



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

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0237-10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Schneider Electric IT Corporation

Manufacturer's Technical Representative: Kevin Lemke

Mailing Address: 801 Corporate Centre Dr., O'Fallon, MO 63368

Telephone: (636) 300-2300 x 11256 Email: Kevin.lemke@schneider-electric.com

Product Information

Product Name: InRow Cooling

Product Type: Cooling Units

Product Model Number: See Certified Product Table attached

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

General Description: InRow cooling products are floor-mounted, close-coupled units containing fans, controllers, and heat exchangers to circulate cold air through IT systems

Mounting Description: Rigidly floor mounted

Applicant Information

Applicant Company Name: Schneider Electric IT Corporation

Contact Person: Kevin Lemke

Mailing Address: 801 Corporate Centre Dr., O'Fallon, MO 63368

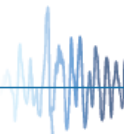
Telephone: (636) 300-2300 x 11256 Email: Kevin.lemke@schneider-electric

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: 6/23/2016

Title: Staff Product Manager Company Name: Schneider Electric IT Corporation

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





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

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

Company Name: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6th Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.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): _____

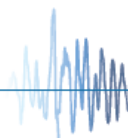
Testing Laboratory

Company Name: NTS Huntsville (Formerly Wyle Laboratories)

Contact Name: Don Smith – Manager, Commercial Test Services

Mailing Address: 7800 Highway 20 West, Huntsville, AL 35806

Telephone: (256) 716-4221 Email: Don.smith@wyle.com





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

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 0.98

S_{DS} (Design spectral response acceleration at short period, g) = 1.30

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 attachment, UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See attachment, Certified Products Table

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, 2015: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

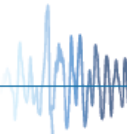
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 11/4/16

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 1.30 z/h = 1.0

Condition of Approval (if applicable): _____



Schneider Electric IT Corporation - InRow Cooling
I. Certified Product Table

	Width	Depth	Height	Maximum Weight	Construction Material	Model No.	Testing Status
InRow Direct Expansion							
InRow SC, 300 mm, Air Cooled, Self-contained 200-240V, 60Hz	11.8 in	42.1 in	78.4 in	374 lbs	18 ga to 14 ga, cold rolled carbon steel	ACSC100	UUT2-3
InRow SC, 300 mm, Air Cooled, Self-contained 200-240V, 50Hz	11.8 in	42.1 in	78.4 in	365 lbs	18 ga to 14 ga, cold rolled carbon steel	ACSC101	Interpolated
InRow RD, 300 mm, Air Cooled, 208-230V, 60Hz	11.8 in	42.1 in	78.4 in	404 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD100	Interpolated
InRow RD, 300mm, Air Cooled, 220-240V, 50Hz	11.8 in	42.1 in	78.4 in	404 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD101	Interpolated
InRow RD, 300 mm, Fluid Cooled, 208-230V, 60Hz	11.8 in	42.1 in	78.4 in	454 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD200	UUT1-3
InRow RD, 300 mm, Fluid Cooled, 220-240V, 50Hz	11.8 in	42.1 in	78.4 in	438 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD201	Interpolated
InRow RD, 600 mm, Air Cooled, 200-240V, 50/60Hz	23.6 in	42.1 in	78.4 in	808 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD500	Interpolated
InRow RD, 600 mm, Air Cooled, 460-480V, 60Hz	23.6 in	42.1 in	78.4 in	808 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD501	Interpolated
InRow RD, 600 mm, Air Cooled, 380-415V, 50Hz	23.6 in	42.1 in	78.4 in	808 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRD502	Interpolated
InRow RP, 600 mm, DX Air Cooled, 200-240V 50/60Hz	23.6 in	42.1 in	78.4 in	868 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP100	UUT2-2
InRow RP, 600 mm, DX Air Cooled, 460-480V 60Hz	23.6 in	42.1 in	78.4 in	850 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP101	UUT2-4
InRow RP, 600 mm, DX Air Cooled, 380-415V 50Hz	23.6 in	42.1 in	78.4 in	833 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP102	Interpolated

Note: All units mounted with AR7701 bracket

continued on next page

FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers
160 Pine St., 6th Floor
San Francisco, CA 94111

Schneider Electric IT Corporation - InRow Cooling
I. Certified Product Table

	Width	Depth	Height	Maximum Weight	Construction Material	Model No.	Testing Status
InRow Chilled Water							
InRow RC, 300 mm, Chilled Water, 100-120V, 50/60Hz	11.8 in	42.1 in	78.4 in	370 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC100	Interpolated
InRow RC, 300 mm, Chilled Water, 200-240V, 50/60Hz	11.8 in	42.1 in	78.4 in	348 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC103	UUT1-1
InRow RC, 300 mm, Chilled Water, 200-240V, 50/60Hz	11.8 in	42.1 in	78.4 in	370 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC103	Interpolated
InRow RC, 600 mm, Chilled Water, 200-240V, 50/60Hz	23.6 in	42.1 in	78.4 in	800 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC500	Interpolated
InRow RC, 600 mm, Chilled Water, 200-240V, 50/60Hz	23.6 in	42.1 in	78.4 in	800 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC600	Interpolated
InRow RC, 600 mm, Chilled Water, 460-480V, 60Hz	23.6 in	42.1 in	78.4 in	800 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC501	Interpolated
InRow RC, 600 mm, Chilled Water, 460-480V, 60Hz	23.6 in	42.1 in	78.4 in	800 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC601	Interpolated
InRow RC, 600 mm, Chilled Water, 380-415V, 50Hz	23.6 in	42.1 in	78.4 in	800 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC502	Interpolated
InRow RC, 600 mm, Chilled Water, 380-415V, 50Hz	23.6 in	42.1 in	78.4 in	800 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC602	Interpolated
InRow RP, 600 mm, Chilled Water, 200-240V 50/60Hz	23.6 in	42.1 in	78.4 in	530 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP500	UUT1-2
InRow RP, 600 mm, Chilled Water, 200-240V 50/60Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP500	Interpolated
InRow RP, 600 mm, Chilled Water, 200-240V 50/60Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP500	Interpolated
InRow RP, 600 mm, Chilled Water, 200-240V 50/60Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC600P	Interpolated
InRow RP, 600 mm, Chilled Water, 380-415V 50Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP501	Interpolated
InRow RP, 600 mm, Chilled Water, 380-415V 50Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC601P	Interpolated
InRow RP, 600 mm, Chilled Water, 360-480V 60Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRP502	Interpolated
InRow RP, 600 mm, Chilled Water, 360-480V 60Hz	23.6 in	42.1 in	78.4 in	816 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRC602P	Interpolated

Note: All units mounted with AR7701 bracket

continued on next page

FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers
160 Pine St., 6th Floor
San Francisco, CA 94111

Schneider Electric IT Corporation - InRow Cooling
I. Certified Product Table

	Width	Depth	Height	Maximum Weight	Construction Material	Model No.	Testing Status
InRow Pumped Refrigerant							
Refrigerant Distribution Unit, 750mm, 100-240V, 50/60Hz	29.5 in	42.1 in	78.4 in	1328 lbs	18 ga to 14 ga, cold rolled carbon steel	ACDA901	UUT1-4
InRow RA, 300mm, Pumped Refrigerant, 100-120V, 50/60Hz	11.8 in	42.1 in	78.4 in	342 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRA100	Interpolated
InRow RA, 300mm, Pumped Refrigerant, 200-240V, 50/60Hz	11.8 in	42.1 in	78.4 in	380 lbs	18 ga to 14 ga, cold rolled carbon steel	ACRA101	UUT2-1

Note: All units mounted with AR7701 bracket

FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers
160 Pine St., 6th Floor
San Francisco, CA 94111

Schneider Electric IT Corporation - InRow Cooling

II. Certified Subcomponents Table

Heat Exchanger	Manufacturer	Part #	Testing Status
Fin/Tube - Evaporator	Luvata	875-0015A	UUT1-1
Fin/Tube - Evaporator	Luvata	875-0017	UUT2-3
Fin/Tube - Evaporator	Luvata	875-0960	UUT2-4
Fin/Tube - Evaporator	Luvata	875-0961	UUT1-2
Fin/Tube - Evaporator	Luvata	875-00088A	UUT1-3
Brazed Plate	WTT	875-00100	UUT1-3
Brazed Plate	WTT	875-3892	UUT1-4
Micro Channel Coil - Evaporator	Danfoss Sanhua	875-3299	UUT2-1
Micro Channel Coil - Evaporator	Danfoss Sanhua	875-3913	UUT2-1
Fin/Tube - Condenser	Luvata	875-0948	UUT2-3
Subcooler - Coaxial	Extek	875-3893	UUT1-4
Fan	Manufacturer	Part #	Testing Status
EC Axial	EBM	490-0079A	UUT1-1
EC Axial	EBM	490-0130	Interpolated
EC Axial	EBM	490-0131	UUT2-1
EC Axial	Dongke	490-0079B	UUT1-3
EC Backward Inclined	EBM	490-0080A	UUT2-4
EC Backward Inclined	EBM	490-0081A	UUT1-2
Pump	Manufacturer	Part #	Testing Status
Condensate Pump	EDC	0N-7166	UUT1-1
Condensate Pump	Hartell	491-0523A	UUT1-2
Condensate Pump	Charles Austen	0N-1167	UUT1-3
Refrigerant Pump	Tark	0N-1010	UUT1-4
Controller	Manufacturer	Part #	Testing Status
Unit Controller	Fornet	640-0817	UUT1-1
Unit Controller	Ellington	640-0879A-Z	UUT1-2
Unit Controller	Ellington	640-2812A-Z	UUT1-4
Unit Controller	APC-MGE	0P2839	UUT2-1
Valve Actuator	Manufacturer	Part #	Testing Status
Electric Valve Actuator - Water Control	Elodrive	491-0521A	UUT1-1
Power Supply	Manufacturer	Part #	Testing Status
DC Rectifier	Delta	920-0082B	UUT1-1
Heater	Manufacturer	Part #	Testing Status
Electric Reheat - 3kW 460V	Zhenjiang Dongfang	101-0091C	UUT2-4
Electric Reheat - 3kW 400V	Zhenjiang Dongfang	101-0092C	Interpolated
Electric Reheat - 3kW 460V	Zhenjiang Dongfang	101-0093C	UUT1-2
Humidifier	Manufacturer	Part #	Testing Status
Steam Canister - 1.5-3kg/hr 230V	Carel	875-9001	UUT2-2
Steam Canister - 1.5-3kg/hr 400V	Carel	875-9002	Interpolated
Steam Canister - 1.5-3kg/hr 460V	Carel	875-9003	UUT2-4
Refrigerant Compressor	Manufacturer	Part #	Testing Status
9400W 208-230V	Danfoss	875-00103	UUT1-3
27570W 200-240V	Danfoss	875-3801	UUT2-2
27570W 380-480V	Danfoss	875-3802	UUT2-4
7900W 200-240V	Danfoss	875-3882	Interpolated
5810-5900W 200-240V	Toshiba	875-3825	UUT2-3
5340-5410W 200-240V	Toshiba	875-3826	Interpolated
Receiver	Manufacturer	Part #	Testing Status
Refrigerant Receiver	Alfa Laval	875-5084	UUT1-4
VFD	Manufacturer	Part #	Testing Status
Compressor Variable Frequency Drive	Danfoss	491-0530B	UUT2-4
Compressor Variable Frequency Drive	Danfoss	491-0531B	UUT2-2

Test Report 58558R11 –UUT1-1

InRow RC Chilled Water Cooling Unit (ACRC103)

18 ga to 14 ga, Cold Rolled Carbon Steel

11.8"W x 42.1"D x 78.4"H, 348 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)
(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.35	1	2.16	1.62	0.90	0.36
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
11.0	5.0	29.0					

Internal Components:

UUT1-1: ACRC103			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Fin / Tube - Evaporator	Luvata	875-0015A
Fan	EC Axial	EBM	490-0079A
Pump	Condensate Pump	EDC	0N-7166
Controller	Unit controller	Fornet	640-0817
Valve Actuator	Electric Valve Actuator - Water Control	Elodrive	491-0521A
Power Supply	DC Rectifier	Delta	920-0082B
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 –UUT1-2

InRow RP Chilled Water Cooling Unit (ACRP500)

18 ga to 14 ga, Cold Rolled Carbon Steel

23.6"W x 42.1"D x 78.4"H, 530 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)
(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.35	1	2.16	1.62	0.90	0.36
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
11.0	5.0	20.0					

Internal Components:

UUT1-2: ACRP500			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Fin / Tube - Evaporator	Luvata	875-0961
Fan	EC Backward Inclined	EBM	490-0081A
Pump	Condensate Pump	Hartell	491-0523A
Controller	Unit Controller	Ellington	640-0879A-Z
Valve Actuator	Electric Valve Actuator - Water Control	Elodrive	491-0521A
Heater	Electric Reheat	Zhenjiang Dongfang	101-0093C
Humidifier	Steam Canister Humidifier	Carel	875-9001
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 – UUT1-3

InRow RD Fluid Cooled Direct Expansion Unit (ACRD200)

18 ga to 14 ga, Cold Rolled Carbon Steel

11.8"W x 42.1"D x 78.4"H, 454 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)
(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{Ds} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.35	1	2.16	1.62	0.90	0.36
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
6.3	5.0	29.0					

Internal Components:

UUT1-3: ACRD200			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Fin / Tube - Evaporator	Luvata	875-00088A
	Brazed Plate	WTT	875-00100
Fan	EC Axial	Dongke	490-0079B
Pump	Condensate Pump	Charles Austen	0N-1167
Controller	Unit controller	Ellington	640-0879A-Z
Valve Actuator	Electric Valve Actuator - Water Control	Elodrive	491-0521A
Power Supply	DC Rectifier	Delta	920-0082B
Compressor	Refrigerant Compressor	Danfoss	875-00103
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 –UUT1-4

InRow Pumped Refrigerant Distribution Unit (ACDA901)

18 ga to 14 ga, Cold Rolled Carbon Steel

29.5"W x 42.1"D x 78.4"H, 1328 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)

(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.35	1	2.16	1.62	0.90	0.36
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
6.3	5.0	15.0					

Internal Components:

UUT1-4: ACDA901			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Brazed Plate	WTT	875-3892
	Subcooler - Coaxial	Extek	875-3893
Pump	Refrigerant Pump	Tark	0N-1010
Controller	Unit Controller	Ellington	640-2812A-Z
Valve Actuator	Electric Valve Actuator - Water Control	Elodrive	491-0521A
Receiver	Refrigerant Receiver	Alfa Laval	875-5084
Power Supply	DC Rectifier	Delta	920-0082B
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 –UUT2-1

InRow RA Pumped Refrigerant Cooling Unit (ACRA101)

18 ga to 14 ga, Cold Rolled Carbon Steel

11.8"W x 42.1"D x 78.4"H, 380 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)

(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.30	1	2.08	1.56	0.87	0.35
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
10.0	4.8	>33.3					

Internal Components:

UUT2-1: ACRA100			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Micro Channel Coil - Evaporator	Danfoss Sanhua	875-3299
			875-3913
Fan	EC Axial	EBM	490-0131
Controller	Unit Controller	APC-MGE	0P2839
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 –UUT2-2

InRow RP DX Air-Cooled Direct Expansion Cooling Unit (ACRP100)

18 ga to 14 ga, Cold Rolled Carbon Steel

23.6"W x 42.1"D x 78.4"H, 868 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)
(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.30	1	2.08	1.56	0.87	0.35
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
10.0	4.8	23.0					

Internal Components:

UUT2-2: ACRP100			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Fin / Tube - Evaporator	Luvata	875-0960
Fan	EC Backward Inclined	EBM	490-0081A
Pump	Condensate Pump	Hartell	491-0523A
Controller	Unit Controller	Ellington	640-0879A-Z
Heater	Electric Reheat	Zhenjiang Dongfang	101-0093C
Humidifier	Steam Canister Humidifier	Carel	875-9001
Compressor	Refrigerant Compressor	Danfoss	875-3801
VFD	Compressor Variable Frequency Drive	Danfoss	491-0531B
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 –UUT2-3

InRow SC Air-Cooled Self Contained Direct Expansion Cooling Unit (ACSC100)

18 ga to 14 ga, Cold Rolled Carbon Steel

11.8"W x 42.1"D x 78.4"H, 374 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)
(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.30	1	2.08	1.56	0.87	0.35
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
8.3	6.6	16.0					

Internal Components:

UUT2-3: ACSC100			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Fin / Tube - Evaporator	Luvata	875-0017
	Fin / Tube - Condenser		875-0948
Fan	EC Axial	Dongke	490-0079B
Pump	Condensate Pump	Charles Austen	0N-1167
Controller	Unit controller	Ellington	640-0879A-Z
Power Supply	DC Rectifier	Delta	920-0082B
Compressor	Refrigerant Compressor	Toshiba	875-3825
Mounting Bracket	Mounting Bracket	APC	AR7701

Test Report 58558R11 –UUT2-4

InRow RP DX Air-Cooled Direct Expansion Cooling Unit (ACRP101)

18 ga to 14 ga, Cold Rolled Carbon Steel

23.6"W x 42.1"D x 78.4"H, 850 lbs

Floor mounted using (6) ½" -13 Grade 5 bolts (mounting bracket to angle on shaker table)
(4) M8 Bolts (mounting bracket to UUT)



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-H} (g)
CBC 2016	ICC-ES AC 156	1.30	1	2.08	1.56	0.87	0.35
Natural Frequencies (Hz)			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
4.2	4.2	8.9					

Internal Components:

UUT2-4: ACRP101			
Sub-Component	Description	Manufacturer	Part #
Heat Exchanger	Fin / Tube - Evaporator	Luvata	875-0960
Fan	EC Backward Inclined	EBM	490-0080A
Pump	Condensate Pump	Hartell	491-0523A
Controller	Unit Controller	Ellington	640-0879A-Z
Heater	Electric Reheat	Zhenjiang Dongfang	101-0091C
Humidifier	Steam Canister Humidifier	Carel	875-9003
Compressor	Refrigerant Compressor	Danfoss	875-3802
VFD (Compressor)	Compressor Variable Frequency Drive	Danfoss	491-0530B
Mounting Bracket	Mounting Bracket	APC	AR7701