



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0447-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Amico Source

Manufacturer's Technical Representative: James T. Lewis, General Manager

Mailing Address: 71 East Industry Court, Deer Park, NY 11729

Telephone: (631) 940-8559 Email: JLewis@amico.com

Product Information

Product Name: Medical Air and Vacuum Systems

Product Type: Mechanical Equipment

Product Model Number: See attachments

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

General Description: Painted carbon steel skids. Units contain air pumps, vacuum pumps, receiver tanks, controllers,

dryers, filters and sensors, Control panel enclosures are painted carbon steel, NEMA 1/12. Seismic enhancement made to the test units and modifications required to address the anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Medical air and vacuum systems are flexible base mounted with neoprene. Stand-alone control panels are base mounted (rigid or flexible) or wall mounted (rigid or flexible)

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

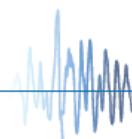
Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

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

Signature of Applicant:  Date: 7/28/16

Title: President Company Name: The VMC Group

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

Company Name: The VMC Group
Name: Ken Tarlow California License Number: SE2851
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403
Telephone: (973) 838-1780 Email: Ken.tarlow@thevmcgroup.com

Supports and Attachments Preapproval

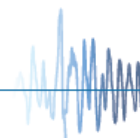
- ☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
☒ Supports and attachments are not preapproved

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
☐ Other (Please Specify): _____

Testing Laboratory

Company Name: Dynamic Certification Laboratories
Contact Name: Kelly Laplace, Project Manager
Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431
Telephone: (775) 358-5085 Email: kelly@shaketest.com





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FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

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

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

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

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

R_p (Equipment or component response modification factor) = 6.0 (standalone control panels, rigidly mounted);
2.0 (all other units)

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See attachments

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

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

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

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

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☒ Yes ☐ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☒ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☐ Other(s) (Please Specify): _____

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

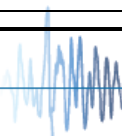
Signature: M. R. Karim Date: 9/9/2016

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable): _____

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"



Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Air System - Scroll

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ⁴	F _p /W _p	Unit
			Height	Width	Depth				
Modular Skid Mounted									
A-xxx-D-080P-SS-N-020-46063-TS	2	Duplex	73.0	67.0	74.0	1,370	2.50	5.63	UUT1 ¹
A-SCD-x-080P-SS-N-xxx-xxxx-xx	2, 3, 5, 7.5, 10, 15, 20	Duplex - Hexaplex	73.0 - 99.0	Varies	74.0 - 109.5	Varies	2.00	4.50	Interpolated
A-SCD-x-120P-SS-N-xxx-xxxx-xx									
A-SCD-x-200P-SS-N-xxx-xxxx-xx									
A-SCD-x-240P-SS-N-xxx-xxxx-xx									
A-xxx-D-240P-SS-N-200-20863-TS	20	Duplex	99.0	138.0	109.5	4,960	2.00	4.50	UUT2A,B,C,D ^{2,3}

Notes:

1. UUT1 tested with a 2 hp scroll pump in the top position, and a 1 hp reciprocating pump in the bottom position.
2. UUT2 tested with a 20 hp scroll pump in the bottom position, and a 20 hp reciprocating pump in the top position.
3. Hexaplex control panel, filters and largest HP pumps tested in duplex unit UUT2. Units are modular in nature, and UUT2 is representative of subcomponents in the largest hexaplex unit. Dimensions and operating weight listed are for UUT2A,B,C,D combined.
4. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Air System - Reciprocating

Model	HP	System	Maximum Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ⁴	F _p /W _p	Unit
			Height	Width	Depth				
Modular Skid Mounted									
A-xxx-D-080P-SS-N-010-46063-TS	1	Duplex	73.0	67.0	74.0	1,370	2.50	5.63	UUT1 ¹
A-RED-x-080P-SS-N-xxx-xxxxx-xx	1, 2, 3, 5, 7.5, 10, 15, 20	Duplex - Hexaplex	73.0 - 99.0	Varies	74.0 - 109.5	Varies	2.00	4.50	Interpolated
A-RED-x-120P-SS-N-xxx-xxxxx-xx									
A-RED-x-200P-SS-N-xxx-xxxxx-xx									
A-RED-x-240P-SS-N-xxx-xxxxx-xx									
A-xxx-D-240P-SS-N-200-20863-TS	20	Duplex	99.0	138.0	109.5	4,960	2.00	4.50	UUT2A,B,C,D ^{2,3}

Notes:

1. UUT1 tested with a 1 hp reciprocating pump in the bottom position, and a 2 hp scroll pump in the top position.
2. UUT2 tested with a 20 hp reciprocating pump in the top position and a 20 hp scroll pump in the bottom position.
3. Hexaplex control panel, filters and largest HP pumps tested in duplex unit UUT2. Units are modular in nature, and UUT2 is representative of subcomponents in the largest hexaplex unit. Dimensions and operating weight listed are for UUT2A,B,C,D combined.
4. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Vacuum System - Claw

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ³	F _p /W _p	Unit
			Height	Width	Depth				
Vertical Tank Mounted									
V-CCD-D-030P-TS-N-xxx-xxxxx-xxMxxx	2	Duplex	89.0	49.0	47.0	1,040	2.00	4.50	Extrapolated
V-xxx-D-060P-TS-N-xxx-46063-xxMxSx	2	Duplex	89.0	49.0	47.0	1,040	2.00	4.50	UUT3 ¹
V-CCD-D-060P-TS-N-xxx-xxxxx-xxMxxx	2, 3, 4, 5.4	Duplex	85.0 - 89.0	50.0	48.5	1,040 - 1,110	2.00	4.50	Interpolated
V-CCD-D-080P-TS-N-xxx-xxxxx-xxMxxx									
V-CCD-D-120P-TS-N-xxx-xxxxx-xxMxxx									
V-xxx-D-120P-TS-N-xxx-20863-xxMxSx	5.4	Duplex	85.0	50.0	48.5	1,110	2.00	4.50	UUT5 ²

1. UUT3 tested with 2 hp claw pump and 1 hp rotary lubricated pump.

2. UUT5 tested with 5.4 hp claw pump and 0.5 hp rotary dry pump.

Horizontal Tank Mounted

V-xxx-D-060P-TH-N-xxx-46063-xxMxSx	2	Duplex	62.0	39.0	70.0	960	2.50	5.63	UUT6 ¹
V-CCD-D-060P-TH-N-xxx-xxxxx-xxMxxx	2, 3, 4, 5.4, 6.4, 7.5	Duplex	62.0 - 75.0	39.0 - 46.5	70.0 - 97.0	960 - 2,040	2.50	5.63	Interpolated
V-CCD-D-080P-TH-N-xxx-xxxxx-xxMxxx									
V-CCD-D-120P-TH-N-xxx-xxxxx-xxMxxx									
V-CCD-D-200P-TH-N-xxx-xxxxx-xxMxxx									
V-CCD-D-240P-TH-N-xxx-xxxxx-xxMxxx	7.5	Duplex	75.0	46.5	97.0	2,040	2.50	5.63	UUT7 ²
V-xxx-D-240P-TH-N-xxx-20863-xxMxSx									

Notes:

1. UUT6 tested with 2 hp claw pump and 1 hp rotary lubricated pump.

2. UUT7 tested with 7.5 hp claw pump and 10 hp rotary lubricated pump.

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

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Vacuum System - Claw (Continued)

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ³	F _p /W _p	Unit
			Height	Width	Depth				
Modular Skid Mounted									
V-CCD-D-080P-SS-N-xxx-46063-xxMVxW	2, 15	Triplex	99.0	73.0	70.5	3,670	2.50	5.63	UUT11 ²
V-CCD-x-080P-SS-N-xxx-xxxxx-xxMxxW	2, 3, 4, 5.4, 6.4, 7.5, 10, 15	Duplex - Hexaplex	96.0 - 99.0	Varies	85.0	Varies	2.50	5.63	Extrapolated
V-CCD-x-120P-SS-N-xxx-xxxxx-xxMxxW									
V-CCD-x-200P-SS-N-xxx-xxxxx-xxMxxW									
V-CCD-x-240P-SS-N-xxx-xxxxx-xxMxxW									
V-CCD-D-240P-SS-N-150-20863-xxMVxW	15	Duplex	96.0 ¹	73.0	85.0	3,920 ¹	2.50	5.63	UUT10 ¹

Notes:

- Units are modular in nature, and UUT10 is representative of subcomponents in the largest hexaplex unit. Hexaplex control panel is standalone and was tested in UUT16. Maximum dimensions and weight for UUT10 listed above includes standalone hexaplex control panel tested in UUT16.
- UUT11 tested with a 15 hp claw pump in the top and center positions, and a 2 hp claw pump in the bottom position.
- Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Vacuum System - Rotary Lubricated

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ³	F _p /W _p	Unit
			Height	Width	Depth				
Vertical Tank Mounted									
V-RVL-D-030P-TS-N-xxx-xxxxx-xxMxxx	1	Duplex	89.0	49.0	47.0	1,040	2.00	4.50	Extrapolated
V-xxx-D-060P-TS-N-xxx-46063-xxMxSx	1	Duplex	89.0	49.0	47.0	1,040	2.00	4.50	UUT3 ¹
V-RVL-D-060P-TS-N-xxx-xxxxx-xxMxxx	1, 1.5, 2, 3, 5, 7.5	Duplex	85.0 - 89.0	47.0 - 49.0	47.0 - 64.0	1,430	2.00	4.50	Interpolated
V-RVL-D-080P-TS-N-xxx-xxxxx-xxMxxx									Interpolated
V-xxx-D-120P-TS-N-xxx-20863-xxMxSx	7.5	Duplex	85.0	47.0	64.0	1,430	2.00	4.50	UUT4 ²

1. UUT3 tested with 1 hp rotary lubricated pump and 2 hp claw pump.

2. UUT4 tested with 7.5 hp rotary lubricated pump and 7.4 hp rotary dry pump.

Horizontal Tank Mounted

V-xxx-D-060P-TH-N-xxx-46063-xxMxSx	1	Duplex	62.0	39.0	70.0	960	2.50	5.63	UUT6 ¹
V-RVL-D-060P-TH-N-xxx-xxxxx-xxMxxx	1, 1.5, 2, 3, 5, 7.5, 10	Duplex	62.0 - 75.0	39.0 - 46.5	70.0 - 97.0	960 - 2,040	2.50	5.63	Interpolated
V-RVL-D-080P-TH-N-xxx-xxxxx-xxMxxx									
V-RVL-D-120P-TH-N-xxx-xxxxx-xxMxxx									
V-RVL-D-200P-TH-N-xxx-xxxxx-xxMxxx									
V-RVL-D-240P-TH-N-xxx-xxxxx-xxMxxx	10	Duplex	75.0	46.5	97.0	2,040	2.50	5.63	UUT7 ²
V-xxx-D-240P-TH-N-xxx-20863-xxMxSx									

Notes:

1. UUT6 tested with 1 hp rotary lubricated pump and 2 hp claw pump.

2. UUT7 tested with 10 hp rotary lubricated pump and 7.5 hp claw pump.

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

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Vacuum System - Rotary Lubricated (Continued)

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ⁵	F _p /W _p	Unit
			Height	Width	Depth				
Modular Skid Mounted									
V-RVL-X-060P-SS-N-xxx-xxxxx-xxxxSx	1, 1.5, 2, 3, 5, 7.5	Duplex to Hexaplex	93.0	Varies	55.0	Varies	2.00	4.50	Extrapolated
V-RVL-x-080P-SS-N-xxx-xxxxx-xxxxSx									
V-RVL-x-120P-SS-N-xxx-xxxxx-xxxxSx									
V-RVL-X-200P-SS-N-xxx-xxxxx-xxxxSx									
V-RVL-X-240P-SS-N-xxx-xxxxx-xxxxSx									
V-xxx-T-060P-SS-N-xxx-46063-xxxxSx	10	Triplex	93.0	67.0	55.0	3,194 ⁴	2.00	4.50	UUT14 ³
V-RVL-x-060P-SS-N-xxx-xxxxx-xxxxSW	10, 15, 20, 25	Duplex to Hexaplex	103.0	Varies	80.0	Varies	1.58	3.56	Extrapolated ²
V-RVL-x-080P-SS-N-xxx-xxxxx-xxxxSW									
V-RVL-x-120P-SS-N-xxx-xxxxx-xxxxSW									
V-RVL-X-200P-SS-N-xxx-xxxxx-xxxxSW									
V-RVL-X-240P-SS-N-xxx-xxxxx-xxxxSW									
V-xxx-D-240P-SS-N-xxx-20863-xxxxSW	25	Duplex	103.0	99.0	80.0	4,637 ⁴	1.58	3.56	UUT12 ^{1,2}

Notes:

1. UUT12 tested with a 25 hp rotary lubricated Busch pump in the top position, and a 17.7 hp rotary dry Becker pump in the bottom position.
2. Hexaplex control panel, filters and largest HP pumps tested in duplex unit UUT12. Units are modular in nature, and UUT12 is representative of subcomponents in the largest hexaplex unit.
3. UUT14 tested with a 10 hp rotary lubricated Busch pump in the top position, a 7.5 hp rotary dry Becker pump in the middle position and a 7.4 hp rotary dry Busch pump in the bottom position.
4. Maximum operating weight listed for UUT12 and UUT14 are for heaviest pumps (weight for UUT12 includes separate skid-mounted control panel, as tested in UUT16).
5. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Vacuum System - Rotary Dry

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ⁴	F _p /W _p	Unit
			Height	Width	Depth				
Vertical Tank Mounted									
V-RVD-D-030P-TS-N-xxx-xxxxx-xxMxxx	0.5, 0.75, 1.2, 1.7, 3, 4, 5.4, 7.4	Duplex	85.0	47.0 - 50.0	48.5 - 64.0	1,430	2.00	4.50	Extrapolated ¹
V-RVD-D-060P-TS-N-xxx-xxxxx-xxMxxx									
V-RVD-D-080P-TS-N-xxx-xxxxx-xxMxxx									
V-RVD-D-120P-TS-N-xxx-xxxxx-xxMxxx									
V-xxx-D-120P-TS-N-xxx-20863-xxMxSx	0.5	Duplex	85.0	50.0	48.5	1,110	2.00	4.50	UUT5 ²
V-xxx-D-120P-TS-N-xxx-20863-xxMxSx	7.4	Duplex	85.0	47.0	64.0	1,430	2.00	4.50	UUT4 ³

1. 60 gallon receiver tank tested in UUT3.

2. UUT5 tested with 0.5 hp rotary dry pump and 5.4 hp claw pump.

3. UUT4 tested with 7.4 hp rotary dry pump and 7.5 hp rotary lubricated pump.

Horizontal Tank Mounted

V-RVD-D-060P-TH-N-xxx-xxxxx-xxxxxx	0.5, 0.75, 1.2, 1.7, 3, 4, 5.4, 7.4, 7.5, 8.9, 10.7, 12.1	Duplex	63.0 - 77.0	50.0 - 55.0	86.0 - 100.0	1,270 - 2,250	2.00	4.50	Extrapolated ¹
V-RVD-D-080P-TH-N-xxx-xxxxx-xxxxxx									
V-RVD-D-120P-TH-N-xxx-xxxxx-xxxxxx									
V-xxx-D-120P-TH-N-xxx-46063-xxxxSx	0.5, 7.5	Duplex	63.0	50.0	86.0	1,270	2.00	4.50	UUT8 ²
V-RVD-D-200P-TH-N-xxx-xxxxx-xxxxxx	0.5, 0.75, 1.2, 1.7, 3, 4, 5.4, 7.4, 7.5, 8.9, 10.7, 12.1	Duplex	77.0	55.0	100.0	2,250	2.00	4.50	Interpolated
V-RVD-D-240P-TH-N-xxx-xxxxx-xxxxxx									
V-xxx-D-240P-TH-N-xxx-20863-xxxxSx	7.4, 12.1	Duplex	77.0	55.0	100.0	2,250	2.00	4.50	UUT9 ³
V-RVD-D-240P-TH-N-xxx-xxxxx-xxxxxx	12.1	Duplex	77.0	55.0	100.0	2,475	2.00	4.50	Extrapolated

Notes:

1. 60 gallon receiver tank tested in UUT6.

2. UUT8 tested with one 0.5 hp rotary dry Busch pump and one 7.5 hp rotary dry Becker pump.

3. UUT9 tested with one 7.4 hp rotary dry Busch pump and one 12.1 hp rotary dry Becker pump.

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

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Units are flexible base mounted with neoprene pads.

Vacuum System - Rotary Dry (Continued)

Model	HP	System	Max. Dimensions (inches)			Max. Operating Weight (lb)	Sds (g), z/h=1 ⁶	F _p /W _p	Unit
			Height	Width	Depth				
Modular Skid Mounted									
V-RVD-x-060P-SS-N-xxx-xxxxx-xxxxxx	0.5, 0.75, 1.2, 1.7, 3, 4, 5.4, 7.4, 7.5	Duplex to Hexaplex	93.0 - 103.0	Varies	55.0 - 80.0	Varies	2.00	4.50	Extrapolated
V-RVD-x-080P-SS-N-xxx-xxxxx-xxxxxx									
V-RVD-x-120P-SS-N-xxx-xxxxx-xxxxxx									
V-RVD-x-200P-SS-N-xxx-xxxxx-xxxxxx									
V-RVD-x-240P-SS-N-xxx-xxxxx-xxxxxx									
V-xxx-T-060P-SS-N-xxx-46063-xxxxSx	7.4, 7.5	Triplex	93.0	67.0	55.0	2,626 ⁵	2.00	4.50	UUT14 ⁴
V-xxx-D-240P-SS-N-xxx-20863-xxMxSW	0.5, 7.4	Duplex	103.0	67.0	55.0	1,460	2.50	5.63	UUT13 ¹
V-RVD-x-060P-SS-N-xxx-xxxxx-xxxxxW	8.9, 10.7, 12.1, 17.7	Duplex to Hexaplex	93.0 - 103.0	Varies	55.0 - 80.0	Varies	1.58	3.56	Extrapolated ²
V-RVD-x-080P-SS-N-xxx-xxxxx-xxxxxW									
V-RVD-x-120P-SS-N-xxx-xxxxx-xxxxxW									
V-RVD-x-200P-SS-N-xxx-xxxxx-xxxxxW									
V-RVD-x-240P-SS-N-xxx-xxxxx-xxxxxW									
V-xxx-D-240P-SS-N-xxx-20863-xxxxSW	17.7	Duplex	103.0	99.0	80.0	3,305 ⁵	1.58	3.56	UUT12 ^{2,3}

Notes:

1. UUT13 tested with a 0.5 hp rotary dry Busch pump in the bottom position, and a 7.4 hp rotary dry Busch pump in the top position.
2. UUT12 tested with a 25 hp rotary lubricated Busch pump in the top position, and a 17.7 hp rotary dry Becker pump in the bottom position.
3. Hexaplex control panel, filters and largest HP pumps tested in duplex unit UUT12. Units are modular in nature, and UUT12 is representative of subcomponents in the largest hexaplex unit.
4. UUT14 tested with a 10 hp rotary lubricated Busch pump in the top position, a 7.5 hp rotary dry Becker pump in the middle position and a 7.4 hp rotary dry Busch pump in the bottom position.
5. Maximum operating weight listed for UUT12 and UUT14 are for heaviest pumps (weight for UUT12 includes separate skid-mounted control panel, as tested in UUT16).
6. Certification level is limited to the lower rating of either the Certified Component tables, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum System Standalone Control Panels

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Rigid base mounted

Standalone Control Panels - with Rigid Base Mounted													
Model	Technology	Number of Pumps Controlled	Temperature Sensor Allowance	HP	Voltage	Max. Dimensions (in)			Max. Operating Weight (lb)	Mounting	Sds (g), z/h=1 ²	F _p /W _p	Unit
						Height ¹	Width	Depth					
Modular Skid Mounted													
MA/MV 7/8 204-015-460	Direct start and VFD	Duplex	Temperature switch and 1 RTD sensor per pump	1.5	460	54	24	11.5	158	Rigid base mount	2.50	1.88	UUT15
MA 7 2XX-XXX-XXX (-BAC-WM)	Direct start or VFD	Duplex	Temperature switch only or 1 to 4 RTD sensors per pump	1.5 to 25	200 to 480	54-93	24-53.5	11.5-31.8	158-960		2.50	1.88	Interpolated
MV 7 2XX-XXX-XXX (-BAC-WM)													
MA 8 2XX-XXX-XXX (-BAC-WM)													
MV 8 2XX-XXX-XXX (-BAC-WM)		Triplex											
MA 7 3XX-XXX-XXX (-BAC-WM)													
MV 7 3XX-XXX-XXX (-BAC-WM)													
MA 8 3XX-XXX-XXX (-BAC-WM)		Quadruplex											
MV 7 3XX-XXX-XXX (-BAC-WM)													
MA 7 4XX-XXX-XXX (-BAC-WM)													
MV 7 4XX-XXX-XXX (-BAC-WM)		Pentaplex											
MA 8 4XX-XXX-XXX (-BAC-WM)													
MV 8 4XX-XXX-XXX (-BAC-WM)													
MA 7 5XX-XXX-XXX (-BAC-WM)		Hexaplex											
MV 7 5XX-XXX-XXX (-BAC-WM)													
MA 8 5XX-XXX-XXX (-BAC-WM)													
MV 8 5XX-XXX-XXX (-BAC-WM)													
MA 7 6XX-XXX-XXX (-BAC-WM)													
MV 7 6XX-XXX-XXX (-BAC-WM)													
MA 8 6XX-XXX-XXX (-BAC-WM)													
MV 8 6XX-XXX-XXX (-BAC-WM)													
MA/MV 7/8 605-200-208-BAC-WM	Direct start and VFD	Hexaplex	Temperature switch and 4 RTD sensors per pump	20	208	93	53.5	31.8	960			2.50	1.88

Notes:

1. Height includes manufacturer-provided stand.

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

Special Seismic Certification Certified Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum System Standalone Control Panels

Certified Product Construction: Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Mounting Description: Rigid or flexible base mounted; rigid or flexible wall mounted

Standalone Control Panels - Base Mounted (Rigid or Flexible)															
Model ³	Technology	Number of Pumps Controlled	Temperature Sensor Allowance	HP	Voltage	Max. Dimensions ¹ (in)			Max. Operating Weight (lb)	Mounting	Sds (g), z/h=1 ²	Sds (g), z/h=0	F _p /W _p	Unit	
						Height	Width	Depth							
Modular Skid Mounted															
MV2202-30	Direct Start	Duplex	Temperature Switch Only	1	460	48	24	23	152	Rigid or flexible base mount	2.0	2.5	4.50	UUT19A,B	
MA2202-XX															
MV3203-XX															
MA3203-XX															
MV2302-XX		Triplex													
MA2302-XX															
MV3303-XX															
MA3303-XX															
MV2402-XX		Quadruplex													
MA2402-XX															
MV3403-XX															
MA3403-65															

1. Dimensions and weight include manufacturer-provided stand.

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

3. XX indicates the available amperage: 30, 50, 65

Standalone Control Panels - Wall Mounted (Rigid or Flexible)															
Model ²	Technology	Number of Pumps Controlled	Temperature Sensor Allowance	HP	Voltage	Max. Dimensions (in)			Max. Operating Weight (lb)	Mounting	Sds (g), z/h=1 ¹	Sds (g), z/h=0	F _p /W _p	Unit	
						Height	Width	Depth							
Modular Skid Mounted															
MV2202-30	Direct Start	Duplex	Temperature Switch Only	1	460	24	24	8	72	Rigid or flexible wall mount	2.0	2.5	4.50	UUT17A,B	
MA2202-XX															
MV3203-XX															
MA3203-XX															
MV2302-XX		Triplex													
MA2302-XX															
MV3303-XX															
MA3303-XX															
MV2402-XX		Quadruplex													
MA2402-XX															
MV3403-XX															
MA3403-65															

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

3. XX indicates the available amperage: 30, 50, 65

Special Seismic Certification Certified Options



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Product Construction: Painted carbon steel frames, painted carbon steel enclosures, NEMA 1/12

Mounting Description: Units are flexible base mounted with neoprene pads.

Amico Source Air System Model Chart

A-B-C-D-E-F-G-H-I-J

Variable	Definition	Allowable Value	Allowable Value Description	Unit
A	Air Compressor or Vacuum	A	Air	UUT1,2
B	Technology	SCD	Scroll Medical Air Compressor	UUT1,2
		RED	Reciprocating Medical Air Compressor	UUT1,2
C	System Size	D	Duplex	UUT1,2
		T	Triplex	Extrapolated*
		Q	Quadruplex	Extrapolated*
		P	Pentaplex	Extrapolated*
		H	Hexaplex	Extrapolated*
D	Tank Size	080P	80 Gallon	UUT1
		120P	120 Gallon	Interpolated
		200P	200 Gallon	Interpolated
		240P	240 Gallon	UUT2
E	Configuration	SS	Modular Skid Mounted	UUT1,2
F	Standard	N	NFPA	UUT1,2
G	HP	010	1 HP	UUT1
		020	2 HP	UUT1
		030	3 HP	Interpolated
		050	5HP	Interpolated
		075	7.5HP	Interpolated
		100	10HP	Interpolated
		150	15HP	Interpolated
		200	20HP	UUT2
H	Power	20863	208/3/60	UUT2
		23063	230/3/60	Interpolated
		46063	460/3/60	UUT1
I	Component	T	Hitachi	UUT1,2
		S	Touch Screen	UUT1,2

*Hexaplex control panel, filters and largest HP pumps tested in duplex unit UUT2. Units are modular in nature, and UUT2 subcomponents are representative of subcomponents in the largest hexaplex units.

Special Seismic Certification Certified Options



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Product Construction: Painted carbon steel frames, painted carbon steel enclosures, NEMA 1/12

Mounting Description: Units are flexible base mounted with neoprene pads.

Amico Source Vacuum System Model Chart

A-B-C-D-E-F-G-H-I-J

Variable	Definition	Allowable Value	Allowable Value Description	Unit
A	Air Compressor or Vacuum	V	Vacuum	UUT3-14
B	Technology	RVL	Rotary Vane Lubricated	UUT3,4,6,7,12-14
		CCD	Dry Contactless Claw	UUT3,5,6,7,10,11
		RVD	Rotary Vane Dry	UUT4,5,8,9,12-14
C	System Size	D	Duplex	UUT3-10,12,13
		T	Triplex	UUT11,14
		Q	Quadruplex	Extrapolated*
		P	Pentaplex	Extrapolated*
		H	Hexaplex	Extrapolated*
D	Tank Size	030P	30 Gallon	Extrapolated
		060P	60 Gallon	UUT3,6,14
		080P	80 Gallon	UUT11
		120P	120 Gallon	UUT4,5,8
		200P	200 Gallon	Interpolated
		240P	240 Gallon	UUT7,9,10,12,13
E	Configuration	SS	Modular Skid Mounted	UUT10-14
		TS	Vertical Tank Mounted	UUT3-5
		TH	Horizontal Tank Mounted	UUT6-9
F	Standard	N	NFPA	UUT3-14
G	HP	005	0.5 hp	UUT5,8,13
		010	1 hp	UUT3,6
		012	1.2 hp	Interpolated
		015	1.5 hp	Interpolated
		017	1.7 hp	Interpolated
		020	2 hp	UUT3,6,11
		030	3 hp	Interpolated
		050	5 hp	Interpolated
		054	5.4 hp	UUT5
		064	6.4 hp	Interpolated
		074	7.4 hp	UUT4,9,13,14
		075	7.5 hp	UUT4,7,8,14
		100	10 hp	UUT7,11,14
		121	12.1 hp	UUT9
		150	15 hp	UUT10
		177	17.7 hp	UUT12
		200	20 hp	Interpolated
		250	25 hp	UUT12
H	Power	20863	208/3/60	UUT4,5,7,9,10,12,13
		23063	230/3/60	Interpolated
		46063	460/3/60	UUT3,6,8,11,14
I	Component	E()	Expandable (To System Size)	Extrapolated*
		M	Busch	UUT3-14
		N	Becker	UUT8,9,12,14
		V	VFD	UUT10,11
		S	Touch Screen	UUT6-9,12
		W	Welded Base	UUT10,12

*Hexaplex control panel, filters and largest HP pumps tested in duplex unit UUT9,13 and 14. Units are modular in nature, and tested units are representative of subcomponents in the largest hexaplex units.

Special Seismic Certification Certified Options



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems - Standalone Control Panels

Product Construction: Painted carbon steel enclosures, NEMA 1/12

Mounting Description: Rigid or flexible wall mounted, or rigid or flexible base mounted.

Standalone Control Panel Model Chart

A-B-C-D-E-F-G-H

Variable	Definition	Allowable Value	Allowable Value Description	Unit
A	Medical or Vacuum Air	MA	Medical air control panel	UUT15, UUT16
		MV	Medical vacuum control panel	UUT15, UUT16
B	Technology	2	2000 unit (ECO,direct start)	UUT17A,B, UUT19A,B
		3	3000 unit (Premium, direct start)	UUT18A,B, UUT20A,B
		7	7000 unit (direct start)	UUT15, UUT16
		8	8000 unit (VFD)	UUT15, UUT16
C	Number of Pumps Controlled	2	Duplex	UUT15
		3	Triplex	Interpolated
		4	Quadruplex	Interpolated
		5	Pentaplex	Interpolated
		6	Hexaplex	UUT16
D	Temperature Sensor Allowance	0	Temperature Switch only	UUT15-UUT20
		1	1 RTD Sensor per pump	UUT15
		2	2 RTD Sensor per pump	Extrapolated
		3	3 RTD Sensor per pump	Extrapolated
		4	4 RTD Sensor per pump	UUT16
E	Screen	2	2.5" Monochromatic Touch Screen	UUT17A,B, UUT19A,B
		3	3.5" Color Touch Screen	UUT18A,B, UUT20A,B
		4	5.7" Color Touch Screen	UUT15
		5	7.5" Color Touch Screen	UUT16
F	HP / Amperage	015	1.5 hp	UUT15
		017	1.7 hp	Interpolated
		020	2 hp	Interpolated
		030	3 hp	Interpolated
		050	5 hp	Interpolated
		054	5.4 hp	Interpolated
		064	6.4 hp	Interpolated
		074	7.4 hp	Interpolated
		075	7.5 hp	Interpolated
		100	10 hp	Interpolated
		121	12.1 hp	Interpolated
		150	15 hp	Interpolated
		177	17.7 hp	Interpolated
		200	20 hp	UUT16
		250	25 hp	Extrapolated
		30	Up to 30 amp	UUT17A,B, UUT19A,B
		50	Up to 50 amp	Interpolated
		65	Up to 65 amp	UUT18A,B, UUT20A,B

Special Seismic Certification Certified Options



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems - Standalone Control Panels

Product Construction: Painted carbon steel enclosures, NEMA 1/12

Mounting Description: Rigid or flexible wall mounted, or rigid or flexible base mounted.

Standalone Control Panel Model Chart (Continued)

A-B-C-D-E-F-G-H

Variable	Definition	Allowable Value	Allowable Value Description	Unit
G	Voltage	200	200V	Extrapolated
		208	208V	UUT16, UUT18A,B, UUT20A,B
		220	220V	Interpolated
		230	230V	Interpolated
		240	240V	Interpolated
		440	440V	Interpolated
		460	460V	UUT15, UUT17A,B, UUT19A,B
		480	480V	Extrapolated
H	Add on	BAC	BacNet Protocol	UUT16
		WM	Wireless Modem	UUT16

Special Seismic Certification

Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Medical Air System Compressors

Model Number	Manufacturer	Technology	HP	Configuration	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
SRL-2.2CUM	Hitachi	Scroll Pump	2	Modular skid mounted (stacking configuration)	Aluminum	2.50	5.63	UUT1
SRL-2.2CUM	Hitachi	Scroll Pump	3		Aluminum	2.00	4.50	Interpolated
SRL-5.5CUM	Hitachi	Scroll Pump	5		Aluminum			Interpolated
SRL-5.5CUM	Hitachi	Scroll Pump	7.5		Aluminum			Interpolated
SRL-7.5CUM	Hitachi	Scroll Pump	10		Aluminum			Interpolated
SRL-5.5CUM	Hitachi	Scroll Pump	15		Aluminum			Interpolated
SRL-7.5CUM	Hitachi	Scroll Pump	20		Aluminum			UUT2A
0.75OU	Hitachi	Reciprocating Pump	1	Modular skid mounted (stacking configuration)	Aluminum	2.50	5.63	UUT1
1.5OU	Hitachi	Reciprocating Pump	2		Aluminum	2.00	4.50	Interpolated
2.2OU	Hitachi	Reciprocating Pump	3		Aluminum			Interpolated
3.7OU	Hitachi	Reciprocating Pump	5		Aluminum			Interpolated
5.5OU	Hitachi	Reciprocating Pump	7.5		Aluminum			Interpolated
7.5OU	Hitachi	Reciprocating Pump	10		Aluminum			Interpolated
11.0OU	Hitachi	Reciprocating Pump	15		Aluminum			Interpolated
15.0OU	Hitachi	Reciprocating Pump	20		Aluminum			UUT2A

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Vacuum System Pumps - Vertical Tank Mounted

Model Number	Manufacturer	Technology	HP	Voltage Tested	Voltage Certified	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
RC0021	Busch	Rotary Vane Lubricated	1.0	208	208 or 460	Cast Iron	2.00	4.50	UUT3
RC0025	Busch	Rotary Vane Lubricated	1.5			Cast Iron			Interpolated
RC0040	Busch	Rotary Vane Lubricated	2.0			Cast Iron			Interpolated
RC0063	Busch	Rotary Vane Lubricated	3.0			Cast Iron			Interpolated
RC0100	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Interpolated
RC0101	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Interpolated
RC0155	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Interpolated
RC0205	Busch	Rotary Vane Lubricated	7.5	460		Cast Iron			UUT4
MM1104	Busch	Contactless Claw	2.0	208	208 or 460	Cast Iron	2.00	4.50	UUT3
MM1144	Busch	Contactless Claw	3.0			Cast Iron			Interpolated
MM1102	Busch	Contactless Claw	4.0			Cast Iron			Interpolated
MM1142	Busch	Contactless Claw	5.4	208		Cast Iron			UUT5
SV 1010C	Busch	Rotary Vane Dry	0.5	208	208 or 460	Cast Iron	2.00	4.50	UUT5
SV 1016C	Busch	Rotary Vane Dry	0.75			Cast Iron			Interpolated
SV 1025C	Busch	Rotary Vane Dry	1.2			Cast Iron			Interpolated
SV 1040C	Busch	Rotary Vane Dry	1.7			Cast Iron			Interpolated
SV 1063B	Busch	Rotary Vane Dry	3.0			Cast Iron			Interpolated
SV 1080B	Busch	Rotary Vane Dry	4.0			Cast Iron			Interpolated
SV 1100C	Busch	Rotary Vane Dry	5.4			Cast Iron			Interpolated
SV 1140C	Busch	Rotary Vane Dry	7.4	460		Cast Iron			UUT4

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Vacuum System Pumps - Horizontal Tank Mounted

Model Number	Manufacturer	Technology	HP	Voltage Tested	Voltage Certified	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
RC0021	Busch	Rotary Vane Lubricated	1.0	460	208 or 460	Cast Iron	2.50	5.63	UUT6
RC0025	Busch	Rotary Vane Lubricated	1.5	460		Cast Iron			Interpolated
RC0040	Busch	Rotary Vane Lubricated	2.0			Cast Iron			Interpolated
RC0063	Busch	Rotary Vane Lubricated	3.0			Cast Iron			Interpolated
RC0100	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Interpolated
RC0101	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Interpolated
RC0155	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Interpolated
RC0205	Busch	Rotary Vane Lubricated	7.5			Cast Iron			Interpolated
RC0255	Busch	Rotary Vane Lubricated	10.0			Cast Iron			Interpolated
RC0305	Busch	Rotary Vane Lubricated	10.0			208			Cast Iron
MM1104	Busch	Contactless Claw	2.0	460	208 or 460	Cast Iron	2.50	5.63	UUT6
MM1144	Busch	Contactless Claw	3.0	460		Cast Iron			Interpolated
MM1102	Busch	Contactless Claw	4.0			Cast Iron			Interpolated
MM1142	Busch	Contactless Claw	5.4			Cast Iron			Interpolated
MM1202	Busch	Contactless Claw	6.4			Cast Iron			Interpolated
MM1252	Busch	Contactless Claw	7.5			208			Cast Iron
SV 1010C	Busch	Rotary Vane Dry	0.5	460	208 or 460	Cast Iron	2.00	4.50	UUT8
SV 1016C	Busch	Rotary Vane Dry	0.75	460		Cast Iron			Interpolated
SV 1025C	Busch	Rotary Vane Dry	1.2			Cast Iron			Interpolated
SV 1040C	Busch	Rotary Vane Dry	1.7			Cast Iron			Interpolated
SV 1063B	Busch	Rotary Vane Dry	3.0			Cast Iron			Interpolated
SV 1080B	Busch	Rotary Vane Dry	4.0			Cast Iron			Interpolated
SV 1100C	Busch	Rotary Vane Dry	5.4			Cast Iron			Interpolated
SV 1140C	Busch	Rotary Vane Dry	7.4			208			Cast Iron
VTLF2.200	Becker	Rotary Vane Dry	7.5	460		Cast Iron	2.00	4.50	UUT8
VTLF2.250	Becker	Rotary Vane Dry	8.9	460		Cast Iron			Interpolated
VTLF2.250SK	Becker	Rotary Vane Dry	10.7			Cast Iron			Interpolated
VTLF 2.400	Becker	Rotary Vane Dry	12.1			208			Cast Iron

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Vacuum System Pumps - Modular Skid Mounted

Model Number	Manufacturer	Technology	HP	Voltage Tested	Voltage Certified	Material	Sds (g), z/h=1 ²	F _p /W _p	Unit
RC0021	Busch	Rotary Vane Lubricated	1.0		208 or 460	Cast Iron	1.58	3.56	Extrapolated
RC0025	Busch	Rotary Vane Lubricated	1.5			Cast Iron			Extrapolated
RC0040	Busch	Rotary Vane Lubricated	2.0			Cast Iron			Extrapolated
RC0063	Busch	Rotary Vane Lubricated	3.0			Cast Iron			Extrapolated
RC0100	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Extrapolated
RC0101	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Extrapolated
RC0155	Busch	Rotary Vane Lubricated	5.0			Cast Iron			Extrapolated
RC0205	Busch	Rotary Vane Lubricated	7.5			Cast Iron			Extrapolated
RC0255	Busch	Rotary Vane Lubricated	10.0			Cast Iron			Extrapolated
RC0305	Busch	Rotary Vane Lubricated	10.0	460		Cast Iron	2.00	4.50	UUT14
RC0400	Busch	Rotary Vane Lubricated	15.0			Cast Iron	1.58	3.56	Interpolated
RC0502	Busch	Rotary Vane Lubricated	20.0			Cast Iron			Interpolated
RC0630	Busch	Rotary Vane Lubricated	25.0	208		Cast Iron			UUT12
MM1104	Busch	Contactless Claw	2.0	460	208 or 460	Cast Iron	2.50	5.63	UUT11
MM1144	Busch	Contactless Claw	3.0			Cast Iron			Interpolated
MM1102	Busch	Contactless Claw	4.0			Cast Iron			Interpolated
MM1142	Busch	Contactless Claw	5.4			Cast Iron			Interpolated
MM1202	Busch	Contactless Claw	6.4			Cast Iron			Interpolated
MM1252	Busch	Contactless Claw	7.5			Cast Iron			Interpolated
MM1322	Busch	Contactless Claw	10.0			Cast Iron			Interpolated
MM1402	Busch	Contactless Claw	10.0			Cast Iron			Interpolated
MM1502	Busch	Contactless Claw	15.0	208, 460		Cast Iron			
SV 1010C	Busch	Rotary Vane Dry	0.5	208	208 or 460	Cast Iron	2.50	5.63	UUT13
SV 1016C	Busch	Rotary Vane Dry	0.75			Cast Iron			Interpolated
SV 1025C	Busch	Rotary Vane Dry	1.2			Cast Iron			Interpolated
SV 1040C	Busch	Rotary Vane Dry	1.7			Cast Iron			Interpolated
SV 1063B	Busch	Rotary Vane Dry	3.0			Cast Iron			Interpolated
SV 1080B	Busch	Rotary Vane Dry	4.0			Cast Iron			Interpolated
SV 1100C	Busch	Rotary Vane Dry	5.4			Cast Iron			Interpolated
SV 1140C	Busch	Rotary Vane Dry	7.4	208, 460		Cast Iron			
VTLF2.200	Becker	Rotary Vane Dry	7.5	460		Cast Iron	2.00	4.50	UUT14
VTLF2.250	Becker	Rotary Vane Dry	8.9			Cast Iron	1.58	3.56	Interpolated
VTLF2.250SK	Becker	Rotary Vane Dry	10.7			Cast Iron			Interpolated
VTLF 2.400	Becker	Rotary Vane Dry	12.1			Cast Iron			Interpolated
VTLF 2.500	Becker	Rotary Vane Dry	17.7	208		Cast Iron			UUT12

Notes:

1. Rotary vane lubricated pumps tested in 10 hp and 25 hp size in modular skid mounted configuration, and may be extrapolated down to 1 hp for this configuration.
2. Certification level is limited to the lower rating of either the internal subcomponents, as listed here, or the components, as listed on the Certified Component tables.

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Tank							
Model Number	Manufacturer	Type	Capacity	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
302410	Manchester	Vertical Tank	60	Carbon steel	2.50	5.63	Extrapolated
302414			80				UUT1,11
302421			120				Interpolated
302426			200				Interpolated
302428			240				UUT10
302408	Manchester	Vertical Tank with Top Plate	30	Carbon steel	2.00	4.50	Extrapolated
302412			60				UUT3
302419			80				Interpolated
302424			120				UUT4, UUT5
302693	Manchester	Horizontal Tank with Top Plate	60	Carbon steel	2.50	5.63	UUT6
303977			80				Interpolated
302700			120				Interpolated
302701			200				Interpolated
303181			240				UUT7

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Controller Subcomponents

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	Sds (g), z/h=0	F _p /W _p	Unit
LC1D12F7	Schneider Electric	Contactor	Plastic cover	2.50	2.50	1.88	UUT1,6,15
LC1D32F7							UUT7,13
LC1D50AF7							Interpolated
LC1D65AF7				UUT2D			
LC1D80F7				UUT18A,B, UUT20A,B			
LC1D115F7				UUT16			
LRD06	Schneider Electric	Overload relay	Plastic cover	2.00	2.50	4.50	UUT17A,B, UUT19A,B
LRD07				2.50		1.88	UUT6,15
LRD08							UUT1
LRD10							Interpolated
LRD12							Interpolated
LRD14							Interpolated
LRD16							Interpolated
LRD21							Interpolated
LRD22							Interpolated
LRD32							UUT13
LRD35							UUT7
LRD340							Interpolated
LRD350							Interpolated
LRD365							UUT2D
LRD3363							Interpolated
LRD4865							Interpolated
LRD5367							UUT16
ATV312HU11M3X	Schneider Electric	Variable frequency drive	Plastic cover	2.50	2.50	1.88	Extrapolated
ATV312HU11N4							UUT15
ATV312HU15M3X							Interpolated
ATV312HU15N4							Interpolated
ATV312HU22M3X							Interpolated
ATV312HU22N4							Interpolated
ATV31240M3X							Interpolated
ATV312HU40N4							Interpolated
ATV312HU55M3X							Interpolated
ATV312HU55N4							Interpolated
ATV312HU75M3X							Interpolated
ATV312HU75N4							Interpolated
ATV312HD11M3X							UUT10,11
ATV312HD11N4							Interpolated
ATV312HD15M3X							UUT16
ATV312HD15N4							Extrapolated

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Controller Subcomponents (Continued)

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	Sds (g), z/h=0	F _p /W _p	Unit
HJL36015	Schneider Electric	Molded case circuit breaker	Plastic	2.50	2.50	1.88	UUT1,6,15
HJL36020							Interpolated
HJL36030							Interpolated
HJL36040							UUT13
HJL36060							UUT7
HJL36080							Interpolated
HJL36100							UUT2D,10,11,16
FAL34015				2.00		4.50	UUT17A,B, UUT19A,B
FAL34020							Interpolated
FAL34030							Interpolated
FAL34040							Interpolated
FAL34060							Interpolated
FAL34080							Interpolated
FAL34100							UUT18A,B, UUT20A,B
9421LJ3		Operating mechanism for circuit breaker	Carbon steel	2.50		1.88	UUT1,2D,6,7,10,11,13,15,16
LBA361104		Class 9080 power distribution block	Plastic	2.50		1.88	UUT1,6,13,15
LBA362104							UUT7,11
LBA363106							UUT2D,10,16
TF150D50		Class 9070 control transformer	Carbon steel	2.50		1.88	UUT15
TF250D50							UUT1,6,7,13
TF500D50							UUT2D,10,11
TF750D50							UUT16
TF150N12				2.00		4.50	UUT17A,B, UUT19A,B
TF250D1							Interpolated
TF500D1							Interpolated
TF750D1							UUT18A,B, UUT20A,B
MG24426		Control circuit breaker, 2A	Plastic cover	2.50		1.88	UUT1,2D,6,7,10,11,13,15,16
MG24425		Control circuit breaker, 1A	Plastic cover				UUT1,2D,6,7,10,11,13,15,16

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Controller Subcomponents (Continued)

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	Sds (g), z/h=0	F _p /W _p	Unit
TM221C24R	Schneider Electric	PLC base controller	Plastic cover	2.50	2.50	1.88	UUT1,6,7,13,15
TM221CE40R		PLC base controller	Plastic cover				UUT2D,10,11,16
TWDLCAA24DRF		PLC base controller	Plastic cover	2.00		4.50	UUT17A,B, UUT19A,B
TWDLCAA40DRF		PLC base controller	Plastic cover				UUT18A,B, UUT20A,B
TM3TI4		Analog expansion card, 4 universal inputs	Plastic cover	2.50		1.88	UUT1,2D,6,7,10,11,13,15,16
TM2AMI4LT		Analog expansion card, 4 universal inputs	Plastic cover	2.00		4.50	UUT17A,B-UUT20A,B
TM3AM6		Analog expansion card, 4 inputs, 2 outputs	Plastic cover	2.50		1.88	UUT10,11,15,16
TM2ARI8LT		Analog expansion card, 8 PT100/PT1000 inputs	Plastic cover				UUT2D,15,16
TM3DI16		Digital expansion module, 16 inputs	Plastic cover				UUT15,16
TM3DQ16R		Digital expansion module, 16 outputs	Plastic cover				UUT1,2D,10,15,16
TM2DRA16RT		Digital expansion module, 16 outputs	Plastic cover	2.00		4.50	UUT18A,B, UUT20A,B
TMC2SL1		Serial communication module	Plastic cover	2.50		1.88	UUT15,16
TWDNAC485T		Serial communication module	Plastic cover	2.00		4.50	UUT18A,B, UUT20A,B
TM168D23CS		Bacnet bridge PLC base	Plastic cover	2.50		1.88	UUT15,16
TM168BACS		Bacnet module MS/TP	Plastic cover				UUT15,16
TM172PDG428		Bacnet PLC base module	Plastic cover	2.00		4.50	UUT18A,B, UUT20A,B
HMISTO512		2.5" HMI	Plastic cover	2.00		4.50	UUT17A,B, UUT19A,B
HMISTU655		3.5" HMI	Plastic cover				UUT18A,B, UUT20A,B
HMISTU855		5.7" HMI	Plastic cover	2.50		1.88	UUT1,2D,6,7,10,11,13,15
HMIGTO4310		7.5" HMI	Plastic cover				UUT16
ZB4BA6		Push button, blue	Plastic cover	2.00		4.50	UUT17A,B-UUT20A,B
ZB4BK1333		Illuminated 3-pos. switch, maintained	Plastic	2.50		1.88	UUT6,7,10,11,13,15,16
ZB4BK1733		Illuminated 3-pos. switch, spring return from left	Plastic				UUT1,2D,15,16
NSYCCOTHIF		Thermostat	Plastic cover				UUT10,11,15,16

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Controller Subcomponents (Continued)							
Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	Sds (g), z/h=0	F _p /W _p	Unit
7F.05.0.000.2000	Finder	Exhaust filter	Plastic	2.50	2.50	1.88	UUT15
7F.05.0.000.3000							UUT11
7F.05.0.000.4000							Interpolated
7F.05.0.000.5000							UUT10,16
7F.50.8.120.2055		Exhaust fan	Plastic	2.50		1.88	UUT15
7F.50.8.120.3100							UUT11
7F.50.8.120.4370							Interpolated
7F.50.8.120.5500							UUT10,16
MS2-H50	Keyence Corp.	24VDC 2A power supply	Plastic cover	2.50		1.88	UUT1,2D,6,7,10,11,13,15,16
ABL8REM24030	Schneider Electric	24VDC 3A power supply	Plastic cover	2.00		4.50	UUT18A,B, UUT20A,B
TMB-86-531	Floyd Bell, Inc.	Audible alarm annunciator	Plastic cover	2.50		1.88	UUT1,2D,6,7,10,11,13,15,16
KLDR1/2	Littelfuse	Primary transformer fuse	Melamine	2.00		4.50	UUT17A,B, UUT19A,B
KLDR1				2.50	1.88	UUT1,6,15	
KLDR2						UUT7,13,15	
KLDR3						UUT2D,10,11	
KLDR4						UUT16	
FLM2	Littelfuse	Secondary transformer fuse	Melamine	2.50	2.50	1.88	UUT15
FLM3							UUT1,6,7,13
FLM4							Interpolated
FLM5							UUT2D,10,11
FLM10							UUT16
WM302408NC	Rittal	Enclosure	Carbon and stainless steel	2.50	2.50	1.88	UUT1,6,7,13,15
WM303008NC							Interpolated
WM362408NC							Interpolated
WM363008NC							Interpolated
WM483610NC							Interpolated
WM363010NC							Interpolated
WM423612NC							Interpolated
WM483612NC							UUT11
WM603612NC							Interpolated
TS8245.500							UUT2D
+TS8145.235							UUT10,16
TS8265.500 + TS8165.235							
NSYS3DC6620	Schneider Electric	Enclosure	Carbon and stainless steel	2.00	2.50	4.50	UUT17A,B, UUT19A,B
NSYS3DC8620							Interpolated
NSYS3DC10825							UUT18A,B, UUT20A,B

Note:

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

Special Seismic Certification Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum System

Dryer						
Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
Dryspell Plus 10	Trident	10 CFM	Aluminum	2.50	5.63	UUT1
Dryspell Plus 20		20 CFM				Interpolated
Dryspell Plus 30		30 CFM				Interpolated
Dryspell Plus 45		45 CFM				Interpolated
Dryspell Plus 60		60 CFM				Interpolated
Dryspell Plus 100		100 CFM				Interpolated
Dryspell Plus 125		125 CFM				Interpolated
Dryspell Plus 200		200 CFM				Interpolated
Dryspell Plus 250		250 CFM				Interpolated
Dryspell Plus 300		300 CFM				UUT2C
Dryspell Plus 375		375 CFM				Extrapolated

Note:

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

Special Seismic Certification

Certified Subcomponents



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum System

Filters/ Moisture Separator

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
CSL-842-050HC	Solberg	1/2" Inlet Filter	Carbon Steel	2.50	5.63	Extrapolated
CSL-842-075HC		3/4" Inlet Filter				UUT1
CSL-842-100HC		1" Inlet Filter				Interpolated
CSL-848-125HC		1 1/4" Inlet Filter				Interpolated
CSL-848-150HC		1 1/2" Inlet Filter				UUT2C
CSL-850-200HC		2" Inlet Filter				Extrapolated
CSL-850-300C		3" Inlet Filter				Extrapolated
F901D-04G	Numatics	1/2" Pre Filter	Aluminum	2.50	5.63	UUT1
F901H-04G		1/2" After Filter				UUT1
F901D-06G		3/4" Pre Filter				Interpolated
F901H-06G		3/4" After Filter				Interpolated
F901D-08G		1" Pre Filter				Interpolated
F901H-08G		1" After Filter				Interpolated
F901D-10G		1 1/4" Pre Filter				Interpolated
F901H-10G		1 1/4" After Filter				Interpolated
F901D-12G		1 1/2" Pre Filter				Interpolated
F901H-12G		1 1/2" After Filter				Interpolated
F901D-16G		2" Pre Filter				UUT2C
F901H-16G		2" After Filter				UUT2C
F901D-20G		2 1/2" Pre Filter				Extrapolated
F901H-20G		2 1/2" After Filter				Extrapolated
F901D-24G		3" Pre Filter				Extrapolated
F901H-24G		3" After Filter				Extrapolated

Sensor

Model Number	Manufacturer	Description	Material	Sds (g), z/h=1 ¹	F _p /W _p	Unit
EA2-TX	Michell	Dew Point Sensor	Stainless steel	2.50	5.63	UUT1,2C
4035-RF	GFG	CO Transmitter (RF Version)	Carbon steel			UUT1,2C

Note:

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

Special Seismic Certification

Tested Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Tested Product Construction: Painted carbon steel frames, painted carbon steel enclosures, NEMA 1/12

Mounting Description: Units are flexible base mounted with neoprene pads. Standalone control panels are rigid or flexible wall mounted, or rigid or flexible base mounted.

Model Number	System	Manufacturer	Technology	Configuration	Pump HP	Voltage	System Size	Control Panel Size	Dimensions (inches)			Weight (lb)	Mounting	Sds (g), z/h=1	Sds (g), z/h=0	Fp/Wp	Unit
									Height	Width	Depth						
A-XXX-D-080P-SS-N-020-46063-TS	Air	Amico	Scroll / Reciprocating Air	Modular Skid Mounted	1 hp (reciprocating) 2 hp (scroll)	460	Duplex	Duplex	73.0	67.0	74.0	1,370	Flexible base (neoprene)	2.50	2.50	5.63	UUT1
A-XXX-D-240P-SS-N-200-20863-TS (Pump skid)	Air	Amico	Scroll / Reciprocating Air	Modular Skid Mounted	20 hp (scroll) 20 hp (reciprocating)	208	Duplex	Hexaplex	96.0	46.0	80.0	1,940		2.00	2.00	4.50	UUT2A
A-XXX-D-240P-SS-N-200-20863-TS (Receiver tank skid)	Air	Amico	Scroll / Reciprocating Air	Modular Skid Mounted	20 hp (scroll) 20 hp (reciprocating)	208	Duplex	Hexaplex	99.0	46.0	80.0	710		2.00	2.00	4.50	UUT2B
A-XXX-D-240P-SS-N-200-20863-TS (Dryer skid)	Air	Amico	Scroll / Reciprocating Air	Modular Skid Mounted	20 hp (scroll) 20 hp (reciprocating)	208	Duplex	Hexaplex	70.0	46.0	79.0	1,560		2.50	2.50	5.63	UUT2C
A-XXX-D-240P-SS-N-200-20863-TS (Control panel skid)	Air	Amico	Scroll / Reciprocating Air	Modular Skid Mounted	20 hp (scroll) 20 hp (reciprocating)	208	Duplex	Hexaplex	71.0	51.5	29.5	750	Rigid base	2.50	2.50	5.63	UUT2D
V-xxx-D-060P-TS-N-xxx-46063-xxMxSx	Vacuum	Amico	Claw / Rotary Lubricated	Vertical Tank Mounted	1 hp (rotary lubricated) 2 hp (claw)	460	Duplex	Duplex	89.0	49.0	47.0	1,040	Flexible base (neoprene)	2.00	2.00	4.50	UUT3
V-xxx-D-120P-TS-N-xxx-20863-xxMxSx	Vacuum	Amico	Rotary Lubricated / Rotary Dry	Vertical Tank Mounted	7.4 hp (rotary dry) 7.5 hp (rotary lubricated)	208	Duplex	Duplex	85.0	47.0	64.0	1,430		2.00	2.00	4.50	UUT4
V-xxx-D-120P-TS-N-xxx-20863-xxMxSx	Vacuum	Amico	Claw / Rotary Dry	Vertical Tank Mounted	0.5 hp (rotary dry) 5.4 hp (claw)	208	Duplex	Duplex	85.0	50.0	48.5	1,110		2.00	2.00	4.50	UUT5
V-xxx-D-060P-TH-N-xxx-46063-xxMxSx	Vacuum	Amico	Claw / Rotary Lubricated	Horizontal Tank Mounted	1 hp (rotary lubricated) 2 hp (claw)	460	Duplex	Duplex	62.0	39.0	70.0	960		2.50	2.50	5.63	UUT6
V-xxx-D-240P-TH-N-xxx-20863-xxMxSx	Vacuum	Amico	Claw / Rotary Lubricated	Horizontal Tank Mounted	7.5 hp (claw) 10 hp (rotary lubricated)	208	Duplex	Duplex	75.0	46.5	97.0	2,040		2.50	2.50	5.63	UUT7
V-xxx-D-120P-TH-N-xxx-46063-xxxxSx	Vacuum	Amico	Rotary Dry	Horizontal Tank Mounted	0.5 hp (rotary dry) 7.5 hp (rotary dry)	460	Duplex	Duplex	63.0	50.0	86.0	1,270		2.00	2.00	4.50	UUT8
V-xxx-D-240P-TH-N-xxx-20863-xxxxSx	Vacuum	Amico	Rotary Dry	Horizontal Tank Mounted	7.4 hp (rotary dry) 12.1 hp (rotary dry)	208	Duplex	Duplex	77.0	55.0	100.0	2,250		2.00	2.00	4.50	UUT9
V-CCD-D-240P-SS-N-150-20863-xxMVxW	Vacuum	Amico	Claw	Modular Skid Mounted	15 hp (claw)	208	Duplex	Hexaplex*	96.0	73.0	55.0	2,960		2.50	2.50	5.63	UUT10
V-CCD-D-080P-SS-N-xxx-46063-xxMVxW	Vacuum	Amico	Claw	Modular Skid Mounted	2 hp (claw) 15 hp (claw)	460	Triplex	Triplex	99.0	73.0	70.5	3,670		2.50	2.50	5.63	UUT11
V-xxx-D-240P-SS-N-xxx-20863-xxxxSW	Vacuum	Amico	Rotary Lubricated / Rotary Dry	Modular Skid Mounted	17.7 hp (rotary dry) 25 hp (rotary lubricated)	208	Duplex	Hexaplex*	103.0	99.0	80.0	3,960		1.58	1.58	3.56	UUT12
V-xxx-D-240P-SS-N-xxx-20863-xxMxSW	Vacuum	Amico	Rotary Lubricated / Rotary Dry	Modular Skid Mounted	0.5 hp (rotary dry) 7.4 hp (rotary dry)	208	Duplex	Duplex	103.0	67.0	55.0	1,460		2.50	2.50	5.63	UUT13
V-xxx-T-060P-SS-N-xxx-46063-xxxxSx	Vacuum	Amico	Rotary Lubricated / Rotary Dry	Modular Skid Mounted	7.4 hp (rotary dry) 7.5 hp (rotary dry) 10 hp (rotary lubricated)	460	Triplex	Triplex	93.0	67.0	55.0	2,390		2.00	2.00	4.50	UUT14

*UUT10 and UUT12 hexaplex control panel is standalone and was shake tested in UUT16

Special Seismic Certification Tested Components



Manufacturer: Amico Source

Product Line: Medical Air and Vacuum Systems

Tested Product Construction: Painted carbon steel frames, painted carbon steel enclosures, NEMA 1/12

Mounting Description: Units are flexible base mounted with neoprene pads. Standalone control panels are rigid or flexible wall mounted, or rigid or flexible base mounted.

Model Number	System	Manufacturer	Technology	Configuration	Pump HP	Voltage	System Size	Control Panel Size	Dimensions (inches)			Weight (lb)	Mounting	Sds (g), z/h=1	Sds (g), z/h=0	Fp/Wp	Unit
									Height	Width	Depth						
MA/MV 7/8 204-015-460 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	460	N/A	Duplex	54.0	24.0	11.5	158	Rigid base	2.50	2.50	1.88	UUT15
MA/MV 7/8 605-200-208-BAC-WM (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	208	N/A	Hexaplex	93.0	53.5	31.8	960		2.50	2.50		UUT16
MV2202-30 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	460	N/A	Duplex	24	24	8.0	72	Rigid wall	2.00	2.50	4.50	UUT17A
MV2202-30 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	460	N/A	Duplex	24	24	8.0	72	Flexible wall	2.00	2.50		UUT17B
MV3403-65 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	208	N/A	Quadrplex	40	32	10	181	Rigid wall	2.00	2.50		UUT18A
MV3403-30 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	208	N/A	Quadrplex	40	32	10	181	Flexible wall	2.00	2.50		UUT18B
MV2202-30 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	460	N/A	Duplex	48	24	23	152	Rigid base	2.00	2.50		UUT19A
MV2202-30 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	460	N/A	Duplex	48	24	23	152	Flexible base	2.00	2.50		UUT19B
MV3403-65 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	208	N/A	Quadrplex	64	32	30	268	Rigid base	2.00	2.50		UUT20A
MV3403-65 (standalone control panel)	Air or Vacuum	Axecon	N/A	N/A	N/A	208	N/A	Quadrplex	64	32	30	268	Flexible base	2.00	2.50		UUT20B

UUT1

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: A-XXX-D-080P-SS-N-020-46063-TS

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

460V duplex unit with duplex control panel, stack mounted, 1hp reciprocating air compressor, 2hp scroll compressor, 80 gallon vertical tank, 10 cfm dryer, 3/4" inlet filter, 1/2" pre- and after filter, dew point sensor and CO transmitter

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

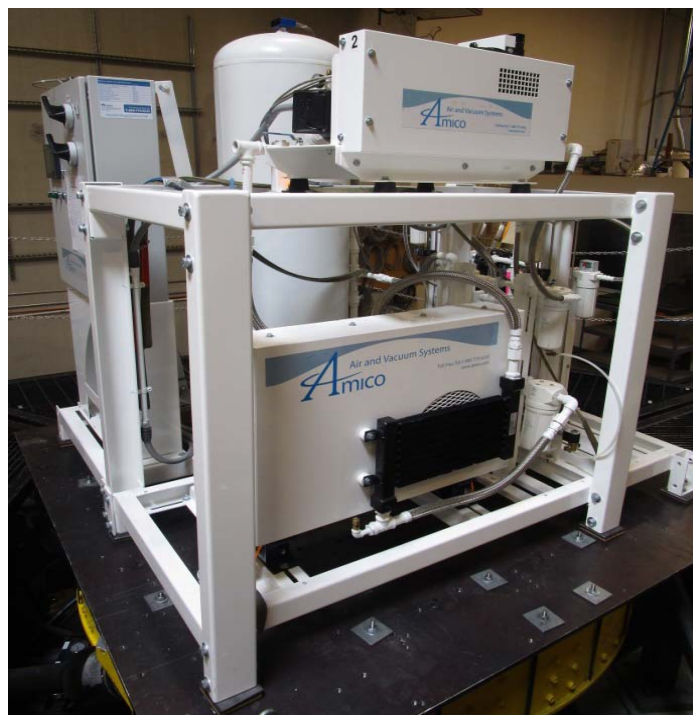
UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Side-Side (X)	Front-Back (Y)	Vertical (Z)
1,370	UUT1	73.0	67.0	74.0	7.3	7.8	16.8

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (9) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT2A**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** A-XXX-D-240P-SS-N-200-20863-TS (pump skid)**Product Construction Summary:**

Painted carbon steel skid

Options / Component Summary:

208V duplex unit, stack mounted, 20hp reciprocating air compressor, 20hp scroll compressor

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Side-Side (X)	Front-Back (Y)	Vertical (Z)
1,940	UUT2A	96.0	46.0	80.0	3.3	4.3	5.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:

Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT2B

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: A-XXX-D-240P-SS-N-200-20863-TS (receiver tank skid)

Product Construction Summary:

Painted carbon steel skid

Options / Component Summary:

240 gallon vertical tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Side-Side (X)	Front-Back (Y)	Vertical (Z)
710	UUT2B	99.0	46.0	80.0	6.3	5.3	17.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT2C

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: A-XXX-D-240P-SS-N-200-20863-TS (dryer skid)

Product Construction Summary:

Painted carbon steel skid

Options / Component Summary:

208V, 300 cfm dryer, 1-1/2" inlet filter, 2" pre- and after filter, dew point sensor and CO transmitter

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Side-Side (X)	Front-Back (Y)	Vertical (Z)
1,560	UUT2C	70.0	46.0	79.0	6.5	4.8	15.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT2D

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: A-XXX-D-240P-SS-N-200-20863-TS (control panel skid)

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V hexaplex control panel

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
750	UUT2D	71.0	51.5	29.5	7.8	20.3	21.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Rigid base mounted: the unit was attached to the shake table with (8) 1/2" diameter Grade 5 bolts.

UUT3

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-D-060P-TS-N-xxx-46063-xxMxSx

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V duplex unit with duplex control panel, vertical tank mounted, 1hp rotary vane lubricated pump, 2hp contactless claw pump, 60 gallon vertical tank with top plate

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
1,040	UUT3	89.0	49.0	47.0	5.3	4.3	8.8

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT4

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-D-120P-TS-N-xxx-20863-xxMxSx

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

460V duplex unit with duplex control panel, vertical tank mounted, 7.5hp rotary vane lubricated pump, 7.4hp rotary vane dry pump, 120 gallon vertical tank with top plate

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
1,430	UUT4	85.0	47.0	64.0	5.8	5.5	6.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, (4) 1/4" thick 2"x2" A36 washers, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT5

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-D-120P-TS-N-xxx-20863-xxMxSx

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V duplex unit with duplex control panel, vertical tank mounted, 0.5hp rotary vane dry pump, 5.4hp contactless claw pump, 120 gallon vertical tank with top plate

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
1,110	UUT5	85.0	50.0	48.5	7.0	5.3	9.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT6

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-D-060P-TH-N-xxx-46063-xxMxSx

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

460V duplex unit with duplex control panel, horizontal tank mounted, 1hp rotary vane lubricated pump, 2hp contactless claw pump, 60 gallon horizontal tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
960	UUT6	62.0	39.0	70.0	7.0	6.8	13.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT7

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-D-240P-TH-N-xxx-20863-xxMxSx

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V duplex unit with duplex control panel, horizontal tank mounted, 10hp rotary vane lubricated pump, 7.5hp contactless claw pump, 240 gallon horizontal tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
2,040	UUT7	75.0	46.5	97.0	5.5	6.0	9.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT8

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-D-120P-TH-N-xxx-46063-xxxxSx

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

460V duplex unit with duplex control panel, horizontal tank mounted, 0.5hp rotary vane dry pump, 7.5hp rotary vane dry pump, 120 gallon horizontal tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
1,270	UUT8	63.0	50.0	86.0	5.3	5.8	15.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16. Factory installed pump isolators were replaced with 1,020 load capacity, M10x1.50 thread size, 2-3/8" diameter, 25mm high, 5mm deflection, standard deflection vibration isolators (MSC part number 62006465), using M3VHB tape between the motor and the isolator, and 1/4" plate washers.

UUT9**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** V-xxx-D-240P-TH-N-xxx-20863-xxxxSx**Product Construction Summary:**

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V duplex unit with duplex control panel, horizontal tank mounted, 7.4hp rotary vane dry pump, 12.1hp rotary vane dry pump, 240 gallon horizontal tank

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
2,250	UUT9	77.0	55.0	100.0	3.8	5.3	8.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		2.0	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:

Flexible base mounted: the unit was attached to the shake table with (4) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT10**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** V-CCD-D-240P-SS-N-150-20863-xxMVxW**Product Construction Summary:**

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

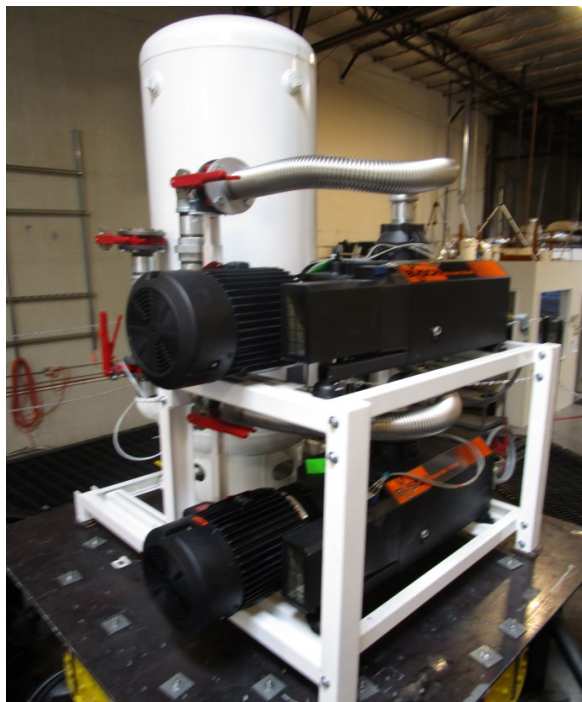
208V duplex unit, stack mounted, (2) 15hp contactless claw pumps, 240 gallon vertical tank

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
2,960	UUT10	96.0	73.0	55.0	5.3	6.8	8.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible base mounted: the unit was attached to the shake table with (6) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16. In addition, 1/4" plate washers were added to all receiver tank- to skid mounting locations.

UUT11**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** V-CCD-D-080P-SS-N-xxx-46063-xxMVxW**Product Construction Summary:**

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

460V triplex unit with triplex control panel, stack mounted, 2hp and 10 hp contactless claw pumps, 80 gallon vertical tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
3,670	UUT11	99.0	73.0	70.5	4.0	5.0	9.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible base mounted: the unit was attached to the shake table with (8) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16. All factory installed pump isolators were replaced with VMC TTB-750 isolators.

UUT12**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** V-xxx-D-240P-SS-N-xxx-20863-xxxxSW**Product Construction Summary:**

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V duplex unit, stack mounted, 17.7hp rotary vane dry and 25 hp rotary vane lubricated pumps, 240 gallon vertical tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
3,960	UUT12	103.0	99.0	80.0	4.0	4.3	4.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	1.58	1.0	1.5	2.53	1.90	1.05	0.42
		1.58	0.0	1.5	1.58	0.63	1.05	0.42

Unit Mounting Description:

Flexible base mounted: the unit was attached to the shake table with (8) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16. Pre-test retrofit: the pump frame was braced on each short side with two pieces of 2-1/2"x1/4" carbon steel angle, using two of the existing 1/2" diameter Grade 5 frame bolts to attach each angle.

UUT13**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** V-xxx-D-240P-SS-N-xxx-20863-xxMxSW**Product Construction Summary:**

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

208V duplex unit with duplex control panel, stack mounted, 0.5hp rotary vane dry and 7.4 hp rotary vane dry pumps, 240 gallon vertical tank

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
1,460	UUT13	103.0	67.0	55.0	6.8	7.0	22.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible base mounted: the unit was attached to the shake table with (8) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16.

UUT14

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: V-xxx-T-060P-SS-N-xxx-46063-xxxx5x

Product Construction Summary:

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

460V triplex unit with triplex control panel, stack mounted, 7.4hp and 7.5hp rotary vane dry pumps and 10 hp rotary vane lubricated pump, 60 gallon vertical tank

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
2,390	UUT14	93.0	67.0	55.0	4.8	5.3	14.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53
		2.00	0.0	1.5	2.00	0.80	1.33	0.53

Unit Mounting Description:



Flexible base mounted: the unit was attached to the shake table with (6) 1/2" diameter Grade 5 bolts, 3/16" thick 4"x4" carbon steel plate, and 4"x4" combination cork and neoprene isolation pads by Vibration Isolation Co., Inc., Model CNP-16. The existing factory-installed motor isolators on the middle motor were replaced with 1,020 load capacity, M10x1.50 thread size, 2-3/8" diameter, 25mm high, 5mm deflection, standard deflection vibration isolators (MSC part number 62006465), using M3VHB tape between the motor and the isolator, and 1/4" plate washers. In addition, 1/4" plate washers were added to all receiver tank- to skid mounting locations.

UUT15**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MA/MV 7/8 204-015-460 (standalone control panel)**Product Construction Summary:**

Painted carbon steel frame. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Contactor, relay, VFD, circuit breaker, power distribution block, transformer, PLC controller, expansion cards, communication module, Bacnet, 5.7" HMI, switches, thermostat, filter, fan, 24VDC power supply, annunciator, fuses

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
158	UUT15	54.0	24.0	11.5	20.3	10.8	>33.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Rigid base mounted: the unit was attached to the manufacturer-provided stand (Amico Part Number STEEL-PDL-APANEL) with (8) 3/8" diameter Grade 5 bolts, (4) on each side of the stand. The stand was mounted to the shake table with (8) 3/8" diameter Grade 5 bolts, (4) in each leg.

UUT16**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MA/MV 7/8 605-200-208-BAC-WM (standalone control panel)**Product Construction Summary:**

Painted carbon steel skid. Control panel is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Contactor, relay, VFD, circuit breaker, power distribution block, transformer, PLC controller, expansion cards, communication module, Bacnet, 5.7" HMI, switches, thermostat, filter, fan, 24VDC power supply, annunciator, fuses

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (X)	Side-Side (Y)	Vertical (Z)
960	UUT16	93.0	53.5	31.8	18.5	5.5	23.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Rigid base mounted: the unit was attached to the manufacturer-provided stand (Amico Part Number STEEL-PDL-REPanel) with (8) 1/2" diameter Grade 5 bolts (4 at the back and 2 on each side of the unit) The stand was mounted to the shake table with with (10) 1/2" diameter Grade 5 bolts.

UUT17A**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV2202-30 (standalone control panel)**Product Construction Summary:**

Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Overload relay, circuit breaker, transformer, PLC base controller, analog expansion card, 2.5" HMI display, push button, and fuses.

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
72	UUT17A	24.0	24.0	8.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Rigid wall mounted: the unit was attached to the test wall with (4) 3/8" Grade 5 bolts at the back of the enclosure. The test wall was rigidly mounted to the shake table.

UUT17B**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV2202-30 (standalone control panel)**Product Construction Summary:**

Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Overload relay, circuit breaker, transformer, PLC base controller, analog expansion card, 2.5" HMI display, push button, and fuses.

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
72	UUT17B	24.0	24.0	8.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible wall mounted: the unit was attached to the test wall with (4) 3/8" Grade 5 bolts at the back of the enclosure. The test wall was mounted to the shake table with (4) VMC MSSH-1E-2000 spring mounts.

UUT18A**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV3403-65 (standalone control panel)**Product Construction Summary:**

Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Contactor, circuit breaker, transformer, PLC base controller, analog expansion card, digital expansion module, serial communication module, Bacnet PLC base module, 3.5" HMI display and power supply.

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
181	UUT18A	40.0	32.0	10.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Rigid wall mounted: the unit was attached to the test wall with (4) 3/8" Grade 5 bolts at the back of the enclosure. The test wall was rigidly mounted to the shake table.

UUT18B**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV3403-65 (standalone control panel)**Product Construction Summary:**

Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Contactor, circuit breaker, transformer, PLC base controller, analog expansion card, digital expansion module, serial communication module, Bacnet PLC base module, 3.5" HMI display and power supply.

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
181	UUT18B	40.0	32.0	10.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible wall mounted: the unit was attached to the test wall with (4) 3/8" Grade 5 bolts at the back of the enclosure. The test wall was mounted to the shake table with (4) VMC MSSH-1E-2000 spring mounts.

UUT19A**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV2202-30 (standalone control panel)**Product Construction Summary:**

Painted carbon steel stand. Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Overload relay, circuit breaker, transformer, PLC base controller, analog expansion card, 2.5" HMI display, push button, and fuses.

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
152	UUT19A	48.0	24.0	23.0	>33.3	24.0	>33.3

Note: Dimensions and weight include stand and seismic bracing.

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Rigid base mounted: the unit was attached to its manufacturer-provided stand with (6) 3/8" Grade 5 bolts. The stand was mounted to the shake table interface plate with (8) 3/8" diameter Grade 5 bolts. The unit's seismic bracing was attached to the enclosure and to the shake table interface plate with (2) each 3/8" Grade 5 bolts.

UUT19B**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV2202-30 (standalone control panel)**Product Construction Summary:**

Painted carbon steel stand. Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Overload relay, circuit breaker, transformer, PLC base controller, analog expansion card, 2.5" HMI display, push button, and fuses.

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
152	UUT19A	48.0	24.0	23.0	5.5	6.5	9.5

Note: Dimensions and weight include stand and seismic bracing.

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible base mounted: the unit was attached to its manufacturer-provided stand with (6) 3/8" Grade 5 bolts. The stand was mounted to the shake table interface plate with (8) 3/8" diameter Grade 5 bolts. The unit's seismic bracing was attached to the enclosure and to the shake table interface plate with (2) each 3/8" Grade 5 bolts. Interface plate mounted to shake table surface with (4) VMC MSSH-1E-2000 spring mounts

UUT20A

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Amico Source

Product Line: Medical vacuum and air units

Model Number: MV3403-65 (standalone control panel)

Product Construction Summary:

Painted carbon steel stand. Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Contactors, circuit breaker, transformer, PLC base controller, analog expansion card, digital expansion module, serial communication module, Bacnet PLC base module, 3.5" HMI display and power supply.

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
268	UUT20A	64.0	32.0	30.0	9.5	14.0	22.5

Note: Dimensions and weight include stand and seismic bracing.

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Rigid base mounted: the unit was attached to its manufacturer-provided stand with (8) 3/8" Grade 5 bolts. The stand was mounted to the shake table interface plate with (8) 3/8" diameter Grade 5 bolts. The unit's seismic bracing was attached to the enclosure and to the shake table interface plate with (2) each 3/8" Grade 5 bolts.

UUT20B**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Amico Source**Product Line:** Medical vacuum and air units**Model Number:** MV3403-65 (standalone control panel)**Product Construction Summary:**

Painted carbon steel stand. Control panel enclosure is painted carbon steel, NEMA 1/12.

Options / Component Summary:

Contactor, circuit breaker, transformer, PLC base controller, analog expansion card, digital expansion module, serial communication module, Bacnet PLC base module, 3.5" HMI display and power supply.

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

Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)		
		Height	Width	Depth	Front-Back (Y)	Side-Side (X)	Vertical (Z)
268	UUT20B	64.0	32.0	30.0	5.5	6.5	9.5

Note: Dimensions and weight include stand and seismic bracing.

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2016	ICC-ES AC156	2.00	1.0	1.5	3.20	3.00	1.67	0.67
		2.50	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:

Flexible base mounted: the unit was attached to its manufacturer-provided stand with (8) 3/8" Grade 5 bolts. The stand was mounted to the shake table interface plate with (8) 3/8" diameter Grade 5 bolts. The unit's seismic bracing was attached to the enclosure and to the shake table interface plate with (2) each 3/8" Grade 5 bolts. Interface plate mounted to shake table surface with (4) VMC MSSH-1E-2000 spring mounts.