

APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0249-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: YORK Unitary Engineering /Johnson Controls Incorporated

Manufacturer's Technical Representative: Jason Carter

Mailing Address: 5005 York Drive, Norman, OK 73069

Telephone: (405) 628-9058 Email: jason.m.carter@jci.com

Product Information

Product Name: UPG Packaged Rooftop Units

Product Type: Packaged Air Conditioning Units

Product Model Number: See attachment

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

General Description: The York small Sunline/JCI series 5 family consists of air cooled, outdoor mounted packaged cooling only, MagnaDRY reheat, and heat pump units, ranging from 3, 4, 5, and 6 tons of cooling capacities. The units are factory-available as reheat or cooling only (CO), CO with electric heat, CO with gas heat, and heat pump models with or without electric heat.

Mounting Description: Mounted to rigid roof curb or isolated roof curb

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

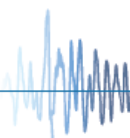
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

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: 1/6/17

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: SE-2851

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): _____
- _____
- _____

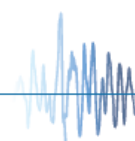
Testing Laboratory

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) = 1.88 (on rigid curbs); 5.63 (on spring isolated curbs)

S_{DS} (Design spectral response acceleration at short period, g) = 2.5

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

R_p (Equipment or component response modification factor) = 6.0 (on rigid curbs); 2.0 (on spring isolated curbs)

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): _____

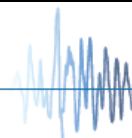
OSHDP Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 1/23/17

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.5 z/h = 1.0

Condition of Approval (if applicable): _____



Special Seismic Certification Certified Components



Manufacturer: Unitary Product Group (York, Johnson Controls, Coleman, Luxaire, Evcon, Fraser-Johnston, Champion, and TempMaster)

Product Line: York Small Sunline/JCI Series 5 Family

Certified Product Construction:

Cabinet is constructed of G90 galvanized 1,000 hour salt spray (per ASTM-B117) rated powder-coated 20 gage carbon steel wrapper.

Certified Options:

230-575 V, motor, electric heater, economizer, electrical disconnect switch, fiberglass or pleated filters, aluminized or stainless steel heat tubes, gas heat sections.

Mounting Description:

Mounted to rigid roof curb or isolated roof curb

Product Line	Model Number	Dimensions (inches)			Operating Weight (lb) ¹	Nominal Cooling Capacity (Tons)	Sds (g), z/h=1	Unit
		Depth	Width	Height				
York Small Sunline/JCI Series 5 Family/FJ ReliaCore 100/TempMaster OmniCore 100	ZD/ZE/ZF/ZS/J03ZF/J03ZE/T03 036	82	43.5	32.5	600	3	2.5	UUT5
	ZD/ZE/ZF/ZS/J04ZF/J04ZE/T04 048	82	43.5	32.5	688	4		Interpolated
	ZD/ZE/ZF/ZS/J05ZF/J05ZE/T05 060	82	43.5	32.5	716	5		Interpolated
	ZF/ZS/J06ZF/T06 072	82	43.5	32.5	700	6		UUT6
	ZR/ZK/J03ZR/T03 036	82	43.5	32.5	680	3		UUT3
	ZR/ZK/J04ZR/T04 048	82	43.5	32.5	732	4		Interpolated
	ZR/ZK/J05ZR/T05 060	82	43.5	32.5	760	5		UUT4
	XN/XT/XP/XA/J03XP/J03XN/T03 036	82	43.5	32.5	650	3		UUT1
	XN/XT/XP/XA/J04XP/J04XN/T04 048	82	43.5	32.5	690	4		Interpolated
	XN/XT/XP/XA/J05XP/J05XN/T05 060	82	43.5	32.5	700	5		UUT2

Note:

1. Weights listed for tested units are actual, not approximate weights. The weights listed for interpolated units are maximum weights, assuming all optional features are included. Optional features are summarized in the table below.

Unit Accessory	Operating Weight (lb)
Economizer	50
Gas Heat (Not on XPs)	70
Electric Heat	28
Disconnect	10
Coil Guard	7
Intelli Comfort Board	10

Special Seismic Certification Certified Subcomponents



Manufacturer: Unitary Product Group

Product Line: Unitary Product Group Packaged Rooftop Units (UPG); York Small Sunline

Compressor

Model Number	Manufacturer	Description	Material	Unit
H82J28B	Bristol	Refrigerant Compressor, 230V - 1ph	Carbon Steel	Interpolated
H82J283	Bristol	Refrigerant Compressor, 230V - 3ph	Carbon Steel	5
H82J28D	Bristol	Refrigerant Compressor, 460/575V	Carbon Steel	Interpolated
H82J373A	Bristol	Refrigerant Compressor, 230V - 1ph	Carbon Steel	Interpolated
H82J373D	Bristol	Refrigerant Compressor, 230V - 3ph	Carbon Steel	Interpolated
H82J37D	Bristol	Refrigerant Compressor, 460/575V	Carbon Steel	Interpolated
H82J483A	Bristol	Refrigerant Compressor, 230V - 1ph	Carbon Steel	Interpolated
H82J483D	Bristol	Refrigerant Compressor, 230V - 3ph	Carbon Steel	Interpolated
H82J483D	Bristol	Refrigerant Compressor, 460/575V - 3ph	Carbon Steel	Interpolated
HRH032U1	Bristol	Refrigerant Compressor, 230V - 1ph	Carbon Steel	Interpolated
HRH032U2	Bristol	Refrigerant Compressor, 230V - 3ph	Carbon Steel	1, 3
HRH032U4	Bristol	Refrigerant Compressor, 460V - 3ph	Carbon Steel	Interpolated
HRH032U7	Bristol	Refrigerant Compressor, 575V - 3ph	Carbon Steel	Interpolated
HRH041U1	Bristol	Refrigerant Compressor, 230V - 1ph	Carbon Steel	Interpolated
HRH041U2	Bristol	Refrigerant Compressor, 230V - 3ph	Carbon Steel	Interpolated
HRH041U4	Bristol	Refrigerant Compressor, 460V - 3ph	Carbon Steel	Interpolated
HRH041U7	Bristol	Refrigerant Compressor, 575V - 3ph	Carbon Steel	Interpolated
HRH054U1	Bristol	Refrigerant Compressor, 230V - 1ph	Carbon Steel	Interpolated
HRH054U2	Bristol	Refrigerant Compressor, 230V - 3ph	Carbon Steel	Interpolated
HRH054U4	Bristol	Refrigerant Compressor, 460V - 3ph	Carbon Steel	Interpolated
HRH054U7	Bristol	Refrigerant Compressor, 575V - 3ph	Carbon Steel	4
ZP61KCE	Copeland	Refrigerant Compressor, 208/230/460/575V - 3ph	Carbon Steel	6
ZP54K5E	Copeland	Refrigerant Compressor, 208/230/460/575V - 3ph	Carbon Steel	2

Outdoor Fan Motors

Model Number	Manufacturer	Description	Material	Unit
F48H x 1 x 1/4	AO Smith	1/4 HP(230V)	Rolled Steel/Cast Iron	1
F48H x 1 x 1/4	AO Smith	1/4 HP(460V)	Rolled Steel/Cast Iron	Interpolated
F48L x 1 x 1/2	AO Smith	1/2 HP (230V)	Rolled Steel/Cast Iron	3, 5
F48L x 1 x 1/2	AO Smith	1/2 HP (460V)	Rolled Steel/Cast Iron	2, 4, 6

Options: ODF Blades - Lau T10, ODF Grilles - Premier

Special Seismic Certification Certified Subcomponents



Manufacturer: Unitary Product Group

Product Line: Unitary Product Group Packaged Rooftop Units (UPG); York Small Sunline

Coils

Model Number	Manufacturer	Description (Total Sq Ft x Rows)	Material	Unit
676262	Delphi MC	Outdoor Coil, 16.3 x 2	Aluminum	5
550546		Outdoor Coil, 18.5 x 2		6
435504	JCI	Outdoor Coil, 16.3 x 2	Copper and Aluminum	3, 4
255202		Outdoor Coil, 16.3 x 2		1
255468		Outdoor Coil, 16.3 x 2		Interpolated
440770		Outdoor Coil, 16.3 x 2		2
526682		Indoor Coil, 5.06 x 3		5
526681		Indoor Coil, 5.06 x 3		Interpolated
514544		Indoor Coil, 5.06 x 4		Interpolated
550356		Indoor Coil, 5.06 x 4		6
403139		Indoor Coil w/ reheat, 5.06 x 3		3
403181		Indoor Coil w/ reheat, 5.06 x 3		Interpolated
403182		Indoor Coil w/ reheat, 5.06 x 4		4
267504		Indoor Coil, 5.06 x 4		1
255186		Indoor Coil, 5.06 x 4		Interpolated
440763		Indoor Coil, 5.06 x 4		2

Thermostatic Expansion Valves

Model Number	Manufacturer	Description	Material	Unit
BBIZE	Sporlan	3/8"	Brass	5, 3, 4
43712		Fixed Orifice		6
ANCE	Emerson	3/8"		1, 2

Indoor Blower Motor

Model Number	Manufacturer	Description	Material	Unit
196302	AO Smith	1.5 HP (230V-1ph)	Rolled Steel/ Cast Iron	Interpolated
8-158756		2.0 HP (230/460V-3ph)		Interpolated
8-151204		2.0 HP (575V-3ph)		2, 4
8-158556		3.0 HP (230/460V-3ph)		Interpolated
8-176059		3.0 HP (575V-3ph)		6
*Q*T17D	Marathon	1.5 HP (230/460V-3ph)	Rolled Steel/ Cast Iron	1, 3, 5

Economizer

Model Number	Manufacturer	Description	Material	Unit
JCI 2EE04703724	JCI	Horizontal Economizer	Galvanized Steel	1, 2, 3, 4, 5, 6
JCI 2MD04700324		2-Position Economizer		1, 2, 3, 4, 5, 6

Special Seismic Certification

Certified Subcomponents



Manufacturer: Unitary Product Group

Product Line: Unitary Product Group Packaged Rooftop Units (UPG); York Small Sunline

Electric Heater				
Model Number	Manufacturer	Description	Material	Unit
JCI #2CE04510506	JCI	5 kW (230V-1ph)	Nickel chrome alloy Galvanized Steel	5
JCI #2CE04510525		5 kW (230V-3ph)		Interpolated
JCI #2CE04510706		7 kW (230V-1ph)		Interpolated
JCI #2CE04510725		7 kW (230V-3ph)		Interpolated
JCI #2CE04510746		7 kW (460V-3ph)		Interpolated
JCI #2CE04511006		10 kW (230V-1ph)		Interpolated
JCI #2CE04511025		10 kW (230V-3ph)		Interpolated
JCI #2CE04511046		10 kW (460V-3ph)		Interpolated
JCI #2CE04511058		10 kW (575V-3ph)		Interpolated
JCI #2CE04511506		15 kW (230V-1ph)		Interpolated
JCI #2CE04511525		15 kW (230V-3ph)		Interpolated
JCI #2CE04511546		15 kW (460V-3ph)		Interpolated
JCI #2CE04511558		15 kW (575V-3ph)		Interpolated
JCI #2CE04512006		20 kW (230V-1ph)		Interpolated
JCI #2CE04512025		20 kW (230V-3ph)		Interpolated
JCI #2CE04512046		20 kW (460V-3ph)		Interpolated
JCI #2CE04512058		20 kW (575V-3ph)		Interpolated
JCI #2CE04513006		30 kW (230V-1ph)		Interpolated
JCI #2CE04513025		30 kW (230V-3ph)		Interpolated
JCI #2CE04513046		30 kW (460V-3ph)		Interpolated
JCI #2CE04513058		30 kW (575V-3ph)		6

Heat Cells (Heat Type and Nominal Heat Capacity)				
Model Number	Manufacturer	Description	Material	Unit
N04	JCI	40 MBH Output, Aluminized Steel, Single Stage	Aluminized Steel	3
N06		60 MBH Output, Aluminized Steel, Single Stage		Interpolated
N08		80 MBH Output, Aluminized Steel, Single Stage		Interpolated
N10		100 MBH Output, Aluminized Steel, Single Stage		Interpolated
S04		40 MBH Output, Stainless Steel, Single Stage	Stainless Steel	5
S06		60 MBH Output, Stainless Steel, Single Stage		Interpolated
S08		80 MBH Output, Stainless Steel, Single Stage		Interpolated
S10		100 MBH Output, Stainless Steel, Single Stage		Interpolated
D04		40 MBH Output, Aluminized Steel, Dual Stage	Aluminized Steel	Interpolated
D06		60 MBH Output, Aluminized Steel, Dual Stage		Interpolated
D08		80 MBH Output, Aluminized Steel, Dual Stage		Interpolated
D10		100 MBH Output, Aluminized Steel, Dual Stage		4
T04		40 MBH Output, Stainless Steel, Dual Stage	Stainless Steel	Interpolated
T06		60 MBH Output, Stainless Steel, Dual Stage		Interpolated
T08		80 MBH Output, Stainless Steel, Dual Stage		Interpolated
T10		100 MBH Output, Stainless Steel, Dual Stage		6

Special Seismic Certification Certified Subcomponents



Manufacturer: Unitary Product Group

Product Line: Unitary Product Group Packaged Rooftop Units (UPG); York Small Sunline

Filters

Model Number	Manufacturer	Description	Material	Unit
198, 15" x 20"	AAF	1" Fiberglass TA Filter	Fiberglass	1, 2, 3, 4, 5, 6
198, 14" x 25"	AAF	1" Fiberglass TA Filter		1, 2, 3, 4, 5, 6
300X, 15" x 20"	AAF	2" Pleated Filter	Cotton/polyester	1, 2, 3, 4, 5, 6
300X, 14" x 25"	AAF	2" Pleated Filter		1, 2, 3, 4, 5, 6

Miscellaneous

Model Number	Manufacturer	Description	Material	Unit
JCI 2LA04700100	JCI	Outdoor Fan Speed Controller	Plastic	3, 4, 5
JCI P32AF-2C	JCI	Dirty Filter Switch		1, 2, 3, 4, 5, 6
FAL	Square D	Electrical Disconnect Switch		1, 2, 3, 4, 5, 6
663677	SAP	Simplicity Lite Board Controller		3, 4, 5, 6
663678	SAP	Simplicity Lite Board Controller		1, 2
1157-903	United Technologies	Defrost Board		1, 2
STF-04U	Saginomiya	Reversing Heat Valve		1
STF-07U	Saginomiya	Reversing Heat Valve		2
1159-10	United Technologies	Itelli Comfort Board		1, 2, 3, 4, 5, 6
2SD04700324	JCI	Smoke Detector, Supply & Return		1, 2, 3, 4, 5, 6

Special Seismic Certification Tested Components



Manufacturer: Unitary Product Group (York, Johnson Controls, Coleman, Luxaire, Evcon, Fraser-Johnston, Champion, and TempMaster)

Product Line: York Small Sunline/JCI Series 5 Family

Tested Product Construction:

Cabinet is constructed of G90 galvanized 1,000 hour salt spray (per ASTM-B117) rated powder-coated 20 gage carbon steel wrapper.

Tested Options:

230-575 V, motor, electric heater, economizer, electrical disconnect switch, fiberglass or pleated filters, aluminized and stainless steel heat tubes, gas heat sections.

Mounting Description:

Mounted to rigid roof curb or isolated roof curb

Product Line	Model Number	Dimensions (inches)			Operating Weight (lb)	Nominal Cooling Capacity (Tons)	Mount	Sds (g), z/h=1	Unit
		Depth	Width	Height					
York Small Sunline/JCI Series 5 Family	XP036E05P2BAE1	82	43.5	32.5	650	3	Rigid Roof Curb	2.5	1a
							Isolated Roof Curb		1b
	XP060E30V5BZZ2	82	43.5	32.5	700	5	Rigid Roof Curb		2a
							Isolated Roof Curb		2b
	ZR036N04R2DZZ1	82	43.5	32.5	680	3	Rigid Roof Curb		3a
							Isolated Roof Curb		3b
	ZR060D10U5GZZ1	82	43.5	32.5	760	5	Rigid Roof Curb		4a
							Isolated Roof Curb		4b
	ZF036S04N2KZZ1	82	43.5	32.5	600	3	Rigid Roof Curb		5a
							Isolated Roof Curb		5b
	ZF072T10T5BAC1	82	43.5	32.5	700	6	Rigid Roof Curb		6a
							Isolated Roof Curb		6b

UUT1a Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: XP036E05P2BAE1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

230V, 3-ton, standard static 1.5HP IDB motor, 5kW electric heater, phase monitor, OD coil guard, full modulating economizer, electrical disconnect switch, 1" fiberglass throwaway filters. Uses scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
650	82	43.5	32.5	10.3	8.0	14.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT1a was tested on a rigid roof curb by MicroMetl. The curb had six 10-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with sixteen 1/2-inch diameter Grade 5 bolts, six on each long side of the curb and four on each short side, with each side sharing a bolt on the corners.

UUT1b Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: XP036E05P2BAE1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

230V, 3-ton, standard static 1.5HP IDB motor, 5kW electric heater, phase monitor, OD coil guard, full modulating economizer, electrical disconnect switch, 1" fiberglass throwaway filters. Uses scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
650	82	43.5	32.5	3.8	3.0	5.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT1b was tested on an isolated roof curb by ProVent. The curb had six 12-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with six 1/2-inch diameter Grade 5 bolts, one centered at each corner and one centered on each of the long sides of the curb.

UUT2a Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: XP060E30V5BZZ2

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

575V, 5-ton, high static 2HP IDB motor, 30kW electric heater, OD coil guard, motorized damper economizer, hinged filter door and toolless access panels, electrical disconnect switch and 2" pleated air filters. Uses scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
700	82	43.5	32.5	10.0	7.5	17.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT2a was tested on a rigid roof curb by MicroMetl. The curb had six 10-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with sixteen 1/2-inch diameter Grade 5 bolts, six on each long side of the curb and four on each short side, with each side sharing a bolt on the corners.

UUT2b Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: XP060E30V5BZZ2

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

575V, 5-ton, high static 2HP IDB motor, 30kW electric heater, OD coil guard, motorized damper economizer, hinged filter door and toolless access panels, electrical disconnect switch and 2" pleated air filters. Uses scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
700	82	43.5	32.5	3.5	2.8	5.8

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT2b was tested on an isolated roof curb by ProVent. The curb had six 12-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with six 1/2-inch diameter Grade 5 bolts, one centered at each corner and one centered on each of the long sides of the curb.

UUT3a Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZR036N04R2DZZ1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

230V, 3-ton, IDB motor, single stage and aluminized tubed gas heat section, OD coil guard, IntelliComfort controller, 2" pleated air filters, non-powered convenience outlet, disconnect switch, phase monitor, standard screw-on access doors, dirty filter switch, motorized damper economizer. Uses scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
680	82	43.5	32.5	12.8	7.5	17.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT3a was tested on a rigid roof curb by Ruskin. The curb had eight 10-gage anchoring pockets, three on each long side of the curb and one on each short side. The unit was attached to each of the pockets using two #14-24 x 5-inch self drilling screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with eight 3/8-inch diameter Grade 5 bolts, two on each side of the curb, each 5-inches in from the corners.

UUT3b Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZR036N04R2DZZ1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

230V, 3-ton, IDB motor, single stage and aluminized tubed gas heat section, OD coil guard, IntelliComfort controller, 2" pleated air filters, non-powered convenience outlet, disconnect switch, phase monitor, standard screw-on access doors, dirty filter switch, motorized damper economizer. Uses scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
680	82	43.5	32.5	3.5	2.3	6.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT3b was tested on an isolated roof curb by MicroMetl. The curb had six 10-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with sixteen 1/2-inch diameter Grade 5 bolts, six each long side and four each short side, with each side sharing a bolt on the corners.

UUT4a Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZR060D10U5GZZ1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

575V, 5-ton, 2HP IDB motor, two-stage aluminized tubed gas heat section, standard controller, stainless steel drain pan, supply air smoke detector, dirty filter switch, standard 1" fiberglass throwaway filters, hinged filter and toolless access door, full modulating economizer, electrical disconnect switch. Uses a scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
760	82	43.5	32.5	9.5	7.8	14.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT4a was tested on a rigid roof curb by MicroMetl. The curb had six 10-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with sixteen 1/2-inch diameter Grade 5 bolts, six on each long side of the curb and four on each short side, with each side sharing a bolt on the corners.

UUT4b Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZR060D10U5GZZ1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

575V, 5-ton, 2HP IDB motor, two-stage aluminized tubed gas heat section, standard controller, stainless steel drain pan, supply air smoke detector, dirty filter switch, standard 1" fiberglass throwaway filters, hinged filter and toolless access door, full modulating economizer, electrical disconnect switch. Uses a scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
760	82	43.5	32.5	4.3	3.5	6.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT4b was tested on an isolated roof curb by ProVent. The curb had four 12-gage anchoring pockets, two on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with six 1/2-inch diameter Grade 5 bolts, one centered at each corner and one centered on each of the long sides of the curb.

UUT5a Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZF036S04N2KZZ1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

Cooling only, 3-ton, 230V, IDB motor, single stage stainless steel tubed gas heat section, standard controller, standard polymer drain pan, OD coil guard, standard 2" pleated air filters, hinged filter and toolless access door, OD coil guard, return air smoke detector, electrical disconnect switch. Uses a reciprocating compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
600	82	43.5	32.5	13.0	7.0	16.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT5a was tested on a rigid roof curb by Ruskin. The curb had eight 10-gage anchoring pockets, three on each long side of the curb and one on each short side. The unit was attached to each of the pockets using two #14-24 x 5-inch self-drilling screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with eight 3/8-inch diameter Grade 5 bolts, two on each side of the curb, each 5-inches in from the corners.

UUT5b Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZF036S04N2KZZ1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

Cooling only, 3-ton, 230V, IDB motor, single stage stainless steel tubed gas heat section, standard controller, standard polymer drain pan, OD coil guard, standard 2" pleated air filters, hinged filter and toolless access door, OD coil guard, return air smoke detector, electrical disconnect switch. Uses a reciprocating compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
600	82	43.5	32.5	3.5	2.8	5.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT5b was tested on an isolated roof curb by MicroMetl. The curb had six 10-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with sixteen 1/2-inch diameter Grade 5 bolts, six each long side and four each short side, with each side sharing a bolt on the corners.

UUT6a Unit Under Test Summary Sheet



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZF072T10T5BAC1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

Cooling only, 6-ton, 575V, stainless steel dual staged gas heating, 1" fiberglass throwaway filters, standard access panels, disconnect switch, standard controller, 3HP IDB motor. Uses a scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
700	82	43.5	32.5	12.5	7.3	14.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT6a was tested on a rigid roof curb by Ruskin. The curb had eight 10-gage anchoring pockets, three on each long side of the curb and one on each short side. The unit was attached to each of the pockets using two #14-24 x 5-inch self drilling screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with eight 3/8-inch diameter Grade 5 bolts, two on each side of the curb, each 5-inches in from the corners.

UUT6b Unit Under Test **Summary Sheet**



Manufacturer: Unitary Product Group

Product Line: York Small Sunline/JCI Series 5

Model Number: ZF072T10T5BAC1

Product Construction Summary:

Cabinet is constructed of G90 galvanized steel, with powder-coated finish, certified at 1,000 hours salt spray test per ASTM B 117.

Options / Component Summary:

Cooling only, 6-ton, 575V, stainless steel dual staged gas heating, 1" fiberglass throwaway filters, standard access panels, disconnect switch, standard controller, 3HP IDB motor. Uses a scroll compressor design.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
700	82	43.5	32.5	3.5	2.5	5.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Note: The UUT was filled with operating fluid for the seismic simulation test and was operational before and after shaking. The structural integrity of the component attachment system and force-resisting systems was maintained.

Unit Mounting Description:



UUT6b was tested on an isolated roof curb by MicroMetl. The curb had six 10-gage anchoring pockets, three on each long side of the curb. The unit was attached to each of the pockets using four #12 1-1/2-inch TEK screws. The curb was attached to the 3/4-inch thick steel shake table interface plate with sixteen 1/2-inch diameter Grade 5 bolts, six each long side and four each short side, with each side sharing a bolt on the corners.