



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
CAPACITIES 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

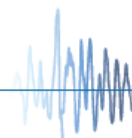
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

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





## OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT CAPITALITIES DEVELOPMENT DIVISION

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 12/16/15)

Page 2 of 3

### 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): \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

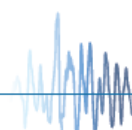
### Testing Laboratory

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





# STATE OF CALIFORNIA DEPARTMENT OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT HEALTH SERVICES DIVISION

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 12/16/15)

Page 2 of 3

## 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)

$\Omega_0$  (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) = \_\_\_\_\_

$\Omega_0$  (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: [Signature] 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): \_\_\_\_\_

## 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 <sup>4</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>1</sup>          |
| A-SCD-x-080P-SS-N-xxx-xxxxx-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-xxxxx-xx |                          |                   |                          |        |              |                            |                             |                                |                            |
| A-SCD-x-200P-SS-N-xxx-xxxxx-xx |                          |                   |                          |        |              |                            |                             |                                |                            |
| A-SCD-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 <sup>2,3</sup> |

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 <sup>4</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>1</sup>          |
| 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 <sup>2,3</sup> |

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 <sup>3</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>1</sup> |
| 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 <sup>2</sup> |

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 <sup>1</sup> |
| 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 <sup>2</sup> |
| 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),<br>z/h=1 <sup>3</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>2</sup> |
| 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 <sup>1</sup>        | 73.0   | 85.0  | 3,920 <sup>1</sup>         | 2.50                           | 5.63                           | UUT10 <sup>1</sup> |

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 <sup>3</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>1</sup> |
| 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 <sup>2</sup> |

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 <sup>1</sup> |
| 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 <sup>2</sup> |
| 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 <sup>5</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>4</sup>         | 2.00                        | 4.50                           | UUT14 <sup>3</sup>        |
| 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 <sup>2</sup> |
| 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 <sup>4</sup>         | 1.58                        | 3.56                           | UUT12 <sup>1,2</sup>      |

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 <sup>4</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>1</sup> |
| 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 <sup>2</sup>         |
| 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 <sup>3</sup>         |

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 <sup>1</sup> |
| 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 <sup>2</sup>         |
| 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 <sup>3</sup>         |
| 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),<br>z/h=1 <sup>6</sup> | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>5</sup>         | 2.00                           | 4.50                           | UUT14 <sup>4</sup>        |
| 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 <sup>1</sup>        |
| 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 <sup>2</sup> |
| 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 <sup>5</sup>         | 1.58                           | 3.56                           | UUT12 <sup>2,3</sup>      |

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 - k |                      |                            |  |           |            |                      |         |           |                            |                  |                             |                                |              | 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 <sup>2</sup> | F <sub>p</sub> /W <sub>p</sub> | Unit         |              |  |
|                               |                      |                            |  |           |            | Height <sup>1</sup>  | 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 8 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                           | UUT16        |              |  |

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 <sup>3</sup>   | Technology   | Number of Pumps Controlled | Temperature Sensor Allowance | HP | Voltage | Max. Dimensions <sup>1</sup> (in) |       |       | Max. Operating Weight (lb) | Mounting                     | Sds (g), z/h=1 <sup>2</sup> | Sds (g), z/h=0 | F <sub>p</sub> /W <sub>p</sub> | 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 <sup>2</sup>   | Technology   | Number of Pumps Controlled | Temperature Sensor Allowance | HP | Voltage | Max. Dimensions (in) |       |       | Max. Operating Weight (lb) | Mounting                     | Sds (g), z/h=1 <sup>1</sup> | Sds (g), z/h=0 | F <sub>p</sub> /W <sub>p</sub> | 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,<br>UUT20A,B |
|          |            | 220             | 220V                        | Interpolated                 |
|          |            | 230             | 230V                        | Interpolated                 |
|          |            | 240             | 240V                        | Interpolated                 |
|          |            | 440             | 440V                        | Interpolated                 |
|          |            | 460             | 460V                        | UUT15, UUT17A,B,<br>UUT19A,B |
|          |            | 480             | 480V                        | Extrapolated                 |
| H        | Add on     | BAC             | BacNet Protocol             | UUT16                        |
|          |            | WM              | Wireless Modem              | UUT16                        |

FOR REFERENCE ONLY

# 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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | Unit         |
|--------------|--------------|--------------------|-----|---|----------|--------------------------------|--------------------------------|--------------|
| SRL-2.2CUM   | Hitachi      | Scroll Pump        | 2   | Modular skid<br>mounted (stacking<br>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<br>mounted (stacking<br>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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | 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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | Unit |
|--------------|--------------|------------------------|------|----------------|-------------------|-----------|--------------------------------|--------------------------------|------|
| RC0021       | Busch        | Rotary Vane Lubricated | 1.0  | 460            | 208 or<br>460     | Cast Iron | 2.50                           | 5.63                           | UUT6 |
| RC0025       | Busch        | Rotary Vane Lubricated | 1.5  | Interpolated   |                   |           |                                |                                |      |
| RC0040       | Busch        | Rotary Vane Lubricated | 2.0  | Interpolated   |                   |           |                                |                                |      |
| RC0063       | Busch        | Rotary Vane Lubricated | 3.0  | Interpolated   |                   |           |                                |                                |      |
| RC0100       | Busch        | Rotary Vane Lubricated | 5.0  | Interpolated   |                   |           |                                |                                |      |
| RC0101       | Busch        | Rotary Vane Lubricated | 5.0  | Interpolated   |                   |           |                                |                                |      |
| RC0155       | Busch        | Rotary Vane Lubricated | 5.0  | Interpolated   |                   |           |                                |                                |      |
| RC0205       | Busch        | Rotary Vane Lubricated | 7.5  | Interpolated   |                   |           |                                |                                |      |
| RC0255       | Busch        | Rotary Vane Lubricated | 10.0 | Interpolated   |                   |           |                                |                                |      |
| RC0305       | Busch        | Rotary Vane Lubricated | 10.0 | 208            |                   | Cast Iron |                                |                                | UUT7 |
| MM1104       | Busch        | Contactless Claw       | 2.0  | 460            | 208 or<br>460     | Cast Iron | 2.50                           | 5.63                           | UUT6 |
| MM1144       | Busch        | Contactless Claw       | 3.0  | Interpolated   |                   |           |                                |                                |      |
| MM1102       | Busch        | Contactless Claw       | 4.0  | Interpolated   |                   |           |                                |                                |      |
| MM1142       | Busch        | Contactless Claw       | 5.4  | Interpolated   |                   |           |                                |                                |      |
| MM1202       | Busch        | Contactless Claw       | 6.4  | Interpolated   |                   |           |                                |                                |      |
| MM1252       | Busch        | Contactless Claw       | 7.5  | 208            |                   | Cast Iron |                                |                                | UUT7 |
| SV 1010C     | Busch        | Rotary Vane Dry        | 0.5  | 460            | 208 or<br>460     | Cast Iron | 2.00                           | 4.50                           | UUT8 |
| SV 1016C     | Busch        | Rotary Vane Dry        | 0.75 | Interpolated   |                   |           |                                |                                |      |
| SV 1025C     | Busch        | Rotary Vane Dry        | 1.2  | Interpolated   |                   |           |                                |                                |      |
| SV 1040C     | Busch        | Rotary Vane Dry        | 1.7  | Interpolated   |                   |           |                                |                                |      |
| SV 1063B     | Busch        | Rotary Vane Dry        | 3.0  | Interpolated   |                   |           |                                |                                |      |
| SV 1080B     | Busch        | Rotary Vane Dry        | 4.0  | Interpolated   |                   |           |                                |                                |      |
| SV 1100C     | Busch        | Rotary Vane Dry        | 5.4  | Interpolated   |                   |           |                                |                                |      |
| SV 1140C     | Busch        | Rotary Vane Dry        | 7.4  | 208            |                   | Cast Iron |                                |                                | UUT9 |
| VTLF2.200    | Becker       | Rotary Vane Dry        | 7.5  | 460            |                   | Cast Iron | 2.00                           | 4.50                           | UUT8 |
| VTLF2.250    | Becker       | Rotary Vane Dry        | 8.9  | Interpolated   |                   |           |                                |                                |      |
| VTLF2.250SK  | Becker       | Rotary Vane Dry        | 10.7 | Interpolated   |                   |           |                                |                                |      |
| VTLF 2.400   | Becker       | Rotary Vane Dry        | 12.1 | 208            | Cast Iron         | UUT9      |                                |                                |      |

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),<br>z/h=1 <sup>2</sup> | F <sub>p</sub> /W <sub>p</sub> | 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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | 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<br>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<br>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),<br>z/h=1 <sup>1</sup> | Sds (g),<br>z/h=0 | F <sub>p</sub> /W <sub>p</sub> | 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),<br>z/h=1 <sup>1</sup> | Sds (g),<br>z/h=0 | F <sub>p</sub> /W <sub>p</sub> | 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),<br>z/h=1 <sup>1</sup> | Sds (g),<br>z/h=0 | F <sub>p</sub> /W <sub>p</sub> | 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,<br>4 universal inputs          | Plastic cover | 2.50                           |                   | 1.88                           | UUT1,2D,6,7,10,11,13,15,16 |
| TM2AMI4LT    |                    | Analog expansion card,<br>4 universal inputs          | Plastic cover | 2.00                           |                   | 4.50                           | UUT17A,B-UUT20A,B          |
| TM3AM6       |                    | Analog expansion card,<br>4 inputs, 2 outputs         | Plastic cover | 2.50                           |                   | 1.88                           | UUT10,11,15,16             |
| TM2ARI8LT    |                    | Analog expansion card,<br>8 PT100/PT1000 inputs       | Plastic cover |                                |                   |                                | UUT2D,15,16                |
| TM3DI16      |                    | Digital expansion module,<br>16 inputs                | Plastic cover |                                |                   |                                | UUT15,16                   |
| TM3DQ16R     |                    | Digital expansion module,<br>16 outputs               | Plastic cover |                                |                   |                                | UUT1,2D,10,15,16           |
| TM2DRA16RT   |                    | Digital expansion module,<br>16 outputs               | Plastic cover | 2.00                           |                   | 4.50                           | UUT18A,B, UUT20A,B         |
| TMC2SL1      |                    | Serial communication<br>module                        | Plastic cover | 2.50                           |                   | 1.88                           | UUT15,16                   |
| TWDNAC485T   |                    | Serial communication<br>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,<br>maintained              | Plastic       | 2.50                           |                   | 1.88                           | UUT6,7,10,11,13,15,16      |
| ZB4BK1733    |                    | Illuminated 3-pos. switch,<br>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),<br>z/h=1 <sup>1</sup> | Sds (g),<br>z/h=0 | F <sub>p</sub> /W <sub>p</sub> | 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                           |                   | 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                           |                   | 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                           |                   | 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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | 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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | 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),<br>z/h=1 <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | 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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>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)<br>7.5 hp (rotary dry)<br>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<br>(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<br>(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<br>(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<br>(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<br>(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<br>(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<br>(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<br>(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<br>(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<br>(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.

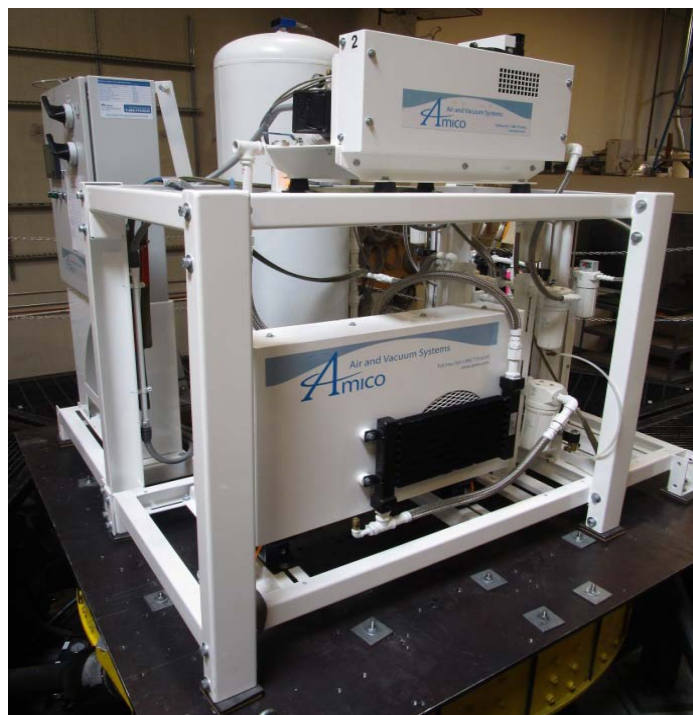
### UUT Properties

| 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:**

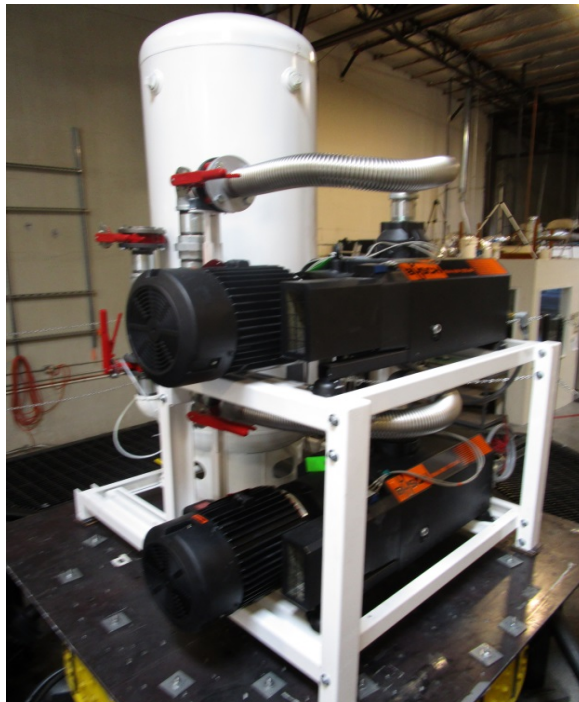
208V duplex unit, stack mounted, (2) 15hp contactless claw pumps, 240 gallon vertical tank

**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-xxxxSx

### 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.