APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0243

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Johnson Controls, Inc.

Manufacturer's Technical Representative: Jeff Ronald

Mailing Address: 100 JCI Way, York, PA 17406

Telephone: (717) 978-3326 Email: Jeffrey.joseph.ronald@jci.com

Product Information

Product Name: Air Conditioning Units

Product Type: Air Conditioning Units - Custom

Product Model Number: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

General Description: Custom sized and configured air conditioning units.

Mounting Description: See Certified Product Tables

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Manwill Engineering LLC

Contact Person: Derek Manwill

Mailing Address: PO Box 1194, Bend, OR 97709

Telephone: (541) 241-2102 Email: derek@manwillSE.com

Title: President

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

Company Name: MANWILL ENGINEERING LLC

Name: Derek Manwill California License Number: S6266

Mailing Address: PO Box 1194, Bend, OR 97709

Telephone: (541) 241-2102 Email: derek@manwillse.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)

Contact Person: Josh Sailer

Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

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

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657 Email: jeremy@etldallas.com

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)

Contact Person: Amarnath Kasalanati

Mailing Address: 1301 South 46th St. Bldg. 420, Richmond CA 94804

Telephone: (510) 642-6475 Email: peer_center@berkeley.edu

Company Name: UNIVERSITY OF BUFFALO (SEESL)

Contact Person: Mark C. Pitman

Mailing Address: 212 Ketter Hall, North Campus, Buffalo NY 14260

Telephone: (716) 645-4377 Email: mpitman@buffalo.edu

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.45

S_{DS} (Design spectral response acceleration at short period, g) = 1.93

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 8/25/2021

Name: Timothy Piland Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: S_{DS} (g) = 1.93 z/h = 1

Condition of Approval (if applicable):

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS* (in)			MAX. WT. (psf)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
York Custom YC / Miller-Picking MP Air Conditioning Units - Fully Enclosed						
YC/MP-30x36	36	36	36	123		INTERP
…	…	…	…	…		INTERP
YC/MP-90x96	96	96	96	78	Weight = 4,988lb	**UUT 1**
Roof/Walls: 2in panels, 20GA SS skin, 20GA SS liner, fiberglass. Base: 6in frame, 0.125in SS tread. floor. Curb: 14in tall.						
YC/MP-139x144	171	144	147	75	Weight - 12,800lb	**UUT 6**
Roof/Walls: 3in panels, 20GA CS skin, 0.05in Al liner, foam. Base: 8in frame, 16GA CS floor.						
YC/MP-145x144	144	144	151	87	Weight = 12,500lb	**UUT 7**
Roof/Walls: 4in panels, 20GA CS skin, 22GA SS liner, foam. Base: 6in frame, 16GA CS floor.						
YC/MP-138x144	96	144	144	102	Weight = 9,810lb	**UUT 2A**
Roof/Walls: 4in panels, 0.04in Al skin, 20GA SS liner, mineral wool. Base: 6in frame, 12GA SS floor.						
YC/MP-144x144	171	144	152	124	Weight = 21,200lb	**UUT 5**
Roof/Walls: 3in panels, 16GA SS skin, 16GA SS liner, foam. Base: 8in frame, 0.125in Al tread. floor.						
YC/MP-144x144	198	144	152	123	Weight = 24,300lb	**UUT 4**
Roof/Walls: 3in panels, 16GA SS skin, 22GA CS liner, foam. Base: 8in frame, 16GA SS floor.						
York Custom YC / Miller-Picking MP Air Conditioning Units - Inlet, Outlet, & Side Removed						
YC/MP-30x36	36	36	36	49		INTERP
…	…	…	…	…		INTERP
YC/MP-132x144	144	144	144	49	Weight = 7,120lb	**UUT 3C**
Roof/Walls: 2in panels, 20GA CS skin, 22GA CS liner, foam. Base: 12in frame, 10GA CS floor.						
York Custom YC / Miller-Picking MP Air Conditioning Units - Inlet & Side Removed						
YC/MP-30x36	36	36	36	74		INTERP
…	…	…	…	…		INTERP
YC/MP-134x144	96	144	144	74	Weight = 7,100lb	**UUT 2C**
Roof/Walls: 2in panels, 0.04in Al skin, 0.05in perf. Al liner, fiberglass/foam. Base: 10in frame, 0.125in CS floor.						
York Custom YC / Miller-Picking MP Air Conditioning Units - Inlet & Outlet Removed						
YC/MP-30x36	36	36	36	77		INTERP
…	…	…	…	…		INTERP
YC/MP-136x144	144	144	144	77	Weight = 11,100lb	**UUT 3B**
Roof/Walls: 3in panels, 20GA CS skin, 20GA perf. CS liner, fiberglass/foam. Base: 8in frame, 10GA CS floor.						

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in) DEPTH	WIDTH	HEIGHT	MAX. WT. (psf)	DESCRIPTION / NOTES	BASIS
York Custom YC / Miller-Picking MP, XT Air Conditioning Units						
YC/MP-138x138	125	183	146	43	Weight = 6,732lb	**UUT 8**
Roof/Walls: 2in panels, 20GA SS & 0.04in AL skin, 20GA SS/20GA perf. SS/0.05in AL/0.05in perf. AL liner, foam & fiberglass. Base: 8in frame, 16GA CS floor.						
XTI-027X030-DAGA046A	62	30	54	64	Weight = 830lb	**UUT 15**
Roof/Walls: 2in panels, 20GA CS skin, 20GA CS liner, foam. Base: 2in CS panels.						
XTI-090X120-DAPA046A	71	120	90	50	Weight = 3,000lb	**UUT 18**
Roof/Walls: 2in panels, 20GA CS skin, 20GA CS liner, foam. Base: 2in CS panels.						
XTI-60Hx60Wx120L	120	60	60	46	Weight = 2,320lb	**UUT 22**
Roof/Walls: 2in panels, 20GA CS skin, 20GA CS liner, foam. Base: 6in 10GA CS frame, 2in CS panels.						
XTI-120Hx114Wx100L	100	114	120	88	Weight = 7,030lb	**UUT 26**
Roof/Walls: 2in panels, 20GA CS skin, 20GA CS liner, foam. Base: 2in CS panels.						

MOUNTING:	Rigid floor mounted or floor mounted on 14in max. tall curb (up to 78psf for mounting on curb).	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5

NOTES:

Dimensions: Maximum dimensions refer to split dimensions and/or dimensions between walls or seismic braces.

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Unit Configuration: Maximum tributary width allowed for a single wall/brace is 72in, so a double wall or double seismic brace is required every 144in in the interior of the unit. A single wall is allowed between vestibule and air tunnel, but the 144in maximum spacing must be kept. Total distributed weight of section surrounded by walls or seismic braces must not exceed the maximum weights listed above.

Roof/Wall Construction: 2in - 4in panels; 20GA - 16GA carbon steel or stainless steel, or 0.04in aluminum, exterior skin; 22GA - 16GA carbon steel or stainless steel, or 0.05in aluminum, interior liner (solid or perforated); 16GA carbon steel internal channels; foam, fiberglass, or mineral wool insulation. [CS = carbon steel, SS = stainless steel, Al = aluminum, Cu = copper.]

Base Construction: 6in - 12in welded structural carbon steel channel frame; 16GA - 0.125in carbon steel or stainless steel, or 0.125in aluminum, floor (smooth or treadplate); foam insulation.

Subcomponents: Units may have any combination of subcomponents from the following tables.

TABLE 2 - TUNNEL MOUNTED

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Johnson Controls - Water Coils (copper or aluminum fin, copper tube, carbon steel or stainless steel framing)						
Single-7.5Hx12Wx1row	7.4	12.0	7.5	10		EXTRAP
…	…	…	…	…		EXTRAP
Single-47.5Hx127Wx12row	17.6	127.0	47.5	2,669	UUT: Cu fin, CS frame	**UUT 4**
Double-15Hx12Wx1row	7.4	12.0	15.0	20		INTERP
…	…	…	…	…		INTERP
Double-35Hx62Wx1row	7.4	62.0	35.0	149	UUT: Cu fin, SS frame	**UUT 1**
…	…	…	…	…		INTERP
Double-78.5Hx129Wx12row	17.6	129.0	78.5	3,784	UUT: Al fin, CS frame	**UUT 4**
Double-78.5Hx127Wx8row	12.6	127.0	78.5	4,600		INTERP
Triple-22.5Hx12Wx1row	7.4	12.0	22.5	30		INTERP
…	…	…	…	…		INTERP
Triple-126.75Hx127Wx8row	12.6	127.0	126.8	7,429	UUT: Cu fin, SS frame	**UUT 5**
Johnson Controls - Steam Coils (aluminum fin, carbon steel casing)						
Single-18Hx17.5W	5.0	17.5	18.0	41		**UUT 7**
…	…	…	…	…		INTERP
Single-54Hx101W	5.0	101.0	54.0	353		INTERP
Double-36Hx17.5W	5.0	17.5	36.0	82		INTERP
…	…	…	…	…		INTERP
Double-108Hx101W	5.0	101.0	108.0	706		**UUT 7**
Johnson Controls - Universal Type 8, HEPA Filter Frames (carbon steel, stainless steel, or aluminum; *see Table 2.2*)						
Type8/HEPA-30Hx30W	1 row	30.0	30.0	90		EXTRAP
…	…	…	…	…		EXTRAP
Type8-130Hx140W	1 row	140.0	130.0	750	UUT: Type 8 - mixed CS, SS, & Al	**UUT 2C**
…	…	…	…	…		INTERP
Type8/HEPA-136Hx179W	1 row	179.0	136.0	790	UUT: mixed Type 8, HEPA - CS	**UUT 8**
…	…	…	…	…		INTERP
HEPA-130Hx140W	1 row	140.0	130.0	1,600	UUT: HEPA - mixed CS, SS	**UUT 2C**
Johnson Controls - Angle Filter Frames (carbon steel or stainless steel)						
Angle-27Hx30W	1 row	30.0	27.0	33		EXTRAP
…	…	…	…	…		EXTRAP
Angle-141Hx138W	1 row	138.0	141.0	650	UUT: carbon steel	**UUT 4**
Angle-141Hx138W	1 row	138.0	141.0	650	UUT: stainless steel	**UUT 5**
Johnson Controls - Flat Filter Frames (carbon steel or stainless steel, *see mounting note*)						
Flat-27Hx30W	1 row	30.0	27.0	15		EXTRAP
…	…	…	…	…		EXTRAP
Flat-130Hx58W	1 row	58.0	130.0	170	UUT: carbon steel	**UUT 2C**
Flat-130Hx58W	1 row	58.0	130.0	170	UUT: stainless steel	**UUT 2C**
Premier Industries - Evaporative Coolers (stainless steel framing, GLASdek media)						
24Hx24W	26.0	24.0	24.0	364		**UUT 1**
…	…	…	…	…		INTERP
130Hx130W	26.0	130.0	130.0	3,732		**UUT 2C**

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Johnson Controls - Humidifiers (stainless steel, see mounting note)						
23Hx23W	1 row	23.0	23.0	25		EXTRAP
…	…	…	…	…		EXTRAP
23Hx126W	1 row	126.0	23.0	95		**UUT 6**
…	…	…	…	…		INTERP
120Hx126W	1 row	126.0	120.0	430		**UUT 6**
Colmac - Air to Air Heat Pipe Coils (aluminum fin, carbon steel casing)						
Single-15Hx24Wx2row	2 row	24.0	15.0	49		**UUT 1**
…	…	…	…	…		INTERP
Single-60Hx120Wx5row	5 row	120.0	60.0	1,468		INTERP
Double-30Hx24Wx2row	2 row	24.0	30.0	98		INTERP
…	…	…	…	…		INTERP
Double-119Hx120Wx5row	5 row	120.0	119.0	2,936		**UUT 2A**
Thermotech - Energy Recovery Wheels (MSP or MHP media)						
TC-14	18.0	28.0	28.0	163	UUT: Al frame, MSP media	**UUT 1**
TF-359	21	126.0	126.0	3,292	UUT: CS frame, MHP media	**UUT 2A**
UVDI - V-MAX Grid UV Systems (*see mounting note*)						
Carbon Steel Grid - 28x48	9.0	28.0	48.0	40		EXTRAP
Stainless Steel Grid - 28x48	9.0	28.0	48.0	40		EXTRAP
…	…	…	…	…		EXTRAP
Carbon Steel Grid - 97x144	9.0	97.0	144.0	350	UUT: 1 column ea. 61", 21" bulbs	**UUT 11.1**
Stainless Steel Grid - 97x144	9.0	97.0	144.0	350	UUT: 1 column ea. 61", 21" bulbs	**UUT 11.2**
Johnson Controls - Fan Arrays (carbon steel; *see dimensions & weights note; see Table 2.1 for fans*)						
1-tall-30Hx12.2Fan	14.6	22.1	27.0	184		EXTRAP
…	…	…	…	…		INTERP
5-tall-140Hx12.2Fan	14.6	22.1	140.0	920		**UUT 7**
5-tall-140Hx12.4Fan	16.6	23.3	140.0	950		**UUT 7**
3-tall-140Hx24.8Fan	21.6	36.7	140.0	1,200		**UUT 7**
…	…	…	…	…		INTERP
3-tall-140Hx24.8Fan	30.7	33.5	140.0	1,600		**UUT 7**

MOUNTING:	Tunnel mounted within unit. Subcomponent is attached to the floor, ceiling, and both side walls. See note below.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5

NOTES:

Flat Filter, Humidifier, & UV System Mounting: Attached only to the floor and ceiling. Extrapolated widths must maintain similar construction as tested units with top/bottom connections.
Fan Array Dimensions & Weights: Values are for a single column of the fan array.
Construction/Options: Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.

TABLE 2.1 - FAN ARRAY FANS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
EBM-Papst - RadiPac Cube Fans (carbon steel housing, aluminum wheel)						
EG1R-480-310	13.8	19.7	19.7	61	UUT: 5-tall array	**UUT 7**
EG1R-480-355	14.6	19.7	19.7	61		INTERP
EG1R-480-400	16.1	21.7	21.7	77		INTERP
EG1R-480-450	19.3	24.8	24.8	121		INTERP
EG1R-480-500	20.9	26.8	26.8	132		INTERP
EG1R-480-560	22.9	31.5	31.5	161		INTERP
K3G630	27.7	29.9	29.9	381	UUT: 3-tall array	**UUT 7**
Ziehl-Abegg - Fans (carbon steel housing, aluminum wheel)						
GR31C	11.7	18.5	18.5	44	UUT: 5-tall array	**UUT 7**
GR35C	12.5	19.7	19.7	48		INTERP
GR40C	14.6	21.7	21.7	82		INTERP
GR45C	15.7	24.8	24.8	96		INTERP
GR50C	17.8	26.4	26.4	128		INTERP
GR56C	19.1	28.7	28.7	148		INTERP
GR63C	18.7	33.1	33.1	179	UUT: 3-tall array	**UUT 7**

MOUNTING:	The fan face attaches to fan array wall structure, and the fan rear is supported by the fan array wireway structure.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Dimensions & Weights:** Values are for a single fan. **Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 2.2 - INDIV. AIR FILTERS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
American Air Filter - AstroCel I/MEGAcel I HEPA Air Filters						
24Hx12W	11.5	12.0	24.0	25	UUT: MEGAcel I	**UUT 2C**
…	…	…	…	…		INTERP
24Hx24W	11.5	24.0	24.0	40	UUT: AstroCel I, MEGAcel I	**UUT 2C**
American Air Filter - RigidAir Air Filters						
24Hx12W	11.5	12.0	24.0	12		**UUT 2C**
…	…	…	…	…		INTERP
24Hx24W	11.5	24.0	24.0	19		**UUT 2C**
Koch Filter - Multi-Cell Air Filters						
24Hx12W-SH	12.0	12.0	24.0	8	Single header	**UUT 8**
…	…	…	…	…		INTERP
24Hx24W-SH	12.0	24.0	24.0	10	Single header	**UUT 8**
24Hx12W-DH	12.0	12.0	24.0	18	Double header	**UUT 8**
…	…	…	…	…		INTERP
24Hx24W-DH	12.0	24.0	24.0	20	Double header	**UUT 8**

NOTES:	Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Koch Filter - BioMAX HEPA HC Air Filters						
24Hx12W	12.0	12.0	24.0	40		**UUT 8**
…	…	…	…	…		INTERP
24Hx24W	12.0	24.0	24.0	45		**UUT 8**
Koch Filter - DuraMAX Air Filters						
24Hx12W	12.0	12.0	24.0	8		**UUT 8**
…	…	…	…	…		INTERP
24Hx24W	12.0	24.0	24.0	10		**UUT 8**
Koch Filter - DuraPURE Air Filters						
24Hx12W	12.0	12.0	24.0	32		**UUT 8**
…	…	…	…	…		INTERP
24Hx24W	12.0	24.0	24.0	41		**UUT 8**
Koch Filter - DuraKLEEN Air Filters						
24Hx12W	12.0	12.0	24.0	32		**UUT 8**
…	…	…	…	…		INTERP
24Hx24W	12.0	24.0	24.0	41		**UUT 8**
UVDI - HMB V-Bank Air Filters						
24Hx12W	12.0	12.0	24.0	30		**UUT 8**
…	…	…	…	…		INTERP
24Hx24W	12.0	24.0	24.0	30		**UUT 8**

MOUNTING:	Mounted within Type 8/HEPA filter frame.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1 I_P = 1.5
NOTES:	**Weight:** Listed weight is for an individual filter and does not include the holding frame, which is part of the filter frame. **Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.		

TABLE 3 - FLOOR MOUNT FANS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Twin City Fans - EPFN/EPQN Direct Drive Arrangement 4 (aluminum wheel, carbon steel housing, carbon steel stand)						
EPFN/EPQN-122	25.9	20.0	20.0	319	3-stack on stand maximum	EXTRAP
EPFN/EPQN-150	27.9	22.0	22.0	348	3-stack on stand maximum	EXTRAP
EPFN/EPQN-165	29.2	24.0	24.0	368	3-stack on stand maximum	EXTRAP
EPFN/EPQN-182	34.1	26.0	26.0	804	UUT: 3-stack on stand	**UUT 4**
EPFN/EPQN-200	36.6	29.0	29.0	829	2-stack on stand maximum	INTERP
EPFN/EPQN-222	43.8	32.0	32.0	901	2-stack on stand maximum	INTERP
EPFN/EPQN-245	45.6	34.0	34.0	951	2-stack on stand maximum	INTERP
EPFN/EPQN-270	49.9	38.0	38.0	1,243	2-stack on stand maximum	INTERP
EPFN/EPQN-300	52.6	42.0	42.0	1,402	2-stack on stand maximum	INTERP
EPFN/EPQN-330	57.8	46.0	46.0	1,857	2-stack on stand maximum	INTERP
EPFN/EPQN-365	67.4	51.0	51.0	2,671	UUT: 2-stack on stand	**UUT 5**
EPFN/EPQN-402	70.3	56.0	56.0	2,845	No stacking permitted	INTERP
EPFN/EPQN-445	73.9	62.0	62.0	3,259	No stacking permitted	INTERP
EPFN/EPQN-490	77.4	68.0	68.0	3,481	UUT: single fan	**UUT 3C**
Twin City Fans - EPF/EPQ Belt Drive Arrangement 3 (aluminum or carbon steel wheel, carbon steel housing)						
EPF/EPQ-122	25.9	20.0	20.0	412	UUT: aluminum wheel	**UUT 1**
EPF/EPQ-150	27.9	22.0	22.0	639		INTERP
EPF/EPQ-165	29.2	24.0	24.0	774		INTERP
EPF/EPQ-182	34.1	26.0	26.0	995		INTERP
EPF/EPQ-200	36.6	29.0	29.0	1,179		INTERP
EPF/EPQ-222	43.8	32.0	32.0	1,303		INTERP
EPF/EPQ-245	45.6	34.0	34.0	1,351		INTERP
EPF/EPQ-270	49.9	38.0	38.0	2,185		INTERP
EPF/EPQ-300	52.6	42.0	42.0	2,538		INTERP
EPF/EPQ-330	57.8	46.0	46.0	2,632		INTERP
EPF/EPQ-365	67.4	51.0	51.0	3,033		INTERP
EPF/EPQ-402	70.3	56.0	56.0	3,246		INTERP
EPF/EPQ-445	73.9	62.0	62.0	3,807		INTERP
EPF/EPQ-490	77.4	68.0	68.0	3,918	UUT: Al wheel in UUT 3C EPFN	INTERP
EPF/EPQ-542	87.9	76.0	76.0	4,945	Carbon steel wheel only	INTERP
EPF/EPQ-600	93.4	76.0	76.0	5,256	UUT: carbon steel wheel	**UUT 3B**
Comefri - ATLI Belt Drive Arrangement 3 Forward Curve (carbon steel wheel & housing)						
ATLI 7-7-T1/T2	11.2	17.4	13.3	222		**UUT 15**
ATLI 9-6 - T1/T2	14.2	16.5	16.7	221		INTERP
ATLI 9-9 - T1/T2	14.2	20.1	16.7	243		INTERP
ATLI 10-7 - T1/T2	15.8	18.0	18.6	237		INTERP
ATLI 10-10 - T1/T2	15.8	21.4	18.6	322		INTERP
ATLI 12-9 - T1/T2	18.6	20.5	21.6	336		INTERP
ATLI 12-12 - T1/T2	18.6	24.8	21.6	435		INTERP
ATLI 15-11 - T1/T2	21.9	23.4	25.5	462		INTERP
ATLI 15-15 - T1/T2	21.9	27.9	25.5	474		INTERP
ATLI 18-13 - T1/T2	26.3	27.6	30.4	501		INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 3 - FLOOR MOUNT FANS (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Comefri - ATLI Belt Drive Arrangement 3 Forward Curve (continued)						
ATLI 18-18 - T1/T2	26.3	32.5	30.4	555		INTERP
ATLI 20-15 - T1/T2	29.3	32.7	36.1	913		INTERP
ATLI 20-20 - T1/T2	29.3	37.7	36.1	956		INTERP
ATLI 22-22 - T1/T2	33.0	42.4	40.6	1,096		INTERP
ATLI 25-25 - T1/T2	36.9	46.3	45.6	1,207		INTERP
ATLI 28-28 - T1/T2	41.3	51.5	51.3	1,373		INTERP
ATLI 32-32 - T1/T2	46.2	56.9	57.8	1,693		INTERP
ATLI 36-36 - T1/T2	51.7	62.0	64.9	1,912		INTERP
ATLI 40-40 - T1/T2	56.9	67.4	71.3	2,039		**UUT 18**

MOUNTING:	Isolated floor mounted within unit or on rigid floor mounted stand. Fan face attachment to wall is flexible.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Weight:** Listed weight is for an individual fan. **Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 4 - FAN STACKS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Twin City Fans - MPQN/MPQS Direct Drive Arrangement 4 (aluminum wheel, carbon steel housing)						
122	25.9	20.0	20.0	275	UUT: 2-stack	**UUT 22**
150	27.9	22.0	22.0	351	2-stack maximum	INTERP
165	29.2	24.0	24.0	481	2-stack maximum	INTERP
182	34.1	26.0	26.0	592	2-stack maximum	INTERP
200	36.6	29.0	29.0	678	2-stack maximum	INTERP
222	43.8	32.0	32.0	791	2-stack maximum	INTERP
245	45.6	34.0	34.0	1,160	2-stack maximum	INTERP
270	49.9	38.0	38.0	1,289	UUT: 2-stack	**UUT 26**
Lau - Stack Fans (aluminum wheel, carbon steel housing)						
SF 10 - 105	24.6	20.0	18.8	240	UUT: 3-stack	**UUT 6**
SF 12 - 122	25.8	22.7	20.9	270	3-stack maximum	INTERP
SF 13 - 135	28.1	24.5	22.4	300	3-stack maximum	INTERP
SF 15 - 150	30.6	26.8	24.2	340	3-stack maximum	INTERP
SF 16 - 165	35.3	29.0	25.8	430	3-stack maximum	INTERP
SF 18 - 182	36.8	30.4	30.0	476	3-stack maximum	INTERP
SF 20 - 200	37.9	33.8	34.0	528	3-stack maximum	INTERP
SF 22 - 222	39.2	37.4	37.1	815	3-stack maximum	INTERP
SF 25 - 245	40.6	41.4	41.0	890	UUT: 3-stack	**UUT 6**

MOUNTING:	Tunnel mounted within unit. Fan stack is floor mounted. Fan face is attached to a wall.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Weight:** Listed weight is for an individual fan. **Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 5 - HORIZONTAL MOUNTED DAMPERS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Ruskin - BD6/CBD6 Heavy Duty Backdraft Dampers (aluminum)						
BD6 - 6x6	2.3	6.0	6.0	1		EXTRAP
CBD6 - 6x6	2.3	6.0	6.0	1		EXTRAP
…	…	…	…	…		EXTRAP
BD6 - 20x20	2.3	20.0	20.0	9		EXTRAP
CBD6 - 20x20	2.3	20.0	20.0	10		**UUT 10.9**
…	…	…	…	…		INTERP
BD6 - 48x52	2.3	48.0	52.0	40		INTERP
CBD6 - 48x52	2.3	48.0	52.0	43		**UUT 10.8**

MOUNTING:	Mounted within unit in a horizontal plane (roof or floor).	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 6 - WALL LOUVERS & DAMPERS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Ruskin - EME6625 Vertical Blade Louvers (aluminum)						
EME6625-12Hx12W	6.0	12.0	12.0	10		**UUT 5**
…	…	…	…	…		INTERP
EME6625-27Hx27W	6.0	27.0	27.0	51		**UUT 1**
…	…	…	…	…		INTERP
EME6625-48Hx72W	6.0	72.0	48.0	240		**UUT 4**
Ruskin - CBS92 Back Draft Dampers (carbon steel frame, aluminum blade)						
CBS92-20Hx20W	9.0	20.0	20.0	78		**UUT 1**
…	…	…	…	…		INTERP
CBS92-68Hx68W	9.0	68.0	68.0	899		**UUT 3C**
Ruskin - BD6/CBD6 Heavy Duty Backdraft Dampers (aluminum)						
BD6 - 6x6	2.3	6.0	6.0	1		EXTRAP
CBD6 - 6x7	2.3	6.0	6.0	1		EXTRAP
…	…	…	…	…		EXTRAP
BD6 - 20x20	2.3	20.0	20.0	9		EXTRAP
CBD6 - 20x20	2.3	20.0	20.0	10		**UUT 10.7**
…	…	…	…	…		INTERP
BD6 - 48x52	2.3	48.0	52.0	40		INTERP
CBD6 - 48x52	2.3	48.0	52.0	43		**UUT 10.6**

NOTES:	Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 6 - WALL LOUVERS & DAMPERS (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Ruskin - CD50/SD50 Control/Smoke Dampers (aluminum)						
SD50-25Hx9.5W	5.0	9.5	25.0	25		EXTRAP
CD50-25Hx9.5W	5.0	9.5	25.0	25	UUT: Control	**UUT 4**
…	…	…	…	…		INTERP
SD50-24Hx24W	5.0	24.0	24.0	65	UUT: Smoke	**UUT 1**
…	…	…	…	…		INTERP
SD50-38.5Hx82W	5.0	82.0	38.5	175		INTERP
CD50-38.5Hx82W	5.0	82.0	38.5	175	UUT: Control	**UUT 5**
Ruskin - CD60/SD60 Control/Smoke Dampers (carbon steel)						
SD60-10Hx12W	5.0	10.0	12.0	7	UUT: Smoke	**UUT 7**
…	…	…	…	…		INTERP
CD60-16Hx9.5W	5.0	9.5	16.0	20	UUT: Control	**UUT 4**
…	…	…	…	…		INTERP
SD60-24Hx24W	5.0	24.0	24.0	65	UUT: Smoke	**UUT 1**
…	…	…	…	…		INTERP
SD60-48Hx72W	5.0	72.0	48.0	192	UUT: Smoke	**UUT 7**
…	…	…	…	…		INTERP
SD60-72Hx96W	5.0	96.0	72.0	384		INTERP
CD60-72Hx96W	5.0	96.0	72.0	384	UUT: Control	**UUT 8**
Ruskin - AMS060 Air Measuring Stations w/ Damper (aluminum AMS, carbon steel damper)						
AMS060-9.5Hx16W	16.5	16.0	9.5	30		**UUT 8**
…	…	…	…	…		INTERP
AMS060-72Hx96W	16.5	96.0	72.0	720		**UUT 8**

MOUNTING:	Wall mounted on unit.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 7 - CONTROL PANELS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Rittal - Control Panel Enclosures (carbon steel)						
1033500	8.0	12.0	12.0	22	UUT: NEMA 4	**UUT 9.1**
1034500	8.3	12.0	15.7	35	NEMA 4	INTERP
1038500	8.3	14.9	23.6	63	NEMA 4	INTERP
1054500	9.8	23.6	23.6	103	NEMA 4	INTERP
1057500	9.8	19.6	27.6	175	NEMA 4	INTERP
1073500	12.0	30.0	30.0	143	UUT: NEMA 4	**UUT 9.2**
1090500	9.8	23.6	39.4	198	NEMA 4	INTERP
1180500	12.0	32.0	39.4	214	NEMA 4	INTERP
WM363612NC	12.0	36.0	36.0	230	NEMA 3R/4/12	INTERP
1280500	12.0	32.0	48.0	260	NEMA 4	INTERP
WM423612NC	12.0	36.0	42.0	282	NEMA 3R/4/12	INTERP
WM483612NC	12.0	36.0	48.0	316	NEMA 3R/4/12	INTERP
WM603612NC	12.0	36.0	60.0	349	UUT: NEMA 3R/4/12	**UUT 9.3**
Saginaw - Control Panel Enclosures (carbon steel)						
SCE-12EL1206LP	6.0	12.0	12.0	20	NEMA 1/3R/4/12	EXTRAP
…	…	…	…	…		INTERP
SCE-30EL2410LP	10.0	24.0	30.0	145	NEMA 1/3R/4/12	**UUT 7**
…	…	…	…	…		INTERP
SCE-48EL3010LP	10.0	30.0	48.0	177	NEMA 1/3R/4/12	**UUT 7**
Hoffman - Control Panel Enclosures (carbon steel)						
20x16x8	8.0	16.0	20.0	27	UUT: NEMA 3R	**UUT 7**
…	…	…	…	…		INTERP
42x30x12	12.0	30.0	42.0	100	UUT: NEMA 12	**UUT 7**
42x30x12	12.0	30.0	42.0	108	UUT: NEMA 12	**UUT 7**
Johnson Controls - UV Light Control Panel						
025-39148-101	6.5	8.0	16.0	16	12A, 120V, NEMA 3R	**UUT 11.3**
025-39148-102	6.5	12.0	16.0	28	24A, 120V, NEMA 3R	INTERP
025-39148-103	6.5	12.0	16.0	34	48A, 120V, NEMA 3R	**UUT 11.4**

MOUNTING:	Wall mounted on unit.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Weight:** Listed weight is the maximum for a complete control panel, including internal subcomponents. **Internal Subcomponents:** See Table 7.1.			

TABLE 7.1 - CONTROL CONTENTS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Eaton - Series C Molded Case Circuit Breakers						
G-Frame 15-100A	2.6	3.0	4.9	2	3-pole	EXTRAP
F-Frame 10-225A	3.4	4.1	6.0	5	UUT: 3-pole, 100A	**UUT 7**
J-Frame 70-250A	4.1	4.1	10.0	13	UUT: 3-pole, 100A	**UUT 7**
K-Frame 70-400A	4.1	5.5	10.1	12	UUT: 3-pole, 400A	**UUT 7**
Eaton - Power Defense Molded Case Circuit Breakers						
PDG13 15-125A	3.0	3.0	5.5	2	UUT: 3-pole, 100A	**UUT 7**
PDG23 15-225A	3.5	4.1	6.0	4	3-pole	INTERP
PDG33 45-400A	4.3	5.5	10.1	11	UUT: 3-pole, 300A & 400A	**UUT 7**
Eaton - Industrial Control Transformers						
C0050E2A				2.6		EXTRAP
C0050E2B				2.7		EXTRAP
C0075E2A				3.5		EXTRAP
C0075E2B				3.5		EXTRAP
C0100E2A				4.2		**UUT 7**
C0100E2B				4.2		INTERP
C0150E2A				6.7		INTERP
C0150E2B				6.7		INTERP
C0200E2A				8.5		INTERP
C0200E2B				8.5		INTERP
C0250E2A				10.0		INTERP
C0250E2B				10.1		INTERP
C0300E2A				11.3		INTERP
C0300E2B				11.4		INTERP
C0350E2B				13.4		INTERP
C0350E2A				13.6		INTERP
C0500K2A				13.0		INTERP
C0500E2B				17.5		INTERP
C0500E2A				19.2		INTERP
C0750K2A				19.5		INTERP
C0750E2B				28.1		INTERP
C1000K2A				29.8		INTERP
C1500K2A				30.0		INTERP
C2000K2A				38.0		**UUT 7**
C3000K2A				53.0		**UUT 7**
Hammond - Industrial Control Transformers						
SP50MQMJ	2.6	3.4	2.6	2		EXTRAP
SP100MQMJ	3.0	3.7	2.9	3		EXTRAP
PH50MQMJ	3.3	3.9	3.6	4		EXTRAP
SP150MQMJ	3.0	4.3	2.9	4		EXTRAP
PH75MQMJ	3.3	4.2	3.6	5		EXTRAP
PH100MQMJ	3.3	4.7	3.6	5		EXTRAP
SP250MQMJ	3.8	4.1	3.4	7		EXTRAP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 7.1 - CONTROL CONTENTS (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Hammond - Industrial Control Transformers (continued)						
PH150MQMJ	4.0	5.4	3.8	8		EXTRAP
SP350MQMJ	3.8	4.7	3.4	8		EXTRAP
PH250MQMJ	4.5	4.9	4.4	8		EXTRAP
PH350MQMJ	4.5	5.6	4.4	11		EXTRAP
SP500MQMJ	4.5	4.7	3.8	11		EXTRAP
SP750MQMJ	5.3	4.7	4.4	16		EXTRAP
PH500MQMJ	4.8	6.7	4.3	16		EXTRAP
SP1000MQMJ	5.3	5.5	4.4	21		EXTRAP
SP1500MQMJ	5.3	6.9	4.4	28		EXTRAP
SP2000MQMJ	6.4	5.9	5.3	35		**UUT 7**
SP3000MQMJ	7.5	7.5	6.5	64		**UUT 7**
ABB - Disconnect Switches						
OT200U03	2.8	6.7	3.9	3		**UUT 9.2**
OS200J03	5.2	7.2	6.5	6		INTERP
OT400U03	3.4	8.7	4.7	6		INTERP
OT600U03	4.5	10.5	6.3	11		INTERP
OS400J03	6.9	10.0	7.6	13		INTERP
OS600J03	9.2	13.5	9.1	29		**UUT 9.3**
Siemens - Transformer						
MT2000A	8.2	7.0	6.6	38		**UUT 9.2,9.3**

MOUNTING:	Mounted within control panel.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 8 - HARMONIC FILTERS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
TCI - HarmonicGuard Passive (HGP) 5% Harmonic Filters in Type 3R Enclosure						
HGP0030AW3S0000-JCI-SEISMIC	13.7	33.3	32.3	144	30HP, 480V/60HZ, Type 3R	EXTRAP
HGP0030AW3F0000-JCI-SEISMIC	13.7	33.3	32.3	151	30HP, 480V/60HZ, Type 3R	EXTRAP
HGP0030CW3S0000-JCI-SEISMIC	13.7	33.3	32.3	154	30HP, 600V/60HZ, Type 3R	EXTRAP
HGP0030CW3F0000-JCI-SEISMIC	13.7	33.3	32.3	228	30HP, 600V/60HZ, Type 3R	**UUT 10.5**
HGP0040AW3S0000-JCI-SEISMIC	13.7	39.2	37.6	220	40HP, 480V/60HZ, Type 3R	INTERP
HGP0040AW3F0000-JCI-SEISMIC	13.7	39.2	37.6	227	40HP, 480V/60HZ, Type 3R	INTERP
HGP0040CW3S0000-JCI-SEISMIC	13.7	39.2	37.6	239	40HP, 600V/60HZ, Type 3R	INTERP
HGP0040CW3F0000-JCI-SEISMIC	13.7	39.2	37.6	243	40HP, 600V/60HZ, Type 3R	INTERP
HGP0050AW3S0000-JCI-SEISMIC	13.7	39.2	37.6	229	50HP, 480V/60HZ, Type 3R	INTERP
HGP0050AW3F0000-JCI-SEISMIC	13.7	39.2	37.6	237	50HP, 480V/60HZ, Type 3R	INTERP
HGP0050CW3S0000-JCI-SEISMIC	13.7	39.2	37.6	249	50HP, 600V/60HZ, Type 3R	INTERP
HGP0050CW3F0000-JCI-SEISMIC	13.7	39.2	37.6	253	50HP, 600V/60HZ, Type 3R	INTERP
HGP0060AW3S0000-JCI-SEISMIC	13.7	39.2	37.6	239	60HP, 480V/60HZ, Type 3R	INTERP
HGP0060AW3F0000-JCI-SEISMIC	13.7	39.2	37.6	247	60HP, 480V/60HZ, Type 3R	INTERP
HGP0060CW3S0000-JCI-SEISMIC	13.7	39.2	37.6	259	60HP, 600V/60HZ, Type 3R	INTERP
HGP0060CW3F0000-JCI-SEISMIC	13.7	39.2	37.6	263	60HP, 600V/60HZ, Type 3R	INTERP
HGP0075AW3S0000-JCI-SEISMIC	13.7	39.2	37.6	246	75HP, 480V/60HZ, Type 3R	INTERP
HGP0075AW3F0000-JCI-SEISMIC	13.7	39.2	37.6	251	75HP, 480V/60HZ, Type 3R	**UUT 10.1**
HGP0075CW3S0000-JCI-SEISMIC	13.7	39.2	37.6	269	75HP, 600V/60HZ, Type 3R	INTERP
HGP0075CW3F0000-JCI-SEISMIC	13.7	39.2	37.6	273	75HP, 600V/60HZ, Type 3R	INTERP
HGP0100AW3S0000-JCI-SEISMIC	13.7	39.2	37.6	269	100HP, 480V/60HZ, Type 3R	INTERP
HGP0100CW3S0000-JCI-SEISMIC	13.7	39.2	37.6	269	100HP, 600V/60HZ, Type 3R	INTERP
HGP0100AW3F0000-JCI-SEISMIC	13.7	39.2	37.6	277	100HP, 480V/60HZ, Type 3R	INTERP
HGP0100CW3F0000-JCI-SEISMIC	13.7	39.2	37.6	277	100HP, 600V/60HZ, Type 3R	INTERP
HGP0125AW3S0000-JCI-SEISMIC	13.7	39.2	37.6	289	125HP, 480V/60HZ, Type 3R	INTERP
HGP0125CW3S0000-JCI-SEISMIC	13.7	39.2	37.6	289	125HP, 600V/60HZ, Type 3R	INTERP
HGP0125AW3F0000-JCI-SEISMIC	13.7	39.2	37.6	297	125HP, 480V/60HZ, Type 3R	INTERP
HGP0125CW3F0000-JCI-SEISMIC	13.7	39.2	37.6	377	125HP, 600V/60HZ, Type 3R	**UUT 10.2**
TCI - HarmonicGuard Passive (HGP) 5% Harmonic Filters in Type 1 Enclosure						
HGP0030CW1S0000-JCI-SEISMIC	12.5	17.5	31.6	141	30HP, 600V/60HZ, Type 1	EXTRAP
HGP0030AW1S0000-JCI-SEISMIC	12.5	17.5	31.6	145	30HP, 480V/60HZ, Type 1	EXTRAP
HGP0030CW1F0000-JCI-SEISMIC	12.5	17.5	31.6	151	30HP, 600V/60HZ, Type 1	EXTRAP
HGP0030AW1F0000-JCI-SEISMIC	12.5	17.5	31.6	152	30HP, 480V/60HZ, Type 1	EXTRAP
HGP0040AW1S0000-JCI-SEISMIC	12.5	17.5	31.6	185	40HP, 480V/60HZ, Type 1	EXTRAP
HGP0040CW1S0000-JCI-SEISMIC	12.5	17.5	31.6	191	40HP, 600V/60HZ, Type 1	EXTRAP
HGP0040AW1F0000-JCI-SEISMIC	12.5	17.5	31.6	192	40HP, 480V/60HZ, Type 1	EXTRAP
HGP0040CW1F0000-JCI-SEISMIC	12.5	17.5	31.6	201	40HP, 600V/60HZ, Type 1	EXTRAP
HGP0050AW1S0000-JCI-SEISMIC	12.5	17.5	31.6	195	50HP, 480V/60HZ, Type 1	EXTRAP
HGP0050CW1S0000-JCI-SEISMIC	12.5	17.5	31.6	196	50HP, 600V/60HZ, Type 1	EXTRAP
HGP0050AW1F0000-JCI-SEISMIC	12.5	17.5	31.6	202	50HP, 480V/60HZ, Type 1	EXTRAP
HGP0050CW1F0000-JCI-SEISMIC	12.5	17.5	31.6	206	50HP, 600V/60HZ, Type 1	EXTRAP
HGP0060AW1S0000-JCI-SEISMIC	12.5	17.5	31.6	200	60HP, 480V/60HZ, Type 1	EXTRAP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 8 - HARMONIC FILTERS (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
TCI - HarmonicGuard Passive (HGP) 5% Harmonic Filters in Type 1 Enclosure (continued)						
HGP0060CW1S0000-JCI-SEISMIC	12.5	17.5	31.6	201	60HP, 600V/60HZ, Type 1	EXTRAP
HGP0060AW1F0000-JCI-SEISMIC	12.5	17.5	31.6	208	60HP, 480V/60HZ, Type 1	EXTRAP
HGP0060CW1F0000-JCI-SEISMIC	12.5	17.5	31.6	211	60HP, 600V/60HZ, Type 1	EXTRAP
HGP0075AW1S0000-JCI-SEISMIC	12.5	17.5	31.6	205	75HP, 480V/60HZ, Type 1	EXTRAP
HGP0075AW1F0000-JCI-SEISMIC	12.5	17.5	31.6	212	75HP, 480V/60HZ, Type 1	EXTRAP
HGP0075CW1S0000-JCI-SEISMIC	12.5	17.5	31.6	221	75HP, 600V/60HZ, Type 1	EXTRAP
HGP0075CW1F0000-JCI-SEISMIC	12.5	17.5	31.6	179	75HP, 600V/60HZ, Type 1	**UUT 10.3**
HGP0100AW1S0000-JCI-SEISMIC	16.3	17.7	56.2	295	100HP, 480V/60HZ, Type 1	INTERP
HGP0100AW1F0000-JCI-SEISMIC	16.5	17.7	56.2	302	100HP, 480V/60HZ, Type 1	INTERP
HGP0100CW1S0000-JCI-SEISMIC	16.5	17.7	56.2	303	100HP, 600V/60HZ, Type 1	INTERP
HGP0100CW1F0000-JCI-SEISMIC	16.3	17.7	56.2	312	100HP, 600V/60HZ, Type 1	INTERP
HGP0125AW1S0000-JCI-SEISMIC	16.3	17.7	56.2	315	125HP, 480V/60HZ, Type 1	INTERP
HGP0125CW1S0000-JCI-SEISMIC	16.5	17.7	56.2	315	125HP, 600V/60HZ, Type 1	INTERP
HGP0125AW1F0000-JCI-SEISMIC	16.5	17.7	56.2	322	125HP, 480V/60HZ, Type 1	INTERP
HGP0125CW1F0000-JCI-SEISMIC	16.3	17.7	56.2	325	125HP, 600V/60HZ, Type 1	INTERP
HGP0150AW1S0000-JCI-SEISMIC	16.3	17.7	56.2	353	150HP, 480V/60HZ, Type 1	INTERP
HGP0150CW1S0000-JCI-SEISMIC	16.5	17.7	56.2	355	150HP, 600V/60HZ, Type 1	INTERP
HGP0150CW1F0000-JCI-SEISMIC	16.3	17.7	56.2	363	150HP, 600V/60HZ, Type 1	INTERP
HGP0150AW1F0000-JCI-SEISMIC	16.5	17.7	56.2	363	150HP, 480V/60HZ, Type 1	**UUT 10.4**

MOUNTING:	Wall mounted on unit.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Weight:** Listed weight is the maximum for a complete harmonic filter, including internal subcomponents. **Internal Subcomponents:** See Table 8.1.			

TABLE 8.1 - HARM. FILTER CONTENTS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Hoffman - Type 3R Enclosures						
26741	13.7	33.3	32.3	228		**UUT 10.5**
26742	13.7	39.2	37.6	377		**UUT 10.1,2**
TCI - Type 1 Enclosures						
HGPSMALL	12.5	17.5	31.6	221		**UUT 10.3**
HGPMEDIUM	16.3	17.7	56.2	363		**UUT 10.4**
TCI - Line Reactors (vertically oriented, mounted on back panel)						
KDRH1TT				40	480V	EXTRAP
KDRH41TT				40	600V	**UUT 10.5**
KDRI1TT				50	480V	INTERP
KDRI41TT				50	600V	INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
TCI - Line Reactors (vertically oriented, mounted on back panel) (continued)						
KDRG1TT				60	480V	INTERP
KDRG2TT				60	480V	INTERP
KDRG41TT				60	600V	INTERP
KDRG43TT				60	600V	INTERP
KDRG36TT				66	480V	**UUT 10.3**
TCI - Line Reactors (horizontally oriented, mounted on back panel)						
KDRG42TT				60	600V	**UUT 10.5**
KDRJ2TT				80	480V	INTERP
KDRJ41TT				80	600V	INTERP
KDRL1TT				100	480V	INTERP
KDRL41TT				115	600V	INTERP
KDRL7TT				125	480V	**UUT 10.4**
TCI - Line Reactors (base mounted to bottom of enclosure)						
KDRI1TT				50	480V	EXTRAP
KDRI41TT				50	600V	EXTRAP
KDRG1TT				60	480V	EXTRAP
KDRG2TT				60	480V	EXTRAP
KDRG41TT				60	600V	EXTRAP
KDRG42TT				60	600V	EXTRAP
KDRG43TT				60	600V	EXTRAP
KDRG36TT				66	480V	**UUT 10.1**
KDRJ2TT				80	480V	INTERP
KDRJ41TT				80	600V	INTERP
KDRL1TT				100	480V	INTERP
KDRL41TT				115	600V	**UUT 10.2**
TCI - Tuning Reactors (vertically oriented, mounted on back panel)						
KTR10A65HG				15	480V	EXTRAP
KTR10C65HG				15	600V	EXTRAP
KTR15A65HG				45	480V	EXTRAP
KTR15C65HG				45	600V	EXTRAP
KTR20A65HG				45	480V	EXTRAP
KTR20C65HG				45	600V	EXTRAP
KTR25A65HG				45	480V	**UUT 10.1**
KTR25C65HG				50	600V	**UUT 10.3**
TCI - Tuning Reactors (horizontally oriented, mounted on back panel)						
KTR30A65HG				80	480V	EXTRAP
KTR30C65HG				85	600V	EXTRAP
KTR40A65HG				80	480V	EXTRAP
KTR40C65HG				90	600V	**UUT 10.2**
KTR45A65HG				100	480V	**UUT 10.4**

MOUNTING:	Mounted within harmonic filter.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

TABLE 9 - VARIABLE FREQ. DRIVES

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Packaged Variable Frequency Drives						
AYK580-PF-02A1-4	11.7	8.3	20.8	23	NEMA 1, 2.1A, 460V	INTERP
AYK580-PF-03A0-4	11.7	8.3	20.8	23	NEMA 1, 3A, 460V	INTERP
AYK580-PF-03A5-4	11.7	8.3	20.8	23	NEMA 1, 3.5A, 460V	INTERP
AYK580-PF-04A6-2	11.7	8.3	20.8	23	NEMA 1, 4.6A, 208/230V	**UUT 12.4**
AYK580-PF-04A8-4	11.7	8.3	20.8	23	NEMA 1, 4.8A, 460V	INTERP
AYK580-PF-06A6-2	11.7	8.3	20.8	23	NEMA 1, 6.6A, 208/230V	INTERP
AYK580-PF-07A5-2	11.7	8.3	20.8	23	NEMA 1, 7.5A, 208/230V	INTERP
AYK580-PF-07A6-4	11.7	8.3	20.8	23	NEMA 1, 7.6A, 460V	INTERP
AYK580-PF-10A6-2	11.7	8.3	20.8	23	NEMA 1, 10.6A, 208/230V	INTERP
AYK580-PF-012A-4	11.7	8.3	20.8	23	NEMA 1, 12A, 460V	INTERP
AYK580-PF-017A-2	11.7	8.3	20.8	23	NEMA 1, 16.7A, 208/230V	INTERP
AYK580-PF-02A7-6	12.2	8.3	26.8	37	NEMA 1, 2.7A, 575V	INTERP
AYK580-PF-03A9-6	12.2	8.3	26.8	37	NEMA 1, 3.9A, 575V	INTERP
AYK580-PF-06A1-6	12.2	8.3	26.8	37	NEMA 1, 6.1A, 575V	INTERP
AYK580-PF-09A0-6	12.2	8.3	26.8	37	NEMA 1, 9A, 575V	INTERP
AYK580-PF-011A-6	12.2	8.3	26.8	37	NEMA 1, 11A, 575V	INTERP
AYK580-PF-014A-4	12.2	8.3	26.8	37	NEMA 1, 14A, 460V	INTERP
AYK580-PF-017A-6	12.2	8.3	26.8	37	NEMA 1, 17A, 575V	INTERP
AYK580-PF-023A-4	12.2	8.3	26.8	37	NEMA 1, 23A, 460V	INTERP
AYK580-PF-024A-2	12.2	8.3	26.8	37	NEMA 1, 24.2A, 208/230V	INTERP
AYK580-PF-031A-2	12.2	8.3	26.8	37	NEMA 1, 30.8A, 208/230V	INTERP
AYK580-PF-022A-6	12.0	9.0	32.5	56	NEMA 1, 22A, 575V	INTERP
AYK580-PF-027A-4	12.0	9.0	32.5	56	NEMA 1, 27A, 460V	INTERP
AYK580-PF-027A-6	12.0	9.0	32.5	56	NEMA 1, 27A, 575V	INTERP
AYK580-PF-034A-4	12.0	9.0	32.5	56	NEMA 1, 34A, 460V	INTERP
AYK580-PF-044A-4	12.0	9.0	32.5	56	NEMA 1, 44A, 460V	INTERP
AYK580-PF-046A-2	12.0	9.0	32.5	56	NEMA 1, 46.2A, 208/230V	INTERP
AYK580-PF-059A-2	12.0	9.0	32.5	56	NEMA 1, 59.4A, 208/230V	INTERP
AYK580-PF-02A1-4+B058	14.4	15.2	22.4	68	NEMA 3R, 2.1A, 460V	INTERP
AYK580-PF-03A0-4+B058	14.4	15.2	22.4	68	NEMA 3R, 3A, 460V	INTERP
AYK580-PF-03A5-4+B058	14.4	15.2	22.4	68	NEMA 3R, 3.5A, 460V	INTERP
AYK580-PF-04A6-2+B058	14.4	15.2	22.4	68	NEMA 3R, 4.6A, 208/230V	INTERP
AYK580-PF-04A8-4+B058	14.4	15.2	22.4	68	NEMA 3R, 4.8A, 460V	INTERP
AYK580-PF-06A6-2+B058	14.4	15.2	22.4	68	NEMA 3R, 6.6A, 208/230V	INTERP
AYK580-PF-07A5-2+B058	14.4	15.2	22.4	68	NEMA 3R, 7.5A, 208/230V	INTERP
AYK580-PF-07A6-4+B058	14.4	15.2	22.4	68	NEMA 3R, 7.6A, 460V	INTERP
AYK580-PF-10A6-2+B058	14.4	15.2	22.4	68	NEMA 3R, 10.6A, 208/230V	INTERP
AYK580-PF-012A-4+B058	14.4	15.2	22.4	68	NEMA 3R, 12A, 460V	INTERP
AYK580-PF-017A-2+B058	14.4	15.2	22.4	68	NEMA 3R, 16.7A, 208/230V	INTERP
AYK580-CF-02A1-4	16.0	18.0	23.0	75	NEMA 1, Bypass, 2.1A, 460V	INTERP
AYK580-CF-03A0-4	16.0	18.0	23.0	75	NEMA 1, Bypass, 3A, 460V	INTERP
AYK580-CF-03A5-4	16.0	18.0	23.0	75	NEMA 1, Bypass, 3.5A, 460V	INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 9 - VARIABLE FREQ. DRIVES (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Packaged Variable Frequency Drives (continued)						
AYK580-CF-04A6-2	16.0	18.0	23.0	75	NEMA 1, Bypass, 4.6A, 208/230V	INTERP
AYK580-CF-04A8-4	16.0	18.0	23.0	75	NEMA 1, Bypass, 4.8A, 460V	INTERP
AYK580-CF-06A6-2	16.0	18.0	23.0	75	NEMA 1, Bypass, 6.6A, 208/230V	INTERP
AYK580-CF-07A5-2	16.0	18.0	23.0	75	NEMA 1, Bypass, 7.5A, 208/230V	INTERP
AYK580-CF-07A6-4	16.0	18.0	23.0	75	NEMA 1, Bypass, 7.6A, 460V	INTERP
AYK580-CF-10A6-2	16.0	18.0	23.0	75	NEMA 1, Bypass, 10.6A, 208/230V	INTERP
AYK580-CF-012A-4	16.0	18.0	23.0	75	NEMA 1, Bypass, 12A, 460V	INTERP
AYK580-CF-017A-2	16.0	18.0	23.0	75	NEMA 1, Bypass, 16.7A, 208/230V	INTERP
AYK580-CF-02A1-4+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 2.1A, 460V	**UUT 12.3**
AYK580-CF-03A0-4+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 3A, 460V	INTERP
AYK580-CF-03A5-4+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 3.5A, 460V	INTERP
AYK580-CF-04A6-2+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 4.6A, 208/230V	INTERP
AYK580-CF-04A8-4+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 4.8A, 460V	INTERP
AYK580-CF-06A6-2+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 6.6A, 208/230V	INTERP
AYK580-CF-07A5-2+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 7.5A, 208/230V	INTERP
AYK580-CF-07A6-4+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 7.6A, 460V	INTERP
AYK580-CF-10A6-2+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 10.6A, 208/230V	INTERP
AYK580-CF-012A-4+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 12A, 460V	INTERP
AYK580-CF-017A-2+B058	17.4	18.0	20.5	83	NEMA 3R, Bypass, 16.7A, 208/230V	INTERP
AYK580-PF-02A7-6+B058	14.4	15.2	28.4	85	NEMA 3R, 2.7A, 575V	INTERP
AYK580-PF-03A9-6+B058	14.4	15.2	28.4	85	NEMA 3R, 3.9A, 575V	INTERP
AYK580-PF-06A1-6+B058	14.4	15.2	28.4	85	NEMA 3R, 6.1A, 575V	INTERP
AYK580-PF-09A0-6+B058	14.4	15.2	28.4	85	NEMA 3R, 9A, 575V	INTERP
AYK580-PF-011A-6+B058	14.4	15.2	28.4	85	NEMA 3R, 11A, 575V	INTERP
AYK580-PF-014A-4+B058	14.4	15.2	28.4	85	NEMA 3R, 14A, 460V	INTERP
AYK580-PF-017A-6+B058	14.4	15.2	28.4	85	NEMA 3R, 17A, 575V	INTERP
AYK580-PF-023A-4+B058	14.4	15.2	28.4	85	NEMA 3R, 23A, 460V	INTERP
AYK580-PF-024A-2+B058	14.4	15.2	28.4	85	NEMA 3R, 24.2A, 208/230V	INTERP
AYK580-PF-031A-2+B058	14.4	15.2	28.4	85	NEMA 3R, 30.8A, 208/230V	INTERP
AYK580-CF-02A7-6	16.0	18.0	26.5	93	NEMA 1, Bypass, 2.7A, 575V	INTERP
AYK580-CF-03A9-6	16.0	18.0	26.5	93	NEMA 1, Bypass, 3.9A, 575V	INTERP
AYK580-CF-06A1-6	16.0	18.0	26.5	93	NEMA 1, Bypass, 6.1A, 575V	INTERP
AYK580-CF-09A0-6	16.0	18.0	26.5	93	NEMA 1, Bypass, 9A, 575V	INTERP
AYK580-CF-011A-6	16.0	18.0	26.5	93	NEMA 1, Bypass, 11A, 575V	INTERP
AYK580-CF-014A-4	16.0	18.0	26.5	93	NEMA 1, Bypass, 14A, 460V	INTERP
AYK580-CF-017A-6	16.0	18.0	26.5	93	NEMA 1, Bypass, 17A, 575V	INTERP
AYK580-CF-023A-4	16.0	18.0	26.5	93	NEMA 1, Bypass, 23A, 460V	INTERP
AYK580-CF-024A-2	16.0	18.0	26.5	93	NEMA 1, Bypass, 24.2A, 208/230V	INTERP
AYK580-CF-031A-2	16.0	18.0	26.5	93	NEMA 1, Bypass, 30.8A, 208/230V	INTERP
AYK580-PF-022A-6+B058	14.4	18.3	31.9	113	NEMA 3R, 22A, 575V	INTERP
AYK580-PF-027A-4+B058	14.4	18.3	31.9	113	NEMA 3R, 27A, 460V	INTERP
AYK580-PF-027A-6+B058	14.4	18.3	31.9	113	NEMA 3R, 27A, 575V	INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 9 - VARIABLE FREQ. DRIVES (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Packaged Variable Frequency Drives (continued)						
AYK580-PF-034A-4+B058	14.4	18.3	31.9	113	NEMA 3R, 34A, 460V	INTERP
AYK580-PF-044A-4+B058	14.4	18.3	31.9	113	NEMA 3R, 44A, 460V	INTERP
AYK580-PF-046A-2+B058	14.4	18.3	31.9	113	NEMA 3R, 46.2A, 208/230V	INTERP
AYK580-PF-059A-2+B058	14.4	18.3	31.9	113	NEMA 3R, 59.4A, 208/230V	INTERP
AYK580-PF-032A-6	15.2	12.0	40.5	114	NEMA 1, 32A, 575V	INTERP
AYK580-PF-041A-6	15.2	12.0	40.5	114	NEMA 1, 41A, 575V	INTERP
AYK580-PF-052A-4	15.2	12.0	40.5	114	NEMA 1, 52A, 460V	INTERP
AYK580-PF-052A-6	15.2	12.0	40.5	114	NEMA 1, 52A, 575V	INTERP
AYK580-PF-062A-6	15.2	12.0	40.5	114	NEMA 1, 62A, 575V	INTERP
AYK580-PF-065A-4	15.2	12.0	40.5	114	NEMA 1, 65A, 460V	INTERP
AYK580-PF-075A-2	15.2	12.0	40.5	114	NEMA 1, 74.8A, 208/230V	INTERP
AYK580-PF-077A-4	15.2	12.0	40.5	114	NEMA 1, 77A, 460V	INTERP
AYK580-PF-088A-2	15.2	12.0	40.5	114	NEMA 1, 88A, 208/230V	INTERP
AYK580-PF-096A-4	15.2	12.0	40.5	114	NEMA 1, 96A, 460V	INTERP
AYK580-PF-114A-2	15.2	12.0	40.5	114	NEMA 1, 114A, 208/230V	INTERP
AYK580-CF-02A7-6+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 2.7A, 575V	INTERP
AYK580-CF-03A9-6+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 3.9A, 575V	INTERP
AYK580-CF-06A1-6+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 6.1A, 575V	INTERP
AYK580-CF-09A0-6+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 9A, 575V	INTERP
AYK580-CF-011A-6+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 11A, 575V	INTERP
AYK580-CF-014A-4+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 14A, 460V	INTERP
AYK580-CF-017A-6+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 17A, 575V	INTERP
AYK580-CF-023A-4+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 23A, 460V	INTERP
AYK580-CF-024A-2+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 24.2A, 208/230V	INTERP
AYK580-CF-031A-2+B058	17.4	20.2	28.5	116	NEMA 3R, Bypass, 30.8A, 208/230V	INTERP
AYK580-CF-022A-6	16.0	22.0	28.5	122	NEMA 1, Bypass, 22A, 575V	INTERP
AYK580-CF-027A-4	16.0	22.0	28.5	122	NEMA 1, Bypass, 27A, 460V	INTERP
AYK580-CF-027A-6	16.0	22.0	28.5	122	NEMA 1, Bypass, 27A, 575V	INTERP
AYK580-CF-034A-4	16.0	22.0	28.5	122	NEMA 1, Bypass, 34A, 460V	INTERP
AYK580-CF-044A-4	16.0	22.0	28.5	122	NEMA 1, Bypass, 44A, 460V	INTERP
AYK580-CF-046A-2	16.0	22.0	28.5	122	NEMA 1, Bypass, 46.2A, 208/230V	INTERP
AYK580-CF-059A-2	16.0	22.0	28.5	122	NEMA 1, Bypass, 59.4A, 208/230V	INTERP
AYK580-CF-022A-6+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 22A, 575V	INTERP
AYK580-CF-027A-4+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 27A, 460V	INTERP
AYK580-CF-027A-6+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 27A, 575V	INTERP
AYK580-CF-034A-4+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 34A, 460V	INTERP
AYK580-CF-044A-4+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 44A, 460V	INTERP
AYK580-CF-046A-2+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 46.2A, 208/230V	INTERP
AYK580-CF-059A-2+B058	17.4	22.3	30.0	145	NEMA 3R, Bypass, 59.4A, 208/230V	INTERP
AYK580-PF-124A-4	17.9	12.1	43.0	165	NEMA 1, 124A, 460V	INTERP
AYK580-PF-032A-6+B058	16.5	18.3	43.4	196	NEMA 3R, 32A, 575V	INTERP
AYK580-PF-041A-6+B058	16.5	18.3	43.4	196	NEMA 3R, 41A, 575V	INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 9 - VARIABLE FREQ. DRIVES (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Packaged Variable Frequency Drives (continued)						
AYK580-PF-052A-4+B058	16.5	18.3	43.4	196	NEMA 3R, 52A, 460V	INTERP
AYK580-PF-052A-6+B058	16.5	18.3	43.4	196	NEMA 3R, 52A, 575V	INTERP
AYK580-PF-062A-6+B058	16.5	18.3	43.4	196	NEMA 3R, 62A, 575V	INTERP
AYK580-PF-065A-4+B058	16.5	18.3	43.4	196	NEMA 3R, 65A, 460V	INTERP
AYK580-PF-075A-2+B058	16.5	18.3	43.4	196	NEMA 3R, 74.8A, 208/230V	INTERP
AYK580-PF-077A-4+B058	16.5	18.3	43.4	196	NEMA 3R, 77A, 460V	INTERP
AYK580-PF-088A-2+B058	16.5	18.3	43.4	196	NEMA 3R, 88A, 208/230V	INTERP
AYK580-PF-096A-4+B058	16.5	18.3	43.4	196	NEMA 3R, 96A, 460V	INTERP
AYK580-PF-114A-2+B058	16.5	18.3	43.4	196	NEMA 3R, 114A, 208/230V	INTERP
AYK580-PF-077A-6	18.1	16.0	48.0	222	NEMA 1, 77A, 575V	INTERP
AYK580-PF-099A-6	18.1	16.0	48.0	222	NEMA 1, 99A, 575V	INTERP
AYK580-PF-125A-6	18.1	16.0	48.0	222	NEMA 1, 125A, 575V	INTERP
AYK580-PF-143A-2	18.1	16.0	48.0	222	NEMA 1, 143A, 208/230V	INTERP
AYK580-PF-156A-4	18.1	16.0	48.0	222	NEMA 1, 156A, 460V	INTERP
AYK580-PF-169A-2	18.1	16.0	48.0	222	NEMA 1, 169A, 208/230V	INTERP
AYK580-PF-180A-4	18.1	16.0	48.0	222	NEMA 1, 180A, 460V	INTERP
AYK580-PF-211A-2	18.1	16.0	48.0	222	NEMA 1, 211A, 208/230V	INTERP
AYK580-CF-032A-6	18.0	31.0	40.0	247	NEMA 1, Bypass, 32A, 575V	INTERP
AYK580-CF-041A-6	18.0	31.0	40.0	247	NEMA 1, Bypass, 41A, 575V	INTERP
AYK580-CF-052A-4	18.0	31.0	40.0	247	NEMA 1, Bypass, 52A, 460V	INTERP
AYK580-CF-052A-6	18.0	31.0	40.0	247	NEMA 1, Bypass, 52A, 575V	INTERP
AYK580-CF-062A-6	18.0	31.0	40.0	247	NEMA 1, Bypass, 62A, 575V	INTERP
AYK580-CF-065A-4	18.0	31.0	40.0	247	NEMA 1, Bypass, 65A, 460V	INTERP
AYK580-CF-075A-2	18.0	31.0	40.0	247	NEMA 1, Bypass, 74.8A, 208/230V	INTERP
AYK580-CF-077A-4	18.0	31.0	40.0	247	NEMA 1, Bypass, 77A, 460V	INTERP
AYK580-CF-088A-2	18.0	31.0	40.0	247	NEMA 1, Bypass, 88A, 208/230V	INTERP
AYK580-CF-096A-4	18.0	31.0	40.0	247	NEMA 1, Bypass, 96A, 460V	INTERP
AYK580-CF-114A-2	18.0	31.0	40.0	247	NEMA 1, Bypass, 114A, 208/230V	INTERP
AYK580-CF-032A-6+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 32A, 575V	INTERP
AYK580-CF-041A-6+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 41A, 575V	INTERP
AYK580-CF-052A-4+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 52A, 460V	INTERP
AYK580-CF-052A-6+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 52A, 575V	INTERP
AYK580-CF-062A-6+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 62A, 575V	INTERP
AYK580-CF-065A-4+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 65A, 460V	INTERP
AYK580-CF-075A-2+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 74.8A, 208/230V	INTERP
AYK580-CF-077A-4+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 77A, 460V	INTERP
AYK580-CF-088A-2+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 88A, 208/230V	INTERP
AYK580-CF-096A-4+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 96A, 460V	INTERP
AYK580-CF-114A-2+B058	18.5	28.3	43.4	277	NEMA 3R, Bypass, 114A, 208/230V	INTERP
AYK580-PF-124A-4+B058	18.5	21.5	47.5	279	NEMA 3R, 124A, 460V	INTERP
AYK580-CF-124A-4	20.5	33.0	44.0	315	NEMA 1, Bypass, 124A, 460V	INTERP
AYK580-PF-077A-6+B058	21.5	21.5	54.6	345	NEMA 3R, 77A, 575V	INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Packaged Variable Frequency Drives (continued)						
AYK580-PF-099A-6+B058	21.5	21.5	54.6	345	NEMA 3R, 99A, 575V	INTERP
AYK580-PF-125A-6+B058	21.5	21.5	54.6	345	NEMA 3R, 125A, 575V	INTERP
AYK580-PF-143A-2+B058	21.5	21.5	54.6	345	NEMA 3R, 143A, 208/230V	INTERP
AYK580-PF-156A-4+B058	21.5	21.5	54.6	345	NEMA 3R, 156A, 460V	INTERP
AYK580-PF-169A-2+B058	21.5	21.5	54.6	345	NEMA 3R, 169A, 208/230V	INTERP
AYK580-PF-180A-4+B058	21.5	21.5	54.6	345	NEMA 3R, 180A, 460V	INTERP
AYK580-PF-211A-2+B058	21.5	21.5	54.6	345	NEMA 3R, 211A, 208/230V	INTERP
AYK580-CF-124A-4+B058	22.4	32.3	44.0	349	NEMA 3R, Bypass, 124A, 460V	INTERP
AYK580-CF-077A-6	20.5	33.0	45.0	349	NEMA 1, Bypass, 77A, 575V	INTERP
AYK580-CF-099A-6	20.5	33.0	45.0	349	NEMA 1, Bypass, 99A, 575V	INTERP
AYK580-CF-125A-6	20.5	33.0	45.0	349	NEMA 1, Bypass, 125A, 575V	INTERP
AYK580-CF-143A-2	20.5	33.0	45.0	349	NEMA 1, Bypass, 143A, 208/230V	INTERP
AYK580-CF-156A-4	20.5	33.0	45.0	349	NEMA 1, Bypass, 156A, 460V	INTERP
AYK580-CF-169A-2	20.5	33.0	45.0	349	NEMA 1, Bypass, 169A, 208/230V	INTERP
AYK580-CF-180A-4	20.5	33.0	45.0	349	NEMA 1, Bypass, 180A, 460V	**UUT 12.2**
AYK580-CF-211A-2	20.5	33.0	45.0	349	NEMA 1, Bypass, 211A, 208/230V	INTERP
AYK580-CF-077A-6+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 77A, 575V	INTERP
AYK580-CF-099A-6+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 99A, 575V	INTERP
AYK580-CF-125A-6+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 125A, 575V	INTERP
AYK580-CF-143A-2+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 143A, 208/230V	INTERP
AYK580-CF-156A-4+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 156A, 460V	INTERP
AYK580-CF-169A-2+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 169A, 208/230V	INTERP
AYK580-CF-180A-4+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 180A, 460V	INTERP
AYK580-CF-211A-2+B058	22.3	32.5	51.0	417	NEMA 3R, Bypass, 211A, 208/230V	**UUT 12.1**

MOUNTING:	Wall mounted on unit.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Weight:** Listed weight is the maximum for a complete packaged VFD, including internal subcomponents. **Internal Subcomponents:** See Table 9.1.			

TABLE 9.1 - VFD CONTENTS

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Base Drives						
AYK580-01-02A1-4	8.8	4.9	14.7	10	R1 Frame, 2.1A, 460V	**UUT 12.3**
AYK580-01-03A0-4	8.8	4.9	14.7	10	R1 Frame, 3.0A, 460V	INTERP
AYK580-01-03A5-4	8.8	4.9	14.7	10	R1 Frame, 3.5A, 460V	INTERP
AYK580-01-04A6-2	8.8	4.9	14.7	10	R1 Frame, 4.6A, 208/230V	**UUT 12.4**
AYK580-01-04A8-4	8.8	4.9	14.7	10	R1 Frame, 4.8A, 460V	INTERP
AYK580-01-06A6-2	8.8	4.9	14.7	10	R1 Frame, 6.6A, 208/230V	INTERP
AYK580-01-07A5-2	8.8	4.9	14.7	10	R1 Frame, 7.5A, 208/230V	INTERP
AYK580-01-07A6-4	8.8	4.9	14.7	10	R1 Frame, 7.6A, 460V	INTERP
AYK580-01-10A6-2	8.8	4.9	14.7	10	R1 Frame, 10.6A, 208/230V	INTERP
AYK580-01-012A-4	8.8	4.9	14.7	10	R1 Frame, 12A, 460V	INTERP
AYK580-01-017A-2	8.8	4.9	14.7	10	R1 Frame, 17A, 208/230V	INTERP
AYK580-01-02A7-6	9.0	4.9	18.6	15	R2 Frame, 2.7A, 575V	INTERP
AYK580-01-03A9-6	9.0	4.9	18.6	15	R2 Frame, 3.9A, 575V	INTERP
AYK580-01-06A1-6	9.0	4.9	18.6	15	R2 Frame, 6.1A, 575V	INTERP
AYK580-01-09A0-6	9.0	4.9	18.6	15	R2 Frame, 9.0A, 575V	INTERP
AYK580-01-011A-6	9.0	4.9	18.6	15	R2 Frame, 11A, 575V	INTERP
AYK580-01-014A-4	9.0	4.9	18.6	15	R2 Frame, 14A, 460V	INTERP
AYK580-01-017A-6	9.0	4.9	18.6	15	R2 Frame, 17A, 575V	INTERP
AYK580-01-023A-4	9.0	4.9	18.6	15	R2 Frame, 23A, 460V	INTERP
AYK580-01-024A-2	9.0	4.9	18.6	15	R2 Frame, 24A, 208/230V	INTERP
AYK580-01-031A-2	9.0	4.9	18.6	15	R2 Frame, 31A, 208/230V	INTERP
AYK580-01-022A-6	9.0	8.0	19.3	26	R3 Frame, 22A, 575V	INTERP
AYK580-01-027A-4	9.0	8.0	19.3	26	R3 Frame, 27A, 460V	INTERP
AYK580-01-027A-6	9.0	8.0	19.3	26	R3 Frame, 27A, 575V	INTERP
AYK580-01-032A-6	9.0	8.0	19.3	26	R3 Frame, 32A, 575V	INTERP
AYK580-01-034A-4	9.0	8.0	19.3	26	R3 Frame, 34A, 460V	INTERP
AYK580-01-044A-4	9.0	8.0	19.3	26	R3 Frame, 44A, 460V	INTERP
AYK580-01-046A-2	9.0	8.0	19.3	26	R3 Frame, 46A, 208/230V	INTERP
AYK580-01-059A-2	9.0	8.0	19.3	26	R3 Frame, 59A, 208/230V	INTERP
AYK580-01-052A-4	10.1	8.0	25.0	42	R4 Frame, 52A, 460V	INTERP
AYK580-01-065A-4	10.1	8.0	25.0	42	R4 Frame, 65A, 460V	INTERP
AYK580-01-075A-2	10.1	8.0	25.0	42	R4 Frame, 75A, 208/230V	INTERP
AYK580-01-077A-4	10.1	8.0	25.0	42	R4 Frame, 77A, 460V	INTERP
AYK580-01-041A-6	11.6	8.0	28.8	62	R5 Frame, 41A, 575V	INTERP
AYK580-01-052A-6	11.6	8.0	28.8	62	R5 Frame, 52A, 575V	INTERP
AYK580-01-062A-6	11.6	8.0	28.8	62	R5 Frame, 62A, 575V	INTERP
AYK580-01-077A-6	11.6	8.0	28.8	62	R5 Frame, 77A, 575V	INTERP
AYK580-01-088A-2	11.6	8.0	28.8	62	R5 Frame, 88A, 208/230V	INTERP
AYK580-01-096A-4	11.6	8.0	28.8	62	R5 Frame, 96A, 460V	INTERP
AYK580-01-114A-2	11.6	8.0	28.8	62	R5 Frame, 114A, 208/230V	INTERP
AYK580-01-124A-4	14.5	9.9	28.6	94	R6 Frame, 124A, 460V	INTERP
AYK580-01-143A-2	14.5	9.9	28.6	94	R6 Frame, 143A, 208/230V	INTERP

NOTES: Table continues on the next page. Additional notes, information, and seismic parameters are shown at the end of the table.

TABLE 9.1 - VFD CONTENTS (continued)

MANUFACTURER: JOHNSON CONTROLS INC.

PRODUCT FAMILY: YORK CUSTOM YC / MILLER-PICKING MP AIR CONDITIONING UNITS

MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
ABB - AYK580 Base Drives (continued)						
AYK580-01-099A-6	14.6	11.2	34.7	119	R7 Frame, 99A, 575V	INTERP
AYK580-01-125A-6	14.6	11.2	34.7	119	R7 Frame, 125A, 575V	INTERP
AYK580-01-156A-4	14.6	11.2	34.7	119	R7 Frame, 156A, 460V	INTERP
AYK580-01-169A-2	14.6	11.2	34.7	119	R7 Frame, 169A, 208/230V	INTERP
AYK580-01-180A-4	14.6	11.2	34.7	119	R7 Frame, 180A, 460V	**UUT 12.2**
AYK580-01-211A-2	14.6	11.2	34.7	119	R7 Frame, 211A, 208/230V	**UUT 12.1**
ABB - Disconnect						
OS400J03				14	400A	**UUT 12.1**

MOUNTING:	Mounted within VFD.	**SEISMIC LEVEL:**	S_{DS} = 1.93g for z/h = 1	I_P = 1.5
NOTES:	**Construction/Options:** Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.			

UUT 1

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-90x96
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
96	96	96	4,988	8.3	7.8	8.4

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	11857	October 27, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted on 14in tall VMC P6000S curb using (3) 4in long 3/8in fillet welds on two sides (6 welds total, 44in spacing). Curb was rigid floor mounted to table fixture using (20) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 2in panels, 20GA stainless steel exterior skin, 20GA stainless steel interior liner, 16GA carbon steel internal wall posts, fiberglass insulation. Base: 6in welded structural carbon steel frame, 0.125in stainless steel treadplate floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Water Coils (Double-35Hx62Wx1row Cu-fin SS-frame), Premier Industries - Evaporative Cooler (24Hx24W), Colmac - Air to Air Heat Pipe Coil (Single-15Hx24Wx2row), Thermotech - Energy Recovery Wheel (TC-14), Twin City Fans - EPF/EPQ Belt Drive Arrangement 3 (EPF/EPQ-122 Al-wheel), Ruskin - EME6625 Vertical Blade Louver (EME6625-27Hx27W), Ruskin - CBS92 Back Draft Damper (CBS92-20Hx20W), Ruskin - CD50/SD50 Control/Smoke Damper (SD50-24Hx24W), Ruskin - CD60/SD60 Control/Smoke Damper (SD60-24Hx24W), Johnson Controls - Electrical Enclosures (10Dx16Wx24Hx100-lb, 6.3Dx2.8Wx9.4Hx10-lb).

UUT 2A

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-138x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
96	144	144	9,810	4.5	4.4	4.2

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	11857	October 27, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (12) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 4in panels, 0.04in textured aluminum exterior skin, 20GA stainless steel interior liner, 16GA carbon steel internal wall posts, mineral wool insulation. Base: 6in welded structural carbon steel frame, 12GA stainless steel floor, foam insulation.
SUBCOMPONENTS:	Colmac - Air to Air Heat Pipe Coil (Double-119Hx120Wx5row), Thermotech - Energy Recovery Wheel (TF-359).

UUT 2C

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-134x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
96	144	144	7,100	5.0	5.2	5.3

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	11857	October 27, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (12) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 2 walls in place (inlet and one side wall removed, bracing in place on 96in side wall). Roof/Walls: 2in panels, 0.04in textured aluminum exterior skin, 0.05in perforated aluminum interior liner, 16GA carbon steel internal wall posts, fiberglass/foam insulation. Base: 10in welded structural carbon steel frame, 0.125in carbon steel floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Universal Type 8, HEPA Filter Frames (Type8-130Hx140W CS&SS&Al-frame, HEPA-130Hx140W CS&SS-frame), Johnson Controls - Flat Filter Frames (Flat-130Hx58W CS-frame & SS-frame), Premier Industries - Evaporative Cooler (130Hx130W), American Air Filter - AstroCel I/MEGAcel I HEPA Air Filters (24Hx12W MEGAcel I, 24Hx24W AstroCel I & MEGAcel I), American Air Filter - RigidAir Air Filters (24Hx12W, 24Hx24W).
TESTING NOTES:	UUT 2C was tested with a side wall brace but no bracing on inlet wall (UUT 2C-2 in report).

UUT 3B

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-136x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

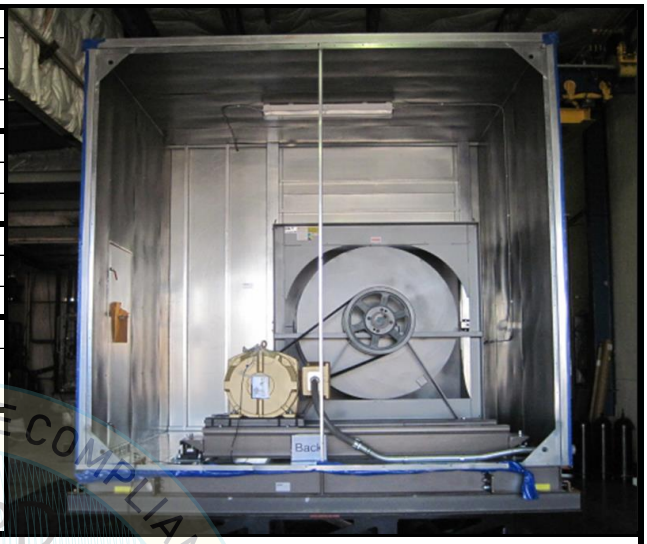
DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
144	144	144	11,100	6.6	3.2	3.8

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	11857	October 25, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.



MOUNTING:	Rigid floor mounted using (16) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 2 walls in place (inlet and outlet walls removed). Roof/Walls: 3in panels, 20GA carbon steel exterior skin, 20GA perforated carbon steel interior liner, 16GA carbon steel internal wall posts, fiberglass/foam insulation. Base: 8in welded structural carbon steel frame, 10GA carbon steel floor, foam insulation.
SUBCOMPONENTS:	Twin City Fans - EPF/EPQ Belt Drive Arrangement 3 (EPF/EPQ-600 CS-wheel), Johnson Controls - Electrical Enclosure (22Dx34Wx76Hx620-lb).
TESTING NOTES:	UUT 3B was tested without bracing (UUT 3B-2 in report).

UUT 3C

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-132x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

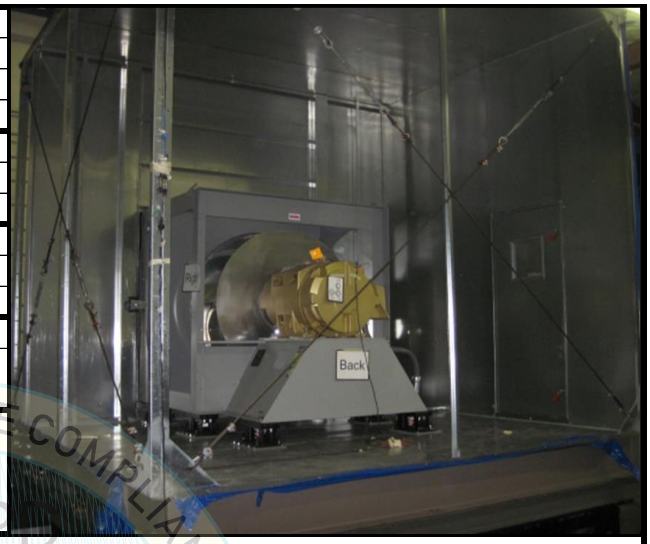
DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
144	144	144	7,120	4.0	5.1	3.8

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	11857	October 25, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.



MOUNTING:	Rigid floor mounted using (16) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 1 wall in place (inlet, outlet, and one side wall removed). Roof/Walls: 2in panels, 20GA carbon steel exterior skin, 22GA carbon steel interior liner, 16GA carbon steel internal wall posts, foam insulation. Base: 12in welded structural carbon steel frame, 10GA carbon steel floor, foam insulation.
SUBCOMPONENTS:	Twin City Fans - EPFN/EPQN Direct Drive Arrangement 4 (EPFN/EPQN-490 single fan), Ruskin - CBS92 Back Draft Damper (CBS92-68Hx68W), Johnson Controls - Electrical Enclosure (10Dx26Wx60Hx150-lb).
TESTING NOTES:	UUT 3C from this document is listed as UUT 3C-1 in the test report.

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-144x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
198	144	152	24,300	5.5	7.3	7.5

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	SEESL - UNIV. AT BUFFALO		
REPORT & DATE:	20048TR1.0	November 16, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	**1**	**3.09**	**2.32**	**1.29**	**0.52**
1.93	**0**				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (16) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 3in panels, 16GA stainless steel exterior skin, 22GA carbon steel interior liner, 16GA carbon steel internal wall posts, foam insulation. Base: 8in welded structural carbon steel frame, 16GA stainless steel floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Water Coils (Single-47.5Hx127Wx12row Cu-fin CS-frame, Double-78.5Hx129Wx12row Al-fin CS-frame), Johnson Controls - Angle Filter Frame (Angle-141Hx138W CS-frame), Twin City Fans - EPFN/EPQN Direct Drive Arrangement 4 (EPFN/EPQN-182 3-stack on stand), Ruskin - EME6625 Vertical Blade Louver (EME6625-48Hx72W), Ruskin - CD50/SD50 Control/Smoke Damper (CD50-25Hx9.5W), Ruskin - CD60/SD60 Control/Smoke Damper (CD60-16Hx9.5W).

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-144x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
171	144	152	21,200	3.2	2.8	5.0

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	SEESL - UNIV. AT BUFFALO		
REPORT & DATE:	20048TR1.0	November 17, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (14) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 3in panels, 16GA stainless steel exterior skin, 16GA stainless steel interior liner, 16GA carbon steel internal wall posts, foam insulation. Base: 8in welded structural carbon steel frame, 0.125in aluminum treadplate floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Water Coil (Triple-126.75Hx127Wx8row Cu-fin SS-frame), Johnson Controls - Angle Filter Frame (Angle-141Hx138W SS-frame), Twin City Fans - EPFN/EPQN Direct Drive Arrangement 4 (EPFN/EPQN-365 2-stack on stand), Ruskin - EME6625 Vertical Blade Louver (EME6625-12Hx12W), Ruskin - CD50/SD50 Control/Smoke Damper (CD50-38.5Hx82W).

UUT 6

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-139x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
171	144	147	12,800	7.0	9.5	18.6

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	SEESL - UNIV. AT BUFFALO		
REPORT & DATE:	20048TR1.0	November 18, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	**1**	**3.09**	**2.32**	**1.29**	**0.52**
1.93	**0**				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (12) 5/8in Grade 8 bolts.
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 3in panels, 20GA carbon steel exterior skin, 0.05in aluminum interior liner, 16GA carbon steel internal wall posts, foam insulation. Base: 8in welded structural carbon steel frame, 16GA carbon steel floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Humidifiers (23Hx126W, 120Hx126W), Lau - Stack Fans (SF 10 - 105 3-stack, SF 25 - 245 3-stack).

UUT 7

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-145x144
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
144	144	151	12,500	7.0	8.0	14.7

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	SEESL - UNIV. AT BUFFALO		
REPORT & DATE:	1700935-TR-001 R1	November 8, 2019	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.10	1	3.36	2.52	1.41	0.57
2.10	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (28) 12in long 3/8in fillet welds around perimeter.
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 4in panels, 20GA carbon steel exterior skin, 22GA stainless steel interior liner, 16GA carbon steel internal wall posts, foam insulation. Base: 6in welded structural carbon steel frame, 16GA carbon steel floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Steam Coils (Single-18Hx17.5W, Double-108Hx101W), Johnson Controls - Fan Arrays (5-tall-140Hx12.2Fan, 5-tall-140Hx12.4Fan, 3-tall-140Hx24.8Fan, 3-tall-140Hx24.8Fan), EBM-Papst - RadiPac Cube Fans (EG1R-480-310, K3G630), Ziehl-Abegg - Fans (GR31C, GR63C), Ruskin - CD60/SD60 Control/Smoke Dampers (SD60-10Hx12W, SD60-48Hx72W), Saginaw - Control Panel Enclosures (SCE-30EL2410LP, SCE-48EL3010LP), Hoffman - Control Panel Enclosures (20x16x8, 42x30x12), Eaton - Series C Molded Case Circuit Breakers (F-Frame 10-225A, J-Frame 70-250A, K-Frame 70-400A), Eaton - Power Defense Molded Case Circuit Breakers (PDG13 15-125A, PDG33 45-400A), Eaton - Industrial Control Transformers (C0100E2A, C2000K2A, C3000K2A), Hammond - Industrial Control Transformers (SP2000MQMJ, SP3000MQMJ).
TESTING NOTES:	UUT 7 is listed as UUT 2 in the test report.

UUT 8

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	YC/MP-138x183
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
125	183	146	6,732**	4.8	7.1	12.1

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	PEER - BERKELEY		
REPORT & DATE:	1700935-TR-002 R0	January 15, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.10	1	3.36	2.52	1.41	0.57
2.10	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. ***Other than the coil failures noted below***, the unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (12) 5/8in Grade 8 bolts and (10) 3in long 5/16in fillet welds (between the bolt spacing).
CONSTRUCTION:	Configuration: 4 walls in place. Roof/Walls: 2in panels, 20GA stainless steel & 0.04in aluminum exterior skin, 20GA stainless steel & 20GA perforated stainless steel & 0.05in aluminum & 0.05in perforated aluminum interior liner, 16GA carbon steel internal wall posts, foam & fiberglass insulation. Base: 8in welded structural carbon steel frame, 16GA carbon steel floor, foam insulation.
SUBCOMPONENTS:	Johnson Controls - Universal Type 8, HEPA Filter Frames (Type8/HEPA-136Hx179W CS-frame), Koch Filter - Multi-Cell Air Filters (24Hx12W-SH, 24Hx24W-SH, 24Hx12W-DH, 24Hx24W-DH), Koch Filter - BioMAX HEPA HC Air Filters (24Hx12W, 24Hx24W), Koch Filter - DuraMAX Air Filters (24Hx12W, 24Hx24W), Koch Filter - DuraPURE Air Filters (24Hx12W, 24Hx24W), Koch Filter - DuraKLEEN Air Filters (24Hx12W, 24Hx24W), UVDI - HMB V-Bank Air Filters (24Hx12W, 24Hx24W), Ruskin - CD60/SD60 Control/Smoke Damper (CD60-72Hx96W), Ruskin - AMS060 Air Measuring Stations w/ Damper (AMS060-9.5Hx16W, AMS060-72Hx96W).
TESTING NOTES:	UUT 8 is listed as UUT 1 in the test report. The coils within UUT 8 failed during the test and are excluded from the OSP. **The net weight, excluding the failed coils, is 6,732-lb.

UUT 9.1a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	RITTAL 1033500
UNIT FUNCTION:	CONTROL PANELS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
8	12	12	22	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	15423, Rev. 1	September 19, 2019	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid wall mounted to test fixture using (4) 3/8in Grade 5 bolts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	Rittal - Control Panel Enclosure (1033500).
TESTING NOTES:	UUT 9.1a is listed as UUT 1a in the test report.

UUT 9.1b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	RITTAL 1033500
UNIT FUNCTION:	CONTROL PANELS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
8	12	12	22	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	ETL 15423, Rev. 1	September 19, 2019	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 9.1b is UUT 9.1a with different fixture mounting. UUT 9.1b is listed as UUT 1b in the test report.

MANWILL ENGINEERING

Johnson Controls

UUT 9.2a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.						
MODEL NUMBER:	RITTAL 1073500						
UNIT FUNCTION:	CONTROL PANELS						
SERIAL NUMBER:	N/A						
DIMENSIONS (in)			**WEIGHT**	**RES. FREQ. (Hz)**			
DEPTH	**WIDTH**	**HEIGHT**	**(lb)**	**F-B**	**S-S**	**V**	
12	30	30	143	N/A	N/A	N/A	
CODE & CRITERIA:	2019 CBC		ICC-ES AC156				
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY						
REPORT & DATE:	15423, Rev. 1		September 19, 2019				
S_{DS} (g)	**z/h**	**A_{FLX-H} (g)**	**A_{RIG-H} (g)**	**A_{FLX-V} (g)**	**A_{RIG-V} (g)**		
1.93	**1**	**3.09**	**2.32**	**1.29**	**0.52**		
1.93	**0**						

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid wall mounted to test fixture using (4) 3/8in Grade 5 bolts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	Rittal - Control Panel Enclosure (1073500), ABB - Disconnect Switch (OT200U03), Siemens - Transformer (MT2000A).
TESTING NOTES:	UUT 9.2a is listed as UUT 2a in the test report.

UUT 9.2b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.						
MODEL NUMBER:	RITTAL 1073500						
UNIT FUNCTION:	CONTROL PANELS						
SERIAL NUMBER:	N/A						
DIMENSIONS (in)			**WEIGHT**	**RES. FREQ. (Hz)**			
DEPTH	**WIDTH**	**HEIGHT**	**(lb)**	**F-B**	**S-S**	**V**	
12	30	30	143	N/A	N/A	N/A	
CODE & CRITERIA:	2019 CBC		ICC-ES AC156				
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY						
REPORT & DATE:	ETL 15423, Rev. 1		September 19, 2019				
S_{DS} (g)	**z/h**	**A_{FLX-H} (g)**	**A_{RIG-H} (g)**	**A_{FLX-V} (g)**	**A_{RIG-V} (g)**		
1.93	**1**	**3.09**	**2.32**	**1.29**	**0.52**		
1.93	**0**						

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 9.2b is UUT 9.2a with different fixture mounting. UUT 9.2b is listed as UUT 2b in the test report.

UUT 9.3a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	RITTAL WM603612NC
UNIT FUNCTION:	CONTROL PANELS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
12	36	60	349	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	15423, Rev. 1	September 19, 2019	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid wall mounted to test fixture using (4) 3/8in Grade 5 bolts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	Rittal - Control Panel Enclosure (WM603612NC), ABB - Disconnect Switch (OS600J03), Siemens - Transformer (MT2000A).
TESTING NOTES:	UUT 9.3a is listed as UUT 3a in the test report.

UUT 9.3b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	RITTAL WM603612NC
UNIT FUNCTION:	CONTROL PANELS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
12	36	60	349	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	ETL 15423, Rev. 1	September 19, 2019	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 9.3b is UUT 9.3a with different fixture mounting. UUT 9.3b is listed as UUT 3b in the test report.

UUT 10.1a - ISOLATED

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0075AW3F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
13.7	39.2	37.6	251	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to P1000 Unistrut rails using (4) 3/8in Grade 2 bolts to P1008 Unistrut channel nuts. Unistrut rails mounted to test fixture using (2) 3/8in Grade 8 bolts per rail (2 rails, 4 bolts total). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	Hoffman - Type 3R enclosure (26742), TCI - line reactor (KDRG36TT), TCI - tuning reactor (KTR25A65HG), Vishay - capacitors (28565 & 28566), Bussman - fuse block (11005), GE - contactor (29309), Sola/Hevi-Duty - control transformer (23891), Hoffman - heater (11638), Macromatic Controls - relays (30585 & 28730), Wieland - terminal block (13567).
TESTING NOTES:	UUT 10.1a is listed as UUT 1 in the test report.

UUT 10.1b - RIGID

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0075AW3F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
13.7	39.2	37.6	251	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.1b is UUT 10.1a with different fixture mounting. UUT 10.1b is listed as UUT 1 in the test report.

UUT 10.2a - ISOLATED

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0125CW3F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
13.7	39.2	37.6	377	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to P1000 Unistrut rails using (4) 3/8in Grade 2 bolts to P1008 Unistrut channel nuts. Unistrut rails mounted to test fixture using (2) 3/8in Grade 8 bolts per rail (2 rails, 4 bolts total). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	Hoffman - Type 3R enclosure (26742), TCI - line reactor (KDRL41TT), TCI - tuning reactor (KTR40C65HG), Vishay - capacitor (28570), Bussman - fuse block (11071), GE - contactor (29310), Sola/Hevi-Duty - control transformer (24509), Hoffman - heater (11638), Macromatic Controls - relays (30585 & 29348), Wieland - terminal block (13567).
TESTING NOTES:	UUT 10.2a is listed as UUT 2 in the test report.

UUT 10.2b - RIGID

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0125CW3F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
13.7	39.2	37.6	377	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.2b is UUT 10.2a with different fixture mounting. UUT 10.2b is listed as UUT 2 in the test report.

UUT 10.3a - ISOLATED

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0075CW1F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
12.5	17.5	31.6	179	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to P1000 Unistrut rails using (4) 3/8in Grade 2 bolts to P1008 Unistrut channel nuts. Unistrut rails mounted to test fixture using (2) 3/8in Grade 8 bolts per rail (2 rails, 4 bolts total). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	TCI - Type 1 enclosure (HGPSMALL), TCI - line reactor (KDRG36TT), TCI - tuning reactor (KTR25C65HG), Vishay - capacitors (28568 & 28569), Bussman - fuse block (11005), GE - contactor (29309), Sola/Hevi-Duty - control transformer (24509), Macromatic Controls - relays (30585 & 29348), Wieland - terminal block (13567).
TESTING NOTES:	UUT 10.3a is listed as UUT 3 in the test report.

UUT 10.3b - RIGID

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0075CW1F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
12.5	17.5	31.6	179	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.3b is UUT 10.3a with different fixture mounting. UUT 10.3b is listed as UUT 3 in the test report.

UUT 10.4a - ISOLATED

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0150AW1F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
16.5	17.7	56.2	363	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to P1000 Unistrut rails using (4) 3/8in Grade 2 bolts to P1008 Unistrut channel nuts. Unistrut rails mounted to test fixture using (2) 3/8in Grade 8 bolts per rail (2 rails, 4 bolts total). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	TCI - Type 1 enclosure (HGPMEDIUM), TCI - line reactor (KDRL7TT), TCI - tuning reactor (KTR45A65HG), Vishay - capacitor (28566), Bussman - fuse block (11071), GE - contactor (29311), Sola/Hevi-Duty - control transformer (23893), Macromatic Controls - relay (28730), Wieland - terminal block (13567).
TESTING NOTES:	UUT 10.4a is listed as UUT 4 in the test report.

UUT 10.4b - RIGID

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0150AW1F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
16.5	17.7	56.2	363	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.4b is UUT 10.4a with different fixture mounting. UUT 10.4b is listed as UUT 4 in the test report.

UUT 10.5a - ISOLATED

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0030CW3F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
13.7	33.3	32.3	228	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC / ICC-ES AC156
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY
REPORT & DATE:	17073TR1.0 / October 24, 2017

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to P1000 Unistrut rails using (4) 3/8in Grade 2 bolts to P1008 Unistrut channel nuts. Unistrut rails mounted to test fixture using (2) 3/8in Grade 8 bolts per rail (2 rails, 4 bolts total). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	Hoffman - Type 3R enclosure (26741), TCI - line reactors (KDRH41TT & KDRG42TT), ASC - capacitors (28167 & 27608), Bussman - fuse block (28799), GE - contactor (29307), Sola/Hevi-Duty - control transformer (24509), Hoffman - heater (11638), Macromatic Controls - relays (30585 & 29348), Wieland - terminal block (13567).
TESTING NOTES:	UUT 10.5a is listed as UUT 5 in the test report.

UUT 10.5b - RIGID

MANUFACTURER:	TCI
MODEL NUMBER:	HGP0030CW3F0000-JCI-SEISMIC
UNIT FUNCTION:	HARMONIC FILTER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
13.7	33.3	32.3	228	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC / ICC-ES AC156
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY
REPORT & DATE:	17073TR1.0 / October 24, 2017

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.5b is UUT 10.5a with different fixture mounting. UUT 10.5b is listed as UUT 5 in the test report.

UUT 10.6a - ISOLATED

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 48X52
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	48.0	52.0	43	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to fixture using (34) 1/4" self drilling screws (6in o.c., all four sides). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
TESTING NOTES:	UUT 10.6a is listed as UUT 6 in the test report.

UUT 10.6b - RIGID

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 48X52
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	48.0	52.0	43	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.6b is UUT 10.6a with different fixture mounting. UUT 10.6b is listed as UUT 6 in the test report.

UUT 10.7a - ISOLATED

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 20X20
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	20	20	10	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to fixture using (16) 1/4" self drilling screws (6in o.c., all four sides). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
TESTING NOTES:	UUT 10.7a is listed as UUT 7 in the test report.

UUT 10.7b - RIGID

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 20X20
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	20	20	10	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.7b is UUT 10.7a with different fixture mounting. UUT 10.7b is listed as UUT 7 in the test report.

UUT 10.8a - ISOLATED

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 48X52
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	48.0	52.0	43	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Horizontal surface mounted to fixture using (34) 1/4" self drilling screws (6in o.c., all four sides). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
TESTING NOTES:	UUT 10.8a is listed as UUT 8 in the test report.

UUT 10.8b - RIGID

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 48X52
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	48.0	52.0	43	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.8b is UUT 10.8a with different fixture mounting. UUT 10.8b is listed as UUT 8 in the test report.

UUT 10.9a - ISOLATED

MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 20X20
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	20.0	20.0	10	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Horizontal surface mounted to fixture using (16) 1/4" self drilling screws (6in o.c., all four sides). Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
TESTING NOTES:	UUT 10.9a is listed as UUT 9 in the test report.

UUT 10.9b - RIGID

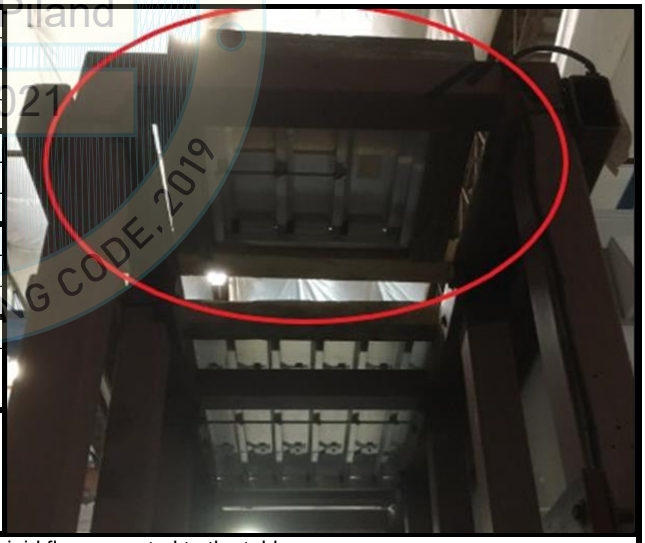
MANUFACTURER:	RUSKIN
MODEL NUMBER:	CBD6 - 20X20
UNIT FUNCTION:	BACKDRAFT DAMPER
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
2.3	20.0	20.0	10	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	17073TR1.0	October 24, 2017	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	2.14	0.86
3.20	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.



MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 10.9b is UUT 10.9a with different fixture mounting. UUT 10.9b is listed as UUT 9 in the test report.

UUT 11.1a - ISOLATED

MANUFACTURER:	UVDI
MODEL NUMBER:	CARBON STEEL GRID - 97X144
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

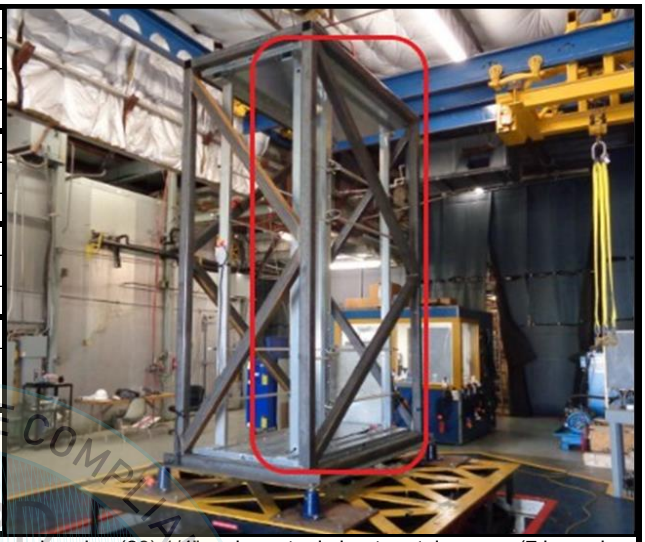
DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
9	97	144	350	2.1	2.6	4.1

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.



MOUNTING:	Floor & wall mounted to 16GA thick carbon steel panels using (28) 1/4" carbon steel sheet metal screws (7 in each flange of bulkhead on top and bottom, 14in o.c. spacing, starting 2in from end of bulkhead). Test fixture is isolated floor mounted to table using (4) Mason SSLFHB 1000 spring isolators.
SUBCOMPONENTS:	UVDI - 21" V-RAY fixture (025-47407-001), UVDI - 61" V-RAY fixture (025-47407-003), UVDI - 21" V-RAY lamp (025-47408-001), UVDI - 61" V-RAY lamp (025-47408-003), UVDI - fixed radiometer (025-39151-001).
TESTING NOTES:	UUT 11.1a is listed as UUT 1 in the test report. Mounting clips hold the glass of the lamps only, not the ends.

UUT 11.1b - RIGID

MANUFACTURER:	UVDI
MODEL NUMBER:	CARBON STEEL GRID - 97X144
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
9	97	144	350	15.4	16.1	27.3

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 11.1b is UUT 11.1a with different fixture mounting. UUT 11.1b is listed as UUT 1 in the test report.

UUT 11.2a - ISOLATED

MANUFACTURER:	UVDI
MODEL NUMBER:	STAINLESS STEEL GRID - 97X144
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
9	97	144	350	2.1	2.5	5.4

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Floor & wall mounted to 16GA thick carbon steel panels using (28) 1/4" carbon steel sheet metal screws (7 in each flange of bulkhead on top and bottom, 14in o.c. spacing, starting 2in from end of bulkhead). Test fixture is isolated floor mounted to table using (4) Mason SSLFHB 1000 spring isolators.
SUBCOMPONENTS:	UVDI - 21" V-MAX fixture and lamp (025-45318-001), UVDI - 61" V-MAX fixture and lamp (025-45318-003), UVDI - fixed radiometer (025-39151-001).
TESTING NOTES:	UUT 11.2a is listed as UUT 2 in the test report. Mounting clips hold the glass of the lamps only, not the ends.

UUT 11.2b - RIGID

MANUFACTURER:	UVDI
MODEL NUMBER:	STAINLESS STEEL GRID - 97X144
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
9	97	144	350	7.5	13.8	27.3

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 11.2b is UUT 11.2a with different fixture mounting. UUT 11.2b is listed as UUT 2 in the test report.

UUT 11.3a - ISOLATED

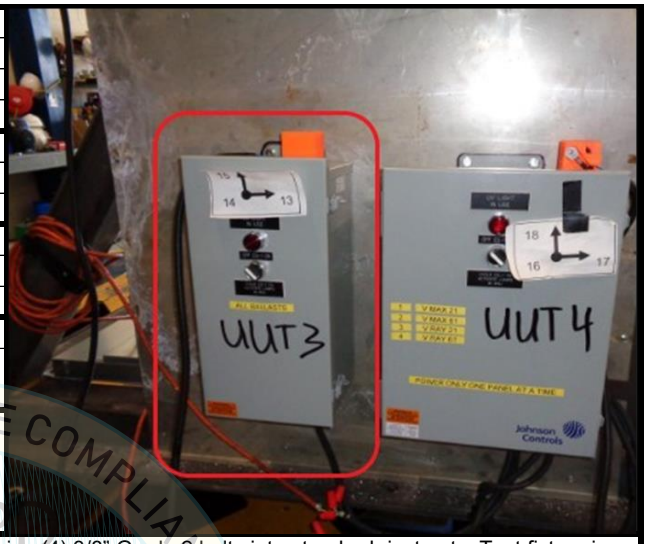
MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	025-39148-101
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
6.5	8.0	16.0	16	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.



MOUNTING:	Wall mounted to 16GA thick carbon steel panel using (4) 3/8" Grade 2 bolts into standard rivet nuts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHB 1000 spring isolators.
SUBCOMPONENTS:	Subcomponents are uniquely identified by the model number.
TESTING NOTES:	UUT 11.3a is listed as UUT 3 in the test report.

UUT 11.3b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	025-39148-101
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
6.5	8.0	16.0	16	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 11.3b is UUT 11.3a with different fixture mounting. UUT 11.3b is listed as UUT 3 in the test report.

UUT 11.4a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	025-39148-103
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
6.5	12	16	34	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted to 16GA thick carbon steel panel using (4) 3/8" Grade 2 bolts into standard rivet nuts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHB 1000 spring isolators.
SUBCOMPONENTS:	Subcomponents are uniquely identified by the model number.
TESTING NOTES:	UUT 11.4a is listed as UUT 4 in the test report.

UUT 11.4b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	025-39148-103
UNIT FUNCTION:	UV LIGHT SYSTEMS
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
6.5	12	16	34	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	18033TR1.0	November 2, 2018	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 11.4b is UUT 11.4a with different fixture mounting. UUT 11.4b is listed as UUT 4 in the test report.

UUT 12.1a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-CF-211A-2+B058
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
22.3	32.5	51.0	417	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	19081TR1.0	April 13, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted using (10) 3/8in Grade 5 bolts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	ABB - Base Drive (AYK580-01-211A-2), ABB - Disconnect (OS400J03), ABB - Contactors (AF190-30-11-13, AF265-30-11-13), ABB - Overloads (EF19-2.7, EF45-45), ABB - Mechanical Interlock (VM205/265), ABB - Control Transformer and Thermostat (3AUA0000048829), Watlow - Cabinet Heater (020100C1-F001F), Littlefuse - Fuses (JLS300, JTD350), ABB - Disconnect Handle (OHB80J6).
TESTING NOTES:	UUT 12.1a is listed as UUT 1 in the test report.

UUT 12.1b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-CF-211A-2+B058
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
22.3	32.5	51.0	417	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	19081TR1.0	April 13, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 12.1b is UUT 12.1a with different fixture mounting. UUT 12.1b is listed as UUT 1 in the test report.

UUT 12.2a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-CF-180A-4
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
20.5	33.0	45.0	349	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC / ICC-ES AC156
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY
REPORT & DATE:	19081TR1.0 / April 13, 2020

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted using (4) 3/8in Grade 5 bolts. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	ABB - Base Drive (AYK580-01-180A-4), ABB - Disconnect (OS400J03), ABB - Contactors (AF140-30-11-13, AF205-30-11-13), Hammond - Control Transformer (PH150MBMH), ABB - Overloads (EF19-2.7, EF19-6.3), ABB - Mechanical Interlock (VM140/190), Littefuse - Fuses (JLS300, JTD300), ABB - Disconnect Handle (OHB80J6), Bussmann - Power Distribution Block (16204-3).
TESTING NOTES:	UUT 12.2a is listed as UUT 1 in the test report.

UUT 12.2b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-CF-180A-4
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
20.5	33.0	45.0	349	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC / ICC-ES AC156
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY
REPORT & DATE:	19081TR1.0 / April 13, 2020

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 12.2b is UUT 12.2a with different fixture mounting. UUT 12.2b is listed as UUT 2 in the test report.

UUT 12.3a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-CF-02A1-4+B058
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
17.4	18.0	20.5	83	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	19081TR1.0	April 13, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted using (6) 3/8in lag screws. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	ABB - Base Drive (AYK580-01-02A1-4), ABB - Disconnects (OS30FACC12, OS60GJ12), ABB - Contactor (AF09-30-10-13), ABB - Overloads (EF19-1.0, EF19-2.7), ABB - Mechanical Interlock (VM4), ABB - Control Transformer and Thermostat (3AUA0000048829), Watlow - Cabinet Heater (020100C1-F001F), Littefuse - Fuses (KLDR5, KLKR15), ABB - Disconnect Handle (OHB65J6).
TESTING NOTES:	UUT 12.3a is listed as UUT 1 in the test report.

UUT 12.3b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-CF-02A1-4+B058
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
17.4	18.0	20.5	83	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	19081TR1.0	April 13, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 12.3b is UUT 12.3a with different fixture mounting. UUT 12.3b is listed as UUT 3 in the test report.

UUT 12.4a - ISOLATED

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-PF-04A6-2
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
11.7	8.3	20.8	23	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	19081TR1.0	April 13, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Wall mounted using (4) 3/8in lag screws. Test fixture is isolated floor mounted to table using (4) Mason SSLFHC 1750 spring isolators.
SUBCOMPONENTS:	ABB - Base Drive (AYK580-01-04A6-2), ABB - Disconnect (OS30FACC12), Littefuse - Fuse (KLKR15), ABB - Disconnect Handle (OHB65J6).
TESTING NOTES:	UUT 12.4a is listed as UUT 1 in the test report.

UUT 12.4b - RIGID

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	AYK580-PF-04A6-2
UNIT FUNCTION:	VARIABLE FREQUENCY DRIVE
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
11.7	8.3	20.8	23	N/A	N/A	N/A

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	ENVIRONMENTAL TESTING LABORATORY		
REPORT & DATE:	19081TR1.0	April 13, 2020	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.00	1	3.20	2.40	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Unit mounting is identical to above. Test fixture is rigid floor mounted to the table.
TESTING NOTES:	UUT 12.4b is UUT 12.4a with different fixture mounting. UUT 12.4b is listed as UUT 4 in the test report.

UUT 15

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	XTI-027X030-DAGA046A
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
62	30	54	830	22.3	11.0	>33

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	DYNAMIC CERTIFICATION LABORATORIES		
REPORT & DATE:	90300-1008	April 30, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.50	1	4.00	3.00	1.68	0.68
2.50	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using #14 screws at 7.5in o.c. around the perimeter.
CONSTRUCTION:	Roof/Walls: 2in panels, 20GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation. Base: 2in panels, 24GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation.
SUBCOMPONENTS:	Comefri - ATLI Belt Drive Arrangement 3 Forward Curve (ATLI 7-7-T1/T2).
TESTING NOTES:	UUT 15 is only considered for the listed subcomponents.

UUT 18

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	XTI-090X120-DAPA046A
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
71	120	90	3,000	4.5	6.5	17.0

CODE & CRITERIA:	2019 CBC	ICC-ES AC156	
TEST LABORATORY:	DYNAMIC CERTIFICATION LABORATORIES		
REPORT & DATE:	90300-1008	May 5, 2011	

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5

Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (8) 3/8in Grade 5 bolts.
CONSTRUCTION:	Roof/Walls: 2in panels, 20GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation. Base: 2in panels, 24GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation.
SUBCOMPONENTS:	Comefri - ATLI Belt Drive Arrangement 3 Forward Curve (ATLI 40-40 - T1/T2).
TESTING NOTES:	UUT 18 is only considered for the listed subcomponents.

UUT 22

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	XTI-60Hx60Wx120L
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
120	60	60	2,320	11.5	8.8	19.8

CODE & CRITERIA:	2019 CBC / ICC-ES AC156
TEST LABORATORY:	DYNAMIC CERTIFICATION LABORATORIES
REPORT & DATE:	90300-1105 / August 30, 2011

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (16) 1/2in Grade 5 bolts.
CONSTRUCTION:	Roof/Walls: 2in panels, 20GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation. Base: 6in 10GA carbon steel frame, 2in panels, 24GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation.
SUBCOMPONENTS:	Twin City Fans - MPQN/MPQS Direct Drive Arrangement 4 (122 2-stack).
TESTING NOTES:	UUT 22 is only considered for the listed subcomponents.

UUT 26

MANUFACTURER:	JOHNSON CONTROLS INC.
MODEL NUMBER:	XTI-120Hx114Wx100L
UNIT FUNCTION:	AIR CONDITIONING UNIT
SERIAL NUMBER:	N/A

DIMENSIONS (in)			WEIGHT	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT	(lb)	F-B	S-S	V
100	114	120	7,030	3.5	3.5	11.3

CODE & CRITERIA:	2019 CBC / ICC-ES AC156
TEST LABORATORY:	DYNAMIC CERTIFICATION LABORATORIES
REPORT & DATE:	90300-1105 / December 15, 2011

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
1.93	1	3.09	2.32	1.29	0.52
1.93	0				

IMPORTANCE FACTOR, I_P = 1.5
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

MOUNTING:	Rigid floor mounted using (28) 1/2in Grade 5 bolts.
CONSTRUCTION:	Roof/Walls: 2in panels, 20GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation. Base: 2in panels, 24GA carbon steel exterior skin, 20GA carbon steel interior liner, foam insulation.
SUBCOMPONENTS:	Twin City Fans - MPQN/MPQS Direct Drive Arrangement 4 (270 2-stack).
TESTING NOTES:	UUT 26 is only considered for the listed subcomponents.