	10,830	21,120		240.5	117.25	136	
S3E-1020-07M/S	20X10X112	20	108	11,760	22,060	19,300	240.5	117.25	136	UUT 8A & UUT 8B
S3E-1020-07N/S	20X10X112	25	108	11,760	22,050		240.5	117.25	136	
S3E-1020-07O/S	20X10X112	30	108	12,110	22,410		240.5	117.25	136	
S3E-1020-07P/S	20X10X112	40	108	12,410	22,700		240.5	117.25	136	
XES3E-1222-06H/S	21.5X12X96	5	120	12,310	24,590		258.5	141.75	120	
XES3E-1222-06J/S	21.5X12X96	7.5	120	12,350	24,630		258.5	141.75	120	
XES3E-1222-06K/S	21.5X12X96	10	120	12,360	24,640		258.5	141.75	120	
XES3E-1222-06L/S	21.5X12X96	15	120	12,430	24,710		258.5	141.75	120	
S3E-1222-06M/S	21.5X12X96	20	120	13,430	25,700		258.5	141.75	120	
S3E-1222-06N/S	21.5X12X96	25	120	14,200	26,480		258.5	141.75	120	
S3E-1222-06O/S	21.5X12X96	30	120	14,210	26,480	N/A	258.5	141.75	120	Interpolated
XES3E-1222-07J/S	21.5X12X112	7.5	120	13,000	26,030		258.5	141.75	136	
XES3E-1222-07K/S	21.5X12X112	10	120	13,010	26,040		258.5	141.75	136	
XES3E-1222-07L/S	21.5X12X112	15	120	13,090	26,120		258.5	141.75	136	
XES3E-1222-07M/S	21.5X12X112	20	120	14,070	27,100		258.5	141.75	136	
S3E-1222-07N/S	21.5X12X112	25	120	14,860	27,890		258.5	141.75	136	
S3E-1222-07O/S	21.5X12X112	30	120	14,850	27,880		258.5	141.75	136	
S3E-1222-07P/S	21.5X12X112	40	120	14,980	28,010		258.5	141.75	136	
S3E-1222-07Q/S	21.5X12X112	50	120	14,930	27,960		258.5	141.75	136	

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OSP-0618
ICC-ES
ISSUED BY: Timothy L. Piland
DATE: 05/16/2025
CALIFORNIA BUILDING CODE, 2022

Special Seismic Certification
Table 1 - Certified Components (continued)

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project Number: 11654-2501

Manufacturer: Baltimore Aircoil Company, Inc

Product Line: Series 3000E

Mounting: Rigid and Isolated Base Mount

Certified Seismic Levels: Sds 1.46g z/h=1.0

Base Model No.[1,2,3,4,8]	Nominal Box Size[5] [in]	Motor HP	Fan Diameter [in]	Shipping Weight[6] [lbs]	Operating Weight[6,7] [lbs]	Tested Weight [lbs]	Unit Width [in]	Unit Length [in]	Height to Fan Deck [in]	UUT
S3E-1222-07R/S	21.5X12X112	60	120	15,900	28,930		258.5	141.75	136	
XES3E-1222-10K/S	21.5X12X160	10	132	16,310	34,490		258.5	141.75	186	
XES3E-1222-10L/S	21.5X12X160	15	132	16,390	34,570		258.5	141.75	186	
XES3E-1222-10M/S	21.5X12X160	20	132	17,770	35,940		258.5	141.75	186	
XES3E-1222-10N/S	21.5X12X160	25	132	17,790	35,960		258.5	141.75	186	
XES3E-1222-10O/S	21.5X12X160	30	132	17,970	36,140		258.5	141.75	186	
S3E-1222-10P/S	21.5X12X160	40	132	17,820	35,990		258.5	141.75	186	
S3E-1222-10Q/S	21.5X12X160	50	132	18,190	36,360		258.5	141.75	186	
S3E-1222-10R/S	21.5X12X160	60	132	17,980	36,150		258.5	141.75	186	
S3E-1222-10S/S	21.5X12X160	75	132	19,180	37,350		258.5	141.75	186	
XES3E-1222-12K/S	21.5X12X192	10	132	17,330	37,320		258.5	141.75	218	
XES3E-1222-12L/S	21.5X12X192	15	132	17,410	37,400		258.5	141.75	218	
XES3E-1222-12M/S	21.5X12X192	20	132	18,780	38,770		258.5	141.75	218	
XES3E-1222-12N/S	21.5X12X192	25	132	18,810	38,800		258.5	141.75	218	
XES3E-1222-12O/S	21.5X12X192	30	132	18,990	38,970		258.5	141.75	218	
S3E-1222-12P/S	21.5X12X192	40	132	18,840	38,830		258.5	141.75	218	
S3E-1222-12Q/S	21.5X12X192	50	132	19,100	39,090		258.5	141.75	218	
S3E-1222-12R/S	21.5X12X192	60	132	19,100	39,090		258.5	141.75	218	
S3E-1222-12S/S	21.5X12X192	75	132	20,310	40,290		258.5	141.75	218	
XES3E-1222-13K/S	21.5X12X208	10	132	17,830	38,280		258.5	141.75	234	
XES3E-1222-13L/S	21.5X12X208	15	132	17,910	38,360		258.5	141.75	234	
XES3E-1222-13M/S	21.5X12X208	20	132	19,280	39,730		258.5	141.75	234	
XES3E-1222-13N/S	21.5X12X208	25	132	19,320	39,760		258.5	141.75	234	
XES3E-1222-13O/S	21.5X12X208	30	132	19,490	39,940		258.5	141.75	234	
S3E-1222-13P/S	21.5X12X208	40	132	19,340	39,790		258.5	141.75	234	
S3E-1222-13Q/S	21.5X12X208	50	132	19,600	40,050		258.5	141.75	234	
S3E-1222-13R/S	21.5X12X208	60	132	19,600	40,050		258.5	141.75	234	
S3E-1222-13S/S	21.5X12X208	75	132	19,840	40,290	N/A	258.5	141.75	234	Interpolated
XES3E-1222-14L/S	21.5X12X224	15	132	18,380	38,820		258.5	141.75	250	
XES3E-1222-14M/S	21.5X12X224	20	132	19,760	40,200		258.5	141.75	250	
XES3E-1222-14N/S	21.5X12X224	25	132	19,780	40,230		258.5	141.75	250	
XES3E-1222-14O/S	21.5X12X224	30	132	19,960	40,410		258.5	141.75	250	
S3E-1222-14P/S	21.5X12X224	40	132	19,820	40,260		258.5	141.75	250	
S3E-1222-14Q/S	21.5X12X224	50	132	20,070	40,520		258.5	141.75	250	
S3E-1222-14R/S	21.5X12X224	60	132	20,020	40,460		258.5	141.75	250	
S3E-1222-14S/S	21.5X12X224	75	132	20,250	40,700		258.5	141.75	250	
S3E-1222-14T/S	21.5X12X224	100	132	21,600	42,050		258.5	141.75	250	
XES3E-1424-07J/S	24X14X112	7.5	132	17,710	35,750		288.5	167.125	136	
XES3E-1424-07K/S	24X14X112	10	132	17,720	35,760		288.5	167.125	136	
XES3E-1424-07L/S	24X14X112	15	132	17,800	35,840		288.5	167.125	136	
XES3E-1424-07M/S	24X14X112	20	132	19,180	37,210		288.5	167.125	136	
XES3E-1424-07N/S	24X14X112	25	132	19,210	37,250		288.5	167.125	136	
S3E-1424-07O/S	24X14X112	30	132	19,380	37,420		288.5	167.125	136	
S3E-1424-07P/S	24X14X112	40	132	19,260	37,300		288.5	167.125	136	
S3E-1424-07Q/S	24X14X112	50	132	19,460	37,500		288.5	167.125	136	
S3E-1424-07R/S	24X14X112	60	132	19,250	37,280		288.5	167.125	136	
XES3E-1424-12L/S	24X14X192	15	156	23,250	46,090		288.5	167.125	218	
XES3E-1424-12M/S	24X14X192	20	156	24,420	47,260		288.5	167.125	218	
XES3E-1424-12N/S	24X14X192	25	156	24,420	47,260		288.5	167.125	218	
XES3E-1424-12O/S	24X14X192	30	156	24,710	47,550		288.5	167.125	218	
XES3E-1424-12P/S	24X14X192	40	156	24,690	47,530		288.5	167.125	218	
S3E-1424-12Q/S	24X14X192	50	156	24,720	47,550		288.5	167.125	218	
S3E-1424-12R/S	24X14X192	60	156	24,960	47,800		288.5	167.125	218	
S3E-1424-12S/S	24X14X192	75	156	24,950	47,790		288.5	167.125	218	
S3E-1424-12T/S	24X14X192	100	156	26,660	49,500		288.5	167.125	218	

PREPARED FOR CODE COMPLIANCE
IBC
OSP-0618
ISSUED BY: Timothy D. Piland
DATE: 05/16/2025
CALIFORNIA BUILDING CODE, 2022

Special Seismic Certification
Table 1 - Certified Components (continued)

DCL Project Number: 11654-2501

Manufacturer: Baltimore Aircoil Company, Inc

Product Line: Series 3000E

Mounting: Rigid and Isolated Base Mount

Certified Seismic Levels: Sds 1.46g z/h=1.0

Base Model No.[1,2,3,4,8]	Nominal Box Size[5] [in]	Motor HP	Fan Diameter [in]	Shipping Weight[6] [lbs]	Operating Weight[6,7] [lbs]	Tested Weight [lbs]	Unit Width [in]	Unit Length [in]	Height to Fan Deck [in]	UUT
XES3E-1424-13L/S	24X14X208	15	156	23,680	47,510	N/A	288.5	167.125	234	Interpolated
XES3E-1424-13M/S	24X14X208	20	156	24,850	48,670		288.5	167.125	234	
XES3E-1424-13N/S	24X14X208	25	156	24,850	48,680		288.5	167.125	234	
XES3E-1424-13O/S	24X14X208	30	156	25,140	48,970		288.5	167.125	234	
XES3E-1424-13P/S	24X14X208	40	156	25,120	48,950		288.5	167.125	234	
S3E-1424-13Q/S	24X14X208	50	156	25,150	48,970		288.5	167.125	234	
S3E-1424-13R/S	24X14X208	60	156	25,390	49,220		288.5	167.125	234	
S3E-1424-13S/S	24X14X208	75	156	25,380	49,210		288.5	167.125	234	
S3E-1424-13T/S	24X14X208	100	156	27,090	50,920		288.5	167.125	234	
XES3E-1424-14M/S	24X14X224	20	156	25,310	50,330		288.5	167.125	250	
XES3E-1424-14N/S	24X14X224	25	156	25,310	50,330		288.5	167.125	250	
XES3E-1424-14O/S	24X14X224	30	156	25,600	50,620		288.5	167.125	250	
XES3E-1424-14P/S	24X14X224	40	156	25,580	50,600		288.5	167.125	250	
S3E-1424-14Q/S	24X14X224	50	156	25,610	50,630		288.5	167.125	250	
S3E-1424-14R/S	24X14X224	60	156	25,850	50,870		288.5	167.125	250	
S3E-1424-14S/S	24X14X224	75	156	25,840	50,860		288.5	167.125	250	
S3E-1424-14T/S	24X14X224	100	156	27,550	52,570	45,731	288.5	167.125	250	UUT 3A & UUT 3B
S3E-1424-14U/S	24X14X224	119	156	27,560	52,580	N/A	288.5	167.125	250	Interpolated
S3E-1424-14W/S	24X14X224	125	156	27,560	52,580	23200 / 24400	288.5	167.125	250	UUT 9A / UUT9B[9]

Notes:

1. Base models listed are for standard fan option. Actual unit model number may include a suffix "L" designating low sound fan option (e.g., S3E-1222-10P/LS or XES3E-1212-10K/LS) or suffix W designating whisper quiet fan option (e.g., S3E-1222-10P/SW or XESE-1212-10K/SW).
2. Actual unit model number may include a suffix "E" designating two sets of drift eliminators (e.g., S3E-1212-10P/SE or XES3E-1212-10K/SE).
3. Actual unit model number may include a suffix "-2", "-3", or "-4" designating number of cells per unit (e.g., S3E-1212-10P-3/S or XES3E-1212-10K-3/S for a three cell unit). Each cell of multi-cell units is a structurally independent cooling tower. All tabulated values are provided per cell.
4. Actual unit model number may include a suffix "X" designating non-CTI certified (e.g., S3E-1212-10P/SX or XES3E-1212-10K/SX).
5. Nominal Box Size nomenclature: nominal width in feet X nominal length in feet X total fill height in inches.
6. Weights are base unit weights. Actual weights may include accessory weight adds.
7. Operating weights at overflow water level. UUT test weight at operating water level.
8. Cooling tower material of construction options (i.e., structural frame, enclosure, and basins) are listed in Table 2.
9. UUT 9 cooling tower base model No. S3E-1424-14W/S top half subcomponent tested only.

DESIGNED FOR CODE COMPLIANCE
FBC
OSP-0618
BY: Timothy J. Piland
DATE: 05/16/2025
FLORIDA BUILDING CODE, 2023

Special Seismic Certification

Table 2 - Certified Materials of Construction

DCL Project Number: 11654-2501

Product Line: Series 3000E

Certified Seismic Levels: Sds 1.46g z/h=1.0

Structural Frame and Basin MOC Option[1,2,3]	MOC of Structural Elements	UUT
Galvanized Carbon Steel	All Galvanized Carbon Steel	UUT 1A & UUT 1B
		UUT 8A & UUT 8B
Galvanized Carbon Steel with Stainless Steel Cold Water Basin	Galvanized Carbon Steel and Stainless Steel	Interpolated
Galvanized Carbon Steel with TriArmor® Cold Water Basin	Galvanized Carbon Steel	
Galvanized Carbon Steel with Stainless Steel Hot & Cold Water Basin	Galvanized Carbon Steel and Stainless Steel	
BALTIBOND® Corrosion Protection System with TriArmor® Cold Water Basin	Galvanized Carbon Steel	
BALTIBOND® Corrosion Protection System with Stainless Steel Cold Water Basin	Galvanized Carbon Steel and Stainless Steel	
BALTIBOND® Corrosion Protection System with Stainless Steel Hot & Cold Water Basin		
EVERTOUGH™ Construction		
JE PREMIER SERIES® Construction	All Stainless Steel	UUT 3A & UUT3B
Enclosure and Air Inlet Louver MOC Option	**MOC of Casing/Louvers**	**UUT**
FRP Casing Panels and Louvers	FRP/FRP	UUT 1A & UUT 1B
FRP Casing Panels and Louvers		Interpolated
Fire Retardant FRP Casing Panels and Louvers		Interpolated
FRP Casing Panels and Combined Air Inlet Shields	FRP/PVC	UUT 8A & UUT 8B
Fire Retardant FRP Casing Panels and Combined Air Inlet Shields		Interpolated
Stainless Steel Casing Panels and FRP Louvers	Stainless Steel/FRP	Interpolated
Stainless Steel Casing Panels and Combined Air Inlet Shields	Stainless Steel/PVC	UUT 3A & UUT 3B
Stainless Steel Casing Panels and Combined Air Inlet Shields		UUT 9A & UUT 9B

Notes:
1. BALTIBOND® and TriArmor® are coating systems. Base material is Galvanized Steel.
2. EVERTOUGH™ Construction includes FRP hot water basins.
3. Structural frames and basins are manufactured by Baltimore Aircoil Company.

Table 3 - Certified Inlet/Outlet Configurations

Water Inlet and Outlet Connection Option[1]	Manufacturer	Inlet Location	Outlet Location	Internal Piping	UUT
Top Inlet - Bottom Outlet - Pump Suction	Baltimore Aircoil Company	Top	Bottom	No	UUT 3A & UUT3B
Top Inlet - End Outlet - Pump Suction		Top	End	No	Interpolated
Top Inlet - Bottom Outlet - Remote Sump		Top	Bottom	No	
End Inlet EASY CONNECT® - Bottom Outlet - Pump Suction		End	Bottom	Yes	
End Inlet EASY CONNECT® - Bottom Outlet - Remote Sump		End	Bottom	Yes	
Bottom Inlet EASY CONNECT® - Bottom Outlet - Pump Suction		Bottom	Bottom	Yes	
Bottom Inlet EASY CONNECT® - Bottom Outlet - Remote Sump		Bottom	Bottom	Yes	
End Inlet EASY CONNECT® - End Outlet - Pump Suction		End	End	Yes	UUT 1A & UUT 1B

Notes:
1. Water inlet and outlet connection material of construction matches the MOC of the structural frame or cold water basin to which it is attached.

Table 4 - Certified Sweeper Piping Configurations

Piping Connection Option	Manufacturer	Material Construction	Inlet Location	Outlet Location	Internal Piping	UUT
Sweeper Piping	Baltimore Aircoil Company	Sweeper pipings are PVC. Sweeper piping nozzles are polypropylene.	Bottom	Bottom	Yes	UUT 8A & UUT 8B
			End	Bottom	Yes	Extrapolated
			Bottom	End	Yes	
			End	End	Yes	

Table 5 - Certified Equalizer/Bypass Configurations

Equalizer and Bypass Connection Option[1,2]	Connection Location	UUT
End Equalizer	End	UUT 3A & UUT 3B
End Bypass	End	Interpolated
Bottom Equalizer	Bottom	
Bottom Bypass	Bottom	UUT 1A & UUT 1B

Notes:
1. Equalizer and bypass material of construction matches the MOC of the cold water basin.
2. Equalizer and bypass connections are manufactured by Baltimore Aircoil Company.

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OSP-0618
BY: Timothy J. Piland
CALIFORNIA BUILDING CODE

Special Seismic Certification
Table 6 - Certified Subcomponents: Fan Motors

DCL Project Number: 11654-2501

Product Line: Series 3000E

Certified Seismic Levels: Sds 1.46g z/h=1.0

Manufacturer	Material	Drive Type	HP	Voltage	Approximate Weight [lbs]	UUT
Nidec	Cast Iron	Belt Drive	3	200, 230, 380, 415, 230/460, 460, or 575	60	Extrapolated
			5		70	UUT 6A & UUT 6B
			7.5		100	Interpolated
			10		110	
			15		180	
			20		200	UUT 5A & UUT 5B
			25		340	Interpolated
			30		390	
			40		530	
			50		590	
			60		750	UUT 2A & UUT 2B
			75		800	Extrapolated
		Gear Drive	7.5		100	
			10		110	UUT 1A & UUT 1B
			15		180	Interpolated
			20		200	
			25		340	
			30		390	
			40		530	
			50		590	
			60		750	
			75		800	
			100		1200	UUT 3A & UUT 3B
WEG	Cast Iron	Belt Drive	3		60	Extrapolated
			5		70	UUT 6A & UUT 6B
			7.5		100	Interpolated
			10		110	
			15		180	
			20		200	
			25		340	
			30		390	
			35		530	UUT 5A & UUT 5B
			40		530	Interpolated
			50		590	
			60		750	UUT 7A & UUT 7B
			75		800	Extrapolated
		Gear Drive	7.5		100	
			10		110	UUT 1A & UUT 1B
			15		180	Interpolated
			20		200	
			25		340	
			30		390	
			40		530	
			50		590	
			60		750	
			75		800	
			100		1200	UUT 3A & UUT 3B
Baldor	Cast Iron	Direct Drive	20	460	570	UUT 8A & UUT 8B
			20	575	570	Interpolated
			20	460	690	
			20	460	690	
			20	575	690	
			20	460	775	
			20	575	775	

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OSP-0618
BY: Timothy J. Pilaud
DATE: 05/16/2025
CALIFORNIA BUILDING CODE, 2022

Special Seismic Certification
Table 6 - Certified Subcomponents: Fan Motors (continued)

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project Number: 11654-2501

Product Line: Series 3000E

Certified Seismic Levels: Sds 1.46g z/h=1.0

Manufacturer	Material	Drive Type	HP	Voltage	Approximate Weight [lbs]	UUT
Baldor	Cast Iron	Direct Drive	20	460	860	Interpolated
			20	575	860	
			20	460	1420	
			20	575	1420	
			20	460	1590	
			20	575	1590	
			25	460	570	
			25	575	570	
			25	460	690	
			25	575	690	
			25	460	775	
			25	575	775	
			25	460	860	
			25	575	860	
			25	460	1420	
			25	575	1420	
			25	460	1610	
			25	575	1610	
			30	460	690	
			30	575	690	
			30	460	775	
			30	575	775	
			30	460	860	
			30	575	860	
			30	460	1420	
			30	575	1420	
			30	460	1590	
			30	575	1590	
			30	460	1885	
			30	575	1885	
			40	460	775	
			40	575	775	
			40	460	860	
			40	575	860	
			40	460	1420	
			40	575	1420	
			40	460	1590	
			40	575	1590	
			40	460	1610	
			40	575	1610	
			40	575	1885	
			40	460	1885	
			50	575	1420	
			50	460	1420	
			50	575	1590	
			50	460	1590	
			50	575	1610	
			50	460	1610	
			50	575	1885	
			50	460	1885	
			50	575	1910	
			50	460	1910	
			60	575	1590	
			60	460	1590	

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OSP-0618
BY: Timothy J. Pilaid
DATE: 05/16/2025
CALIFORNIA BUILDING CODE 2022

Special Seismic Certification
Table 6 - Certified Subcomponents: Fan Motors (continued)

DCL Project Number: 11654-2501

Product Line: Series 3000E

Certified Seismic Levels: Sds 1.46g z/h=1.0

Manufacturer	Material	Drive Type	HP	Voltage	Approximate Weight [lbs]	UUT
Baldor	Cast Iron	Direct Drive	60	575	1610	Interpolated
			60	460	1610	
			60	575	1885	
			60	460	1885	
			60	575	2170	
			60	460	2170	
			60	575	1910	
			60	460	1910	
			75	575	1885	
			75	460	1885	
			75	575	2170	
			75	460	2170	
			75	575	2435	
			75	460	2435	
			75	575	1910	
			75	460	1910	
			100	575	1885	
			100	460	1885	
			100	575	2170	
			100	460	2170	
			100	575	2435	
			100	460	2435	
			100	575	2695	
			100	460	2695	
			119	575	2435	
			119	460	2435	
			119	575	2695	
			119	460	2695	
			125	575	2435	
			125	460	2435	
			125	575	2695	
			125	460	2695	UUT 9A & UUT 9B

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OSP-0618
BY: Timothy J. Piland
DATE: 05/16/2025
CALIFORNIA BUILDING CODE 2022

Special Seismic Certification
Table 7 - Certified Subcomponents: Right Angle Gears & Fans

DCL Project Number: 11654-2501

Product Line: Series 3000E

Certified Seismic Levels: Sds 1.46g z/h=1.0

Right Angle Gears

Component	Manufacturer	Material	Model	Approximate Weight [lbs]	UUT
Single Reduction Gear	Amarillo	Cast Iron	A-65	100	UUT 1A & UUT 1B
			A-85	215	Interpolated
			A-110	350	
			A-135	530	
			A-155	705	
			A-175	855	UUT 3A & UUT 3B

Fans

Component	Manufacturer	Material	Diameter [in]	No. of Blades	UUT
Standard Fan	Multi-Wing	GFRP	42	5	UUT 4A & UUT 4B
			90	5	Interpolated
			90	6	
			92	8	UUT 6A & UUT 6B
Standard Fan	Cofimco	Aluminum	90	4	UUT 1A & UUT 1B
			90	5	Interpolated
			108	4	
			108	5	
			108	5	
			108	6	
			120	4	
			120	5	
			120	5	
			120	6	UUT 2A & UUT 2B
			132	5	Interpolated
			132	5	
			132	6	
			156	5	
			156	6	
			156	7	UUT 3A & UUT 3B
Low Sound Fan	Cofimco	Aluminum	90	7	UUT 1A & UUT 1B
			90	8	Interpolated
			108	6	
			120	6	
			132	5	
			132	7	
			156	7	UUT 3A & UUT 3B
			156	8	UUT 9B
Whisper Quiet Fan	Moore	Aluminum	108	4	UUT 8A & UUT 8B
			120	4	Interpolated
			132	4	
			132	5	
			156	4	
			156	5	UUT 9A

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Special Seismic Certification
Table 8 - Certified Subcomponents: Options and Accessories

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project Number: 11654-2501

Product Line: Series 3000E

Certified Seismic Levels: Sds 1.46g z/h=1.0

Option or Accessory	Manufacturer	Material of Construction	UUT
Internal Walkway	Baltimore Aircoil Company	Stainless Steel	UUT 3A & UUT 3B
Internal Platform and Ladder	Platform Supports, Guardrails - Baltimore Aircoil Company; Platform Grating - Creative Pultrusions; Ladder - Louisville Ladder	Platform Supports - Stainless Steel; Guardrail Posts and Toeboards - Stainless Steel; Guardrail Rails - Galvanized Steel; Platform Grating - Glass Fiber Reinforced Plastic; Ladder - Aluminum	
Fan Deck Guardrails	Baltimore Aircoil Company	Guardrail Posts and Toeboards - Stainless Steel; Guardrail Rails - Galvanized Steel	
Aluminum Ladder(s) to Fan Deck	Ladder - Louisville Ladder; Ladder Mounting Brackets - Baltimore Aircoil Company	Ladder - Aluminum; Ladder Mounting Brackets - Stainless Steel	
Ladder Safety Cages	Baltimore Aircoil Company	Galvanized Steel	
Ladder Safety Gates	PS Doors	Galvanized Steel	
Mechanical Makeup	Baltimore Aircoil Company	Float - Polystyrene; Linkage - Galvanized Steel; Valve - Brass	
Stainless Steel Trash Screen	Baltimore Aircoil Company	Stainless Steel	
Stainless Steel Outlet Strainer	Baltimore Aircoil Company	Stainless Steel	UUT 1A & UUT 1B
Stainless Steel Fan Guard	Baltimore Aircoil Company	Stainless Steel	
Full Air Intake Screens	Baltimore Aircoil Company	Galvanized Steel	
Hot Water Basin Weir Dams	Baltimore Aircoil Company	Galvanized Steel	
Motor Shaft Grounding Ring	WEG or Nidec	Steel	
Basin Heaters and Standard Heater Controls	Indeeco	Heater Element - Copper	
Penn F63 Float Switches	Johnson Controls	Case - Steel; Float - Polypropylene	
Vibration Cutout Switches	Metrix	Case - Aluminum	
Electric Water Level Control (EWLC) with Solenoid Valve	EWLC - Kimberlite Assemblers; Solenoid Valve - ASCO	EWLC - PVC Housing, Stainless Steel Probes; Solenoid Valve - Brass	
External Gear Fill Line	Baltimore Aircoil Company	Galvanized Steel	
External Gear Oil Level Sight Glass	Baltimore Aircoil Company	Polycarbonate	
No Minimum Speed Gear Option	Amarillo	Steel	
Access Door Platform with Guardrails, Ladder, and Safety Gate - Front of Unit			
Platform Supports	Baltimore Aircoil Company	Galvanized Steel	UUT 8A & UUT 8B
Platform Grating	Creative Pultrusions	Glass Fiber Reinforced Plastic	
Guardrail Posts	Baltimore Aircoil Company	Galvanized Steel	
Guardrail Rails	Baltimore Aircoil Company	Galvanized Steel	
Toeboards	Baltimore Aircoil Company	Galvanized Steel	
Ladder	Louisville Ladder	Aluminum	
Safety Gate	PS Doors	Galvanized Steel	
Access Door Platform with Guardrails, Ladder, and Safety Gate - Back of Unit			
Platform Supports	Baltimore Aircoil Company	Stainless Steel	UUT 8A & UUT 8B
Platform Grating	Creative Pultrusions	Glass Fiber Reinforced Plastic	
Guardrail Posts	Baltimore Aircoil Company	Stainless Steel	
Guardrail Rails	Baltimore Aircoil Company	Galvanized Steel	
Toeboards	Baltimore Aircoil Company	Stainless Steel	
Ladder	Louisville Ladder	Aluminum	
Safety Gate	PS Doors	Galvanized Steel	
10 1/2" Fan Cylinder Extension	Baltimore Aircoil Company	Galvanized Steel	UUT 1A & UUT 1B
10 1/2" Fan Cylinder Extension	Baltimore Aircoil Company	Galvanized Steel	UUT 8A & UUT 8B
10 1/2" Fan Cylinder Extension	Baltimore Aircoil Company	Stainless Steel	Interpolated
1'-9" Fan Cylinder Extension	Baltimore Aircoil Company	Galvanized Steel	
1'-9" Fan Cylinder Extension	Baltimore Aircoil Company	Stainless Steel	UUT 3A & UUT 3B
2'-7 1/2" Fan Cylinder Extension	Baltimore Aircoil Company	Galvanized Steel	Interpolated
2'-7 1/2" Fan Cylinder Extension	Baltimore Aircoil Company	Stainless Steel	
3'-6" Fan Cylinder Extension	Baltimore Aircoil Company	Galvanized Steel	
3'-6" Fan Cylinder Extension	Baltimore Aircoil Company	Stainless Steel	UUT 9A & UUT9B

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OSP-0618
BY: Timothy J. Piland
DATE: 05/16/2025
CALIFORNIA BUILDING CODE

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-1A (Rigid)

UB-SEESL-2011-06;
UUT A in Conf. R1 & R2

Model Line	Model Number	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	3240C/S	XES3E-8518-05K/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Casing & Louver: Fiberglass Reinforced Platic

Options / Subcomponent Summary

10 HP Gear (A-65) drive motor: Nidec & WEG; Standard & Low sound 90 in fan with 4 standard blades & 7 low sound blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
14,881	101.8	216.5	122.1	6.30	7.80	32.00

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.19	1.00	1.50	3.50	2.62	1.45	0.58

Test Mounting Details

Qty. (8) 3/4" diameter bolts, Grade 5, 150 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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OSP-0618
BY Timothy S. Piland
DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-1B (Isolated)

UB-SEESL-2011-06;
UUT A in Conf. V1 & V2

Model Line	Model Number	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	3240C/S	XES3E-8518-05K/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Casing & Louver: Fiberglass Reinforced Platic

Options / Subcomponent Summary

10 HP Gear (A-65) drive motor: Nidec & WEG; Standard & Low sound 90 in fan with 4 standard blades & 7 low sound blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
14,881	101.8	216.5	122.1	1.40	1.70	3.30

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.33	0.53

Test Mounting Details

Qty. (4) Mason Industries, Inc SLFADA600 isolators, each with (2) SLF-110. Qty. (8) 3/4" diameter bolts, Grade 5, 150 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-2A (Rigid)

10521-1202;
UUTH1a

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	N/A	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: N/A

Options / Subcomponent Summary

Qty. 60 HP, 60Hz, 230/460V Belt drive motor: Nidec
132 in fan with 7 blades (Aluminum): Cofimco

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,520	215.5	144.0	72.0	20.30	12.80	19.30

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	2.14	0.86

Test Mounting Details

Qty. (116) 5/16" & qty. (8) 3/8" diameter bolts, Grade 2.



All units were filled with contents and maintained structural integrity and functionality

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DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-2B (Isolated)

10521-1202;
UUTH1b

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	N/A	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: N/A

Options / Subcomponent Summary

Qty. 60 HP, 60Hz, 230/460V Belt drive motor: Nidec
132 in fan with 7 blades (Aluminum): Cofimco

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,520	215.5	144.0	72.0	3.80	4.80	6.80

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Test Mounting Details

Qty. (4) Mason Industries, Inc SLFADA350-104 & (2) Mason Industries, Inc SLFADA350-350-106 isolators.
Qty. (116) 5/16" & qty. (8) 3/8" diameter bolts, Grade 2.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY Timothy J. Pilant DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-3A (Rigid)

UB-SEESL-2011-07;
UUT C in Cof. R1 & R2

Model Line	Model Number	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	31301C/QSX	S3E-1424-14T/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
Casing & Louver: Stainless Steel & PVC louvers

Options / Subcomponent Summary

100 HP Gear (A-175) drive motor: Nidec & WEG; Standard & Low sound 156 in fan with 7 standard low sound blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
45,731	167.1	288.5	293.3	4.00	6.70	9.10

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.94	1.00	1.50	3.10	2.33	1.29	0.52

Test Mounting Details

Qty. (16) 7/8" diameter bolts, Grade 5, 200 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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HCAI
OSP-0618
BY: Timothy J. Piland
DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-3B (Isolated)

UB-SEESL-2011-07;
UUT C in Cof. 8V1 & 8V2

Model Line	Model Number	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	31301C/QSX	S3E-1424-14T/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
Casing & Louver: Stainless Steel & PVC louvers

Options / Subcomponent Summary

100 HP Gear (A-175) drive motor: Nidec & WEG; Standard & Low sound 156 in fan with 7 standard low sound blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
45,731	167.1	288.5	293.3	0.80	1.40	2.80

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.94	1.00	1.50	3.10	2.33	1.29	0.52

Test Mounting Details

Qty. (4) Mason Industries, Inc SLFADA600 isolators, each with (2) SLF-110. Qty. (16) 7/8" diameter bolts, Grade 5, 200 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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HCAI
OSP-0618
BY: Timothy J. Piland
DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-4A (Rigid)

UB-SEESL-2010-12;
UUT

Model Line	Model Number	Manufacturer
PC2 Evaporative Condenser	PC2-50-0406-7.5/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
PVC louvers

Options / Subcomponent Summary

7.5 HP, 60Hz, 230/460V Direct drive motor: Nidec
42 in fan with 5 blades: Multi-Wing

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
4,199	48.0	71.8	118.9	8.13	12.63	26.88

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.34	1.00	1.50	3.75	2.81	2.50	1.88
		3.75	0.00					

Test Mounting Details

Qty. (4) 3/4" diameter bolts, Grade 5, 150 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-4B (Isolated)

UB-SEESL-2010-12;
Vibration Isolated UUT

Model Line	Model Number	Manufacturer
PC2 Evaporative Condenser	PC2-50-0406-7.5/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
PVC louvers

Options / Subcomponent Summary

7.5 HP, 60Hz, 230/460V Direct drive motor: Nidec
42 in fan with 5 blades: Multi-Wing

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
4,199	48.0	71.8	118.9	1.13	1.88	5.63

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.94	1.00	1.50	3.10	2.33	2.07	1.38
		3.10	0.00					

Test Mounting Details

Qty. (4) Mason Industries, Inc SLFADA200 isolators, each with (2) SLF-C2. Qty. (4) 3/4" diameter bolts, Grade 5, 150 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-5A (Rigid)

10521-1201;
UUTFa

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	PT2-1218A-3S1/WQS	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
PVC louvers

Options / Subcomponent Summary

20 HP, 60Hz, 230/460V Belt drive motor: Nidec
35 HP, 60Hz, 230/460V Belt drive motor: WEG
84 in fan with 3 blades (flass-fiber reinforced plastic): Howden
92 in fan with 3 blades (flass-fiber reinforced plastic): Howden

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
20,200	215.8	144.0	251.5	6.30	3.50	8.50

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	2.14	0.86
		3.20	0.00					

Test Mounting Details

Qty. (8) 3/4" diameter bolts, Grade 5, 150 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

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DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-5B (Isolated)

10521-1201;
UUTFb

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	PT2-1218A-3S1/WQS	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
PVC louvers

Options / Subcomponent Summary

20 HP, 60Hz, 230/460V Belt drive motor: Nidec
35 HP, 60Hz, 230/460V Belt drive motor: WEG
84 in fan with 3 blades (flass-fiber reinforced plastic): Howden
92 in fan with 3 blades (flass-fiber reinforced plastic): Howden

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
20,200	215.8	144.0	251.5	2.00	1.80	3.80

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Test Mounting Details

Qty. (8) Mason Industries, Inc SLFADA350 isolators, each with (2) SLF-109. Qty. (8) 3/4" diameter bolts, Grade 5, 150 ft-lbs.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY Timothy J. Pilant DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-6A (Rigid)

10521-1202;
UUTGa

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	N/A	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: N/A

Options / Subcomponent Summary

Qty. (2) 5 HP, 60Hz, 230/460V Belt drive motor: Nidec & WEG
84 in fan with 6 blades (Aluminum): Cofimco
92 in fan with 3 blades (flass-fiber reinforced plastic): Multi-Wing

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,400	215.5	144.0	60.0	9.30	15.50	12.00

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	2.14	0.86
		3.20	0.00					

Test Mounting Details

Qty. (116) 5/16" & qty. (8) 3/8" diameter bolts, Grade 2.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY Timothy J. Piland DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-6B (Isolated)

10521-1202;
UUTGb

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	N/A	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
PVC louvers

Options / Subcomponent Summary

Qty. (2) 5 HP, 60Hz, 230/460V Belt drive motor: Nidec & WEG
84 in fan with 6 blades (Aluminum): Cofimco
92 in fan with 3 blades (flass-fiber reinforced plastic): Multi-Wing

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,400	215.5	144.0	60.0	4.00	4.50	11.00

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Test Mounting Details

Qty. (4) Mason Industries, Inc SLFADA350-104 & (2) Mason Industries, Inc SLFADA350-350-106 isolators.
Qty. (116) 5/16" & qty. (8) 3/8" diameter bolts, Grade 2.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY Timothy J. Pilanz DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-7A (Rigid)

10521-1202;
UUTH2a

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	N/A	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: N/A

Options / Subcomponent Summary

Qty. 60 HP, 60Hz, 230/460V Belt drive motor: WEG
132 in fan with 7 blades (Aluminum): Cofimco

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,520	215.5	144.0	72.0	20.00	13.30	10.80

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	2.14	0.86
		3.20	0.00					

Test Mounting Details

Qty. (116) 5/16" & qty. (8) 3/8" diameter bolts, Grade 2.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY Timothy J. Piland DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-7B (Isolated)

10521-1202;
UUTH2b

Model Line	Model Number	Manufacturer
PT2 Open Cooling Tower	N/A	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: N/A

Options / Subcomponent Summary

Qty. 60 HP, 60Hz, 230/460V Belt drive motor: Nidec
132 in fan with 7 blades (Aluminum): Cofimco

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,520	215.5	144.0	72.0	3.50	5.80	7.30

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.34	0.54

Test Mounting Details

Qty. (4) Mason Industries, Inc SLFADA350-104 & (2) Mason Industries, Inc SLFADA350-350-106 isolators.
Qty. (116) 5/16" & qty. (8) 3/8" diameter bolts, Grade 2.



All units were filled with contents and maintained structural integrity and functionality

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DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-8A (Rigid)

VMA-50927-01;
UUT 18b

Model Line	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	S3E-1020-07M/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: PVC

Options / Subcomponent Summary

20 HP Baldor direct drive fan motor; 108 in. Moore Whisper Quiet Fan with 4 blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
19,300	241.0	118.0	170.0	7.50	11.50	31.50

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.94	1.00	1.50	3.10	2.33	1.29	0.52

Test Mounting Details

Unit attached to dunnage frame via (8) 3/4" diameter Grade 5 bolts. Dunnage frame attached to shake table interface fixture with (12) 3/4" diameter Grade 8 bolts.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY: Timothy J. Piland DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-8B (Isolated)

VMA-50927-01;
UUT 18a

Model Line	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	S3E-1020-07M/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Galvanized Carbon Steel
Louver: PVC

Options / Subcomponent Summary

20 HP Baldor direct drive fan motor; 108 in. Moore Whisper Quiet Fan with 4 blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
19,300	241.0	118.0	170.0	3.00	2.50	5.50

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.94	1.00	1.50	3.10	2.33	1.29	0.52

Test Mounting Details

Unit attached to dunnage frame via (8) 3/4" diameter Grade 5 bolts. Dunnage frame attached to shake table interface fixture with (4) VMC M6SH-1E-7200N isolators.



All units were filled with contents and maintained structural integrity and functionality

REVIEWED FOR CODE COMPLIANCE HCAI OSP-0618 BY: Timothy J. Piland DATE: 05/16/2025

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-9A (Rigid)

31015-1901;
UUT 20

Model Line	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	S3E-1424-14W/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
Louver: PVC

Options / Subcomponent Summary

125 HP Baldor direct drive fan motor; 156 in. Moore Whisper Quiet Fan with 5 blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
23,200	288.0	164.0	179.0	6.00	8.50	14.50

UUT Highest Passed Seismic Run Information*

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.46	1.00	1.50	2.34	1.75	0.97	0.39

* The testing was performed at Sds=3.65g with z/h=1.0 to certify Sds=1.46g with z/h=1.0 at 250%

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ICC-ES
OSP-0618
BY: Timothy J. Piland
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Test Mounting Details

UUT attached to the shake table interface fixture with (54) 1/2" Grade 2 bolts.



All units were filled with contents and maintained structural integrity and functionality

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

UNIT UNDER TEST (UUT) Summary Sheet

UUT-9B (Rigid)

VMA-50927-01;
UUT 19b

Model Line	Base Model Number	Manufacturer
Series 3000 Open Cooling Tower	S3E-1424-14W/S	Baltimore Aircoil Company, Inc.

Product Construction Summary

Structure:Stainless Steel
Louver: PVC

Options / Subcomponent Summary

125 HP Baldor direct drive fan motor; 156 in. Cofimco Low Sound Fan with 8 blades.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
24,400	289.0	167.0	181.0	7.00	11.00	25.00

UUT Highest Passed Seismic Run Information*

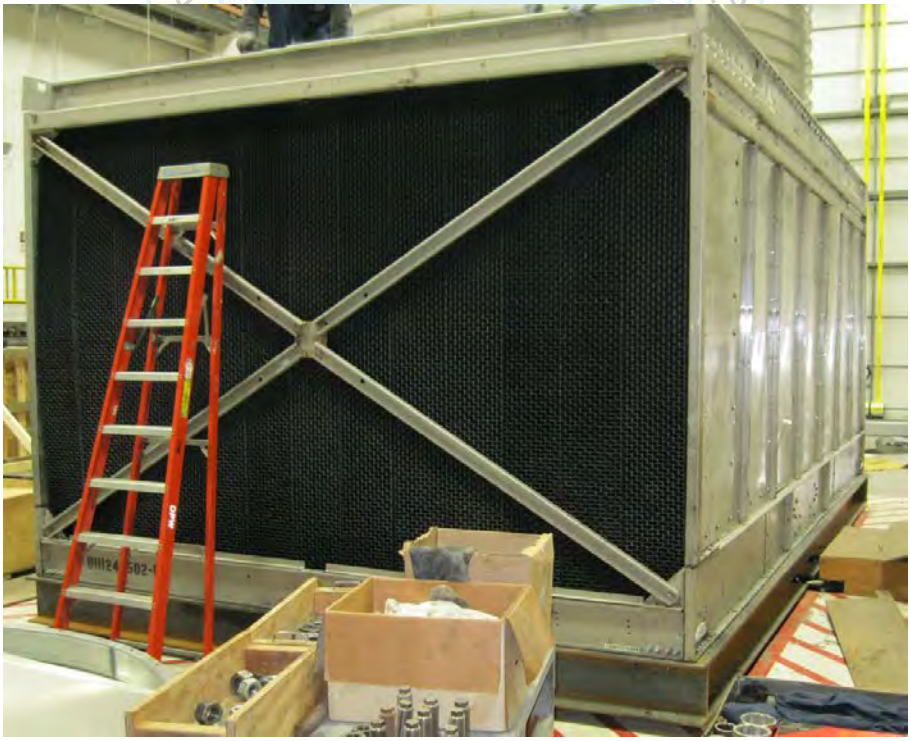
Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	1.46	1.00	1.50	2.34	1.75	0.97	0.39

* The testing was performed at Sds=3.65g with z/h=1.0 to certify Sds=1.46g with z/h=1.0 at 250%

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Test Mounting Details

UUT attached to the shake table interface fixture with (54) 1/2" Grade 2 bolts.



All units were filled with contents and maintained structural integrity and functionality