APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0302 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Price Industries, Inc

Manufacturer's Technical Representative: Chris Tse, P. Eng., Product Manager – Active and Passive Beams

Mailing Address: 2975 Shawnee Ridge Court, Suwanee, GA, 30024

Telephone: (678) 578-7489 Email: ChrisT@priceindustries.com

Product Information

Product Name: Air handling units: single duct terminal units, chilled beams and fan filter units

Product Type: Mechanical Equipment

Product Model Number: See attachments
(List all unique product identification numbers and/or part numbers)

General Description: Ceiling suspended air handling units. Seismic enhancement made to the test units and modifications required to address the anomalies observed during the tests shall be incorporated into the production units

Mounting Description: Ceiling suspended (units tested with and without spring isolators)

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

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

Signature of Applicant: Date: 10/27/16

Title: President Company Name: The VMC Group

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

Company Name: The VMC Group

Name: Ken Tarlow California License Number: SE2851

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: Ken.tarlow@thevmcgroup.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: Dynamic Certification Laboratories

Contact Name: Kelly Laplace, Project Manager

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

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

Seismic Parameters

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

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

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

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

R_p (Equipment or component response modification factor) = 2.5 (w/ spring isolators); 6.0 (w/out spring isolato

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 attachments

Overall dimensions and weight (or range thereof) = See attachments

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): _____

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

Signature: _____ Date: 11/29/16

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable): _____

Special Seismic Certification
Certified Components

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units -- Terminal Units SDV / SDVQ

Mounting Description: Ceiling suspended (with or without spring isolators)

Model [1]	Cabinet Construction	Silencer	Cabinet Dimensions (inches)				Max Weight (lb)	Mounting	Sds (g), z/h=1 [2]	F_p/W_p	Unit
			Length with Access Section	Length	Width	Height					
SDV / SDVQ 5xxx/8xxx Sz 4	Zinc-coated carbon steel	3', 5', Elbow, or None	32 1/2	22 1/8	12	8	33	Ceiling Suspended (with or without spring isolators)	2.50	1.88	UUT1
SDV / SDVQ 5xxx/8xxx Sz 4			32 1/2	22 1/8	12	8	60		2.50	1.88	UUT15A
SDV / SDVQ 5xxx/8xxx Sz 4			32 1/2	22 1/8	12	8	60		2.50	4.50	UUT15B
SDV / SDVQ 5xxx/8xxx Sz 5			32 1/2	22 1/8	12	8	33 to 260		2.50	1.88 or 4.50	Interpolated
SDV / SDVQ 5xxx/8xxx Sz 6			32 1/2	20 1/8	12	8					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 7			32 1/2	20 1/8	12	10					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 8			32 1/2	20 1/8	12	10					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 9			32 1/2	20 1/8	14	12 1/2					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 10			32 1/2	20 1/8	14	12 1/2					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 12			32 1/2	20 1/8	16	15					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 14			35 5/8	23 5/8	20	17 1/2					Interpolated
SDV / SDVQ 5xxx/8xxx Sz 16			35 5/8	23 5/8	24	18	81		2.50	1.88	UUT2
SDV / SDVQ 5xxx/8xxx Sz 16			35 5/8	23 5/8	24	18	177		2.50	1.88	UUT13A-D, UUT18A
SDV / SDVQ 5xxx/8xxx Sz 16			35 5/8	23 5/8	24	18	177		2.50	4.50	UUT13E-H, UUT14A, UUT18B
SDV / SDVQ 5xxx/8xxx Sz 24x16			31	19	38	18	260		2.50	1.88	UUT12B
SDV / SDVQ 5xxx/8xxx Sz 24x16			31	19	38	18	260		2.50	4.50	UUT12C

Notes:

1. SDVQ is an SDV with housing extension including optional access door section.
2. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification
Certified Components

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units -- Chilled Beams

Mounting Description: Ceiling suspended (without spring isolators)

Model	Cabinet Construction	Cabinet Dimensions (inches)			Weight (lb)	Mounting	Sds (g), z/h=1 [1]	F_p/W_p	Unit
		Length	Width	Height					
ACBL 12x24	Powder-coated carbon steel with perforated face	23 3/4	11 3/4	10	19	Ceiling Suspended (without spring isolators)	2.50	1.88	UUT3A
ACBL 12x24	Powder-coated carbon steel with grill face	23 3/4	11 3/4	10	21		2.50	1.88	UUT3B
ACBL 12x36	Powder-coated carbon steel with grill or perforated face	35 3/4	11 3/4	10	19 to 100		2.50	1.88	Interpolated
ACBL 12x48		47 3/4	11 3/4	10					Interpolated
ACBL 12x60		59 3/4	11 3/4	10					Interpolated
ACBL 12x72		71 3/4	11 3/4	10					Interpolated
ACBL 12x84		83 3/4	11 3/4	10					Interpolated
ACBL 12x96		95 3/4	11 3/4	10					Interpolated
ACBL 12x108		107 3/4	11 3/4	10					Interpolated
ACBL 12x120		119 3/4	11 3/4	10					Interpolated
ACBL 12x120	Powder-coated carbon steel with grill face	119 3/4	11 3/4	10	100		2.50	1.88	UUT4B

Note:

1. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification
Certified Components

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units -- Chilled Beams (continued)

Mounting Description: Ceiling suspended (with or without spring isolators)

Model	Cabinet Construction	Cabinet Dimensions (inches)			Weight (lb)	Mounting	Sds (g), z/h=1 [1]	F_p/W_p	Unit
		Length	Width	Height					
ACBL HE 24x24	Powder-coated carbon steel, perforated face or grill face	23 3/4	23 3/4	10	28	Ceiling Suspended (with or without spring isolators)	2.50	1.88	UUT5A
ACBL HE 24x24		23 3/4	23 3/4	10	33		2.50	1.88	UUT5B
ACBL HE 24x24		23 3/4	23 3/4	10	33		2.50	4.50	UUT5C
ACBL HE 24x36		35 3/4	23 3/4	10	28 to 153	Ceiling Suspended (with or without spring isolators)	2.50 (without spring isolators), 1.93 (with spring isolators)	1.88 or 3.47	Interpolated
ACBL HE 24x48		47 3/4	23 3/4	10					Interpolated
ACBL HE 24x60		59 3/4	23 3/4	10					Interpolated
ACBL HE 24x72		71 3/4	23 3/4	10					Interpolated
ACBL HE 24x84		83 3/4	23 3/4	10					Interpolated
ACBL HE 24x96		95 3/4	23 3/4	10					Interpolated
ACBL HE 24x108		107 3/4	23 3/4	10					Interpolated
ACBL HE 24x108		107 3/4	23 3/4	10	153	Ceiling Suspended (without spring isolators)	2.50	1.88	UUT22
ACBL HE 24x120		119 3/4	23 3/4	10	136	Ceiling Suspended (with spring isolators)	1.93	3.47	UUT9B
ACBL HE 24x120		119 3/4	23 3/4	10	136	Ceiling Suspended (without spring isolators)	2.50	1.88	UUT9A
ACBL HE 24x120		119 3/4	23 3/4	10	172		2.50	1.88	UUT23

Note:

1. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification
Certified Components

Manufacturer: Price Industries Limited

Product Line: Air handling units -- Chilled Beams (Continued)

Mounting Description: Ceiling suspended (with or without spring isolators)

Model	Cabinet Construction	Cabinet Dimensions (inches)			Weight (lb)	Mounting	Sds (g), z/h=1 [1]	F_p/W_p	Unit
		Length	Width	Height					
ACBM HE 24x24	Powder-coated carbon steel with perforated face	23 3/4	23 3/4	12	32	Ceiling Suspended (with or without spring isolators)	2.50	1.88	UUT10A
ACBM HE 24x24		23 3/4	23 3/4	12	32		2.50	4.50	UUT10B
ACBM HE 24x48		23 3/4	47 3/4	12	32-107		2.50	1.88 or 4.50	Interpolated
ACBM HE 48x24		47 3/4	23 3/4	12					
ACBM HE 48x48		47 3/4	47 3/4	12					
ACBM HE 24x72		71 3/4	23 3/4	12	107		2.50	1.88	UUT11B
ACBM HE 24x72		71 3/4	23 3/4	12	107		2.50	4.50	UUT11D
ACBH 48	Powder-coated carbon steel with security face	48	17	8	130	Ceiling Suspended (without spring isolators)	2.50	1.88	UUT7B

Note:

1. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification
Certified Components

Manufacturer: Price Industries Limited

Product Line: Air handling units -- Fan Filter Units

Mounting Description: Ceiling suspended (without spring isolators)

Model	Tested Cabinet Construction	Tested Insulation	Certified Cabinet Construction	Cabinet Dimensions (inches)			Weight (lb)	Mounting	Sds (g), z/h=1 [1]	F_p/W_p	Unit
				Length	Width	Height					
FFU 2 x 2	Painted aluminum	1" insulation	Stainless steel, aluminum or painted aluminum, w/ 1" thick insulation	23 3/4	23 3/4	18 7/8	60	Ceiling suspended (without spring isolators)	2.50	1.88	UUT16
FFU 2 x 3	Not tested			35 3/4	23 3/4	18 7/8 Max	60 - 74		2.50	1.88	Interpolated
FFU 2 x 4	Painted aluminum			47 3/4	23 3/4	18 1/8	74		2.50	1.88	UUT17
FFU-HE 2 x 2	Painted aluminum			23 1/3	23 2/3	19 1/4	54		2.00	1.50	UUT21
FFU-HE 2 x 3	Not tested			35 3/4	23 3/4	19 1/4 Max	54 - 66		2.00	1.50	Interpolated
FFU-HE 2 x 4	Aluminum			47 7/8	23 7/8	17 2/5	66		2.00	1.50	UUT20A
FFU-HE 2 x 4	Stainless steel			47 7/8	23 7/8	19 1/4	96		2.00	1.50	UUT19A,B,C

Note:

1. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification
Certified Subcomponents

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units

ACBL / ACBL HE Coils

Model Number	Manufacturer	Fin Material	Tube Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
2 row, 2 pipe	Price	Aluminum	Copper	2.50	1.88, 4.50	Extrapolated*
2 row, 4 pipe	Price	Aluminum	Copper	2.50	1.88, 4.50	UUT3A-B, UUT4B, UUT5A-C, UUT22, UUT23

*2 pipe option is equivalent to the tested option; only the number of coil connections is reduced from 4 to 2.

ACBM HE Coils

Model Number	Manufacturer	Fin Material	Tube Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
1 row, 2 pipe	Price	Aluminum	Copper	2.50	1.88, 4.50	Extrapolated*
1 row, 4 pipe	Price	Aluminum	Copper	2.50	1.88, 4.50	UUT10A-B, UUT11B-D

*2 pipe option is equivalent to the tested option; only the number of coil connections is reduced from 4 to 2.

ACBH Coils

Model Number	Manufacturer	Fin Material	Tube Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
2 row, 2 pipe	Price	Aluminum	Copper	2.50	1.88	UUT7B

ACBL / ACBL HE Face Options

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
n/a	Price	Perforated face, no wings	Powder-coated carbon steel	2.50	1.88	UUT3A, UUT5A
n/a	Price	Bar grill face, no wings	Powder-coated carbon steel	2.50	1.88	UUT3B, UUT5B
n/a	Price	Bar grill face, no wings, Generation 3	Powder-coated carbon steel	2.50	1.88	UUT22
n/a	Price	Perforated face, no wings, Generation 3	Powder-coated carbon steel	2.50	1.88	UUT23

ACBH Face Options

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
n/a	Price	Security face, no wings	Powder-coated carbon steel	2.50	1.88	UUT7B

Note:

1. Certification level is limited to the lower rating of either the Certified Subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification
Certified Subcomponents

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units

SDV/SDVQ Coils

Model Number	Manufacturer	Fin Material	Tube Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
1 row	Price	Aluminum	Copper	2.50	1.88, 4.50	UUT15A-B
2 Row				2.50	1.88, 4.50	Interpolated
3 Row						Interpolated
4 row				2.50	1.88, 4.50	UUT1, UUT2, UUT12B-C, UUT13A-H

SDV / SDVQ Liners (Terminal Casing and Silencer/Attentuator)

Model Number	Manufacturer	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
CRAF	Price	Cleanroom Aluminum Foil Faced Fiberglass	2.50	1.88, 4.50	UUT12B-C
SM	Price	Solid Metal	2.50	1.88, 4.50	UUT13A-H
PM	Price	Perforated Metal	2.50	1.88, 4.50	UUT13A-H
AFPM	Price	Aluminum Foil Faced Fiberglass with Perforated Metal	2.50	1.88, 4.50	UUT13A-H
FF	Price	Fiber Free Foam	2.50	1.88, 4.50	UUT15A-B
FB	Price	Foil Faced Fiberglass Board	2.50	1.88, 4.50	UUT15A-B
FG	Price	Fiberglass	2.50	1.88, 4.50	UUT1, UUT2, UUT18A-B
FC	Price	Fiberglass cloth (silencer/attenuator only)	2.50	1.88, 4.50	UUT15A-B, UUT13A-H
PL	Price	Polymer film liner (silencer/attenuator only)	2.50	1.88, 4.50	UUT12B-C

SDV Attenuators / SDVQ Silencers

Model Number	Manufacturer	Liner Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
SDVQ Elbow Silencer	Price	Casing may be the same as terminal casing liner (CRAF, SM, PM, AFPM, FF, FB, FG). Attenuators/silencers may have optional fiberglass cloth (FC) or polymer film (PL) liner.	2.50	1.88, 4.50	UUT15A-B
SDVQ 3' Silencer (36")	Price		2.50	1.88, 4.50	UUT13A-H
SDV 3' Attenuator (36")	Price		2.50	1.88, 4.50	Interpolated
SDV 5' Attenuator (59")	Price				Interpolated
5' Silencer (60")	Price		2.50	1.88, 4.50	UUT12B-C

Note:

1. Certification level is limited to the lower rating of either the Certified Subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification
Certified Subcomponents

Manufacturer: Price Industries Limited

Product Line: Air handling units

SDV/SDVQ Damper Actuator Controller						
Model Number	**Manufacturer**	**Description**	**Controller Material**	**Sds (g), z/h=1 [1]**	**F_p/W_p**	**Unit**
PIC	Price Controls	Controller w/ integral actuator; 24V	Plastic cover with circuit board	2.50	1.88, 4.50	UUT2, UUT13B, UUT13G
PAC	Price Controls	Controller, 24V w/KMC MEP 4003 actuator		2.50	1.88, 4.50	UUT12B, UUT12C
W7751F	Honeywell	Controller, 24V (208/240V transformer)	Plastic cover with circuit board	2.50	1.88, 4.50	UUT13A, UUT13H
W7751H	Honeywell	Controller w/ integral actuator, 24V (120V transformer)		2.50	1.88, 4.50	UUT13D, UUT13E
W7751D	Honeywell	Controller, 24V		2.50	1.88, 4.50	Interpolated*
W7751B	Honeywell	Controller, 24V		2.50	1.88, 4.50	Interpolated*
PVL6436AS	Honeywell	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	UUT13C, UUT13F
*Software change only from tested controllers.						
MS VMA1410	Johnson Controls	Controller w/ integral actuator, 24V	Plastic cover with circuit board	2.50	1.88, 4.50	Extrapolated*
MS VMA1420	Johnson Controls	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
MS VMA1615	Johnson Controls	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
MS VMA1620	Johnson Controls	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	UUT13A, UUT13H
MS VMA1630	Johnson Controls	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
*Identical in manufacturer, material and mounting to tested controller, with slightly different cover design and a change in software.						
GDE131.1P	Siemens	Damper actuator controller, 24V (120V transformer)	Plastic cover with circuit board	2.50	1.88	UUT1
540-100 & GDE131	Siemens	Controller / actuator combo, 24V (277V transformer)		2.50	1.88, 4.50	UUT15A, UUT15B
540-110 & GDE131	Siemens	Controller / actuator combo, 24V (277V transformer)		2.50	1.88, 4.50	Extrapolated*
550-065 & GDE131	Siemens	Controller / actuator combo, 24V		2.50	1.88, 4.50	Interpolated*
550-066 & GDE131	Siemens	Controller / actuator combo, 24V		2.50	1.88, 4.50	Interpolated*
550-067 & GDE131	Siemens	Controller / actuator combo, 24V		2.50	1.88, 4.50	Interpolated*
550-068 & GDE131	Siemens	Controller / actuator combo, 24V		2.50	1.88, 4.50	UUT13B, UUT13G
550-767 & GDE131	Siemens	Controller / actuator combo, 24V		2.50	1.88, 4.50	Interpolated*
540-844 & GDE131	Siemens	Controller / actuator combo, 24V		2.50	1.88, 4.50	UUT13D, UUT13E
*Software change only from tested controllers.						
MR-VAV-AX	Schneider Electric (TAC)	Controller w/ integral actuator, 24V	Plastic cover with circuit board	2.50	1.88, 4.50	UUT12B, UUT12C
Xenta 102-AX	Schneider Electric (TAC)	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	UUT13C, UUT13F
b3-866-V	Schneider Electric (Andover)	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
b3-865-V	Schneider Electric (Andover)	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
i2 866-V	Schneider Electric (Andover)	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
i2 865-V	Schneider Electric (Andover)	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
MNL-V2RV3	Schneider Electric (Invensys)	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	Extrapolated*
*Software change only from tested controllers.						
ZN141V+	Automated Logic	Controller w/ integral actuator, 24V	Plastic cover with circuit board	2.50	1.88, 4.50	Extrapolated*
ZN341V+	Automated Logic	Controller w/ integral actuator, 24V		2.50	1.88, 4.50	UUT18A,B (x2)

*Two identical ZN341V controllers were tested in UUT18A and UUT18B. The extrapolated ZN141V+ and tested ZN341V+ controllers are the same, except for two additional I/O ports in the tested ZN341V+ modules.

Note:

1. Certification level is limited to the lower rating of either the Certified Subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification
Certified Subcomponents

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units

FFU / FFU-HE Duct Inlet

Model Number	Manufacturer	Duct Diameter (in)	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
237661-003	Price	8	Aluminum	2.50	1.88	Extrapolated
237661-001		10		2.50	1.88	UUT16
237661-002		12		2.50	1.88	UUT17

FFU / FFU-HE Fan Motor

Model Number	Manufacturer	Voltage	HP	Type	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
5KCP39GGWE97S	Genteq	115V	1/6	PSC	Painted carbon steel, copper	2.00	1.50	Extrapolated
5KCP39GGWE96S		208-240V		PSC		2.00	1.50	Extrapolated
5KCP39GGZ340S		115V	1/5	PSC		2.00	1.50	UUT20
5KCP39GGZ363S		208-240V		PSC		2.00	1.50	Interpolated
5KCP39GGZ362S		277V		PSC		2.00	1.50	UUT21
5SAD39DLV5195	Genteq	120/240/277V	1/3	ECM	Painted carbon steel, copper	2.50	1.88	UUT16, UUT17
5SAB39DLV5487		115/240V	1/3	ECM		2.00	1.50	UUT19A
019219-001	Broad Ocean	115V	1/3	ECM	Painted carbon steel, copper	2.00	1.50	UUT19B
019219-002		240V	1/3	ECM		2.00	1.50	UUT19C
019219-003		277V	1/3	ECM		2.00	1.50	Extrapolated

PSC= permanent split capacitor (constant speed); ECM = electrically commutated motor (variable speed)

FFU Fan Wheel

Model Number	Manufacturer	Description	Inlet	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
BC-1075-300S	Revcor	Forward curved wheel	Single	Zinc plated carbon steel	2.50	1.88	UUT16
BC-1162-400S			Single		2.50	1.88	UUT17
33-30016	Morrison	Backward curved wheel	Single	Aluminum	2.00	1.50	UUT20

Note:
1. Certification level is limited to the lower rating of either the Certified Subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification
Certified Subcomponents

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units

FFU Filters (HEPA, ULPA)

Model Number	Manufacturer	Description	Size (in)	Material	Sds (g), z/h=1 [3]	F_p/W_p	Unit
0-007-3-19-06-SU-52-00-19P19P	Flanders	HEPA filter	12	Aluminum frame, glass microfiber media	2.50	4.50	UUT16
0-007-2-19-06-SU-52-00-19P31P			15		2.50	4.50	Interpolated
0-007-2-19-06-SU-52-00-19P43P			19		2.50	4.50	UUT17
0-009-3-19-06-SU-52-00-19P19P	Flanders	ULPA filter	12		2.50	4.50	Extrapolated [1]
0-009-2-19-06-SU-52-00-19P31P			15		2.50	4.50	Extrapolated [1]
0-009-2-19-06-SU-52-00-19P43P			19		2.50	4.50	Extrapolated [1]

FFU Filters (HEPA, ULPA)

Model Number	Manufacturer	Type	Description	Size (in)	Material	Sds (g), z/h=1 [3]	F_p/W_p	Unit
45349PI	Filtration Group	Room Side Replaceable (RSR)	HEPA filter	24 x 24	Aluminum frame, glass microfiber media	2.00	1.50	UUT21
45350PI				24 x 36		2.00	1.50	Interpolated
45351PI				24 x 48		2.00	1.50	UUT19A,B,C
45384PI		Bench Top Replaceable (BTR)		24 x 24		2.00	1.50	Extrapolated [2]
45385PI				24 x 36		2.00	1.50	Extrapolated [2]
45386PI				24 x 48		2.00	1.50	UUT20
45352PI		Room Side Replaceable (RSR)	ULPA filter	24 x 24		2.00	1.50	Extrapolated [1]
45353PI				24 x 36		2.00	1.50	Extrapolated [1]
45354PI				24 x 48		2.00	1.50	Extrapolated [1]
45387PI		Bench Top Replaceable (BTR)		24 x 24		2.00	1.50	Extrapolated [1]
45388PI				24 x 36		2.00	1.50	Extrapolated [1]
45389PI				24 x 48		2.00	1.50	Extrapolated [1]

Notes:

1. Extrapolated filters are identical to the tested filters, except for the coarseness of the filter media.
2. Extrapolated units are bookended in type and construction by the tested units.
3. Certification level is limited to the lower rating of either the Certified Subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification
Certified Subcomponents

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air handling units

FFU LED Kit

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
FL	Price	LED filter indicator option	Plastic	2.50	1.88	UUT16, UUT17
ML		LED motor indicator option		2.50	1.88	UUT16, UUT17

FFU Controller

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
ECMDX	Price	ECM Deluxe Speed Controller	Galvanized carbon steel plate, fiberglass circuit board	2.50	1.88	UUT16, UUT17
ECM		ECM Standard Speed Controller		2.50	1.88	Extrapolated*
BFC		BACnet Flow Controller		2.00	1.50	UUT19A,B,C
USC 115V		Universal Speed Controller		2.00	1.50	UUT 20
USC 208-240/277V		Universal Speed Controller		2.00	1.50	UUT 21

*Extrapolated controller is a depopulated version of the controller tested in UUT16 and UUT17.

FFU Contactors

Model Number	Manufacturer	Description	Outer Material	Winding Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
HCT-01D0AA03173	Hartland Controls	3"L x 3"D x 2"H	Plastic cover with carbon steel	Copper	2.50	1.88	UUT16, UUT17
HCT-03D0AA03173		3"L x 3"D x 2"H			2.50	1.50	UUT19C
HCT-09D0AA03173		3"L x 3"D x 2"H			2.50	1.50	Extrapolated*

*Extrapolated contactors are identical in material, configuration, size and weight to the contactors tested in UUT16 and UUT17.

FFU Options

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 [1]	F_p/W_p	Unit
ATS	Price	Aerosol test system	Aluminum port, rubber tubing	2.50	1.88	UUT16, UUT17
Pressure Port	Price	Static pressure port	Stainless steel bolt, aluminum rivet nut	2.50	1.88	UUT16, UUT17
FL	Price	LED filter indicator option	Galvanized carbon steel box, LED, electrical components	2.50	1.88	UUT16, UUT17
ML	Price	LED motor indicator option	Galvanized carbon steel box, LED, electrical components	2.50	1.88	UUT16, UUT17
FBAS	Price	Filter building automation signal option	Galvanized carbon steel box, electrical components	2.50	1.88	UUT16, UUT17
MBAS	Price	Motor building atomation system signal option	Galvanized carbon steel box, electrical components	2.50	1.88	UUT16, UUT17

Note:

1. Certification level is limited to the lower rating of either the Certified Subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification
Tested Components

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Tested Mounting Description: Ceiling suspended (with or without spring isolators)

Model [1]	Cabinet Construction	Cabinet Dimensions (inches)				Weight (lb)	Threaded Rod Hanger Diameter (in)	Diagonal Cable Brace Diameter (in)	Max. Hanger Rod Length w/out Stiffener (in)	Max. Hanger Rod Spacing, unit only (in)	Max. Hanger Rod Spacing, including silencer (in)	Spring Isolators	Sds (g), z/h=1 [2]	F_p/W_p	Unit
		Length w/ Access Section	Length	Width	Height										
SDV 4	Zinc-coated steel	n/a	22 1/8	12	8	33	3/8	3/16	12	12	n/a	No	2.50	1.88	UUT1
SDV 16	Zinc-coated steel	n/a	23 5/8	24	18	81			12	16	n/a	No	2.50	1.88	UUT2
ACBL 12x24	Powder-coated carbon steel	n/a	23 3/4	11 3/4	10	19	3/8	1/8	12	12	n/a	No	2.50	1.88	UUT3A
ACBL 12x24	Powder-coated carbon steel	n/a	23 3/4	11 3/4	10	21			12	12	n/a	No	2.50	1.88	UUT3B
ACBL 12x120	Powder-coated carbon steel	n/a	119 3/4	11 3/4	10	100	1/2	3/16	n/a	62	n/a	No	2.50	1.88	UUT4B
ACBL HE 24x24	Powder-coated carbon steel	n/a	23 3/4	23 3/4	10	28	3/8	1/8	12	12	n/a	No	2.50	1.88	UUT5A
ACBL HE 24x24	Powder-coated carbon steel	n/a	23 3/4	23 3/4	10	33			12	12	n/a	No	2.50	1.88	UUT5B
ACBL HE 24x24	Powder-coated carbon steel	n/a	23 3/4	23 3/4	10	33			12	12	n/a	Yes	2.50	4.50	UUT5C
ACBH 48	Powder-coated carbon steel	n/a	48	17	8	130	3/8	3/16	10	49	n/a	No	2.50	1.88	UUT7B
ACBL HE 24x120	Powder-coated carbon steel	n/a	119 3/4	23 3/4	10	136			n/a	54	n/a	No	2.50	1.88	UUT9A
ACBL HE 24x120	Powder-coated carbon steel	n/a	119 3/4	23 3/4	10	136			n/a	54	n/a	Yes	1.93	3.47	UUT9B
ACBM HE 24x24	Powder-coated carbon steel	n/a	23 3/4	23 3/4	12	32			n/a	18	n/a	No	2.50	1.88	UUT10A
ACBM HE 24x24	Powder-coated carbon steel	n/a	23 3/4	23 3/4	12	32			n/a	18	n/a	Yes	2.50	4.50	UUT10B
ACBM HE 24x72	Powder-coated carbon steel	n/a	71 3/4	23 3/4	12	107			n/a	50	n/a	No	2.50	1.88	UUT11B
ACBM HE 24x72	Powder-coated carbon steel	n/a	71 3/4	23 3/4	12	107			n/a	50	n/a	Yes	2.50	4.50	UUT11D
SDVQ 24x16	Zinc-coated steel with straight 5ft silencer	31	19	38	18	260			n/a	12	75	No	2.50	1.88	UUT12B
SDVQ 24x16	Zinc-coated steel with straight 5ft silencer	31	19	38	18	260			n/a	12	75	Yes	2.50	4.50	UUT12C
SDVQ 16	Zinc-coated steel with straight 3ft silencer	35 5/8	23 5/8	24	18	177			n/a	16	47	No	2.50	1.88	UUT13A, B, C, D
SDVQ 16	Zinc-coated steel with straight 3ft silencer	35 5/8	23 5/8	24	18	177			n/a	16	47	Yes	2.50	4.50	UUT13E, F, G, H
SDV 16	Zinc-coated steel (no silencer)	n/a	23 5/8	24	18	81			n/a	16	n/a	Yes	2.50	4.50	UUT14A
SDVQ 4	Zinc-coated steel with elbow silencer	32 1/2	22 1/8	12	8	60			n/a	12	35	No	2.50	1.88	UUT15A
SDVQ 4	Zinc-coated steel with elbow silencer	32 1/2	22 1/8	12	8	60			n/a	12	35	Yes	2.50	4.50	UUT15B
FFU 2 x 2	Painted aluminum	n/a	23 3/4	23 3/4	18 7/8	60			n/a	21	n/a	No	2.50	1.88	UUT16
FFU 2 x 4	Painted aluminum	n/a	47 3/4	23 3/4	18 1/8	74			n/a	44	n/a	No	2.50	1.88	UUT17
SDV 16	Zinc-coated steel (no silencer)	n/a	23 5/8	24	18	42			n/a	22	n/a	No	2.50	1.88	UUT18A
SDV 16	Zinc-coated steel (no silencer)	n/a	23 5/8	24	18	42			n/a	22	n/a	Yes	2.50	4.50	UUT18B
FFU HE 2 x 4	Stainless steel	n/a	47 7/8	23 7/8	19 1/4	96			n/a	46	n/a	No	2.00	1.50	UUT19A
FFU HE 2 x 4	Stainless steel	n/a	47 7/8	23 7/8	19 1/4	96			n/a	46	n/a	No	2.00	1.50	UUT19B
FFU HE 2 x 4	Stainless steel	n/a	47 7/8	23 7/8	19 1/4	96			n/a	46	n/a	No	2.00	1.50	UUT20A
FFU HE 2 x 4	Aluminum	n/a	47 7/8	23 7/8	17 2/5	66			n/a	46	n/a	No	2.00	1.50	UUT20B
FFU HE 2 x 2	Painted aluminum	n/a	23 2/3	23 2/3	19 1/4	54			n/a	22	n/a	No	2.00	1.50	UUT21

Notes:

1. SDVQ is an SDV with housing extension including optional access door section.
2. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification
Tested Components (Continued)

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Tested Mounting Description: Ceiling suspended (with or without spring isolators)

Model	Cabinet Construction	Cabinet Dimensions (inches)				Weight (lb)	Threaded Rod Hanger Diameter (in)	Diagonal Cable Brace Diameter (in)	Max. Hanger Rod Length w/out Stiffener (in)	Max. Hanger Rod Spacing, unit only (in)	Max. Hanger Rod Spacing, including silencer (in)	Spring Isolators	Sds (g), z/h=1 [1]	F_p/W_p	Unit
		Length w/ Access Section	Length	Width	Height										
ACBL HE 24x108	Powder-coated carbon steel	n/a	107 3/4	23 3/4	10	153	3/8	3/16	n/a	37	n/a	No	2.50	1.88	UUT22
ACBL HE 24x120	Powder-coated carbon steel	n/a	119 3/4	23 3/4	10	172	3/8	3/16	n/a	37	n/a	No	2.50	1.88	UUT23

Note:

1. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

UUT1

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDV 4

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
1 row water coil, fiberglass liner, Siemens GDE131.1P controller, 24V with 120V transformer

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
33	22 1/8	12	8	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT2

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDV 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil, fiberglass liner, Price (PIC) controller 24V with 120V transformer

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
81	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT3A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL 12x24

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
2-row 4-pipe water coils, perforated face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
19	23 3/4	11 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, 1/8-inch diameter steel cable, and four manufacturer-provided friction clip brackets. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT3B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL 12x24

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
21	23 3/4	11 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, 1/8-inch diameter steel cable, and four manufacturer-provided friction clip brackets. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT4B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL 12x120

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
100	119 3/4	11 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 1/2-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using six manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT5A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x24

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
2-row 4-pipe water coils, perforated face with no wings

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.

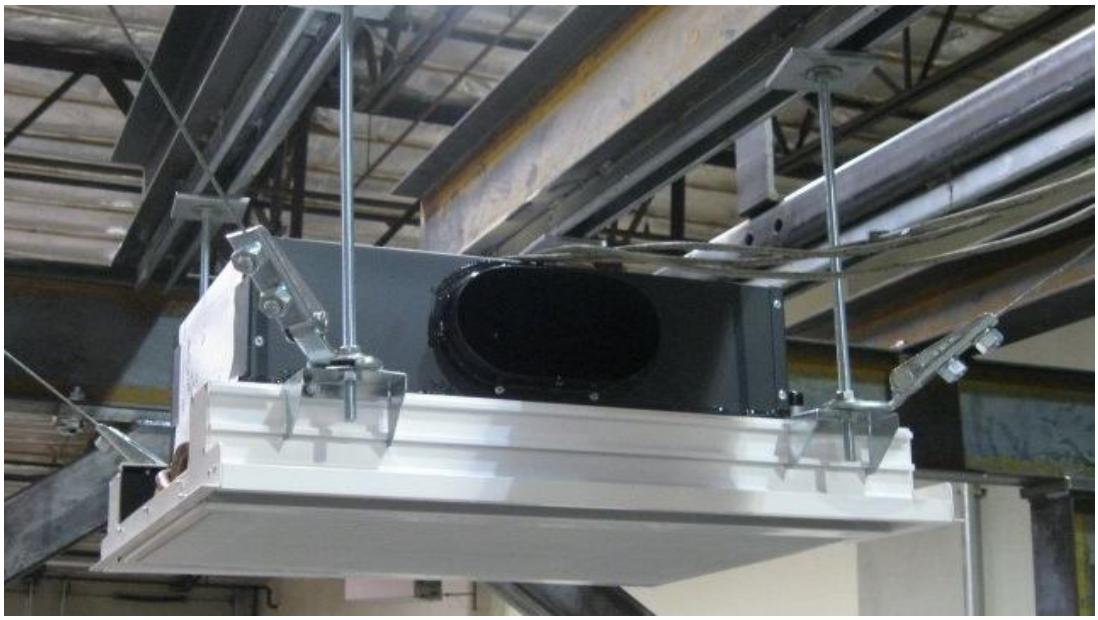
UUT Properties

Operating Weight (lb)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
28	23 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:



Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, 1/8-inch diameter steel cable and four manufacturer-provided friction clip brackets. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT5B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x24

Product Construction Summary:
Powder-coated carbon steel

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings

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.

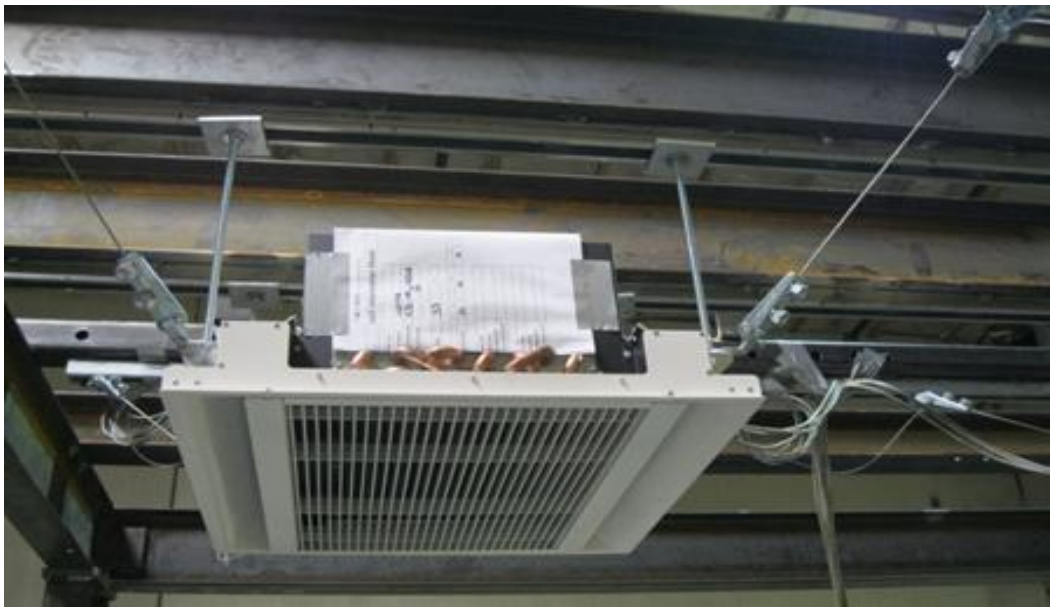
UUT Properties

Operating Weight (lb)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
33	23 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:



Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, 1/8-inch diameter steel cable and four manufacturer-provided friction clip brackets. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT5C

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x24

Product Construction Summary:
Powder-coated carbon steel

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
33	23 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod (12-inch length between attachment points), SCBH Mason brackets, 1/8-inch diameter steel cable and four manufacturer-provided friction clip brackets. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT7B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBH 48

Product Construction Summary:
Powder-coated steel cabinet

Options / Component Summary:
2-row 2-pipe water coils, security face

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
130	48	17	8	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Terminal bracket used for UUT7B tests. Brackets are 12 gage zinc-coated steel attached to unit with four #14 sheet metal screws.

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (10-inch length between attachment points), SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #14 sheet metal screws each. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT9A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x120

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
136	119 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, 3/16-inch diameter steel cable, and six manufacturer-provided friction clip brackets. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT9B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x120

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
136	119 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.51

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, 3/16-inch diameter steel cable, and six manufacturer-provided friction clip brackets. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT10A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBM HE 24x24

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
4-pipe water coils, grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
32	23 3/4	23 3/4	12	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT10B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBM HE 24x24

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
4-pipe water coils, grill face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
32	23 3/4	23 3/4	12	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to the Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT11B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBM HE 24x72

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
4-pipe water coils, perforated face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
107	71 3/4	23 3/4	12	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT11D

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBM HE 24x72

Product Construction Summary:
Powder-coated carbon steel cabinet

Options / Component Summary:
4-pipe water coils, perforated face with no wings

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
107	71 3/4	23 3/4	12	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using four manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. The threaded rod was stiffened with slotted A-12 channed and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT12B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 24x16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; CRAF liner; Schneider MR-VAV-AX-C controller and Price Analog Controller (PAC) w/KMC MEP-4003 actuator; Straight 5 ft silencer w/ PL liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
260	31	19	38	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT12C

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 24x16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; CRAF liner; Schneider MR-VAV-AX-C controller and Price Analog Controller (PAC) w/KMC MEP-4003 actuator; Straight 5 ft silencer w/ PL liner

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.

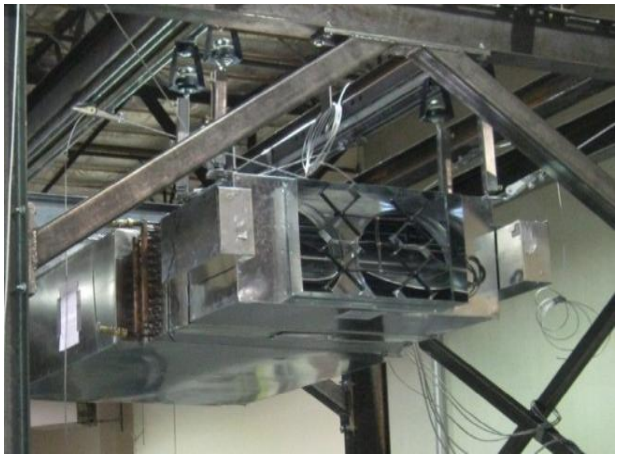
UUT Properties

Operating Weight (lb)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
260	31	19	38	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:



Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Johnson Controls MS-VMA-1620 and Honeywell W7751F controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:

Zinc-coated steel cabinet

Options / Component Summary:

4 row water coil; SM/PM liner and AFPM liner; Siemens 550-068 and Price (PIC) controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13C

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Honeywell PVL6436AS and TAC Xenta 102-AX controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13D

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Honeywell W7751H and Siemens 540-844 controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13E

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Honeywell W7751H and Siemens 540-844 controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13F

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Honeywell PVL6436AS and TAX Xenta 102-AX controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13G

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Siemens 550-068 and Price PIC controllers; Straight 3 ft silencer w/ FC liner

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.

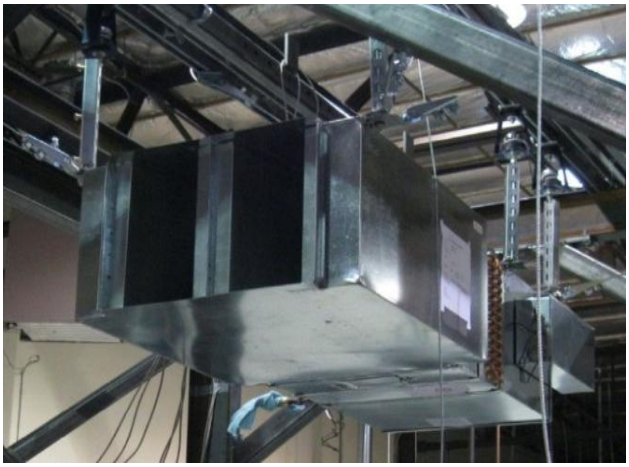
UUT Properties

Operating Weight (lb)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:



Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT13H

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4 row water coil; SM/PM liner and AFPM liner; Johnson MS-VMA-1620 and Honeywell W7751F controllers; Straight 3 ft silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
177	35 5/8	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each. A shear plate was also added on top of the terminal brackets, connected to the unit with four #8 sheet metal screws each, as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT14A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDV 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
4-row water coil; SM/PM liner and AFPM liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
81	n/a	23 5/8	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 8-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT15A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 4

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
1 row water coil; FF / FB liner; Siemens 540-100 controller; Elbow silencer w/ FC liner

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.

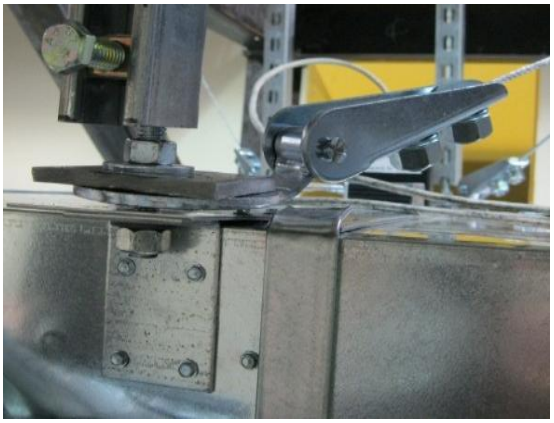
UUT Properties

Operating Weight (lb)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
60	32 1/2	22 1/8	12	8	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:



Unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to the interface frame with strut nuts and the Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT15B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDVQ 4

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
1 row water coil; FF / FB liner; Siemens 540-100 controller; Elbow silencer w/ FC liner

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Access Section	Length	Width	Height	Front-Back	Side-Side	Vertical
60	32 1/2	22 1/8	12	8	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Unit was ceiling-suspended (with spring isolators) from the DCL shake table interface frame using 3/8-inch diameter threaded rod, SCBH Mason brackets, and 3/16-inch diameter steel cable. The threaded rod was attached to the unit using manufacturer-supplied terminal brackets, connected to the unit with four #8 sheet metal screws each as shown in the above photograph (right). The threaded rod was stiffened with slotted A-12 channel and rod stiffening clips spaced at approximately 10-inches on-center. The rod was attached to Mason RW30N-B-138 spring isolators, which were in turn attached to the interface frame with strut nuts. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT16

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU 2 x 2

Product Construction Summary:

Painted aluminum cabinet

Options / Component Summary:

10" duct inlet, 120V 1/3 HP motor with fan, HEPA filter, controller, aerosol test system, static pressure port, LED kit (filter and motor indicator options), and filter and motor building automation signal options

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)	Overall Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
60	23 3/4	23 3/4	18 7/8	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

The unit was suspended from the DCL steel shake table interface ceiling fixture with 3/8-inch diameter all-thread rod using four Price-supplied model P50 brackets on top of the unit. The threaded rod was stiffened with 1-5/8-inch channel, using three clips per stiffener. The threaded rod was spaced at 20 - 5/8 inches on-center. Lateral bracing was comprised of 3/16-inch diameter steel cable with Mason SCB2 brackets. The Mason brackets were attached to the DCL fixture wth 3/8-inch diameter Grade 5 bolts.

UUT17

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU 2 x 4

Product Construction Summary:

Painted aluminum cabinet

Options / Component Summary:

12" duct inlet, 120V 1/3 HP motor with fan, HEPA filter, controller, aerosol test system, static pressure port, LED kit (filter and motor indicator options), and filter and motor building automation signal options

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)	Overall Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
74	47 3/4	23 3/4	18 1/8	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

The unit was suspended from the DCL steel shake table interface ceiling fixture with 3/8-inch diameter all-thread rod using two Price-supplied model P50 brackets and two model P51 brackets on top of the unit. The threaded rod was stiffened with 1-5/8-inch channel, using three clips per stiffener. The threaded rod was spaced at 43 - 1/2" inches on-center. Lateral bracing was comprised of 3/16-inch diameter steel cable with Mason SCB2 brackets. The Mason brackets were attached to the DCL fixture wth 3/8-inch diameter Grade 5 bolts.

UUT18A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDV 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
Fiberglass liner, two Automated Logic ZN341V+ controllers, 24V with 120V transformer

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
42	23 5/8"	19 1/2	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using 3/8-inch diameter all-thread rod and four manufacturer-provided 12-gage 90-degree brackets (each attached to the unit with four #8 SMS). The threaded rod was spaced at 22" in the long direction of the unit, and the unit was hung 16.5" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCBH-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT18B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: SDV 16

Product Construction Summary:
Zinc-coated steel cabinet

Options / Component Summary:
Fiberglass liner, two Automated Logic ZN341V+ controllers, 24V with 120V transformer

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
42	23 5/8"	19 1/2	24	18	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using four Mason hangers, Model RW30N-B-138, 3/8-inch diameter all-thread rod and four manufacturer-provided 12-gage 90-degree brackets (each attached to the unit with four #8 SMS). The threaded rod was spaced at 22" in the long direction of the unit, and the unit was hung 16.5" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCBH-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT19A

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU-HE 2x4

Product Construction Summary:
Stainless steel cabinet

Options / Component Summary:
Aluminum duct inlet, 1/3 HP 115/240V motor, forward curved fan wheel, RSR filter, BACnet Flow Controller, contactor, aerosol test system and static pressure port

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
96	n/a	47 7/8	23 7/8	19 1/4	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0	1.5				

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using four brackets integral to the test unit, 3/8-inch diameter all-thread rod. The threaded rod was spaced at 46" in the long direction of the unit, and the unit was hung 16" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCB-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT19B

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU-HE 2x4

Product Construction Summary:
Stainless steel cabinet

Options / Component Summary:
Aluminum duct inlet, 1/3 HP 115V motor, forward curved fan wheel, RSR filter, BACnet Flow Controller, contactor, aerosol test system and static pressure port

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
96	n/a	47 7/8	23 7/8	19 1/4	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0	1.5				

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using four brackets integral to the test unit, 3/8-inch diameter all-thread rod. The threaded rod was spaced at 46" in the long direction of the unit, and the unit was hung 16" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCB-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT19C

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU-HE 2x4

Product Construction Summary:
Stainless steel cabinet

Options / Component Summary:
Aluminum duct inlet, 1/3 HP 240V motor, forward curved fan wheel, RSR filter, BACnet Flow Controller, contactor, aerosol test system and static pressure port

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
96	n/a	47 7/8	23 7/8	19 1/4	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0	1.5				

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using four brackets integral to the test unit, 3/8-inch diameter all-thread rod. The threaded rod was spaced at 46" in the long direction of the unit, and the unit was hung 16" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCB-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT20

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU-HE 2x4

Product Construction Summary:
Aluminum cabinet

Options / Component Summary:
Aluminum duct inlet, 1/5 HP 115V motor, backward curved fan wheel, BTR filter, Universal Speed Controller, contactor, static pressure port

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
66	n/a	47 7/8	23 7/8	17 2/5	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0	1.5				

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using four brackets integral to the test unit, 3/8-inch diameter all-thread rod. The threaded rod was spaced at 46" in the long direction of the unit, and the unit was hung 16" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCB-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT21

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: FFU-HE 2x2

Product Construction Summary:
Painted aluminum cabinet

Options / Component Summary:
Aluminum duct inlet, 1/5 HP 277V motor, forward curved fan wheel, RSR filter, Universal Speed Controller, contactor, static pressure port

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)	Cabinet Dimensions (inches)				Lowest Natural Frequency (Hz)		
	Length w/ Duct Attachment	Length	Width	Height	Front-Back	Side-Side	Vertical
54	n/a	23 2/3	23 2/3	19 1/4	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0	1.5				

Unit Mounting Description:

The unit was suspended from the DCL shake table interface frame using four brackets integral to the test unit, 3/8-inch diameter all-thread rod. The threaded rod was spaced at 22" in the long direction of the unit, and the unit was hung 16" from the underside of the shake table interface frame ceiling. The threaded rod was stiffened using 1-5/8" slotted channel with A307 rod stiffener clips spaced at 6 inches on center. Lateral bracing consisted of 3/16-inch diameter steel cable and Mason SCB-2/SSB-2 brackets. The Mason brackets were attached to the interface frame with 1/2-inch diameter Grade 5 bolts.

UUT22

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x108

Product Construction Summary:
Powder-coated carbon steel

Options / Component Summary:
2-row 4-pipe water coils, bar grill face with no wings (Gen 3)

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
153	107 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

The unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (8 pieces), spaced at a maximum of 37 inches on-center. Grade 5 nuts, 3/8-inch spring nuts and 16-inch long rod stiffeners, consisting of strut and rod stiffening clips, were used. Lateral bracing consisted of 8 SCB1 and SCBH1 brackets and 3/16 inch diameter steel cable. The unit was suspended approximately 18 inches from the top of the shake table interface frame.

UUT23

UNIT UNDER TEST (UUT) Summary Sheet

DCL Dynamic Certification Laboratories

Manufacturer: Price Industries Limited

Product Line: Air Handling Units

Model Number: ACBL HE 24x120

Product Construction Summary:
Powder-coated carbon steel

Options / Component Summary:
2-row 4-pipe water coils, perforated face with no wings (Gen 3)

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)	Cabinet Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
172	119 3/4	23 3/4	10	N/A	N/A	N/A

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 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

The unit was ceiling-suspended from the DCL shake table interface frame using 3/8-inch diameter threaded rod (8 pieces), spaced at a maximum of 37 inches on-center. Grade 5 nuts, 3/8-inch spring nuts and 16-inch long rod stiffeners, consisting of strut and rod stiffening clips, were used. Lateral bracing consisted of 8 SCB1 and SCBH1 brackets and 3/16 inch diameter steel cable. The unit was suspended approximately 18 inches from the top of the shake table interface frame.