



APPLICATION FOR PREAPPROVAL

SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO. OSP-0249-10
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Check whether application is: NEW RENEWAL

1.0 YORK Unitary Engineering /Johnson Controls Incorporated <hr/> <i>Manufacturer</i> 5757 N. Green Bay Ave. <hr/> <p style="text-align: center;"><i>Mailing Address</i></p> <hr/> (405) 419-6453 <hr/> <p style="text-align: center;"><i>Telephone</i></p>	Randy Forristall <hr/> <i>Manufacturer's Technical Representative</i> Milwaukee, WI 53201 <hr/> <hr/> Randall.C.Forristall@jci.com <hr/> <p style="text-align: center;"><i>E-mail Address</i></p>
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2.0 UPG Packaged Rooftop Units <hr/> <p style="text-align: center;"><i>Product Name</i></p> <hr/> XP/XA/J0*XP/T0*, ZF/ZS/J0*ZF/T0* and ZR/ZK/J0*ZR/T0* UPG Packaged Rooftop Units, 3 to 6 Ton <hr/> <p style="text-align: center;"><i>Product model No (List all unique product identification numbers and/or serial numbers)</i></p> <hr/> <p><i>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.</i></p>	Air Handling Equipment <hr/> <p style="text-align: center;"><i>Product Type</i></p>
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3.0 DYNAMIC CERTIFICATION LABORATORIES, LLC <hr/> <i>Applicant Company Name</i> 1315 GREG STREET, SUITE 109 <hr/> (775) 358-5085 <hr/> <p style="text-align: center;"><i>Telephone</i></p>	JOSEPH LA BRIE, S.E. <hr/> <p style="text-align: center;"><i>Contact Person</i></p> SPARKS, NV 89431 <hr/> <hr/> <p style="text-align: center;"><i>Mailing Address</i></p> <hr/> LaBrie@makeitright.net <hr/> <p style="text-align: center;"><i>E-mail Address</i></p>
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I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

 <hr/> <p style="text-align: center;"><i>Signature of Applicant</i></p> <hr/> Managing Partner <hr/> <p style="text-align: center;"><i>Title</i></p>	01/17/2012 <hr/> <p style="text-align: center;"><i>Date</i></p> <hr/> Dynamic Certification Laboratories, LLC <hr/> <p style="text-align: center;"><i>Company Name</i></p>
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Registered Design Professional Preparing the Report

4.0 DYNAMIC CERTIFICATION LABORATORIES, LLC
Company Name

JOSEPH LA BRIE, S.E. SE-3566
Contact Name *California License Number*

1315 GREG STREET, SUITE 109, SPARKS, NV 89431
Mailing Address

(626) 445-0366 LaBrie@MakeltRight.net
Telephone *E-mail Address*

California Licensed Structural Engineer Review and Acceptance of the Report

5.0 DYNAMIC CERTIFICATION LABORATORIES, LLC
Company Name

DR. AHMAD ITANI, SE SE-5220
Contact Name *California License Number*

1315 GREG STREET, SUITE 109, SPARKS, NV 89431
Mailing Address

(775) 358-5085 Itani@shaketest.com
Telephone *E-mail Address*

Anchorage Pre-Approval

- 6.0 Anchorage is pre-approved under OPA-
 (Separate application for anchorage pre-approval is required)
- Anchorage is not Pre-approved

Certification Method

- 7.0 Testing in accordance with: ICC-ES AC-156 Other (Please Specify):
-
- Analysis
- Experience data
- Combination of Testing, Analysis, and/or Experience Data (Please Specify): Testing

Testing Laboratory (if applicable)

8.0 DYNAMIC CERTIFICATION LABORATORIES, LLC KELLY LAPLACE, PROJECT ENGINEER
Company Name *Contact Name*

1315 GREG STREET, STE 109 SPARKS, NV 89431
Mailing Address

(775) 358-5085 Kelly@shaketest.com
Telephone *E-mail:*



Approval Parameters

9.0

Design in accordance with ASCE 7-05 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 1.9 (on rigid curbs); 5.6 (on spring isolated curbs)

S_{DS} (Spectral response acceleration at short period) = 2.5 g

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)

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component fundamental period(s) = SEE ATTACHMENT

Building period limits (if any) = NONE

Overall dimensions and weight (or range thereof) = SEE ATTACHMENT

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15: Yes No

Design Basis of Equipment or Components (V/W) =

S_{DS} (Spectral response acceleration at short period) =

S_1 (Spectral response acceleration at 1 second period) =

R (Response modification coefficient) = 1.0

Ω_0 (System overstrength factor) = 1.0

C_d (Deflection amplification factor) = 1.0

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = Sec

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007: Yes No

List of attachments supporting the special seismic certification of equipment or components:

- Test Report
- Drawings
- Manufacturer's Catalog
- Calculations
- Others (Please Specify):

11.0 OSHPD Approval (For Office Use Only)

M. R. Karim

2/15/2012

December 31, 2016

Signature & Date

Approval Expiration Date

M. R. Karim, SHFR

S_{DS} (g) = **2.5** z/h = **1.0**

Name & Title

Special Seismic Certification Valid Up to

Condition of Approval (if any):

Special Seismic Certification Tested Units



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

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.

Tested Mounting Description:

Equipment was tested with both rigid and isolated roof curb mounting.

Product Line	Model Number	Dimensions (inches)			Operating Weight (lb)	Nominal Cooling Capacity (Tons)	Mount	Sds Level	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

Special Seismic Certification Approved Units



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

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.

Certified Mounting Description:

Equipment is certified for both rigid and isolated roof curb mounting.

Product Line	Model Number	Dimensions (inches)			Operating Weight (lb)	Nominal Cooling Capacity (Tons)	Sds level Approved	Unit
		Depth	Width	Height				
York Small Sunline/JCI Series 5 Family	ZF/ZS/J0*ZF/T0* 036	82	43.5	32.5	600	3	2.5	UUT5
	ZF/ZS/J0*ZF/T0* 048	82	43.5	32.5	688**	4		Interpolated
	ZF/ZS/J0*ZF/T0* 060	82	43.5	32.5	716**	5		Interpolated
	ZF/ZS/J0*ZF/T0* 072	82	43.5	32.5	700	6		UUT6
	ZR/ZK/J0*ZR/T0* 036	82	43.5	32.5	680	3		UUT3
	ZR/ZK/J0*ZR/T0* 048	82	43.5	32.5	732**	4		Interpolated
	ZR/ZK/J0*ZR/T0* 060	82	43.5	32.5	760	5		UUT4
	XP/XA/J0*ZR/T0* 036	82	43.5	32.5	650	3		UUT1
	XP/XA/J0*ZR/T0* 048	82	43.5	32.5	690**	4		Interpolated
	XP/XA/J0*ZR/T0* 060	82	43.5	32.5	700	5		UUT2

** Note: 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

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen using M12 threaded rod, spaced approximately 8-inches on-center.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen with M12 threaded studs.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen using M12 threaded rod, spaced approximately 8-inches on-center.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen with M12 threaded studs.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen using M12 threaded rod, spaced approximately 8-inches on-center.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen with M12 threaded studs.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen using M12 threaded rod, spaced approximately 8-inches on-center.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen with M12 threaded studs.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen using M12 threaded rod, spaced approximately 8-inches on-center.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen with M12 threaded studs.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen using M12 threaded rod, spaced approximately 8-inches on-center.

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	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	1.0	1.5	4	3	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 mounted to shake table and ready for test.

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. The shake table interface plate was attached to the shake table platen with M12 threaded studs.

Special Seismic Certification Approved Components



Manufacturer: Unitary Product Group

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

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

Outdoor Fan Motors			
Model Number	Manufacturer	Description	Unit
F48H x 1 x 1/4	AO Smith	1/4 HP(230V)	1
F48H x 1 x 1/4	AO Smith	1/4 HP(460V)	Interpolated
F48L x 1 x 1/2	AO Smith	1/2 HP (230V)	3, 5
F48L x 1 x 1/2	AO Smith	1/2 HP (460V)	2, 4, 6

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

Special Seismic Certification Approved Components



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)	Unit
676262	Delphi MC	Outdoor Coil, 16.3 x 2	5
550546	Delphi MC	Outdoor Coil, 18.5 x 2	6
435504	JCI	Outdoor Coil, 16.3 x 2	3, 4
255202	JCI	Outdoor Coil, 16.3 x 2	1
255468	JCI	Outdoor Coil, 16.3 x 2	Interpolated
440770	JCI	Outdoor Coil, 16.3 x 2	2
526682	JCI	Indoor Coil, 5.06 x 3	5
526681	JCI	Indoor Coil, 5.06 x 3	Interpolated
514544	JCI	Indoor Coil, 5.06 x 4	Interpolated
550356	JCI	Indoor Coil, 5.06 x 4	6
403139	JCI	Indoor Coil w/ reheat, 5.06 x 3	3
403181	JCI	Indoor Coil w/ reheat, 5.06 x 3	Interpolated
403182	JCI	Indoor Coil w/ reheat, 5.06 x 4	4
267504	JCI	Indoor Coil, 5.06 x 4	1
255186	JCI	Indoor Coil, 5.06 x 4	Interpolated
440763	JCI	Indoor Coil, 5.06 x 4	2

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

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

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

Special Seismic Certification
Approved Components



Manufacturer: Unitary Product Group

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

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

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

**Special Seismic Certification
Approved Components**



Manufacturer: Unitary Product Group

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

Filters			
<i>Model Number</i>	<i>Manufacturer</i>	<i>Description</i>	<i>Unit</i>
198, 15" x 20"	AAF	1" Fiberglass TA Filter	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	1, 2, 3, 4, 5, 6
300X, 14" x 25"	AAF	2" Pleated Filter	1, 2, 3, 4, 5, 6

Miscellaneous			
<i>Model Number</i>	<i>Manufacturer</i>	<i>Description</i>	<i>Unit</i>
JCI 2LA04700100	JCI	Outdoor Fan Speed Controller	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