



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0169 – 10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: **DIMPLEX THERMAL SOLUTIONS**

Manufacturer's Technical Representative: Doug Mathews

Mailing Address: 2625 Emerald Drive, Kalamazoo, MI 49001-4542

Telephone: (800) 968-5665

Email: dmathews@dimplexthermal.com

Product Information

Product Name: **KOOLANT KOOLERS WO CHILLERS**

Product Type: Air cooled condensing process chillers

Product Model Number: **See Attachment 1**

(List all unique product identification numbers and/or part numbers)

General Description: Cataloged, air cooled condensing process chillers acceptable for indoor or outdoor use.

Cabinets may be constructed of either galvanized steel or stainless steel and meet UL Type 4 enclosure rating.

Reservoir tanks shall be constructed with stainless steel.

Mounting Description: Rigid base and Flexible base mounted. See Attachment 1.

Applicant Information

Applicant Company Name: **EASE LLC**

Contact Person: JONATHAN ROBERSON, S.E.

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622

Email: j.roberson@easeco.com

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

Signature of Applicant: 

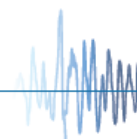
Date: Jun 21, 2019

Title: Principal Engineer

Company Name: **EASE LLC**

"Access to Safe. Quality Healthcare Environments that Meet California's

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-759 (REV 12/16/15)



OSHPD

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

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

Company Name: EASE LLC

Name: JONATHAN ROBERSON, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.com

Supports and Attachments Preapproval

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

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): OSP-0169-10
- BY: Timothy J Piland
- DATE: 09/12/2019

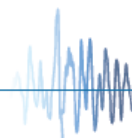
Testing Laboratory

Company Name: Environmental Testing Laboratory, Inc.

Contact Name: Brady Richard

Mailing Address: 11034 Indian Trail, Dallas, TX 75229-3513

Telephone: (972) 247-9657 Email: brady@etldallas.com





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = See Attachment 1 Table 1

S_{DS} (Design spectral response acceleration at short period, g) = See Attachment 1 Table 1

a_p (In-structure equipment or component amplification factor) = 2½

R_p (Equipment or component response modification factor) = 2 (Flexible Base); 6 (Rigid Base)

Ω_0 (System overstrength factor) = 2

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = See Attachment 1 Table 1

Equipment or Component Natural Frequencies (Hz) = See Attachment 2

Overall dimensions and weight (or range thereof) = See Attachment 1 Table 1

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

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

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

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

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = _____

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☐ Manufacturer's Catalog

☒ Other(s) (Please Specify): SEE ATTACHMENT 1

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

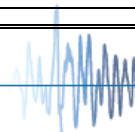
Signature: [Signature] Date: September 12, 2019

Print Name: Timothy J. Piland Title: SSE

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

Condition of Approval (if applicable): _____

"Access to Safe, Quality Healthcare Environments that Meet California's



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

Table 1:

Manufacturer	DIMPLEX THERMAL SOLUTIONS												
System	KOOLANT KOOLERS WO CHILLERS												
COMPONENT	MODEL NUMBER	APPROX. DIMENSIONS (IN.)			DRY WT (LB.)	MOUNT	BASIS ^[1]	F _p /W _p	S _{DS}	z/h	a _p	R _p	Ω ₀
		W	D	H									
3 Ton Chiller	WO3000-NF-L-M-407C	50	28 1/2	65.25	730	Rigid	UUT-1	1.51	2.1	1	1	2 ½	2
3 Ton Chiller High Ambient	WO3000-NF-L-M-407C-HA	50	28 1/2	65.25	730	Rigid	INT						
5 Ton Chiller	WO5000-NF-L-M-407C	60	37.75	65.25	900	Rigid	INT	1.44 1.13	2.0 2.5	1 0	1 1	2 ½ 2 ½	2 2
7.5 Ton Chiller	WO7500-NF-L-M-407C	60	37.75	65.25	935	Rigid	INT						
10 Ton Chiller	WO2-5000-2P-NF-L-M-407C	109	34.4	76.25	2000	Rigid	INT						
15 Ton Chiller	WO2-7500-2P-NF-L-M-407C	109	34.4	76.25	2000	Rigid	UUT-3						
12 Ton Chiller	WO2-2-3000-2P-NF-L-M-407C	109	34.4	76.25	2200	Rigid	INT						
20 Ton Chiller	WO2-10000-2P-NF-L-M-407C	115	44.25	88.5	2940	Rigid	UUT-A1R						
20 Ton Chiller	WO2-2-5000-2P-NF-L-M-407C	135	44.25	88.5	3500	Rigid	INT						
30 Ton Chiller	WO2-2-7500-2P-NF-L-M-407C	135	44.25	88.5	4000	Rigid	UUT-5						
40 Ton Chiller	WO2-2-10000-2P-NF-L-M-407C	135	44.25	88.5	4185	Rigid	INT	4.73	2.1	1	2 ½	2	2
3 Ton Chiller	WO3000-NF-L-M-407C	50	28 1/2	65.25	730	Flexible	UUT-2						
3 Ton Chiller High Ambient	WO3000-NF-L-M-407C-HA	50	28 1/2	65.25	730	Flexible	INT						
5 Ton Chiller	WO5000-NF-L-M-407C	60	37.75	65.25	900	Flexible	INT						
7.5 Ton Chiller	WO7500-NF-L-M-407C	60	37.75	65.25	935	Flexible	INT						
10 Ton Chiller	WO2-5000-2P-NF-L-M-407C	109	34.4	76.25	2000	Flexible	INT						
15 Ton Chiller	WO2-7500-2P-NF-L-M-407C	109	34.4	76.25	2000	Flexible	UUT-4						
12 Ton Chiller	WO2-2-3000-2P-NF-L-M-407C	109	34.4	76.25	2200	Flexible	INT						
20 Ton Chiller	WO2-10000-2P-NF-L-M-407C	115	44.25	88.5	2940	Flexible	UUT-A1S	4.50 1.88	2.0 2.5	1 0	2 ½ 2 ½	2 2	2 2
20 Ton Chiller	WO2-2-5000-2P-NF-L-M-407C	135	44.25	88.5	3500	Flexible	INT						
30 Ton Chiller	WO2-2-7500-2P-NF-L-M-407C	135	44.25	88.5	4000	Flexible	INT						
40 Ton Chiller	WO2-2-10000-2P-NF-L-M-407C	135	44.25	88.5	4185	Flexible	UUT-A2S						
Remote Display	Carel pGD	6.1	1.2	3.2	< 1	Wall	UUT6	1.44 1.13	2.0 2.5	1 0	1	2 ½	2
Mount	RIGID (BASE): free-standing, base-mounted condition with the component rigidly attached to a supporting structure and no lateral support above the base. FLEXIBLE (BASE / SPRING ISOLATOR): a free-standing, base mounted condition with spring isolators positioned between the equipment and supporting structure with or without a dunnage frame. WALL: unit is fully supported by a vertical wall or partition.												
Notes	1. BASIS: • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program.. • INT (Interpolate/Extrapolate): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line 2. See Table 2 for seismic qualified subcomponents and options.												

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS
TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS & OPTIONS

SUBCOMPONENT	MANUFACTURER	MODEL/PART NO.	DESCRIPTION/RATING	Max. WEIGHT (kg)	BASIS
COMPRESSORS					
Compressor	Sanyo / Panasonic	C-SBN263H8A	Scroll 3 Ton, 3.5 HP, 2.6KW	37	UUT1 / UUT2
Compressor	Sanyo / Panasonic	C-SBN453H8G	Scroll 5.0 Ton, 6.0 HP, 4.5KW	39	INT
Compressor	Sanyo / Panasonic	C-SCN603H8K	Scroll 7.5 Ton, 8.0HP, 6.0KW	67	UUT3 / UUT4 / UUT5
Compressor	Sanyo / Panasonic	C-SCN753H8K	Scroll 10.0 Ton, 10.0HP, 7.5KW	71	UUT-A1R / UUT-A1S / UUT-A2S
PUMPS					
Pump	Walrus	TPHK2T5-5S	3/4 HP Pump	12.7	Extrapolate
Pump	Walrus	TPHK4T5-5S	1-1/2 HP Pump	13.9	UUT1 / UUT2 / UUT3 / UUT4
Pump	Walrus	TPHK4T7-7S	2 HP Pump	14.6	INT
Pump	Walrus	TPHK8T6-3S	1-1/2 HP Pump	24.3	INT
Pump	Walrus	TPHK8T6-4S	3 HP Pump	27	INT
Pump	Walrus	TPHK8T6-5S	3 HP Pump	28	UUT5/UUT-A1R / UUT-A1S / UUT-A2S
FAN MOTORS					
Fan Motor	Marathon	048A170F1H	144 mm diameter, 1/2 HP	7	UUT1/UUT2/UUT3/UUT4/UUT5/ UUT-A1R / UUT-A1S / UUT-A2S
FAN BLADE					
16" Fan Blade	Lau	61146601	406 mm diameter	1.1	UUT5/UUT-A1R/UUT-A1S
18" Fan Blade	Lau	61142601	457 mm diameter	0.9	UUT1 / UUT2 / UUT3 / UUT4 / UUT-A1R / UUT-A1S
HEAT EXCHANGERS					
Brazed Plate Heat Exchanger	Kaori	K095x20		7.5	UUT1 / UUT2
Brazed Plate Heat Exchanger	Kaori	K095x30B		9.7	INT
Brazed Plate Heat Exchanger	Kaori	K105x40B		13.1	UUT3 / UUT4
Brazed Plate Heat Exchanger	Kaori	K105x50B		15.5	INT
Brazed Plate Heat Exchanger	Kaori	K205x30C		22.8	UUT-A1R / UUT-A1S
Brazed Plate Heat Exchanger	Kaori	K205x40C		28	UUT5
Brazed Plate Heat Exchanger	Kaori	K205x70C		41	UUT-A2R / UUT-A2S
CONDENSERS					
Condenser	Keeprite	1104615	3-6 Ton	55	UUT1 / UUT2
Condenser	Cancoil Thermal Corporation	BC16990X	3-6 Ton	55	SAME as 1104615
Condenser	Keeprite	1104619	5 Ton	58	INT
Condenser	Keeprite	1104616	7.5-10 Ton	65	UUT3 / UUT4
Condenser	Cancoil Thermal Corporation	BC16991X	7.5-10 Ton	65	SAME as 1104616

Table continues next page

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

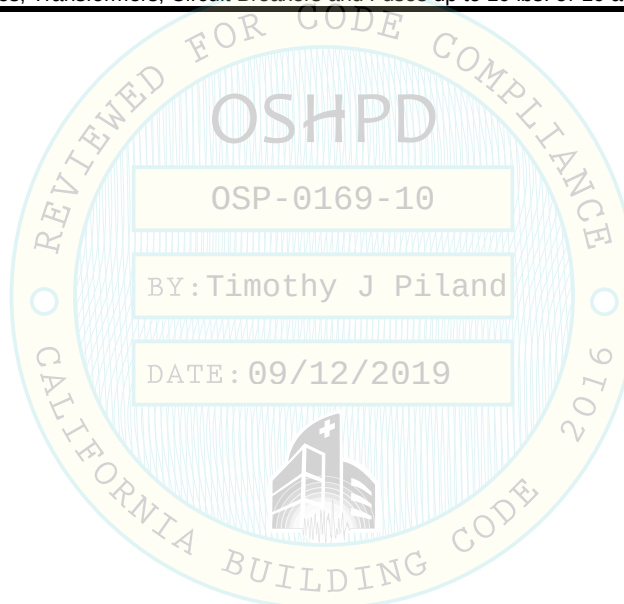
TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS & OPTIONS

SUBCOMPONENT	MANUFACTURER	MODEL/PART NO.	DESCRIPTION/RATING	Max. WEIGHT (kg)	BASIS
Condenser	Keeprite	1104617	15 Ton	94	UUT-A1R / UUT-A1S
Condenser	Cancoil Thermal Corporation	BC16985X	15 Ton	94	SAME as 1104617
Condenser	Keeprite	1104618	20 Ton	120	UUT5 / UUT-A2S
Condenser	Cancoil Thermal Corporation	BC16984X	20 Ton	120	SAME as 1104618
FLOW SWITCH					
Flow Switch	Johnson Controls	F61MB-1C		0.9	UUT1 / UUT2 / UUT3 / UUT4 / UUT5 / UUT-A1R / UUT-A1S
Flow Switch	Johnson Controls	F6261-MAH		0.9	UUT-A2S
LIQUID FLUID LEVEL INDICATOR					
Liquid Level Switch	Harwil	L-21N-11A-1-B		0.2	UUT3 / UUT4 / UUT5
Liquid Level Switch	Harwil	L-21N-11A-2-B-25		0.2	INT
Liquid Level Switch	Harwil	L-21N-11A-2-F-25		0.2	UUT1 / UUT2
Liquid Level Switch	Harwil	L-21N/15A/A/B/1.6		0.2	UUT-A1R / UUT-A1S / UUT-A2S
PRESSURE RELIEF BYPASS VALVE					
Series 69 Pressure Relief Valve	Aquatrol	D1DX70	Series 69 1-1/4", 35-100 PSI	2	UUT3 / UUT4 / UUT5 / UUT-A1R / UUT-A1S / UUT-A2S
Series 69 Pressure Relief Valve	Aquatrol	C1DX70	Series 69 1", 35-100 PSI	1.4	INT
Pressure Relief Valve	Spraying Systems	6815G-3/4-HSS-300	3/4", 300 PSI	0.6	UUT1 / UUT2
ANTI-BACKFLOW KIT					
Solenoid Valve 1"	Asco	8210G004		2	UUT1 / UUT2
Solenoid Valve 1"	Asco	8210G027		2	INT
Solenoid Valve 1-1/4"	Asco	8210G054		2.5	INT
Solenoid Valve 1-1/2"	Asco	8210G008		2.6	UUT3 / UUT4 / UUT-A1R / UUT-A1S / UUT-A2S
Solenoid Valve 2"	Asco	8210G056		4	UUT5
Series 600 Check Valve 1"	Watts	8210G100		0.6	UUT1, UUT2
Series 600 Check Valve 1-1/4"	Watts	376354		1	INT
Series 600 Check Valve 1-1/2"	Watts	376355		1.4	UUT3/UUT4 / UUT-A1R / UUT-A1S / UUT-A2S
Series 600 Check Valve 2"	Watts	376356		2	UUT5
CONTROLLER					
Controller	Carel	pCO1		0.4	UUT1 / UUT2 / UUT3 / UUT4 / UUT5 / UUT-A1R / UUT-A1S / UUT-A2S
Controller	Carel	PCOxs		0.4	UUT1 / UUT2 / UUT3 / UUT4

Table continues next page

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS**TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS & OPTIONS**

SUBCOMPONENT	MANUFACTURER	MODEL/PART NO.	DESCRIPTION/RATING	Max. WEIGHT (kg)	BASIS
Condenser Fan Speed Control	Johnson Controls	P266		1	UUT1 / UUT2 / UUT3 / UUT4 / UUT5 / UUT-A1R / UUT-A1S / UUT-A2S
Notes	1. BASIS: • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • INT (Interpolate/Extrapolate): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line. 2. Certification in this table is limited subcomponents identified when installed as part of a complete assembly of the equipment defined in Table 1. 3. Table excludes all Electrical Controllers, Switches, Transformers, Circuit Breakers and Fuses up to 10 lbs. or 10 amperes, except as noted.				



ATTACHMENT 2: TEST SPECIMEN SUMMARY

ATTACHMENT PAGE | 1 OF 5

UUT- 1 3 Ton Chiller / Rigid Base																														
MANUFACTURER:		Dimplex Thermal Solutions																												
IDENTIFICATION:		WO-3000-NF-L-M-407C																												
DESCRIPTION:		Single Refrigeration Circuit & Single Fluid Circuit Compliant with UL1995 standards Controller: Carel PCOxs Compressor : (1) Sanyo C-SBN263H8A 3 Ton Pump : (1) Walrus TPK4T5-5S 2.0 kW Fan Motor: (1) ½ HP Marathon 048A170F1H Fan Blade: (1) 18-in Lau 61142601 Heat Exchanger: (1) Kaori K095x20 Condenser: (1) 3-6 Ton Keeprite 1104615 Refrigerant: 407c Enclosure: Stainless steel enclosure by Dimplex Control Cabinet: Stainless steel NEMA 4 electrical enclosure by Saginaw Control & Engineering Tank: 40 gallon, Stainless Steel, Sealed w/ air vent Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.																												
MOUNTING:		Rigid Base mount w/ (4)-½" dia. Grade 5 bolts																												
PROPERTIES: <table><tr><th colspan="3">DIMENSIONS (in.)</th><th rowspan="2">Weight (lb.) Dry / Operating</th><th colspan="4">LOWEST RESONANT FREQUENCY (Hz.)</th></tr><tr><th>Width</th><th>Depth</th><th>Height</th><th>Front-Axis</th><th>Side-Axis</th><th>Vert-Axis</th><th>Off-Axis</th></tr><tr><td>51</td><td>27.5</td><td>60.75</td><td>685 / 1100</td><td>5.8</td><td>3.3</td><td>10.8</td><td>2.8</td></tr></table>								DIMENSIONS (in.)			Weight (lb.) Dry / Operating	LOWEST RESONANT FREQUENCY (Hz.)				Width	Depth	Height	Front-Axis	Side-Axis	Vert-Axis	Off-Axis	51	27.5	60.75	685 / 1100	5.8	3.3	10.8	2.8
DIMENSIONS (in.)			Weight (lb.) Dry / Operating	LOWEST RESONANT FREQUENCY (Hz.)																										
Width	Depth	Height		Front-Axis	Side-Axis	Vert-Axis	Off-Axis																							
51	27.5	60.75	685 / 1100	5.8	3.3	10.8	2.8																							
SHAKE TABLE TEST PARAMETERS <table><tr><th>CODE</th><th>TEST CRITERIA</th><th>S_{DS} (g)</th><th>z/h</th><th>I_P</th><th>A_{FLX-H} (g)</th><th>A_{RIG-H} (g)</th><th>A_{FLX-V} (g)</th><th>A_{RIG-V} (g)</th></tr><tr><td>CBC 2016</td><td>ICC-ES AC156</td><td>2.1</td><td>1</td><td>1.5</td><td>3.36</td><td>2.52</td><td>1.41</td><td>0.57</td></tr></table> Unit maintained structural integrity and remained functional per manufacturer requirement								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 2016	ICC-ES AC156	2.1	1	1.5	3.36	2.52	1.41	0.57					
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 2016	ICC-ES AC156	2.1	1	1.5	3.36	2.52	1.41	0.57																						

UUT- 2		3 Ton Chiller / Spring Isolator						
MANUFACTURER:		Dimplex Thermal Solutions						
IDENTIFICATION:		WO-3000-NF-L-M-407C						
DESCRIPTION:		Single Refrigeration Circuit & Single Fluid Circuit Compliant with UL1995 standards Controller: Carel PCOxs Compressor : (1) Sanyo C-SBN263H8A 3 Ton Pump : (1) Walrus TPK4T5-5S 2.0 kW Fan Motor: (1) ½ HP Marathon 048A170F1H Fan Blade: (1) 18-in Lau 61142601 Heat Exchanger: (1) Kaori K095x20 Condenser: (1) 3-6 Ton Keeprite 1104615 Refrigerant: 407c Enclosure: Stainless steel enclosure by Dimplex Control Cabinet: Stainless steel NEMA 4 electrical enclosure by Saginaw Control & Engineering Tank: 40 gallon, Stainless Steel, Sealed w/ air vent Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.						
MOUNTING:		SPRING ISOLATED: (4)-Sundown Model No. VMSSM1 (1" deflection). Each isolator anchored w/ ½" dia. Grade 5 bolts to UUT and (2)-½" dia. Grade 5 bolts to steel table extension. (Isolators manufactured by Vimco Part No. SSMA-1-127)						
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Dry / Operating	Front-Axis	Side-Axis	Vert-Axis	Off-Axis	
51	27.5	60.75	685 / 1100	1.8	1.7	5.6	1.6	
SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.1	1	1.5	3.36	2.52	1.41	0.57
Unit maintained structural integrity and remained functional per manufacturer requirement								

ATTACHMENT 2: TEST SPECIMEN SUMMARY

ATTACHMENT PAGE | 2 OF 5

UUT- 3		15 Ton Chiller / Rigid Base						
MANUFACTURER:		Dimplex Thermal Solutions						
IDENTIFICATION:		WO2-7500-2P-NF-L-M-407C						
DESCRIPTION:		Dual, Independent Refrigeration Circuit; Dual, Redundant Fluid Circuit Compliant with UL1995 standards Controller: Carel PCOxs Compressor : (2) 7.5 Ton Sanyo C-SCN603H8K Pump : (2) 2.0 kW Walrus TPHK4T5-5S Fan Motor: (4) ½ HP Marathon 048A170F1H Fan Blade: (4) 18-in Lau 61142601 Heat Exchanger: (2) Kaori K105x40B Condenser: (2) 7.5-10 Ton Keeprite 1104616 Refrigerant: 407c Enclosure: Galvanized steel enclosure by Dimplex Cabinet: Galvanized steel NEMA 4 electrical enclosure, site glass/fill tube by Saginaw Control & Engineering Tank: 72 gallon, stainless steel, sealed w/ air vent tank. Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.						
MOUNTING:		RIGID BASE: (8)-½" Dia. Grade 5 bolts (2 lines of 4 bolts ea.).						
PROPERTIES:								
DIMENSIONS (in.)			Operating	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)	Transverse-Axis	Longitudinal-Axis	Vertical-Axis		
109	34.4	76.25	3000	5.5	5.3	10.2		
SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
		2.5	0.0		2.5	1.04	1.68	0.68
Unit maintained structural integrity and remained functional per manufacturer requirement.								





UUT- 4		15 Ton Chiller / Spring Isolator						
MANUFACTURER:		Dimplex Thermal Solutions						
IDENTIFICATION:		WO2-7500-2P-NF-L-M-407C						
DESCRIPTION:		Dual, Independent Refrigeration Circuit; Dual, Redundant Fluid Circuit Compliant with UL1995 standards Controller: Carel PCOxs Compressor : (2) 7.5 Ton Sanyo C-SCN603H8K Pump : (2) 2.0 kW Walrus TPHK4T5-5S Fan Motor: (4) ½ HP Marathon 048A170F1H Fan Blade: (4) 18-in Lau 61142601 Heat Exchanger: (2) Kaori K105x40B Condenser: (2) 7.5-10 Ton Keeprite 1104616 Refrigerant: 407c Enclosure: Galvanized steel enclosure by Dimplex Cabinet: Galvanized steel NEMA 4 electrical enclosure, site glass/fill tube by Saginaw Control & Engineering Tank: 72 gallon, stainless steel, sealed w/ air vent tank. Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.						
MOUNTING:		<u>SPRING ISOLATED:</u> (8) Mason SLRSO – B – 750 spring isolators [2 lines of 4 isolators along length of UUT] w/ (4) ½" Grade 5 bolts at top & bottom of each isolator.						
PROPERTIES:								
DIMENSIONS (in.)			Operating Weight (lb.)					
Width	Depth	Height						
109	34.4	76.25	3000					
LOWEST RESONANT FREQUENCY (Hz.)								
Transverse-Axis	Longitudinal-Axis	Vertical-Axis						
2.4	2.8	5.7						
SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.0 2.5	1.0 0.0	1.5	3.2 2.5	2.4 1.04	1.34 1.68	0.54 0.68
Unit maintained structural integrity and remained functional per manufacturer requirement								



ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT- 5		30 Ton Chiller / Rigid Base						
MANUFACTURER:		Dimplex Thermal Solution						
IDENTIFICATION:		WO2-2-7500-2P-NF-L-M-407C						
DESCRIPTION:		Dual, Independent Refrigeration Circuit with tandem comps; Dual, Redundant Fluid Circuit Compliant with UL1995 standards Controller: Carel PCOxs Compressor : (4) 7.5 Ton Sanyo C-SCN603H8K Pump : (2) 3.9 kW Walrus TPK8T6-5S Fan Motor: (8) ½ HP Marathon 048A170F1H Fan Blade: (8) 16-in Lau 61142601 Heat Exchanger: (2) Kaori K205x40C Condenser: (2) 20 Ton Keeprite 1104618 Refrigerant: 407c Enclosure: Galvanized steel enclosure by Dimplex Cabinet: Galvanized, NEMA 4 electrical enclosure, site glass/fill tube, V-coil cabinet configuration by Saginaw Control & Engineering Tank: 100 gallon, stainless steel, sealed with air-vent Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.						
MOUNTING:		RIGID BASE: (8) - ½" Grade 5 bolts (2 lines of 4 bolts ea).						
								
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Front-Axis	Side-Axis	Vert-Axis		
135	41.5	88.5	3926 (Dry)	5.8	3.0	7.5		
SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.0 2.5	1.0 0.0	1.5	3.2 2.5	2.4 1.04	1.34 1.68	0.54 0.68
Unit maintained structural integrity and remained functional per manufacturer requirement								

UUT- 6		Carel pGD Remote Display						
MANUFACTURER:	Philips Healthcare							
IDENTIFICATION:	pGD							
DESCRIPTION:	Optional interface panel to for remote display & programming of chillers.							
MOUNTING:	WALL MOUNTED: (2) mfr-supplied machine screws into (2) layers 5/8" Gyp Bd							
								
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)					
Width	Depth	Height						
6.1	1.2	3.2	< 1					
LOWEST RESONANT FREQUENCY (Hz.)								
Transverse-Axis		Longitudinal-Axis	Vertical-Axis					
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SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and remained functional per manufacturer requirement								

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT- A1R 20 Ton Chiller / Rigid Base								
Manufacturer:			Dimplex Thermal Solutions					
Identification:			WO2-10000-2P-NF-L-M-407C:					
Description:			Dual, Independent Refrigeration Circuit; Dual, Redundant Fluid Circuit Compliant with UL1995 standards Controller: Carel PCO1 / Johnson Controls P266 Compressor : (2) 10 Ton Panasonic C-SCN753H8K Pump : (2) 3 hp Walrus TPK4T5-5S Fan Motor: (4) ½ HP Marathon 048A170F1H Fan Blade: (4) 18-in Lau 61142601 Heat Exchanger: (2) Kaori K205x30C Condenser: (2) 15 Ton Keeprite 1104617 Refrigerant: 407c Enclosure: Galvanized steel enclosure by Dimplex Cabinet: Galvanized steel NEMA 4 electrical enclosure, site glass/fill tube by Saginaw Control & Engineering Tank: 100 gallon, stainless steel, sealed w/ air vent tank. Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.					
Mounting:			RIGID BASE: (8) – ½" dia. GR8 hex head bolts with standard washers.					
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)		LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Dry/Operating		Front-Axis	Side-Axis	Vert-Axis	
115	44.25	88.5	2940 / 3705		3.9	4.9	11.7	
SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
		2.5	0.0		2.5	1.04	1.68	0.68
Unit maintained structural integrity and remained functional per manufacturer requirements.								

UUT- A1S			20 Ton Chiller / Spring Isolator					
MANUFACTURER:			Dimplex Thermal Solutions					
IDENTIFICATION:			WO2-10000-2P-NF-L-M-407C					
DESCRIPTION:			Dual, Independent Refrigeration Circuit; Dual, Redundant Fluid Circuit Compliant with UL1995 standards Controller: Carel PCO1 / Johnson Controls P266 Compressor : (2) 10 Ton Panasonic C-SCN753H8K Pump : (2) 3 hp Walrus TPK4T5-5S Fan Motor: (4) ½ HP Marathon 048A170F1H Fan Blade: (4) 18-in Lau 61142601 Heat Exchanger: (2) Kaori K205x30C Condenser: (2) 15 Ton Keeprite 1104617 Refrigerant: 407c Enclosure: Galvanized steel enclosure by Dimplex Cabinet: Galvanized steel NEMA 4 electrical enclosure, site glass/fill tube by Saginaw Control & Engineering Tank: 100 gallon, stainless steel, sealed w/ air vent tank. Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.					
MOUNTING:			SPRING ISOLATED: (8) Mason SLRSO – B – 450 spring isolators w/ (4) ½" Grade 8 bolts at top & bottom of each isolator.					
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.) Dry/Operating	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Transverse-Axis	Longitudinal-Axis	Vertical-Axis		
115	44.25	88.5	2940 / 3705	2.5	2.6	6.4		
SHAKE TABLE TEST PARAMETERS								
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 2016	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and remained functional per manufacturer requirement.								

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT- A2S 40 Ton Chiller / Spring Isolators								
MANUFACTURER:		Dimplex Thermal Solutions						
IDENTIFICATION:		WO2-2-10000-2P-NF-L-M-407C						
DESCRIPTION:		Dual, Independent Refrigeration Circuit; Dual, Redundant Fluid Circuit Compliant with UL1995 standards Controller: Carel PCOxs Compressor : (4) 10 ton Panasonic C-SCN753H8K Pump : (2) 3 hp Walrus TPK8T6-5S Fan Motor: (8) ½ HP Marathon WB48A170F1H Fan Blade: (8) 18-in Lau 61142601 Heat Exchanger: (2) Kaori K105x40B Condenser: (2) 20 Ton Keeprite 1104618 Refrigerant: 407c Enclosure: Galvanized steel enclosure by Dimplex Cabinet: Galvanized steel NEMA 4 electrical enclosure, site glass/fill tube by Saginaw Control & Engineering Tank: Stainless steel, sealed w/ air vent tank. Anti-backflow kit, pressure relief bypass valve, flow switch, & low fluid tank level indicator. Unit full of contents during test.						
MOUNTING:		<u>SPRING ISOLATED:</u> (8) Mason SLRSO – B – 750 spring isolators [2 lines of 4 isolators along length of UUT] w/ (4) ½" Grade 8 bolts at top & bottom of each isolator. Unit full of contents during test.						
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)		LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Dry / Operating		Front-Axis	Side-Axis	Vert-Axis	
135	44.25	88.5	4185 / Wet 4750		3.1	2.8	6.1	
SHAKE TABLE TEST PARAMETERS								
CODE	TEST CRITERIA	SDS (g)	z/h	Jp	AFLX-H (g)	ARIG-H (g)	AFLX-V (g)	ARIG-V (g)
CBC 2016	ICC-ES AC156	2.0 2.5	1.0 0.0	1.5	3.2 2.5	2.4 1.04	1.34 1.68	0.54 0.68
Unit maintained structural integrity and remained functional per manufacturer requirement								



