



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT**

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

OFFICE USE ONLY

APPLICATION #: OSP-0725

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Johnson Controls, Inc

Manufacturer's Technical Representative: Tony Reardon

Mailing Address: 5005 York Dr., Norman, OK 73069

Telephone: (405) 200-8082 Email: Anthony.J.Reardon@jci.com

Product Information

Product Name: Air Conditioning Units

Product Model Number(s): Johnson Controls Choice 15 to 27.5 Ton

Product Category: Air Handling Units

Product Sub-Category: Air Conditioning Units - Packaged

General Description: Standard efficiency down flow, heat pump down flow, standard efficiency side flow, and high efficiency down flow roof top units

Mounting Description: Rigid or Isolated Curb Mounted at Base

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: Dynamic Certifications Laboratories

Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Parkway #109, Sparks, NV 89431

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

Title: Business Manager





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

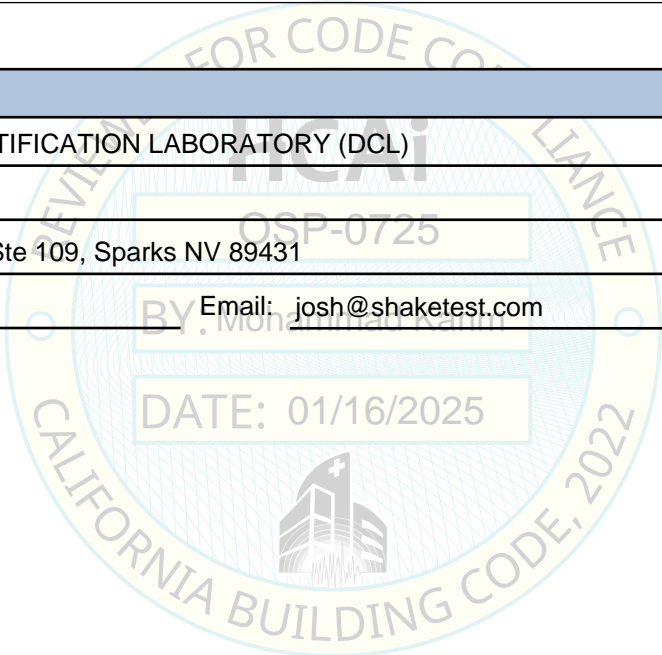
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

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

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)
Contact Person: Josh Sailer
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431
Telephone: (775) 358-5085 Email: josh@shaketest.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.46 (Rigid Curb) & 4.39 (Isolated Curb)

SDS (Design spectral response acceleration at short period, g) = 1.95

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6 (Rigid Curb) & 2 (Isolated Curb)

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

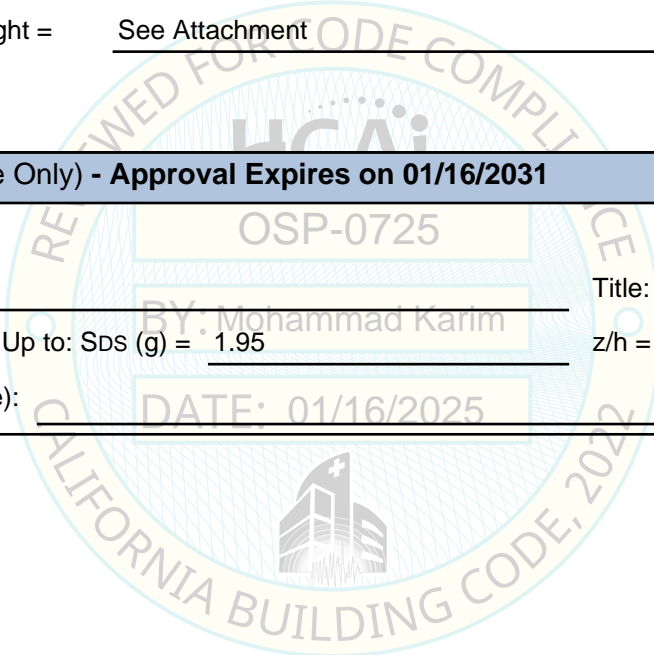
HCAI Approval (For Office Use Only) - Approval Expires on 01/16/2031

Date: 1/16/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 1.95 z/h = 1

Condition of Approval (if applicable): DATE: 01/16/2025



Special Seismic Certification



Table 1 - Certified Components

DCL Project Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Product Construction: Powder Coated Carbon Steel Enclosure

Test Levels: Sds = 1.95g, z/h = 1.0

Model Number ¹	Product Line	Dimensions (in)			Max. Operating Weight (lb)	Nominal Cooling Capacity (Tons)	Tested Heat	Tested Unit Mounting	Unit
		Depth	Width	Height					
AD15E1BV2D1A3T37H1	Standard Efficiency Down Flow	130.0	89.0	52.0	2040	15.0	Electric	Rigid Curb Mount	UUT-01
AD15T3BH8N4LK41A1		131.0	89.0	51.0	2170	15.0	Gas	Rigid Curb Mount	UUT-02
xx18xxxxxxxxxxxx		130.0	88.8	48.6	2300	17.5	N/A	N/A	Interpolated
xx20xxxxxxxxxxxx		143.8	88.8	48.6	2450	20.0	N/A	N/A	Interpolated
xx28xxxxxxxxxxxx		160.0	88.8	56.6	2570	27.5	N/A	N/A	Interpolated
AD28N3DHEA4AAL31A1		160.0	89.0	60.0	2570	27.5	Gas	Isolated Curb Mount	UUT-04
xx25xxxxxxxxxxxx		143.8	88.8	56.6	2900	25.0	N/A	N/A	Interpolated
AD25E3B5ST1K3T47H1		144.0	89.0	58.0	2900	25.0	Electric	Isolated Curb Mount	UUT-03
HV13E2CP5S1A7S31A2	Heat Pump Down Flow	129.3	89.0	49.5	2140	12.5	Electric	Rigid Curb Mount	UUT-05
xx15xxxxxxxxxxxx		143.8	88.8	48.6	2000	15.0	N/A	N/A	Interpolated
xx20xxxxxxxxxxxx		143.8	88.8	56.6	2305	20.0	N/A	N/A	Interpolated
Hx25E3DP4M1CBP37B2		160.3	89.0	57.5	3200	25.0	Electric	Isolated Curb Mount	UUT-06 ²
xx15xxxxxxxxxxxx	Standard Efficiency Side Flow	129.8	88.8	48.6	2035	15.0	N/A	N/A	Interpolated
xx18xxxxxxxxxxxx		143.8	88.8	48.6	2086	17.5	N/A	N/A	Interpolated
xx20xxxxxxxxxxxx		143.8	88.8	56.6	2255	20.0	N/A	N/A	Interpolated
xx25xxxxxxxxxxxx		160.1	88.8	56.6	2516	25.0	N/A	N/A	Interpolated
AW13E2CH5S1A7S64A2	High Efficiency Down Flow	143.8	89.0	57.5	2440	12.5	Electric	Rigid Curb Mount	UUT-07
xx15xxxxxxxxxxxx		143.8	88.8	56.6	2240	15.0	N/A	N/A	Interpolated
xx18xxxxxxxxxxxx		160.1	88.8	56.6	2355	17.5	N/A	N/A	Interpolated
xx20xxxxxxxxxxxx		160.1	88.8	56.6	2420	20.0	N/A	N/A	Interpolated
AW23T3BQBA1CBG32A2		160.3	89.0	57.5	2510	23.0	Gas	Isolated Curb Mount	UUT-08

Note:

- The variable "x" denotes different options as described in the Nomenclature Charts in Tables 2-6.
- UUT-06 was tested with specific side panels removed to match the most seismically vulnerable configuration (side return configuration of the Standard Efficiency Side Flow product line).

Special Seismic Certification



Table 2 - Model Number Nomenclature Chart

DCL Project Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Sample Part Number						
A D 25 N 0 B V 2 A 1 C A A 1 4 A 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16						

Character	Category	Allowable Value	Description	Justification for Interpolation/ Extrapolation	Tested Unit Mounting	Unit
1	Package	A	YORK or JCI AC PACKAGE R410A	N/A	Rigid and Isolated Curb	UUT-01,-02,-03,-04,-07,-08
		H	YORK or JCI HEAT PUMP R410A	N/A	Rigid and Isolated Curb	UUT-05,-06
		K	YORK or JCI AC PACKAGE R454B	Same as UUT-01,-02,-03,-04,-07,-08	N/A	Same as UUT-01,-02,-03,-04,-07,08
		W	YORK or JCI HEAT PUMP R454B	Same as UUT-05,06	N/A	Same as UUT-05,-06
		C	Brand or TempMaster AC PACKAGE R410A	Same as UUT-01,-02,-03,-04,07,08 (branding)	N/A	Same as UUT-01,-02,-03,-04,07,08
		P	Brand or TempMaster HEAT PUMP R410A	Same as UUT-05,06 (branding)	N/A	Same as UUT-05,-06
		L	Brand or TempMaster PACKAGE R454B	Same as UUT-01,-02,-03,-04,-07,-08 (branding)	N/A	Same as UUT-01,-02,-03,-04,07,08
2	Efficiency	M	Brand or TempMaster HEAT PUMP R454B	Same as UUT-05,-06 (branding)	N/A	Same as UUT-05,-06
		V	Standard Efficiency, Vertical, York or TempMaster	N/A	Rigid and Isolated Curb	UUT-05,-06
		D	Standard Efficiency, Vertical, Branded or JCI	N/A	Rigid and Isolated Curb	UUT-01,-02,-03,-04
		H	YORK or TempMaster PACKAGE HORIZONTAL	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04
		S	JCI or Branded PACKAGE HORIZONTAL	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04
		L	YORK or TempMaster Standard "End" Return	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04
		K	JCI or Branded AC, STD Eff, Horizontal End Return	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04
3	Capacity	W	YORK or TempMaster AC, HI Eff, Verical	N/A	Rigid and Isolated Curb	UUT-07,-08
		E	JCI or Branded AC, HI Eff, Verical	Same as UUT-07,-08	N/A	Same as UUT-07,-08
		13	12.5 ton	N/A	Rigid Curb	UUT-05,-07
		15	15 ton	N/A	Rigid Curb	UUT-01,-02
		18	17.5 ton	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		20	20 ton	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		23	23 ton	N/A	Isolated Curb	UUT-08
4	Heat Type	25	25 ton	N/A	Isolated Curb	UUT-03,-06
		28	27.5 ton	N/A	Isolated Curb	UUT-04
		C	Cooling Only	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		T	Natural Gas, Modulating Gas Heat with SS Heat Exchangers	N/A	Rigid and Isolated Curb	UUT-02,-08
		N	Natural Gas, Staged Gas Heat with aluminized Heat Exchangers	N/A	Isolated Curb	UUT-04
5	Heat Size	S	Natural Gas, Staged Gas Heat with SS Heat Exchangers	Depopulated version of UUT-02	N/A	Interpolated
		E	Electric Heat	N/A	Rigid and Isolated Curb	UUT-01,-03,-05,-06,-07
		0	Cooling Only	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		1	Low Heat	N/A	Rigid Curb	UUT-01
		2	Medium Heat	N/A	Rigid Curb	UUT-05,-07
6	Blower	3	High Heat/mod heat	N/A	Rigid and Isolated Curb	UUT-02,-03,-04,-06,-08
		B	Standard	N/A	Rigid and Isolated Curb	UUT-01,-02,-03,-08
		C	Medium	N/A	Rigid Curb	UUT-05,-07
7	Air Volume	D	High	N/A	Isolated Curb	UUT-04,-06
		H	VFD/VAV 4 Stage	N/A	Rigid and Isolated Curb	UUT-02,-04,-07
		K	VFD/VAV with Bypass 4 Stage	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		P	IntelliSpeed 2 Stage	N/A	Rigid and Isolated Curb	UUT-05,-06
		Q	IntelliSpeed 4 Stage	N/A	Isolated Curb	UUT-08
		R	IntelliSpeed with Bypass 2 Stage	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
8	Constant Volume	S	IntelliSpeed with Bypass 4 Stage	N/A	Isolated Curb	UUT-03
		V	Constant Volume	N/A	Rigid Curb	UUT-01

Special Seismic Certification



Table 3 - Model Number Nomenclature Chart

DCL Project Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Sample Part Number

A	D	25	N	0	B	V	2	A	1	C	A	A	1	4	A
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Character	Category	Allowable Value	Description	Justification for Interpolation/ Extrapolation	Tested Unit Mounting	Unit
8	Voltage	2	208/230-3-60	N/A	Rigid Curb	UUT-01
		4	460-3-60	N/A	Isolated Curb	UUT-06
		5	575-3-60	N/A	Isolated Curb	UUT-03
		B	208/230-3-60 HIGH SCCR	N/A	Rigid and Isolated Curb	UUT-02,-08
		D	460-3-60 HIGH SCCR	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		E	575-3-60 HIGH SCCR	N/A	Rigid and Isolated Curb	UUT-04,-05,-07
9	Outdoor Air	A	No Economiser	N/A	Isolated Curb	UUT-04,-08
		B	Manual Damper	Depopulated version of UUT-01,-04	N/A	Extrapolated
		C	Motorized damper	Depopulated version of UUT-01	N/A	Extrapolated
		D	Motorized damper with barometric relief (baro)	N/A	Rigid Curb	UUT-01
		E	Economiser with Barometric Relief	Depopulated version of UUT-01,-02	N/A	Extrapolated
		F	Economiser with Modulating Power Exhaust	Depopulated version of UUT-01,-02	N/A	Extrapolated
		G	Economiser with Power Exhaust	Depopulated version of UUT-01,-02	N/A	Extrapolated
		H	Economiser BAS with Barometric Relief	Depopulated version of UUT-01,-02	N/A	Extrapolated
		J	Economiser BAS with Modulating Power Exhaust	Depopulated version of UUT-01,-02	N/A	Extrapolated
		K	Economiser BAS with Power Exhaust	Depopulated version of UUT-01,-02	N/A	Extrapolated
		L	Economiser with Barometric Relief, Single Enthalpy	Depopulated version of UUT-01,-02	N/A	Extrapolated
		M	Economiser with Modulating Power Exhaust, Single Enthalpy	N/A	Isolated Curb	UUT-06
		N	Economiser with Power Exhaust, Single Enthalpy	N/A	Rigid Curb	UUT-02
		S	Economiser with Barometric Relief, Dual Enthalpy	N/A	Rigid Curb	UUT-05,-07
		T	Economiser with Modulating Power Exhaust, Dual Enthalpy	N/A	Isolated Curb	UUT-03
		U	Economiser with Power Exhaust, Dual Enthalpy	Depopulated version of UUT-02,-03	N/A	Extrapolated
		1	Economizer Horizontal only	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04
		2	Economizer BAS Horizontal only	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04
3	Economizer single enth horizontal only	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04		
4	Economizer dual enth horizontal only	Same as UUT-01,-02,-03,-04	N/A	Same as UUT-01,-02,-03,-04		
10	Coils	1	Standard Condenser and Evaporator Coil	N/A	Rigid and Isolated Curb	UUT-01,-03,-05,-06,-07,-08
		2	Standard Condenser and ElectroFin Evaporator Coil	N/A	N/A	Interpolated
		3	ElectroFin Condenser & Standard EVAP Coil	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		4	ElectroFin Condenser & ElectroFin Evap Coil	N/A	Rigid and Isolated Curb	UUT-02,-04
		5	5 = STD COND & EVAP COIL W/SEIS	Bookended by UUT-01,-02,-03,-04,05,06,07,08	N/A	Interpolated
		6	6 = STD COND & EF EVAP COIL W/SEIS	Bookended by UUT-01,-02,-03,-04,05,06,07,08	N/A	Interpolated
		7	7 = EF COND & STD EVAP COIL W/SEIS	Bookended by UUT-01,-02,-03,-04,05,06,07,08	N/A	Interpolated
		8	8 = EF COND & EVAP COIL W/SEIS	Bookended by UUT-01,-02,-03,-04,05,06,07,08	N/A	Interpolated
11	Controls	A	Smart Equipment Controls	N/A	Rigid and Isolated Curb	UUT-01,-04,-05,-07
		C	Smart Equipment with COM	N/A	Isolated Curb	UUT-06,-08
		J	VERASYS SINGLE ZONE	Depopulated version of UUT-01,-02,-03,-04	N/A	Interpolated
		K	VERASYS Change over Bypass	N/A	Isolated Curb	UUT-03
		L	VERASYS VAV	N/A	Rigid Curb	UUT-02

Special Seismic Certification



Table 4 - Model Number Nomenclature Chart (Continued)

DCL Project Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Sample Part Number

A D 25 N 0 B V 2 A 1 C A A 1 4 A
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Character	Category	Allowable Value	Description	Justification for Interpolation/ Extrapolation	Tested Unit Mounting	Unit
12	Sensors	A	NO SENSORS	N/A	Isolated Curb	UUT-04
		B	AIR PROVING SWITCH (APS)	N/A	Isolated Curb	UUT-06,UUT-08
		C	DIRTY FILTER SWITCH (DFS)	Bookended by UUT-01,-03,-04	N/A	Interpolated
		D	SUPPLY AIR SMOKE DETECT (SSD)	Bookended by UUT-01,-03,-04	N/A	Interpolated
		E	RETURN AIR SMOKE DETECT (RSD)	Bookended by UUT-01,-03,-04	N/A	Interpolated
		F	CO2 SENSOR (CO2)	Bookended by UUT-01,-03,-04	N/A	Interpolated
		G	APS, DFS	Bookended by UUT-01,-03,-04	N/A	Interpolated
		H	APS, SSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		J	APS, RSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		K	APS, CO2	N/A	Rigid Curb	UUT-02
		L	DFS, SSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		M	DFS, RSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		N	DFS, CO2	Bookended by UUT-01,-02,-03	N/A	Interpolated
		P	SSD, RSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		Q	SSD, CO2	Bookended by UUT-01,-02,-03	N/A	Interpolated
		R	RSD, CO2	Bookended by UUT-01,-02,-03	N/A	Interpolated
		S	APS, DFS, SSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		T	APS, DFS, RSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		U	APS, DFS, CO2	Bookended by UUT-01,-03,-04	N/A	Interpolated
		V	APS, SSD, RSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		W	APS, SSD, CO2	Bookended by UUT-01,-03,-04	N/A	Interpolated
		X	APS, RSD, CO2	Bookended by UUT-01,-03,-04	N/A	Interpolated
		Y	DFS, SSD, RSD	Bookended by UUT-01,-03,-04	N/A	Interpolated
		Z	DFS, SSD, CO2	Bookended by UUT-01,-03,-04	N/A	Interpolated
		1	DFS, RSD, CO2	Bookended by UUT-01,-03,-04	N/A	Interpolated
		2	SSD, RSD, CO2	Bookended by UUT-01,-03,-04	N/A	Interpolated
		3	APS, DFS, SSD, RSD	N/A	Rigid and Isolated Curb	UUT-01,-03
		4	APS, DFS, SSD, CO2	Bookended by UUT-01,-03	N/A	Interpolated
5	APS, DFS, RSD, CO2	Bookended by UUT-01,-03	N/A	Interpolated		
6	APS, SSD, RSD, CO2	Bookended by UUT-01,-03	N/A	Interpolated		
7	DFS, SSD, RSD, CO2	N/A	Rigid Curb	UUT-05,-07		
8	APS, DFS, SSD, RSD, CO2	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated		
13	Service Options	A	No Service Options	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		B	Phase Monitor (PHM)	Bookended by UUT-01,-03	N/A	Interpolated
		C	Non-Power Convenience Outlet (NCO)	Bookended by UUT-02,-04	N/A	Interpolated
		D	Circuit Breaker (CB)	Bookended by UUT-02,-04	N/A	Interpolated
		E	Disconnect Switch (DSC)	Bookended by UUT-01,-03	N/A	Interpolated
		F	Powered Convenience Outlet (PCO)	Bookended by UUT-01,-03	N/A	Interpolated
		G	PHM, CB	N/A	Isolated Curb	UUT-08
		H	PHM, DSC	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		J	PHM, NCO	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		K	PHM, PCO	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		L	CB, NCO	N/A	Rigid and Isolated Curb	UUT-02,-04

Special Seismic Certification



Table 5 - Model Number Nomenclature Chart (Continued)

DCL Project Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Lines: Choice (Midast) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Sample Part Number

A D 25 N 0 B V 2 A 1 C A A 1 4 A
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Character	Category	Allowable Value	Description	Justification for Interpolation/ Extrapolation	Tested Unit Mounting	Unit
13	Service Options	M	CB, PCO	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		N	DSC, NCO	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		P	DSC, PCO	N/A	Isolated Curb	UUT-06
		Q	PHM, CB, NCO	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		R	PHM, CB, PCO	Bookended by UUT-01,-02,-03,-04	N/A	Interpolated
		S	PHM, DSC, NCO	N/A	Rigid Curb	UUT-05,-07
		T	PHM, DSC, PCO	N/A	Rigid and Isolated Curb	UUT-01,-03
14	Refrigeration	1	STANDARD	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		3	Low Ambient Head Pressure Control (HPC)	N/A	Rigid and Isolated Curb	UUT-01,-04,-05,-06,-08
		4	Modulating Hot Gas Reheat (HGR)	N/A	Rigid and Isolated Curb	UUT-02,-03
		6	HPC, HGR	N/A	Rigid Curb	UUT-07
		8	Refrigerant Detection System (RDS)	A2L sensor tested in UUT-06	N/A	Interpolated
		L	HGR, RDS	A2L sensor tested in UUT-06	N/A	Interpolated
		N	HPC, HGR, RDS (Only High Efficiency Models)	A2L sensor tested in UUT-06	N/A	Interpolated
15	Additional Options	1	Standard Throwaway Filter	N/A	Rigid and Isolated Curb	UUT-02,-04
		2	2" Pleated Filter MERV 8	N/A	Isolated Curb	UUT-08
		4	4" Pleated Filter MERV 13	N/A	Rigid Curb	UUT-05,-07
		5	Standard Filter, Coil Guard (CG)	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		6	2" Pleated, CG	Depopulated version of UUT-01,-02,-03,-04	N/A	Extrapolated
		7	4" Pleated, CG	N/A	Rigid and Isolated Curb	UUT-01,-03,-06
		8	2" PLEATED MERV 13, COIL GUARD	Bookended by UUT-05,-07	N/A	Interpolated
		A	Autozone	Bookended by UUT-05,-07	N/A	Interpolated
		K	Kohl's	Bookended by UUT-05,-07	N/A	Interpolated
		G	Target(MERV 8, CG, ALC)	Bookended by UUT-08	N/A	Interpolated
		T	Target(MERV 8, ALC)	Bookended by UUT-08	N/A	Interpolated
		N	Target(MERV 13, ALC)	Bookended by UUT-05,-07	N/A	Interpolated
		L	Target(MERV 13, CG, ALC)	Bookended by UUT-05,-07	N/A	Interpolated
		M	TARGET (2" MERV 13, ALC)*	Bookended by UUT-05,-07	N/A	Interpolated
P	TARGET (2" MERV 13, CG, ALC)*	Bookended by UUT-05,-07	N/A	Interpolated		
16	Cabinet Options	A	Standard Cabinet	N/A	Rigid and Isolated Curb	UUT-02,-04,-05,-07,-08
		B	Hinged Access Panel (HAP)	N/A	Isolated Curb	UUT-06
		C	Stainless Steel Drain Pan (SSD)	Depopulated version of UUT-01,-02,-03,-04,-05,-06,-07	N/A	Extrapolated
		D	Condensate Overflow Switch (COF)	Depopulated version of UUT-01,-02,-03,-04,-05,-06,-08	N/A	Extrapolated
		E	HAP, SSD	Depopulated version of UUT-01,-02,-03,-04,-05,-06,-07	N/A	Extrapolated
		F	HAP, COF	Depopulated version of UUT-01,-02,-03,-04,-05,-06,-08	N/A	Extrapolated
		G	SSD, COF	Depopulated version of UUT-01,-02,-03,-04,-05,-06,-08	N/A	Extrapolated
		H	HAP, SSD, COF	N/A	Rigid and Isolated Curb	UUT-01,-03

Special Seismic Certification



Table 6 - Certified Subcomponents - Refrigerant Compressors

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Refrigerant Compressor							
Model Number	Manufacturer	Material	Weight (lb)	Tested Unit Mounting	Unit		
HLI075T2LC6	DANFOSS	Carbon Steel	88	N/A	Extrapolated		
HLI075T4LC6			88	N/A	Extrapolated		
HLI075T7LC6			88	Rigid Curb Mount	UUT-05		
HLI083T2LC6			91	Rigid Curb Mount	UUT-01		
HLI083T4LC6			91	N/A	Interpolated		
HLI083T7LC6			91	N/A	Interpolated		
DSH90A3ALA			131	N/A	Interpolated		
DSH90A4ALB			131	N/A	Interpolated		
DSH90A7ALA			131	N/A	Interpolated		
DSH105A3ALA			147	N/A	Interpolated		
DSH105A4ALB			147	N/A	Interpolated		
DSH105A7ALA			147	N/A	Interpolated		
DSH120A3ALA			148	N/A	Interpolated		
DSH120A4ALB			148	N/A	Interpolated		
DSH120A7ALA			148	N/A	Interpolated		
DSH140A3ALA			148	N/A	Interpolated		
DSH140A4ALB			148	N/A	Interpolated		
DSH140A7ALA			148	N/A	Interpolated		
ZP83KCE-TF5			COPELAND	Carbon Steel	87	N/A	Extrapolated
ZP83KCE-TFD					87	N/A	Extrapolated
YAV0661E-5E9	88	N/A			Extrapolated		
YAV0661E-7E9	88	N/A			Extrapolated		
ZP67KCE-TF5	88	N/A			Extrapolated		
ZP67KCE-TFD	88	N/A			Extrapolated		
ZP67KCE-TFE	88	Rigid Curb Mount			UUT-05		
ZP83KCE-TFE	88	N/A			Interpolated		
ZPV0662E-5E9	88	N/A			Interpolated		
ZPV0662E-7E9	88	Rigid Curb Mount			UUT-07		
YA67K1E-TF5	89	N/A			Interpolated		
YA67K1E-TFD	89	N/A			Interpolated		
YA67K1E-TFE	89	N/A			Interpolated		
YAS67K1E-TF5	90	N/A			Interpolated		
YAS67K1E-TFD	90	N/A			Interpolated		
YAS67K1E-TFE	90	N/A			Interpolated		
YAS83K1E-TF5	91	N/A			Interpolated		
YAS83K1E-TFD	91	N/A			Interpolated		
YAS83K1E-TFE	91	N/A			Interpolated		
ZPS83KCE-TFE	91	N/A			Interpolated		
ZPS83KCE-TF5	91	N/A			Interpolated		
ZPS83KCE-TFD	91	Rigid Curb Mount			UUT-02		
ZPS91KCE-TF5	91	N/A			Interpolated		
ZPS91KCE-TFD	91	N/A			Interpolated		
ZPS91KCE-TFE	91	N/A			Interpolated		
ZP91KCE-TFD	91	N/A			Interpolated		
ZP91KCE-TF5	91	N/A			Interpolated		
ZP91KCE-TFE	91	N/A			Interpolated		
ZP91KZE-TFE	91	N/A			Interpolated		
ZP91KZE-TFD	92	N/A			Interpolated		
ZPS67KCE-TF5	92	N/A			Interpolated		
ZPS67KCE-TFD	92	N/A			Interpolated		
ZPS67KCE-TFE	90	Rigid Curb Mount			UUT-07		
YA76K1E-TF5	93	N/A			Interpolated		
YA76K1E-TFD	93	N/A			Interpolated		
YA76K1E-TFE	93	N/A			Interpolated		
YA83K1E-TF5	93	N/A			Interpolated		
YA83K1E-TFD	93	N/A			Interpolated		
YA83K1E-TFE	93	N/A			Interpolated		

Table Continued on Next Page

Special Seismic Certification



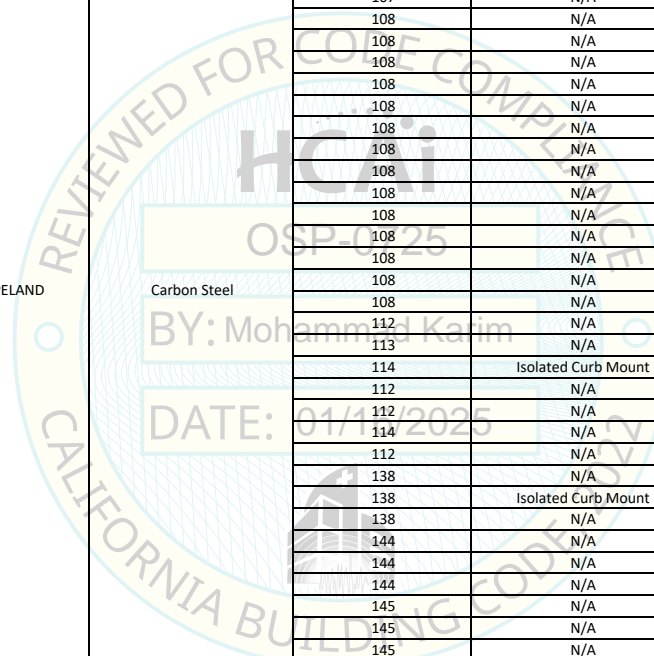
Table 7 - Certified Subcomponents- Refrigerant Compressors (Continued)

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Refrigerant Compressor					
Model Number	Manufacturer	Material	Weight (lb)	Tested Unit Mounting	Unit
YAS91K1E-TF5	COPELAND	Carbon Steel	93	N/A	Interpolated
YAS91K1E-TFD			93	N/A	Interpolated
YAS91K1E-TFE			93	N/A	Interpolated
ZP83KZE-TF5			93	N/A	Interpolated
ZP83KZE-TFD			93	N/A	Interpolated
ZP83KZE-TFE			93	N/A	Interpolated
YA91K1E-TF5			95	N/A	Interpolated
YA91K1E-TFD			95	N/A	Interpolated
YA91K1E-TFE			95	N/A	Interpolated
YAV0961E-5E9			96	N/A	Interpolated
YAV0961E-7E9			96	N/A	Interpolated
ZPV0962E-5E9			96	Isolated Curb Mount	UUT-08
ZPV0962E-7E9			96	N/A	Interpolated
YAS104K1E-TF5			107	N/A	Interpolated
YAS104K1E-TFD			107	N/A	Interpolated
YAS104K1E-TFE			107	N/A	Interpolated
ZP104KCE-TF5			108	N/A	Interpolated
ZP104KCE-TFD			108	N/A	Interpolated
ZP104KCE-TFE			108	N/A	Interpolated
ZP122KCE-TF5			108	N/A	Interpolated
ZP122KCE-TFD			108	N/A	Interpolated
ZP122KCE-TFE			108	N/A	Interpolated
ZPS104KCE-TF5			108	N/A	Interpolated
ZPS104KCE-TFD			108	N/A	Interpolated
YA104K1E-TFE			108	N/A	Interpolated
YA122K1E-TFE			108	N/A	Interpolated
YA122K1E-TF5			108	N/A	Interpolated
ZPS104KCE-TFE			108	N/A	Interpolated
ZP104KZE-TFE			108	N/A	Interpolated
ZP122KZE-TFE			108	N/A	Interpolated
YA104K1E-TF5			112	N/A	Interpolated
YA104K1E-TFD			113	N/A	Interpolated
ZP104KZE-TF5			114	Isolated Curb Mount	UUT-08
ZP104KZE-TFD			112	N/A	Interpolated
YA122K1E-TFD			112	N/A	Interpolated
ZP122KZE-TF5			114	N/A	Interpolated
ZP122KZE-TFD			112	N/A	Interpolated
ZP137KCE-TF5			138	N/A	Interpolated
ZP137KCE-TFD			138	Isolated Curb Mount	UUT-06
ZP137KCE-TFE			138	N/A	Interpolated
ZP154KCE-TE5			144	N/A	Interpolated
ZP154KCE-TED			144	N/A	Interpolated
ZP154KCE-TEE			144	N/A	Interpolated
YA137K1E-TF5			145	N/A	Interpolated
YA137K1E-TFD			145	N/A	Interpolated
YA137K1E-TFE			145	N/A	Interpolated
YAT134K1E-TF5			189	N/A	Interpolated
YAT134K1E-TFD			189	N/A	Interpolated
YAT134K1E-TFE			189	N/A	Interpolated
YAT152K1E-TF5			189	N/A	Interpolated
YAT152K1E-TFD			189	N/A	Interpolated
YAT152K1E-TFE			189	N/A	Interpolated
ZPT134KCE-TF5			200	N/A	Interpolated
ZPT134KCE-TFD			200	N/A	Interpolated
ZPT134KCE-TFE			200	N/A	Interpolated
ZPT152KCE-TF5			200	N/A	Interpolated
ZPT152KCE-TFD			200	N/A	Interpolated
ZPT152KCE-TFE			200	Isolated Curb Mount	UUT-04



Special Seismic Certification



Table 8 - Certified Subcomponents - Blowers, Blower Motors, Outdoor Motors and Misc

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Blowers									
Model Number	Manufacturer	Size	Material	Weight (lb)	Tested Unit Mounting	Unit			
0595400001CHT	LAU	12 x12	Rolled Carbon Steel,	109	Rigid Curb Mount	UUT-05,-07			
0594720001CHT		15 x15	Cast Iron	134	Rigid and Isolated Curb Mount	UUT-01,-02,-03,-04,-06,-08			
Blower Motors									
Model Number	Manufacturer	Voltage (V)	Power (HP)	Material	Tested Unit Mounting	Weight (lb)	Unit		
5K49TN4851Z	REGAL BELOIT-MARATHON	230	2	Rolled Carbon Steel, Cast Iron	Rigid Curb Mount	38	UUT-01		
5K49TN4856Z		575	2		N/A	38	Interpolated		
056T17ORR40003A1		208-230/460	2		N/A	38	Interpolated		
056T17ORR40004A1		575	2		N/A	38	Interpolated		
5K49WN4852Z		460	3		N/A	44	Interpolated		
5K49WN4857Z		575	3		N/A	44	Interpolated		
056T17ORR40005A1		208-230/460	3		N/A	44	Interpolated		
056T17ORR40006A1		575	3		N/A	44	Interpolated		
5K49QN4853Z		208-460	5		N/A	54	Interpolated		
5K49QN4858Z		575	5		N/A	54	Interpolated		
056T17ORR40007A1		208-230/460	5		N/A	54	Interpolated		
145T17ORR40001A1		575	5		N/A	54	Interpolated		
213TTDBD6427		230/460	7.5		N/A	133	Interpolated		
213TTDBD16427		575	7.5		N/A	133	Interpolated		
215TTDBD6427		230/460	10		Isolated Curb Mount	144	UUT-06		
215TTDBD16427		575	10		N/A	143	Interpolated		
215TTDBD6029		230/460	12		N/A	161	Interpolated		
215TTDBD16029		575	12		Isolated Curb Mount	161	UUT-04		
35E3753N700G1		BALDOR	208-460		2.9	Rolled Carbon Steel, Cast Iron	Rigid Curb Mount	49	UUT-02
35E3753N598G1			575		2.9		N/A	49	Interpolated
36Q222R428G1	208-460		3.7	N/A	68		Interpolated		
36Q222T160G1	575		3.7	Rigid Curb Mount	68		UUT-05,-07		
36P249T139G1	208-460		5.25	Isolated Curb Mount	82		UUT-08		
36P249T160G1	575		5.25	Isolated Curb Mount	82		UUT-03		
Outdoor Motors									
Model Number	Manufacturer	Voltage (V)	Power (HP)	Material	Tested Unit Mounting	Weight (lb)	Unit		
55GH39FST1028	REGAL-BELOIT/GENTEQ	460	0.5	Rolled Carbon Steel, Cast Iron	N/A	10	Extrapolated		
55ME39NSHF473		240	0.5		Rigid and Isolated Curb Mount	12	UUT-07,-08		
5KCP39MGLB50S		208-230	0.5		N/A	18	Interpolated		
5KCP39MGWC22S		460	0.5		N/A	18	Interpolated		
5KCP39MGWC06S		575	0.5		N/A	18	Interpolated		
5KCP39PFBD52BS		208-230	0.5		Rigid Curb Mount	18	UUT-01,-02		
5KCP39PFBD74S		460	0.5		Isolated Curb Mount	18	UUT-06		
5KCP39PFBD75S		575	0.5		Rigid and Isolated Curb Mount	18	UUT-04,-05		
Miscellaneous									
Model Number	Manufacturer	Description	Material	Tested Unit Mounting	Weight (lb)	Unit			
JJL36250	SQUARE D	CIRCUIT BREAKER 250.0A 600V 3POLE	Plastic, Copper	Isolated Curb Mount	5	UUT-03,-08			
HGL36000515	SCHNEIDER ELECTRIC	CIRCUIT BREAKER 150.0A 600V 3POLE	Plastic, Copper	Rigid and Isolated Curb Mount	4	UUT-01,-03,-06,-07,-05			
HJL36150		CIRCUIT BREAKER 150.0A 600V 3POLE		Rigid and Isolated Curb Mount	4	UUT-02,-04			
JGL36000525		CIRCUIT BREAKER 250.0A 600V 3POLE		Isolated Curb Mount	5	UUT-08			
S29338		SCHNEIDER ELECTRIC		HANDLE ROTARY	Plastic	Rigid and Isolated Curb Mount	4	UUT-01,-02,-03,-04,-07,-08	
SHF-35A-57	SANHUA	VALVE, REVERSING,(11.7 FOR R 410A)	Copper, Brass	Rigid Curb Mount	3	UUT-05			
SHF-35A-79		VALVE, REVERSING, HARNESS,(11.7 FOR R 410A)		N/A	3	Interpolated			
SHF-50-711		VALVE, REVERSING,(14.2 - 20.0)		Isolated Curb Mount	5	UUT-06			
VPA58177SRD	PARKER HANNIFIN	Accumulator 5.500l CS D=127mm L=438.00mm	Carbon Steel	Rigid Curb Mount	10	UUT-05			
VA6119SRD		Accumulator 6.151l CS D=152mm L=387.00mm	Carbon Steel	Rigid Curb Mount	12	UUT-05			
QFQ-Y1165-S001-00	DUNAN	Accumulator 8.100l CS D=165mm 24.8bar	Carbon Steel	Isolated Curb Mount	14	UUT-06			
DCL 305S	SPORLAN	Assy Drier DN/18/ 5/8in Non rech	Steel-Copper Plated	Isolated Curb Mount	3	UUT-08			
DCB 164S	DANFOSS	TWO WAY FILTER DRIER	Carbon Steel	Rigid Curb Mount	2	UUT-05			
DCB-305S		TWO WAY FILTER DRIER	Carbon Steel	Isolated Curb Mount	4	UUT-06			
073G2003r00		DANFOSS	A2L R454b Sensor	Plastic	Isolated Curb Mount	<1	UUT-06		

Special Seismic Certification



Table 9 - Certified Subcomponent Matrix - Condenser Coils and Evaporator Coils

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Condenser Coils									
Model Number	Manufacturer	Description	Dimensions (total ft^2)	Material	Weight (lb)	Tested Unit Mounting	Unit		
X005-JC322	SANHUA	CONDENSER COIL, MICROCHANNEL,20MM X 44 X 72.01	22	Aluminum Alloy	41	Rigid Curb Mount	UUT-01,-02		
X011-JC234		CONDENSER COIL, MICROCHANNEL,25MM X 44 X 72.01	22		48	N/A	Interpolated		
X010-JC244		CONDENSER COIL, MICROCHANNEL,25MM X 44 X 82.01	25		55	N/A	Interpolated		
X004-JC284		CONDENSER COIL, MICROCHANNEL,25MM X 51.9 X 85.3	31		66	Rigid and Isolated Curb Mount	UUT-03,-07		
X004-JC285		CONDENSER COIL, MICROCHANNEL,25MM X 51.9 X 98.3	35		77	Isolated Curb Mount	UUT-04,-08		
6196353	JCI YORK	SB,RTPF COND COIL ASM, HV13,S1	23	Aluminum, Carbon Steel, Copper	82	Rigid Curb Mount	UUT-05		
6094472		SB,RTPF COND COIL ASM, HV13,S1,EF	23		82	N/A	Interpolated		
6196355		SB,RTPF COND COIL ASM, HV13,S2	23		82	Rigid Curb Mount	UUT-05		
6196339		SB,RTPF COND COIL ASM, HV13,S2,EF	23		82	N/A	Interpolated		
6196357		SB,RTPF COND COIL ASM, HV15,S1	29		103	N/A	Interpolated		
6196345		SB,RTPF COND COIL ASM, HV15,S1,EF	29		103	N/A	Interpolated		
6196359		SB,RTPF COND COIL ASM, HV15,S2	29		103	N/A	Interpolated		
6196351		SB,RTPF COND COIL ASM, HV15,S2,EF	29		103	N/A	Interpolated		
6196366		SB,RTPF COND COIL ASM, HV20,S1	35		122	N/A	Interpolated		
6196375		SB,RTPF COND COIL ASM, HV20,S1,EF	35		122	N/A	Interpolated		
6196373		SB,RTPF COND COIL ASM, HV20,S2	35		122	N/A	Interpolated		
6196377		SB,RTPF COND COIL ASM, HV20,S2,EF	35		122	N/A	Interpolated		
6038551		SB,RTPF COND COIL ASM, HV25,S1	40		141	Isolated Curb Mount	UUT-06		
6094447		SB,RTPF COND COIL ASM, HV25,S1,EF	40		141	N/A	Interpolated		
6094448		SB,RTPF COND COIL ASM, HV25,S2,EF	40		141	N/A	Interpolated		
6038552		SB,RTPF COND COIL ASM, HV25,S2	40		141	Isolated Curb Mount	UUT-06		
Evaporator Coils									
Model Number		Manufacturer	Description ¹		Dimensions (total ft^2)	Material	Weight (lb)	Tested Unit Mounting	Unit
5747066	JCI	SB,EVAP COIL ASM,AV15	22	Aluminum, Carbon Steel, Copper	136	Rigid Curb Mount	UUT-01		
5747071		SB,EVAP COIL ASM & TXV,AV15,EF	22		136	Rigid Curb Mount	UUT-02		
5747067		SB,EVAP COIL ASM,AV18	22		182	N/A	Interpolated		
5747068		SB,EVAP COIL ASM,AV20	22		182	N/A	Interpolated		
5747072		SB,EVAP COIL ASM & TXV,AV18,EF	22		182	N/A	Interpolated		
5747073		SB,EVAP COIL ASM & TXV,AV20,EF	22		182	N/A	Interpolated		
6051825		SB,EVAP COIL ASM, AH/AL15 SF	22		182	N/A	Interpolated		
6051887		SB,EVAP COIL ASM, AH/AL15,SF EF	22		182	N/A	Interpolated		
5995824		SB,EVAP COIL ASM, HV13	22		184	Rigid Curb Mount	UUT-05		
5995851		SB,EVAP COIL ASM & TXV,HV13, EF	22		184	N/A	Interpolated		
5995825		SB,EVAP COIL ASM, HV15	22		184	N/A	Interpolated		
5995852		SB,EVAP COIL ASM & TXV,HV15, EF	22		184	N/A	Interpolated		
5747069		SB,EVAP COIL ASM,AV25	26		215	Isolated Curb Mount	UUT-03		
5747070		SB,EVAP COIL ASM,AV28	26		215	N/A	Interpolated		
5747074		SB,EVAP COIL ASM & TXV,AV25,EF	26		215	N/A	Interpolated		
5747075		SB,EVAP COIL ASM & TXV,AV28,EF	26		215	Isolated Curb Mount	UUT-04		
6051839		SB,EVAP COIL ASM, AH/AL20 SF	26		215	N/A	Interpolated		
6051889		SB,EVAP COIL ASM, AH/AL20,SF EF	26		215	N/A	Interpolated		
6051841		SB,EVAP COIL ASM,AH/AL25 SF	26		215	N/A	Interpolated		
6051890		SB,EVAP COIL ASM,AH/AL25,SF EF	26		215	N/A	Interpolated		
5964318		SB,EVAP COIL ASM,AW13	26		215	Rigid Curb Mount	UUT-07		
5964362		SB,EVAP COIL ASM & TXV,AW13,EF	26		215	N/A	Interpolated		
5964315		SB,EVAP COIL ASM,AW15	26		215	N/A	Interpolated		
5964371		SB,EVAP COIL ASM & TXV,AW15,EF	26		215	N/A	Interpolated		
5964314		SB,EVAP COIL ASM,AW18	26		215	N/A	Interpolated		
5964374		SB,EVAP COIL ASM & TXV,AW18,EF	26		215	N/A	Interpolated		
5964311		SB,EVAP COIL ASM,AW20	26		215	N/A	Interpolated		
5964377		SB,EVAP COIL ASM & TXV,AW20,EF	26		215	N/A	Interpolated		
5964309		SB,EVAP COIL ASM,AW23	26		215	Isolated Curb Mount	UUT-08		
5964380		SB,EVAP COIL ASM & TXV,AW23,EF	26		215	N/A	Interpolated		
5995826		SB,EVAP COIL ASM, HV20	26		217	N/A	Interpolated		
5995853		SB,EVAP COIL ASM & TXV,HV20, EF	26		217	N/A	Interpolated		
6094439		SB,EVAP COIL ASM & TXV,HV25, EF	26		217	N/A	Interpolated		
6038513		SB,EVAP COIL ASM, HV25	26		217	Isolated Curb Mount	UUT-06		

1. EF stands for Electrofin

Special Seismic Certification



Table 10 - Certified Subcomponents - Hot Gas Reheat Coils, Service Valves and VFDs

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Hot Gas Reheat Coils									
Model Number	Manufacturer	Description	Dimensions (total ft^2)	Material	Weight (lb)	Tested Unit Mounting	Unit		
X004-JC337-4	SANHUA	MICROCHANNEL HOT GAS REHEAT COILS	12	Aluminum	24	Rigid Curb Mount	UUT-02		
X003-JC337-1		MICROCHANNEL HOT GAS REHEAT COILS	15		31	Rigid and Isolated Curb Mount	UUT-03,-07		
Service Valves									
Model Number	Manufacturer	Description	Material		Weight (lb)	Tested Unit Mounting	Unit		
A17937	MUELLER	VALVE MAGNETIC CHECK 5/8" MAX 700PSI	Brass, Copper		1	Rigid and Isolated Curb Mount	UUT-02,-06,-07		
A17936		VALVE MAGNETIC CHECK 1/2" MAX 700PSI			1	Rigid and Isolated Curb Mount	UUT-02,-03,-05,-07		
E55130-HP	SPORLAN	VALVE, SOLENOID, 2-WAY 24V			2	Rigid and Isolated Curb Mount	UUT-02,-03,-07		
MTW-9 183907		VALVE, HOT GAS REHEAT 12V			2	Rigid and Isolated Curb Mount	UUT-03,-07		
Variable Frequency Drives									
Model Number	Manufacturer	Description	Material	Weight (lb)	Tested Unit Mounting	Unit			
VFD11AMS23ANSAA	DELTA	VFD 3.0 HP 200-240V /3 /60	Plastic, Electronics	10	Rigid Curb Mount	UUT-02			
VFD5A5MS43ANSAA		VFD 3.0 HP 380-480V /3 /60		10	N/A	Interpolated			
VFD4A2MS53ANSAA		VFD 3 HP 575V/3/60		10	Rigid Curb Mount	UUT-07,-05			
VFD17AMS23ANSAA		VFD 5.0 HP 200-240V /3 /60		10	Isolated Curb Mount	UUT-08			
VFD9A0MS43ANSAA		VFD 5.0 HP 380-480V /3 /60		10	N/A	Interpolated			
VFD6A6MS53ANSAA		VFD 5.0 HP 575V /3 /60		10	Isolated Curb Mount	UUT-03			
VFD25AMS23ANSAA		VFD 7.5 HP 200-240V /3 /60		15	N/A	Interpolated			
VFD13AMS43ANSAA		VFD 7.5 HP 380-480V /3 /60		15	N/A	Interpolated			
VFD9A9MS53ANSAA		VFD 7.5 HP 575V /3 /60		15	N/A	Interpolated			
VFD33AMS23ANSAA		VFD 10.0 HP 200-240V /3 /60		20	N/A	Interpolated			
VFD17AMS43ANSAA		VFD 10.0 HP 380-480V /3 /60		20	Isolated Curb Mount	UUT-06			
VFD12AMS53ANSAA		VFD 10.0 HP 575V /3 /60		20	Isolated Curb Mount	UUT-04			
P266ACA-500C		JOHNSON CONTROLS		SINGLE-PHASE CONDENSER FAN SPEED CONTROL 208V/240V-1-60	Plastic, Electronics	2	Rigid Curb Mount	UUT-01	
P266BCA-500C				SINGLE-PHASE CONDENSER FAN SPEED CONTROL 460V/575V-1-60		2	Isolated Curb Mount	UUT-04	
EVM-344023-E20ENN	EMERSON	Converter Freq 460 /3 /60	Plastic, Electronics	6	N/A	Extrapolated			
EVM-344031-E20ENN		Converter Freq 460 /3 /60		8	N/A	Extrapolated			
EVM-322048-E20ENN		Converter Freq 200-230 /3 /60		14	N/A	Extrapolated			
EVM-355018-E20ENN		Converter Freq 575 /3 /60		14	N/A	Extrapolated			
EVM-322062-E20ENN		Converter Freq 200-230 /3 /60		14	N/A	Extrapolated			
EVM-355027-E20ENN		Converter Freq 575 /3 /60		14	N/A	Extrapolated			
EVC1150B-K1-124		Converter Freq 20.0 Hp 460 /3 /60		16	N/A	Extrapolated			
EVC1150B-J1-124		Converter Freq 20.0 Hp 200-230 /3 /60		31	N/A	Extrapolated			
EVC1150B-L1-124		Converter Freq 20.0 Hp 575 /3 /60		31	Rigid Curb Mount	UUT-07			
EVC1185B-K1-124		Converter Freq 25.0 Hp 460 /3 /60		31	N/A	Interpolated			
EVC1185B-L1-124		Converter Freq 25.0 Hp 575 /3 /60		31	N/A	Interpolated			
EVC1185B-J1-124	Converter Freq 25.0 Hp 200-230 /3 /60	62	Isolated Curb Mount	UUT-08					

Special Seismic Certification



Table 11 - Certified Subcomponents - Electric Heaters and Gas Heaters

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Electric Heater						
Model Number	Manufacturer	Description	Material	Weight (lb)	Tested Unit Mounting	Unit
110081607	BACKER EHP	ELECTRIC HEAT 25KW, 600V	Nickel Chrome Alloy, Galvanized Carbon Steel	47	N/A	Extrapolated
110081604		ELECTRIC HEAT 25KW, 480V		47	N/A	Extrapolated
110081612		ELEC. HEAT 12.5T, 480V, 25 KW, FACTORY INST		47	N/A	Extrapolated
110081614		ELEC. HEAT 12.5T, 600V, 25 KW, FACTORY INST		47	N/A	Extrapolated
110081601		ELECTRIC HEAT 25KW, 240V		50	Rigid Curb Mount	UUT-01
110081610		ELEC. HEAT 12.5T, 240V, 25 KW FACTORY INST		50	N/A	Interpolated
110081605		ELECTRIC HEAT 50KW, 480V		59	N/A	Interpolated
110081608		ELECTRIC HEAT 50KW, 600V		59	N/A	Interpolated
110081613		ELEC. HEAT 12.5T, 480V, 50 KW, FACTORY INST		59	N/A	Interpolated
110081615		ELEC. HEAT 12.5T, 600V, 50 KW, FACTORY INST		59	Rigid Curb Mount	UUT-07,05
110081602		ELECTRIC HEAT 50KW, 240V		62	N/A	Interpolated
110081611		ELEC. HEAT 12.5T, 240V, 50 KW FACTORY INST		62	N/A	Interpolated
110081606		ELECTRIC HEAT 75KW, 480V		75	N/A	Interpolated
110081603		ELECTRIC HEAT 75KW, 240V		75	N/A	Interpolated
110081609		ELECTRIC HEAT 75KW, 600V		75	Isolated Curb Mount	UUT-03
110081622		ELECTRIC HEAT 25KW, 600V		79	N/A	Interpolated
110081619		ELECTRIC HEAT 25KW, 480V		80	N/A	Interpolated
110081616		ELECTRIC HEAT 25KW, 240V		83	N/A	Interpolated
110081623		ELECTRIC HEAT 50KW, 600V		87	N/A	Interpolated
110081620		ELECTRIC HEAT 50KW, 480V		88	N/A	Interpolated
110081617		ELECTRIC HEAT 50KW, 240V		93	N/A	Interpolated
110081618	ELECTRIC HEAT 75KW, 240V	103	N/A	Interpolated		
110081624	ELECTRIC HEAT 75KW, 600V	103	N/A	Interpolated		
110081621	ELECTRIC HEAT 75KW, 480V	103	Isolated Curb Mount	UUT-06		
Gas Heater						
Model Number	Manufacturer	Description	Material	Weight (lb)	Tested Unit Mounting	Unit
6107798	JCI	SB,HEAT GAS,STUBE,220K,2STG,AL 12X12	Aluminized Carbon Steel	105	NA	Extrapolated
5720196		SB,HEAT GAS, 5 TUBE, 220K, 2-STG, AL		105	N/A	Extrapolated
6107800		SB,HEAT GAS,9TUBE,400K,2STG,AL 12X12		155	NA	Extrapolated
5720198		SB,HEAT GAS, 9 TUBE, 400K, 2-STG, AL		155	Isolated Curb Mount	UUT-04
5720197	JCI	SB,HEAT GAS, 5 TUBE, 220K, 2-STG, SS	Stainless Steel	105	N/A	Extrapolated
6195407		SB,HEAT GAS, 5 TUBE, 200K, 2-STG, SS		105	NA	Extrapolated
6107799		SB,HEAT GAS,STUBE,220K,2STG,SS 12X12		105	NA	Extrapolated
5720205		SB,HEAT GAS, 9 TUBE, 400K, 2-STG, SS		155	N/A	Extrapolated
6195408		SB,HEAT GAS, 9 TUBE, 350K, 2-STG, SS		155	NA	Extrapolated
6195409		SB,HEAT GAS, 9 TUBE, 350K, MOD, SS		155	NA	Extrapolated
6107801		SB,HEAT GAS,9TUBE,400K,2STG,SS 12X12		155	NA	Extrapolated
5720206		SB,HEAT GAS, 9 TUBE, 400K, MOD, SS		155	Rigid and Isolated Curb Mount	UUT-02,-08
Economizer						
Model Number	Manufacturer	Description	Material	Weight (lb)	Tested Unit Mounting	Unit
8345052	RUSKIN ROOFTOP SYSTEMS	BAROMETRIC RELIEF FACTORY, C6-9	Galvanized Carbon Steel	50	Rigid Curb Mount	UUT-01,-07,-05
8330052		MANUAL OA DAMPER, 0-100%, FACTORY, C6/7		63	N/A	Interpolated
8330252		MOTORIZED OA DAMPER, 0-100%, FACTORY, C6/7		65	Rigid Curb Mount	UUT-01
8330054		MANUAL OA DAMPER, 0-100%, FACTORY, C8/9		73	N/A	Interpolated
8330254		MOTORIZED OA DAMPER, 0-100%, FACTORY, C8/9		75	N/A	Interpolated
834552-21		POWER EXHAUST, CV, FACTORY, 208-230V		75	Rigid Curb Mount	UUT-02
834552-31		POWER EXHAUST, CV, FACTORY, 460V		75	N/A	Interpolated
834552-41		POWER EXHAUST, CV, FACTORY, 575V		75	N/A	Interpolated
834592-21		POWER EXHAUST, MOD, FACTORY, 208-230V		75	Isolated Curb Mount	UUT-03
834592-31		POWER EXHAUST, MOD, FACTORY, 460V		75	Isolated Curb Mount	UUT-06
834592-41		POWER EXHAUST, MOD, FACTORY, 575V		75	N/A	Interpolated
8336852		ECONOMIZER , BAS, FACTORY, 6/7		145	N/A	Interpolated
8336852		ECONOMIZER , SE, FACTORY, 6/7		145	Rigid Curb Mount	UUT-02,-05
8336854		ECONOMIZER , BAS, FACTORY, 8/9		165	N/A	Interpolated
8336854		ECONOMIZER , SE, FACTORY, 8/9		165	Rigid and Isolated Curb Mount	UUT-03,-07

Special Seismic Certification



Table 12 - Certified Subcomponents - Filters, Transformers, and Controllers

DCL Project Number: 17731-2301

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

Test Levels: Sds = 1.95g, z/h = 1.0

Filters						
Model Number	Manufacturer	Description	Material	Weight (lb)	Tested Unit Mounting	Unit
276-200-250-058	KOCH FILTER CORPORATION	FILTER AIR THROWAWAY 2X20X25	Polypropylene Fibers	<1	Rigid Curb Mount	UUT-02
102-740-021		FILTER AIR PLEATED 2X20X25		<1	N/A	Interpolated
102-740-017		FILTER AIR PLEATED MERV8 2X16X25		<1	Isolated Curb Mount	UUT-08
102-714-021		Pleated filter M13 2X20X25		<1	N/A	Interpolated
102-714-017		Pleated filter M13 2X16X25		<1	N/A	Interpolated
102-714-026		FILTER AIR PLEATED MERV13 2X16X25		<1	Rigid and Isolated Curb Mount	UUT-03,-06,-07
102-714-030		FILTER AIR PLEATED 4X20X25		<1	Rigid Curb Mount	UUT-01
276-160-250		FILTER AIR THROWAWAY 2X16X25		<1	Isolated Curb Mount	UUT-04
Transformers						
Model Number	Manufacturer	Description	Weight (lb)	Tested Unit Mounting	Unit	
HCT-09VE08B26271	HARTLAND CONTROLS	TRANSFORMER, 40VA 208V/240V-PRI 24V-SEC INHERENTLY LIMITED	<1	Rigid Curb Mount	UUT-02	
HCT-09VE08B26271		TRANSFORMER, 40VA 460V-PRI 24V-SEC INHERENTLY LIMITED	<1	N/A	Interpolated	
4000-78E07AE15		TRANSFORMER, 40VA 575V-PRI 24V-SEC INHERENTLY LIMITED	<1	N/A	Interpolated	
HCT-09UE58B07271		TRANSFORMER, 100 VA 208/240V-PRI 24V-SEC	<1	Rigid and Isolated Curb Mount	UUT-01,-02,-08	
HCT-10UE58B07271		TRANSFORMER, 100 VA 460V-PRI 24V-SEC	<1	Isolated Curb Mount	UUT-06	
HCT-78UE58B07271		TRANSFORMER, 100 VA 575V-PRI 24V-SEC	<1	Rigid and Isolated Curb Mount	UUT-03,-04,-06,-08	
HCT-46KB20BR42271F		TRANSFORMER, 150 VA 208/240V-PRI 24V-SEC	5	N/A	Interpolated	
HCT-130KB20BR42271F		Trans P=460-575V 1ph S=24V 150.0VAM	5	Rigid and Isolated Curb Mount	UUT-05,-06	
BE33513001		BASLER	TRANSFORMER, 175VA 460/575V-PRI 230V-SEC	<1	NA	Same as UUT-08
BE34946001	TRANSFORMER, 400VA 460/575V-PRI 230V-SEC		<1	Isolated Curb Mount	UUT-08	
2S51F	SCHNEIDER ELECTRIC	TRANSFORMER,2000VA 600 PRI-120/240 SEC	50	Isolated Curb Mount	UUT-03	
2S1F		TRANSFORMER,2000VA 240/480 PRI-120/240 SEC	50	Rigid and Isolated Curb Mount	UUT-01,-06	
3S4F		Trans P=600V 1ph S=240V 3000.OVAM	55	Rigid and Isolated Curb Mount	UUT-07,-08	
Controllers						
Model Number	Manufacturer	Description	Weight (lb)	Tested Unit Mounting	Unit	
JD4P120B	SYSTEM SENSOR	CONTROLLER, SMOKE DETECTOR, 21FT HARNESS	<1	Rigid and Isolated Curb Mount	UUT-01,-03,-07,-05	
IB-G	SPORLAN	INPUT-OUTPUT BOARD L=76.20MM W=76MM	<1	Isolated Curb Mount	UUT-03,-04	
SE-SPU1002-7	JOHNSON CONTROLS	CIRCUIT BOARD SSE, 2 STAGE, NO COMM	<1	Rigid and Isolated Curb Mount	UUT-01,-02,-03,-04	
SE-SPU1012-7		CIRCUIT BOARD SSE, 2 STAGE, W/COMM	<1	N/A	Interpolated	
SE-SPU1004-7		CIRCUIT BOARD SSE, 4 STAGE ADD ON	<1	Rigid and Isolated Curb Mount	UUT-01,-02,-03,-04	
SE-SPU1002-8		CIRCUIT BOARD SSE, 2 STAGE, NO COMM	<1	N/A	Interpolated	
SE-SPU1012-8		CIRCUIT BOARD SSE, 2 STAGE, W/COMM	<1	Isolated Curb Mount	UUT-06	
SE-SPU1002-9		CIRCUIT BOARD SSE, 2 STAGE, NO COMM	<1	Rigid Curb Mount	UUT-07,-05	
SE-SPU1012-9		CIRCUIT BOARD SSE, 2 STAGE, W/COMM	<1	Isolated Curb Mount	UUT-08,-06	
SE-SPU1004-9		CIRCUIT BOARD SSE, 4 STAGE ADD ON	<1	Rigid and Isolated Curb Mount	UUT-07,-08	
SE-FDD1001-9		CONTROLS,SES, FDD ADD ON BOARD	<1	Rigid and Isolated Curb Mount	UUT-07,-08	
ICM 333	ICM CONTROLS	CONTROL, LOW AMBIENT	<1	Rigid and Isolated Curb Mount	UUT-06,-05	
ICM401C (AH7104)		MONITOR, POWER	<1	Rigid and Isolated Curb Mount	UUT-07,-05,-08	

Special Seismic Certification



Table 13 - Tested Units

DCL Project Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Lines: Choice (Midas) R410a-R454b Standard Efficiency Down Flow, Standard Efficiency Side Flow, High Efficiency Down Flow, Heat Pump Down Flow

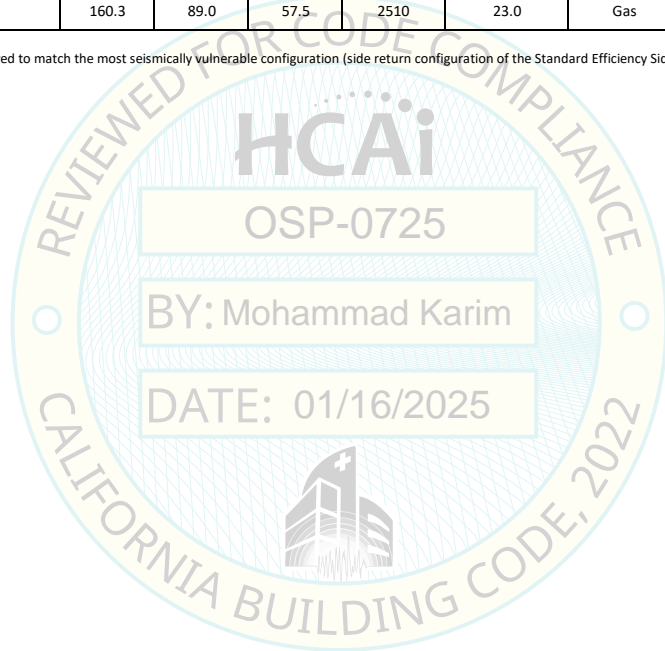
Tested Product Construction: Powder Coated Carbon Steel Cabinet

Test Levels: Sds = 1.95g, z/h = 1.0

Model Number ¹	Product Line	Dimensions (inches)			Max. Operating Weight (lb)	Nominal Cooling Capacity (Tons)	Tested Heat	Tested Unit Mounting	Unit
		Depth	Width	Height					
AD15E1BV2D1A3T37H1	Standard Efficiency Down Flow	130.0	89.0	52.0	2040	15.0	Electric	Rigid Curb Mount	UUT-01
AD15T3BHB4L41A1		131.0	89.0	51.0	2170	15.0	Gas	Rigid Curb Mount	UUT-02
AD28N3DHEA4AAL31A1		160.0	89.0	60.0	2570	27.5	Gas	Isolated Curb Mount	UUT-04
AD25E3BS5T1K3T47H1		144.0	89.0	58.0	2900	25.0	Electric	Isolated Curb Mount	UUT-03
HV13E2CP5S1A7S31A2	Heat Pump Down Flow	129.3	89.0	49.5	2140	12.5	Electric	Rigid Curb Mount	UUT-05
Hx25E3DP4M1CBP37B2		160.3	89.0	57.5	3200	25.0	Electric	Isolated Curb Mount	UUT-06 ¹
AW13E2CH5S1A7S64A2	High Efficiency Down Flow	143.8	89.0	57.5	2440	12.5	Electric	Rigid Curb Mount	UUT-07
AW23T3BQB1A1CBG32A2		160.3	89.0	57.5	2510	23.0	Gas	Isolated Curb Mount	UUT-08

Note:

1. UUT-06 was tested with specific side panels removed to match the most seismically vulnerable configuration (side return configuration of the Standard Efficiency Side Flow product line).



UNIT UNDER TEST (UUT) Summary Sheet



UUT-01

DCL Repot Number: 37697-2101

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) Standard Efficiency Down Flow

Model Number: AD15E1BV2D1A3T37H1

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refridgerant Compressor, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Electric Heater, Variable Frequency Drive, Economizer, Filters, Transformers, Fuses, Distributor, Pressure Switches, Pressure Sensor, Condensate Overflow, Smoke Detector Sensor, Temperature Limit, Rotary Handle

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,040	130	89	52	8.0	15.0	17.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-01 was mounted to a P-6000S non-isolated roof curb supplied by VMC Group using the provided curb, (10) z-clips per curb and (50) Tek screws. There were (5) z-clips per long side of the unit and (5) Tek screws per z-clip. The z-clips were connected to the VMC curb using (10) ½” A307 bolts. The VMC curbs were mounted to the test frame using (20) ½” grade 5 bolts.



Overall view of UUT-01

UNIT UNDER TEST (UUT) Summary Sheet



UUT-02

DCL Repot Number: 37697-2101

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) Standard Efficiency Down Flow

Model Number: AD15T3BHBN4LKL41A1

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refridgerant Compressor, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Hot Gas Reheat Coils, Service Valves, Variable Frequency Drive, Economizer, Gas Heater, Filters, Transformers, Fuses, Controllers, Distributor, Pressure Switchs, Terminal Block, Temperature Limit, Circut Breaker, Rotary Handle

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,170	131	89	51	11.0	14.5	14.7

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-02 was mounted to a P-6000S non-isolated roof curb supplied by VMC Group using the provided curb, (10) z-clips and (50) Tek screws. There were (5) z-clips per long side of the unit and (5) Tek screws per z-clip. The z-clips were connected to the VMC curb using (10) ½” A307 bolts. The VMC curbs were mounted to the test frame using (20) ½” grade 5 bolts.

DATE: 01/16/2025



Overall view of UUT-02

UNIT UNDER TEST (UUT) Summary Sheet



UUT-03

DCL Repot Number: 37697-2101

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) Standard Efficiency Down Flow

Model Number: AD25E3BS5T1K3T47H1

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refridgerant Compressor, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Variable Frequency Drive, Economizer, Filters, Transformers, Fuses, Controllers, Distributor, Pressure Switches, Pressure Sensor, Condensate Overflow, Smoke Detector Sensor, Crankcase Heater, Temperature Limit, Circuit Breaker, Rotary Handle

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

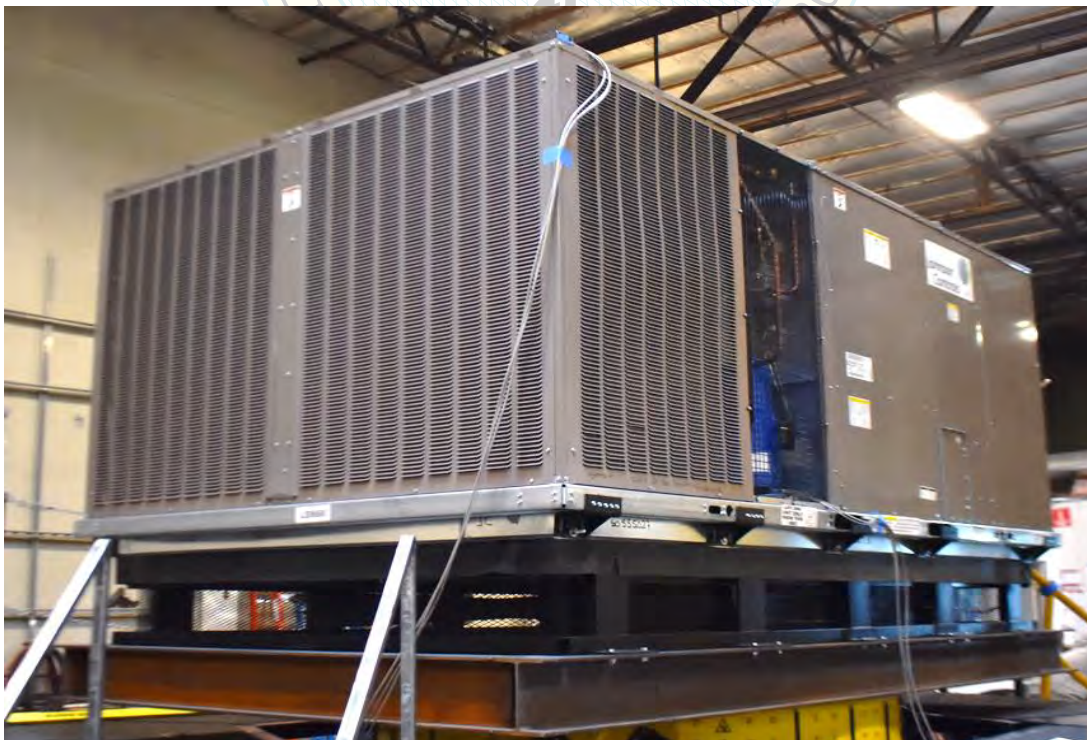
UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,900	144	89	58	4.0	4.4	11.2

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-03 was mounted to a P-6200 isolated roof curb supplied by VMC Group using the provided curb, (9) z-clips and (29) Tek screws. There were (4) z-clips on the left long side of the unit and (5) z-clips on the right long side of the unit. There were and (5) Tek screws per z-clip in each of the four corners of the unit, (4) Tek screws in the fourth row of z-clips on both sides and (1) Tek screw in center z-clip on the right side. The z-clips were connected to the VMC curb using (9) ½” A307 bolts. The VMC curbs were mounted to the test frame using (20) ½” grade 5 bolts.



Overall view of UUT-03

UNIT UNDER TEST (UUT) Summary Sheet



UUT-04

DCL Repot Number: 37697-2101

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) Standard Efficiency Down Flow

Model Number: AD28N3DHEA4AAL31A1

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refridgerant Compressor, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Filters Transformers, Fuses, Controllers, Distributor, Pressure Switchs, Crankcase Heater, Terminal Block, Temperature Limit, Circuit Breaker, Rotary Handle

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,570	160	89	60	3.5	3.4	6.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-04 was mounted to a P-6200 isolated roof curb supplied by VMC Group using the provided curb, (10) z-clips and (29) Tek screws. There were (5) z-clips per long side of the unit and (5) Tek screws per z-clip. There were and (5) Tek screws per z-clip in each of the four corners of the unit, (3) Tek screws in the second row of z-clips on both sides, (2) Tek screw in center z-clip on the right side and (1) Tek screw in center z-clip on the left side. The z-clips were connected to the VMC curb using (10) ½" A307 bolts. The VMC curbs were mounted to the test frame using (20) ½" grade 5 bolts.



Overall view of UUT-04

UNIT UNDER TEST (UUT) Summary Sheet



UUT-05

DCL Repot Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) Heat Pump Down Flow

Model Number: HV13E2CP5S1A7S31A2

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refrigerant Compressor, Blowers, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Service Valves, Variable Frequency Drives, Electric Heater, Economizer, Transformers, Controllers.

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,140	129.3	89	49.5	9.5	>33.3	14.8

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-05 was mounted to a P-6000S non-isolated roof curb supplied by VMC Group using (10) z-clips per curb and (50) #14 Tek screws. There were (5) z-clips per each long side of the unit and (5) #14 Tek screws per z-clip. The (5) #14 Tek screws were 1" apart measured on-center. The z-clips were connected to the VMC curb using (10) 1/2" A307 bolts. The z-clips were spaced 24" apart and the corner z-clips were 4" away from the corner of the curb. The VMC curb was mounted to the test frame using (20) 1/2" Grade 5 bolts. The bolts were spaced 6" and 21" apart measured on-center on the long sides and 84" apart measured on-center on the short sides.



Overall view of UUT-05

UNIT UNDER TEST (UUT) Summary Sheet



UUT-06

DCL Report Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) Heat Pump Down Flow

Model Number: HV25E3DP4M1CBP37B2

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refrigerant Compressor, Blowers, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Service Valves, Variable Frequency Drives, Electric Heater, Economizer, Transformers, Controllers.

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3,200	160.3	89	57.5	2.5	2.8	5.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-06 was mounted to a P-6200 isolated roof curb supplied by VMC Group using the (10) z-clips and (41) #14 Tek screws. There were (5) z-clips per long side of the unit and (5) #14 Tek screws per z-clip on the right side as well as each corner on the left side. There were (3) and (1) #14 Tek screws on the z-clips next to the corner z-clips and there were (2) #14 Tek screws in the middle z-clip. All #14 Tek screws were spaced 1" apart from each other measured on-center except for the z-clip that had (3) #14 Tek screws for which the screws were spaced 2" inches apart. The z-clips were connected to the VMC curb using (10) 1/2" A307 bolts. The z-clips were spaced 27", 27", 27" and 26 3/4" apart and 14 1/2" and 7" away from the corners of the curb. The VMC curb was mounted to the test frame using (20) 1/2" Grade 5 bolts. The bolts were spaced 6" and 27" apart measured on-center on the long sides and 84" apart measured on-center on the short sides.



Overall view of UUT-06

UNIT UNDER TEST (UUT) Summary Sheet



UUT-07

DCL Repot Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) High Efficiency Down Flow

Model Number: AW13E2CH5S1A7S64A2

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refrigerant Compressor, Blowers, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Hot Gas Reheat Coils, Service Valves, Variable Frequency Drives, Electric Heater, Economizer, Filters, Transformers, Controllers.

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,440	143.8	89	57.5	7.5	>33.3	26.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-07 was mounted to a P-6000S non-isolated roof curb supplied by VMC Group using (10) z-clips and (50) #14 Tek screws. There were (5) z-clips per each long side of the unit and (5) #14 Tek screws per z-clip. The (5) #14 Tek screws were 1" apart measured on center. The z-clips were connected to the VMC curb using (10) ½" A307 bolts. The z-clips were spaced 24" apart and the corner z-clips were 5" away from the corner of the curb. The VMC curb was mounted to the test frame using (20) ½" Grade 5 bolts. The bolts were spaced 6" and 24" apart measured on-center on the long sides and 84" apart measured on center on the short sides



Overall view of UUT-07

UNIT UNDER TEST (UUT) Summary Sheet



UUT-08

DCL Repot Number: 17731-2301

Manufacturer: York (Johnson Controls)

Product Line: Choice (Midas) High Efficiency Down Flow

Model Number: AW23T3BQBA1CBG32A2

Product Construction Summary: Painted Carbon Steel

Options / Component Summary:

Refrigerant Compressor, Blowers, Blower Motors, Outdoor Motors, Condenser Coils, Evaporator Coils, Variable Frequency Drives, Filters, Transformers, Controllers, Gas Heater.

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2,510	160.3	89	57.5	3.0	3.0	6.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.95	1.0	1.5	3.12	2.34	1.30	0.52

Unit Mounting Description: UUT-08 was mounted to a P-6200 isolated roof curb supplied by VMC Group using (10) z-clips and (42) #14 Tek screws. There were (5) z-clips per long side of the unit and (5) #14 Tek screws per z-clip on the right side as well as on each corner on the left side. There were and (3) and (1) #14 Tek screws per z-clips next to the corner z-clips and (3) #14 Tek screws in the middle z-clip. All #14 Tek screws were spaced 1" apart from each other measured on-center except for the z-clip that had (3) #14 Tek screws next to a corner z-clip for which the screws were spaced 2" inches apart. The z-clips were connected to the VMC curb using (10) ½" A307 bolts. The z-clips were spaced 27", 27", 27" and 26 ¾" apart and 14 ½" and 7" away from the corners of the curb. The VMC curb was mounted to the test frame using (20) ½" Grade 5 bolts. The bolts were spaced 6" and 27" apart measured on-center on the long sides and 84" apart measured on-center on the short sides.



Overall view of UUT-08