



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

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0381 – 10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Emerson Network Power

Manufacturer's Technical Representative: Frank DiPaolo

Mailing Address: 1050 Dearborn Drive, Columbus, OH 43085

Telephone: (614) 841-5842 Email: Frank.DiPaolo@emerson.com

Product Information

Product Name: Liebert CRV Cabinet

Product Type: Computer Room Air Conditioner – Airside HVAC

Product Model Number: CR019, CR020, CR035, CR040, and CR 032
(List all unique product identification numbers and/or part numbers)

General Description: CRV units 300mm and 600mm wide. 19, 20, and 35 kW air cooled and water/ glycol unit, 32 and 40 kW chilled water unit. Seismic enhancements made to the test units and modifications required to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid base mounted to structure and to carbon steel floorstands up to 24" in height

Applicant Information

Applicant Company Name: Emerson Network Power

Contact Person: Frank DiPaolo

Mailing Address: 1050 Dearborn Drive, Columbus, OH 43085

Telephone: (614) 841 - 5842 Email: Frank.DiPaolo@emerson.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: *Frank DiPaolo* Date: 03 November 2015

Title: Development Scientist Company Name: Emerson Network Power

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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-759 (REV 03/24/15)





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

Company Name: Buehler & Buehler Structural Engineers, Inc.

Name: Scott R. Hooker, S.E. California License Number: S3937 / Structural

Mailing Address: 600 Q Street, Suite 200, Sacramento, CA 95811

Telephone: (916) 443-0303 Email: shooker@bbse.com

Supports and Attachments Preapproval

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

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

Testing Laboratory

Company Name: Clark Dynamic Test Laboratory, Inc.

Contact Name: Russell Matich

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

Telephone: (412) 387-1001 Email: rmatich@clarktesting.com





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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) = 0.6 ($S_{DS} = 0.8$), 1.5 ($S_{DS} = 2.0$)

S_{DS} (Design spectral response acceleration at short period, g) = 0.8 (w/o seismic kit), 2.0 (w/ seismic kit)

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

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Tables 5 & 6

Overall dimensions and weight (or range thereof) = See Tables 1 & 2

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) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

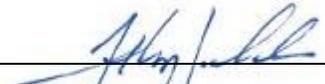
Tank(s) designed in accordance with ASME BPVC, 2010: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Test Witness Letter

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

Signature:  Date: December 7, 2015

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): _____





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Table 1. Cont... CRV 300mm - Certified Product List (Hard Mounted)

Model Number (Specimen Designation)	Rated Cooling Kilowatts	Mounting	Unit Length	Unit Width	Unit Height (11)	Unit Maximum Operating Weight	Heat Rejection Type	Voltage	Tested / Interpolated	S _{ps}	z/h	F _p /W _p	Seismic Kit
			(in)	(in)	(in)	(lbs)		(V)					
CR019RA1Y70D0A14P060PA	19	Rigid Base Mounted	43.3	11.81	78.7	514	Air Cooled	208-230 Three Phase	Interpolated	2.00	1.0	1.5	With Kit
CR019RA1370D0A14P060PA	19	Rigid Base Mounted	43.3	11.81	78.7	514	Air Cooled	460 3 Phase Wye	UUT-1B	2.00	1.0	1.5	With Kit
CR019RW1Y40D0A74P060PA	19	Rigid Base Mounted	43.3	11.81	78.7	555	Water/Glycol	208-230 Three Phase	UUT-3B	2.00	1.0	1.5	With Kit
CR019RW1340D0A74P060PA	19	Rigid Base Mounted	43.3	11.81	78.7	555	Water/Glycol	460 3 Phase Wye	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1Y30D0AH4P060PA	32	Rigid Base Mounted	43.3	11.81	78.7	491	Chilled Water	208-230 Three Phase	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1330D0AH4P060PA	32	Rigid Base Mounted	43.3	11.81	78.7	491	Chilled Water	460 3 Phase Wye	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1P30D0AH4P060PA	32	Rigid Base Mounted	43.3	11.81	78.7	491	Chilled Water	208-230 Single Phase	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1K30D0CH4P060PA	32	Rigid Base Mounted	43.3	11.81	78.7	491	Chilled Water	120 Single Phase	UUT-5B	2.00	1.0	1.5	With Kit

Notes

1. The 9th digit for the above models specifies the 60 Hz. unit voltage. "Y" is for 208-230V three phase, "3" is for 460V wye three phase, "P" is for 208-230V single phase and "K" is for 120V single phase.
2. The 10th digit for above CR032 models specifies chilled water piping configuration. A "3" is three way which are listed above and "2" is two way not listed above. Both two and three way piping use the same valve. Piping is the same except for two way has no bypass piping connection to bypass of valve.
3. The 10th digit for above CR019RW models specifies customer piping connections. A "4" is top which are listed above and "5" is bottom not listed above.
4. The 14th digit in above model numbers specifies the air filter type. An "A" is Merv 8 and a "C" is Merv 1.
5. The 15th digit for above CR019RW models specifies water/glycol piping configuration. A "7" is three way which are listed above and "1" is two way not listed above. Both two and three way piping use the same valve. Piping is the same except for two way has no bypass piping connection to bypass of valve.
6. The 16th digit in above model numbers specifies inclusion of seismic kit. "4" is for models with seismic kit.
7. The 19th digit in above model numbers specifies IntelliSlot Card type. All above models are "6" for one IS-Unity-DP Card and one Sitelink-Ecard.
8. Above models include condensate pump option.
9. See "Model Number Nomenclature" tab for complete model number nomenclature.
10. Unit height includes casters. Unit height does not include floor stand.
11. Listed unit maximum operating weights are calculated from actual unit dry weight and fluids operating in the unit.



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Table 1. Cont... CRV 300mm - Certified Product List (Floor Stand Mounted)

Model Number (Specimen Designation)	Rated Cooling Kilowatts	Mounting	Unit Length	Unit Width	Unit Height (11)	Unit Maximum Operating Weight	Heat Rejection Type	Voltage	Tested / Interpolated	S _{DS}	z/h	F _p /W _p	Seismic Kit
			(in)	(in)	(in)	(lbs)		(V)					
CR019RA1Y70D0A14P060PA	19	12,18 or 24" High Floor Stand	43.3	11.81	78.7	517	Air Cooled	208-230 Three Phase	Interpolated	2.00	1.0	1.5	With Kit
CR019RA1370D0A14P060PA	19	12,18 or 24" High Floor Stand	43.3	11.81	78.7	517	Air Cooled	460 3 Phase Wye	UUT-2 18" Floor Stand	2.00	1.0	1.5	With Kit
CR019RW1Y40D0A74P060PA	19	12,18 or 24" High Floor Stand	43.3	11.81	78.7	558	Water/Glycol	208-230 Three Phase	UUT-4 24" Floor Stand	2.00	1.0	1.5	With Kit
CR019RW1340D0A74P060PA	19	12,18 or 24" High Floor Stand	43.3	11.81	78.7	558	Water/Glycol	460 3 Phase Wye	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1Y30D0AH4P060PA	32	12,18 or 24" High Floor Stand	43.3	11.81	78.7	494	Chilled Water	208-230 Three Phase	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1330D0AH4P060PA	32	12,18 or 24" High Floor Stand	43.3	11.81	78.7	494	Chilled Water	460 3 Phase Wye	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1P30D0AH4P060PA	32	12,18 or 24" High Floor Stand	43.3	11.81	78.7	494	Chilled Water	208-230 Single Phase	Interpolated	2.00	1.0	1.5	With Kit
CR032RC1K30D0CH4P060PA	32	12,18 or 24" High Floor Stand	43.3	11.81	78.7	494	Chilled Water	120 Single Phase	UUT-6 12" Floor Stand	2.00	1.0	1.5	With Kit

Notes

1. The 9th digit for the above models specifies the 60 Hz. unit voltage. "Y" is for 208-230V three phase, "3" is for 460V wye three phase, "P" is for 208-230V single phase and "K" is for 120V single phase.
2. The 10th digit for above CR032 models specifies chilled water piping configuration. A "3" is three way which are listed above and "2" is two way not listed above. Both two and three way piping use the same valve. Piping is the same except for two way has no bypass piping connection to bypass of valve.
3. The 10th digit for above CR019RW models specifies customer piping connections. A "4" is top which are listed above and "5" is bottom not listed above.
4. The 14th digit in above model numbers specifies the air filter type. An "A" is Merv 8 and a "C" is Merv 1.
5. The 15th digit for above CR019RW models specifies water/glycol piping configuration. A "7" is three way which are listed above and "1" is two way not listed above. Both two and three way piping use the same valve. Piping is the same except for two way has no bypass piping connection to bypass of valve.
6. The 16th digit in above model numbers specifies inclusion of seismic kit. "4" is for models with seismic kit. Above models mounted to 12", 18" or 24" floor stand heights include the seismic kit.
7. The 19th digit in above model numbers specifies IntelliSlot Card type. All above models are "6" for one IS-Unity-DP Card and one Sitelink-Ecard.
8. Above models include condensate pump option.
9. See "Model Number Nomenclature" tab for complete model number nomenclature.
10. Unit height includes casters. Unit height does not include floor stand.
11. Listed unit maximum operating weights are calculated from actual unit dry weight and fluids operating in the unit.



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Table 2. CRV 600mm - Certified Models and Configurations

Model Number (Specimen Designation)	Rated Cooling Kilowatts	Mounting (1)	Unit Length	Unit Width	Unit Height (2)	Unit Maximum Operating Weight	Heat Rejection Type	Voltage	Tested / Interpolated	S _{DS}	z/h	F _p /W _p	Seismic Kit
			(in)	(in)	(in)	(lbs)		(V)					
CR020RA1C7SD1814P	20	Rigid Base Mounted	46.25	22.63	78.75	758	Air Cooled	208	extrapolated	2.00	1.0	1.5	With Kit
CR020RA1A7SD1814P	20	Rigid Base Mounted	46.25	22.63	78.75	758	Air Cooled	460	extrapolated	2.00	1.0	1.5	With Kit
CR020RW1C7SD1874P	20	Rigid Base Mounted	46.25	22.63	78.75	834	Water/Glycol	208	UUT-7	2.00	1.0	1.5	With Kit
CR020RW1A7SD1874P	20	Rigid Base Mounted	46.25	22.63	78.75	834	Water/Glycol	460	interpolated	2.00	1.0	1.5	With Kit
CR035RA1C7SD1814P	35	Rigid Base Mounted	46.25	22.63	78.75	827	Air Cooled	208	extrapolated	2.00	1.0	1.5	With Kit
CR035RA1A7SD1814P	35	Rigid Base Mounted	46.25	22.63	78.75	827	Air Cooled	460	extrapolated	2.00	1.0	1.5	With Kit
CR035RW1C7SD1974P	35	Rigid Base Mounted	46.25	22.63	78.75	938	Water/Glycol	208	interpolated	2.00	1.0	1.5	With Kit
CR035RW1A7SD1974P	35	Rigid Base Mounted	46.25	22.63	78.75	938	Water/Glycol	460	UUT-8	2.00	1.0	1.5	With Kit
CR040RC1C3SD19H4P	40	Rigid Base Mounted	46.25	22.63	78.75	790	Chilled Water	208	extrapolated	2.00	1.0	1.5	With Kit
CR040RC1A3SD19H4P	40	Rigid Base Mounted	46.25	22.63	78.75	790	Chilled Water	460	extrapolated	2.00	1.0	1.5	With Kit

Notes

- Unit to be hard mounted directly to structure or to one of three floorstands (12", 18" and 24" heights).
- Unit height includes casters. Unit height does not include floorstand.
- Water/Glycol models listed above are three way water flow models.
- Chilled water model listed above is a three way water flow model.
- All above models include humidifier, reheat, condensate pump and 65KA SCCR disconnect options.
- Weights listed for UUT are actual weights measured in seismic test lab based on JID:2672-R.
- The 14th digit of above model numbers specifies the air filter type. An "8" specifies Merv 8 and "9" specifies Merv 11.
- Air cooled units listed above are identical to the Water/Glycol without the following parts condenser plate heat exchanger, refrigerant receiver, heat rejection control valve and actuator. No additional structural support is included in the Water/Glycol unit compared to Air Cooled. Center of gravity of both units are approximately equivalent.



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Table 2 Cont... CRV 600mm - Certified Models and Configurations

Model Number (Specimen Designation)	Rated Cooling Kilowatts	Mounting (1)	Unit Length	Unit Width	Unit Height (2)	Unit Maximum Operating Weight	Heat Rejection Type	Voltage	Tested / Interpolated	S _{DS}	z/h	F _p /W _p	Seismic Kit
			(in)	(in)	(in)	(lbs)		(V)					
CR020RA1C7SD1814P	20	Rigid Base Mounted	46.25	22.63	78.75	758	Air Cooled	208	extrapolated	2.00	1.0	1.5	With Kit
CR020RA1A7SD1814P	20	Rigid Base Mounted	46.25	22.63	78.75	758	Air Cooled	460	extrapolated	2.00	1.0	1.5	With Kit
CR020RW1C7SD1874P	20	12" High Floor Stand	46.25	22.63	78.75	834	Water/Glycol	208	UUT-9	2.00	1.0	1.5	With Kit
CR020RW1A7SD1874P	20	Rigid Base Mounted	46.25	22.63	78.75	834	Water/Glycol	460	interpolated	2.00	1.0	1.5	With Kit
CR035RA1C7SD1814P	35	Rigid Base Mounted	46.25	22.63	78.75	827	Air Cooled	208	extrapolated	2.00	1.0	1.5	With Kit
CR035RA1A7SD1814P	35	Rigid Base Mounted	46.25	22.63	78.75	827	Air Cooled	460	extrapolated	2.00	1.0	1.5	With Kit
CR035RW1C7SD1974P	35	Rigid Base Mounted	46.25	22.63	78.75	938	Water/Glycol	208	interpolated	2.00	1.0	1.5	With Kit
CR035RW1A7SD1974P	35	24" High Floor Stand	46.25	22.63	78.75	938	Water/Glycol	460	UUT-10	2.00	1.0	1.5	With Kit
CR040RC1C3SD18H4P	40	Rigid Base Mounted	46.25	22.63	78.75	790	Chilled Water	208	extrapolated	2.00	1.0	1.5	With Kit
CR040RC1A3SD18H4P	40	Rigid Base Mounted	46.25	22.63	78.75	790	Chilled Water	460	extrapolated	2.00	1.0	1.5	With Kit

Notes

- Unit to be hard mounted directly to structure or to one of three floorstands (12", 18" and 24" heights).
- Unit height includes casters. Unit height does not include floorstand.
- Water/Glycol models listed above are three way water flow models.
- Chilled water model listed above is a three way water flow model.
- All above models include humidifier, reheat, condensate pump and 65KA SCCR disconnect options.
- Weights listed for UUT are actual weights measured in seismic test lab based on JID:2672-R.
- The 14th digit of above model numbers specifies the air filter type. An "8" specifies Merv 8 and "9" specifies Merv 11.
- Air cooled units listed above are identical to the Water/Glycol without the following parts condenser plate heat exchanger, refrigerant receiver, heat rejection control valve and actuator. No additional structural support is included in the Water/Glycol unit compared to Air Cooled. Center of gravity of both units are approximately equivalent.



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Table 6. CRV 600mm - Shake Table Tested Units Summary

Model Number (Specimen Designation)	Rated Cooling Kilowatts	UUT Mark	Mounting	Unit Length	Unit Width	Unit Height (1)	Unit Maximum Operating Weight	Excitation Direction	Frequency	Tested Heat Rejection Type	Voltage
				(in)	(in)	(in)			(lbs)		
CR020RW1C7SD1874P	20	UUT-7	Rigid Base Mounted With Seismic Kit	46.25	22.625	78.75	834	F-B	10.56	Water	208V
								S-S	7.87		
								V	n/a		
CR035RW1A7SD1974P	35	UUT-8	24" High Floor Stand With Seismic Kit	46.25	22.625	78.75	938	F-B	10.17	Glycol	460V
								S-S	6.60		
								V	n/a		
CR020RW1C7SD1874P	20	UUT-9	Rigid Base Mounted With Seismic Kit	46.25	22.625	78.75	834	F-B	16.34	Water	208V
								S-S	6.63		
								V	12.00		
CR035RW1A7SD1974P	35	UUT-10	24" High Floor Stand With Seismic Kit	46.25	22.625	78.75	938	F-B	15.00	Glycol	460V
								S-S	5.42		
								V	n/a		

Notes

1. Unit height includes casters. Unit height does not include floorstand.
2. UUT-8 to include 60 Amp Allen Bradley disconnect as normally wired and installed. A 30 Amp Socomec and mounting plate was installed behind the 60 Amp Allen Bradley wired to voltage but not to load. UUT-8 will replace it's normally used 5 row coil with a 6 row coil used in the CR040RC units.
3. UUT-7 to include 100 Amp Socomec disconnect as normally wired and installed. A 60 Amp Allen Bradley and mounting plate was installed behind the 100 Amp Socomec wired to voltage but not to load.
4. Unless noted otherwise all models listed above are 60 Hz. 3 phase 460 volt models. 60 Hz. 3 phase 208 volt are also available which have the same unit weight and COG.
5. Water/Glycol models listed above are three way water flow models.
6. All above models include humidifier, reheat, condensate pump and 65KA SCCR disconnect options.
7. All above models include R-410A Digital Scroll Single Circuit, water or glycol and appropriate pressure during AC-156 testing.
8. Weights listed for UUT are actual weights measured in seismic test lab based on JID:2672-R.



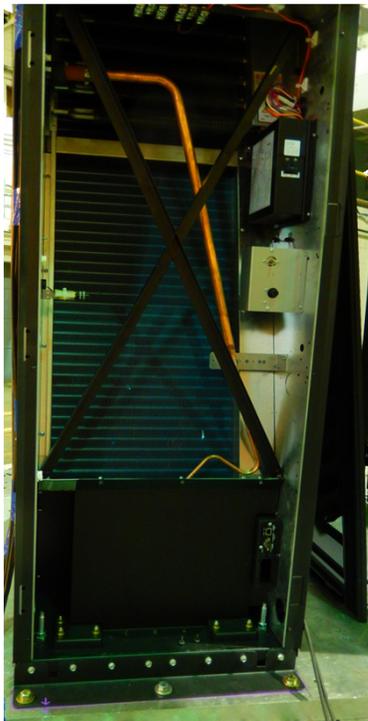
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CRV 600mm

Shake Table Test Setup

UUT Designation	UUT-7	Seismic Parameters							
Identification No.	CR020RW1C7SD1871P (currently CR020RW1C7SD1874P)	Building Code	Test Criteria	S_{Ds} (g)	z/h	Horizontal		Vertical	
Attachment Method	Seismic kit holdown bracket (part # 317816G0) was attached to unit with eight (8) 1/4"Ø self tapping screws on each end of the unit. Each bracket was attached to table with three (3) 1/2" -13 Grade 5 bolts (6 bolts per unit).	CBC 2013	ICC-ES AC156	2.00	1.0	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
				2.50	0.0	3.2 g	2.4 g	1.33 g	0.53g
						4.0 g	3.0 g	1.68 g	0.68 g



Notes: The UUTs were full of contents during the test.
 After the test, the UUT was functional and the structural integrity of the component attachment and force-resisting systems was maintained.



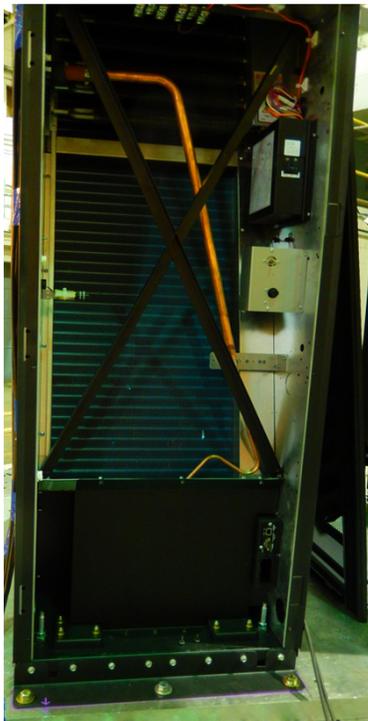
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CRV 600mm

Shake Table Test Setup

UUT Designation	UTT-8	Seismic Parameters							
Identification No.	CR035RW1A7SD1971P (currently CR035RW1A7SD1974P)	Building Code	Test Criteria	S_{Ds} (g)	z/h	Horizontal		Vertical	
Attachment Method	Seismic kit holdown bracket (part # 317816G0) was attached to unit with eight (8) 1/4"Ø self tapping screws on each end of the unit. Each bracket was attached to table with three (3) 1/2" -13 Grade 5 bolts (6 bolts per unit).	CBC 2013	ICC-ES AC156	2.00	1.0	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
				2.50	0.0	3.2 g	2.4 g	1.33 g	0.53g
						4.0 g	3.0 g	1.68 g	0.68 g



Notes: The UUTs were full of contents during the test.
 After the test, the UUT was functional and the structural integrity of the component attachment and force-resisting systems was maintained.



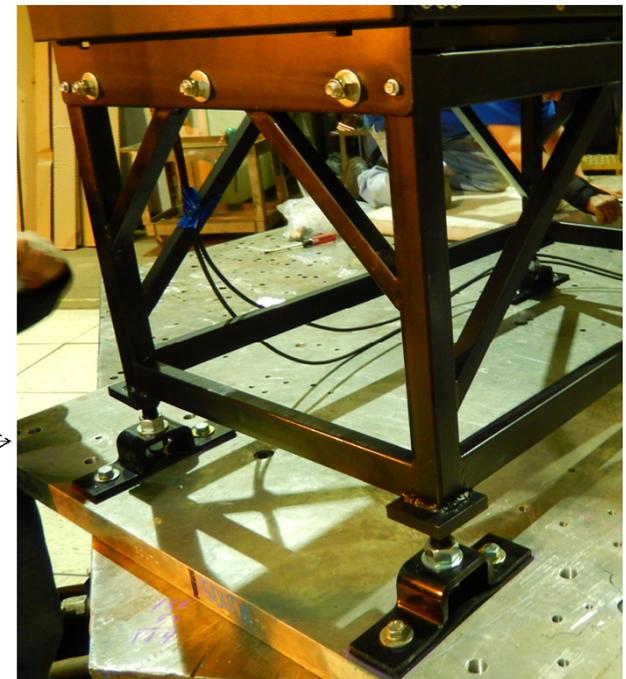
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CRV 600mm

Shake Table Test Setup

UUT Designation	UUT-9	Seismic Parameters							
Identification No.	CR020RW1C7SD1871P (currently CR020RW1C7SD1874P)	Building Code	Test Criteria	S_{Ds} (g)	z/h	Horizontal		Vertical	
Attachment Method	Attachment Method: Rigid mount, Unit attached to floorstand using two (2) seismic kit brackets (part # 319314G4) with ten (10) 1/4"-14 SMS and three (3) 1/2"-13 Grade 5 bolts at each bracket. Each floorstand was connected to table with eight (8) 1/2"-13 Grade 5 bolts per unit.					A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
		CBC 2013	ICC-ES AC156	2.00	1.0	3.2 g	2.4 g	1.33 g	0.53g
				2.50	0.0	4.0 g	3.0 g	1.68 g	0.68 g



Notes: The UUTs were full of contents during the test.
 After the test, the UUT was functional and the structural integrity of the component attachment and force-resisting systems was maintained.



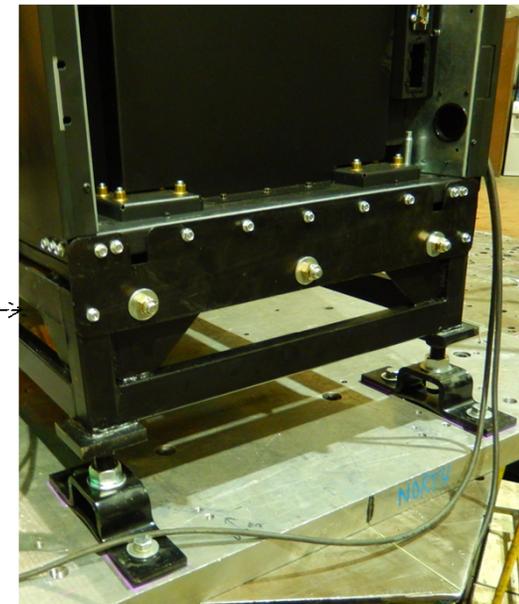
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CRV 600mm

Shake Table Test Setup

UUT Designation	UTT-10	Seismic Parameters							
Identification No.	CR035RW1A7SD1971P (currently CR035RW1A7SD1974P)	Building Code	Test Criteria	S_{Ds} (g)	z/h	Horizontal		Vertical	
Attachment Method	Attachment Method: Rigid mount, Unit attached to floorstand using two (2) seismic kit brackets (part # 319314G4) with ten (10) 1/4"-14 SMS and three (3) 1/2"-13 Grade 5 bolts at each bracket. Each floorstand was connected to table with eight (8) 1/2"-13 Grade 5 bolts per unit.	CBC 2013	ICC-ES AC156			A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
				2.00	1.0	3.2 g	2.4 g	1.33 g	0.53g
				2.50	0.0	4.0 g	3.0 g	1.68 g	0.68 g



Notes: The UUTs were full of contents during the test.
 After the test, the UUT was functional and the structural integrity of the component attachment and force-resisting systems was maintained.



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OSHPD Pre-Approval
Liebert CRV Product Line**



MODEL NUMBER NOMENCLATURE - 25 DIGIT CONFIGURATION NUMBER ¹

Model # Part 1										Model Details										Model # Part 2				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
C	R	0	2	0	R	A	1	C	7	S	D	1	8	1	1	E	L	1	0	P	A	—	—	—

Digits 1-2 - Unit Family

Liebert CRV = CR

Digits 3-5 - Nominal Capacity, kW

DX = 019 (300mm [12"] wide)
020, 035 (600mm [24"] wide)

CW = 032 (300mm [12"] wide)
040 (600mm [24"] wide)

Digit 6 - Row-Based, Unit Depth

R = 1100mm (43.4")

Digit 7 - System Type

A = Air-Cooled
W = Water/Glycol-Cooled
C = Chilled Water-Cooled

Digit 8 - Fan Type

1 = Variable Speed EC fans

Digit 9 - Power Supply

A = 460V / 3ph / 60Hz (600mm [24"])
C = 208V / 3ph / 60Hz (600mm [24"])
Y = 208-230V / 3ph / 60Hz (300mm [12"])
P = 208-230V / 1ph / 60Hz (300mm [12"]; Control transformer can be tapped to provide 240V/1ph/60Hz)
K = 120V / 1ph / 60Hz (300mm [12"])
3 = 460V / 3ph / 60Hz-Wye with Neutral required (300mm [12"])

Digit 10 - Cooling System

2 = Two-Way Valve (CW Models Only)
3 = Three-way Valve (CW Models Only)
7 = R-410A Digital Scroll (Air-Cooled and 600mm [24"] W/G)
4 = Top Connections Only (300mm [12"] W/G only)
5 = Bottom Connections Only (300mm [12"] W/G only)

Digit 11 - Humidifier

0 = None
S = Steam Generating Canister (600mm [24in.] models only)

Digit 12 - Control System

D = Liebert iCOM[®] with Large Graphic Display

Digit 13 - Reheat

0 = None
1 = Electric Reheat (600mm [24in.] models only)

Digit 14 - Air Filter

A = 2" MERV 8 (300mm [12in.] models only)
C = 1/2" MERV 1 and Clog Filter Switch (300mm [12in.] models only)
8 = 4" MERV 8 + Clogged Filter Switch (600mm [24in.] models only)
9 = 4" MERV 11 + Clogged Filter Switch (600mm [24in.] models only)

Digit 15 - Water/Glycol Valve Type

1 = Two-Way Valve (W/G only) OR Default Air-Cooled Selection
7 = Three-Way Valve (W/G only)
H = Default CW Selection

Digit 16 - Enclosure

1 = No Certification; Standard Color (Z-7021 Black)
3 = Seismic Certification Level 1 (S_d = 0.8); Standard Unit Without Internal Bracing; Standard Color (Z-7021 Black)
4 = Seismic Certification Level 2 (S_d = 2.0) With Internal bracing; Standard Color (Z-7021 Black)

Digit 17 - High-Voltage Options

L = No condensate pump, 5k SCCR, 300mm (12") 120V CW Only
5 = Condensate pump, 5k SCCR, 300mm (12") 120V CW Only
M = No dual-float condensate pump (for units without humidifier), 65k SCCR
P = Dual-float condensate Pump (for units with or without humidifier), 65k SCCR

Digit 18 - Option Package

0 = None
H = Reheat and Humidifier Lockout Contact (600mm [24"] Only)
C = Reheat and Humidifier Lockout and Additional Alarm Contact (600mm [24"] Only)
D = Low Sound Package (600mm [24"] DX Only)
L = Low Sound Package and Reheat and Humidifier Lockout and Additional Alarm Contact (600mm [24"] DX Only)

Digit 19 - Liebert IntelliSlot™ Housing

0 = No Cards
C = (1) Liebert SiteLink-E[®] Card
U = (1) Liebert IntelliSlot Unity DP™ Card
6 = (1) Liebert IntelliSlot Unity DP Card and (1) Liebert SiteLink-E™ Card
7 = (2) Liebert IntelliSlot Unity DP Cards

Digit 20 - Future Options

0 = None

Digit 21 - Packaging With Ramp

P = Domestic
S = Export (Seaworthy)

Digit 22 - Special Features

A = No SFAs, Standard Unit
X = SFA Included

Digits 23-25 - Factory Configuration Number

1. The 14-digit model number consists of the first 10 digits and last four digits of the configuration number.