



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP – 0291-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Beacon Medaes (Atlas Copco Compressors, LLC)

Manufacturer's Technical Representative: Tim Conner

Mailing Address: 1800 Overview Drive, Rock Hill, SC 29730

Telephone: (803) 817-5600 Email: tim.conner@beaconmedaes.com

Product Information

Product Name: Lifeline "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Product Type: Mechanical Equipment

Product Model Number: See Attachments.

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

General Description: Single Point Connection (SPC) systems, duplex to hexaplex, featuring scroll compressors, motors, desiccant drying system with purge control, an integral pre-wired control panel and vertical air receiver. 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: Rigid base-mounted

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

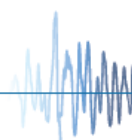
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: _____

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: 8/25/16

Title: President Company Name: The VMC Group





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

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

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

Company Name: Dynamic Certification Laboratories, LLC

Name: Dr. Ahmad Itani, S.E. California License Number: SE-5220

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

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

Supports and Attachments Preapproval

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

Certification Method

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

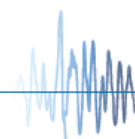
Testing Laboratory

Company Name: Dynamic Certification Laboratories

Contact Name: Kelly Laplace, Project Manager

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

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





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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 4.95 (for $S_{DS} = 2.2$ g, $z/h = 1$); 1.88 (for $S_{DS} = 2.5$, $z/h=0$)

S_{DS} (Design spectral response acceleration at short period, g) = 2.2 ($z/h=1$); 2.5 ($z/h=0$)

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

R_p (Equipment or component response modification factor) = 2.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0 (for $S_{DS} = 2.2$ g); 0.0 (for $S_{DS} = 2.5$ g)

Equipment or Component Natural Frequencies (Hz) = See Attachments

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

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

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

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

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

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

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

List of Attachments Supporting Special Seismic Certification

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

☐ Other(s) (Please Specify): _____

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

Signature: M. R. Karim Date: 9/15/16

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable): _____

Special Seismic Certification Certified Components



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Certified Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 15 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ¹	Scroll Laboratory Model Number ^{1,2}	Dimensions (inches)			Weight (lb)	Sds (g), z/h=1	Sds (g), z/h=0	UUT
		Depth	Width	Height				
SAS02D-080V-DCDZ	LAS02D-080V-DCDZ	47.5	34.5	74.0	1,240	2.5		UUT1
SAS02D-080V-D_DZ	LAS02D-080V-D_DZ							Interpolated
SAS03D-080V-D_DZ	LAS03D-080V-D_DZ							Interpolated
SAS05D-080V-D_DZ	LAS05D-080V-D_DZ							Interpolated
SAS05D-120V-T_DZ	LAS05D-120V-T_DZ							Interpolated
SAS05D-200V-T_DZ	LAS05D-200V-T_DZ							Interpolated
SAS05D-240V-T_DZ	LAS05D-240V-T_DZ							Interpolated
SAS05D-120V-Q_DZ	LAS05D-120V-Q_DZ							Interpolated
SAS05D-200V-Q_DZ	LAS05D-200V-Q_DZ							Interpolated
SAS05D-240V-Q_DZ	LAS05D-240V-Q_DZ							Interpolated
SAS05T-120V-T_DZ	LAS05T-120V-T_DZ							Interpolated
SAS05T-200V-T_DZ	LAS05T-200V-T_DZ							Interpolated
SAS05T-240V-T_DZ	LAS05T-240V-T_DZ							Interpolated
SAS05T-120V-Q_DZ	LAS05T-120V-Q_DZ							Interpolated
SAS05T-200V-Q_DZ	LAS05T-200V-Q_DZ							Interpolated
SAS05T-240V-Q_DZ	LAS05T-240V-Q_DZ							Interpolated
SAS05Q-120V-Q_DZ	LAS05Q-120V-Q_DZ	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,134 to 5,920	2.2	2.5	Interpolated
SAS05Q-200V-Q_DZ	LAS05Q-200V-Q_DZ							Interpolated
SAS05Q-240V-Q_DZ	LAS05Q-240V-Q_DZ							Interpolated
SAS07D-080V-D_DZ	LAS07D-080V-D_DZ							Interpolated
SAS07D-120V-T_DZ	LAS07D-120V-T_DZ							Interpolated
SAS07D-200V-T_DZ	LAS07D-200V-T_DZ							Interpolated
SAS07D-240V-T_DZ	LAS07D-240V-T_DZ							Interpolated
SAS07D-120V-Q_DZ	LAS07D-120V-Q_DZ							Interpolated
SAS07D-200V-Q_DZ	LAS07D-200V-Q_DZ							Interpolated
SAS07D-240V-Q_DZ	LAS07D-240V-Q_DZ							Interpolated
SAS07T-120V-T_DZ	LAS07T-120V-T_DZ							Interpolated
SAS07T-200V-T_DZ	LAS07T-200V-T_DZ							Interpolated
SAS07T-240V-T_DZ	LAS07T-240V-T_DZ							Interpolated
SAS07T-120V-Q_DZ	LAS07T-120V-Q_DZ							Interpolated
SAS07T-200V-Q_DZ	LAS07T-200V-Q_DZ							Interpolated
SAS07T-240V-Q_DZ	LAS07T-240V-Q_DZ							Interpolated
SAS07Q-120V-Q_DZ	LAS07Q-120V-Q_DZ							Interpolated

Special Seismic Certification Certified Components



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Mounting Description: Rigid base mount

Scroll Medical Model Number ¹	Scroll Laboratory Model Number ^{1,2}	Dimensions (inches)			Weight (lb)	Sds (g), z/h=1	Sds (g), z/h=0	UUT
		Depth	Width	Height				
SAS07Q-200V-Q_DZ	LAS07Q-200V-Q_DZ	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,134 to 5,920	2.2	2.5	Interpolated
SAS07Q-240V-Q_DZ	LAS07Q-240V-Q_DZ							Interpolated
SAS10D-120V-D_DZ	LAS10D-120V-D_DZ							Interpolated
SAS10D-200V-D_DZ	LAS10D-200V-D_DZ							Interpolated
SAS10D-240V-D_DZ	LAS10D-240V-D_DZ							Interpolated
SAS10D-120V-T_DZ	LAS10D-120V-T_DZ							Interpolated
SAS10D-200V-T_DZ	LAS10D-200V-T_DZ							Interpolated
SAS10D-240V-T_DZ	LAS10D-240V-T_DZ							Interpolated
SAS10D-120V-Q_DZ	LAS10D-120V-Q_DZ							Interpolated
SAS10D-200V-Q_DZ	LAS10D-200V-Q_DZ							Interpolated
SAS10D-240V-Q_DZ	LAS10D-240V-Q_DZ							Interpolated
SAS10T-120V-T_DZ	LAS10T-120V-T_DZ							Interpolated
SAS10T-200V-T_DZ	LAS10T-200V-T_DZ							Interpolated
SAS10T-240V-T_DZ	LAS10T-240V-T_DZ							Interpolated
SAS10T-120V-Q_DZ	LAS10T-120V-Q_DZ							Interpolated
SAS10T-200V-Q_DZ	LAS10T-200V-Q_DZ							Interpolated
SAS10T-240V-Q_DZ	LAS10T-240V-Q_DZ							Interpolated
SAS10T-120V-P_DZ	LAS10T-120V-P_DZ							Interpolated
SAS10T-200V-P_DZ	LAS10T-200V-P_DZ							Interpolated
SAS10T-240V-P_DZ	LAS10T-240V-P_DZ							Interpolated
SAS10Q-120V-Q_DZ	LAS10Q-120V-Q_DZ							Interpolated
SAS10Q-200V-Q_DZ	LAS10Q-200V-Q_DZ							Interpolated
SAS10Q-240V-Q_DZ	LAS10Q-240V-Q_DZ							Interpolated
SAS10Q-120V-P_DZ	LAS10Q-120V-P_DZ							Interpolated
SAS10Q-200V-P_DZ	LAS10Q-200V-P_DZ							Interpolated
SAS10Q-240V-P_DZ	LAS10Q-240V-P_DZ							Interpolated
SAS10Q-120V-H_DZ	LAS10Q-120V-H_DZ							Interpolated
SAS10Q-200V-H_DZ	LAS10Q-200V-H_DZ							Interpolated
SAS10Q-240V-H_DZ	LAS10Q-240V-H_DZ							Interpolated
SAS10P-120V-P_DZ	LAS10P-120V-P_DZ							Interpolated
SAS10P-200V-P_DZ	LAS10P-200V-P_DZ							Interpolated
SAS10P-240V-P_DZ	LAS10P-240V-P_DZ							Interpolated
SAS10P-120V-H_DZ	LAS10P-120V-H_DZ							Interpolated

Special Seismic Certification Certified Components



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Certified Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 15 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ¹	Scroll Laboratory Model Number ^{1,2}	Dimensions (inches)			Weight (lb)	Sds (g), z/h=1	Sds (g), z/h=0	UUT
		Depth	Width	Height				
SAS10P-200V-H_DZ	LAS10P-200V-H_DZ	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,134 to 5,920	2.2	2.5	Interpolated
SAS10P-240V-H_DZ	LAS10P-240V-H_DZ							Interpolated
SAS10H-120V-H_DZ	LAS10H-120V-H_DZ							Interpolated
SAS10H-200V-H_DZ	LAS10H-200V-H_DZ							Interpolated
SAS10H-240V-H_DZ	LAS10H-240V-H_DZ							Interpolated
SAS15D-120V-D_DZ	LAS15D-120V-D_DZ							Interpolated
SAS15D-200V-D_DZ	LAS15D-200V-D_DZ							Interpolated
SAS15D-240V-D_DZ	LAS15D-240V-D_DZ							Interpolated
SAS15D-120V-T_DZ	LAS15D-120V-T_DZ							Interpolated
SAS15D-200V-T_DZ	LAS15D-200V-T_DZ							Interpolated
SAS15-240V-T_DZ	LAS15-240V-T_DZ							Interpolated
SAS15D-120V-Q_DZ	LAS15D-120V-Q_DZ							Interpolated
SAS15D-200V-Q_DZ	LAS15D-200V-Q_DZ							Interpolated
SAS15D-240V-Q_DZ	LAS15D-240V-Q_DZ							Interpolated
SAS15T-120V-T_DZ	LAS15T-120V-T_DZ							Interpolated
SAS15T-200V-T_DZ	LAS15T-200V-T_DZ							Interpolated
SAS15T-240V-T_DZ	LAS15T-240V-T_DZ							Interpolated
SAS15T-120V-Q_DZ	LAS15T-120V-Q_DZ							Interpolated
SAS15T-200V-Q_DZ	LAS15T-200V-Q_DZ							Interpolated
SAS15T-240V-Q_DZ	LAS15T-240V-Q_DZ							Interpolated
SAS15T-120V-P_DZ	LAS15T-120V-P_DZ							Interpolated
SAS15T-200V-P_DZ	LAS15T-200V-P_DZ							Interpolated
SAS15T-240V-P_DZ	LAS15T-240V-P_DZ							Interpolated
SAS15Q-120V-Q_DZ	LAS15Q-120V-Q_DZ							Interpolated
SAS15Q-200V-Q_DZ	LAS15Q-200V-Q_DZ							Interpolated
SAS15Q-240V-Q_DZ	LAS15Q-240V-Q_DZ							Interpolated
SAS15Q-120V-P_DZ	LAS15Q-120V-P_DZ							Interpolated
SAS15Q-200V-P_DZ	LAS15Q-200V-P_DZ							Interpolated
SAS15Q-240V-P_DZ	LAS15Q-240V-P_DZ							Interpolated
SAS15Q-120V-H_DZ	LAS15Q-120V-H_DZ							Interpolated
SAS15Q-200V-H_DZ	LAS15Q-200V-H_DZ							Interpolated
SAS15Q-240V-H_DZ	LAS15Q-240V-H_DZ							Interpolated
SAS15P-120V-P_DZ	LAS15P-120V-P_DZ							Interpolated

Special Seismic Certification Certified Components



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Certified Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 15 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ¹	Scroll Laboratory Model Number ^{1,2}	Dimensions (inches)			Weight (lb)	Sds (g), z/h=1	Sds (g), z/h=0	UUT
		Depth	Width	Height				
SAS15P-200V-P_DZ	LAS15P-200V-P_DZ	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,134 to 5,920	2.2	2.5	Interpolated
SAS15P-240V-P_DZ	LAS15P-240V-P_DZ							Interpolated
SAS15P-120V-H_DZ	LAS15P-120V-H_DZ							Interpolated
SAS15P-200V-H_DZ	LAS15P-200V-H_DZ							Interpolated
SAS15P-240V-H_DZ	LAS15P-240V-H_DZ							Interpolated
SAS15H-120V-H_DZ	LAS15H-120V-H_DZ							Interpolated
SAS15H-200V-H_DZ	LAS15H-200V-H_DZ							Interpolated
SAS15H-240V-H_DZ	LAS15H-240V-H_DZ							Interpolated
SAS15H-240V-HCDZ	LAS15H-240V-HCDZ	138.0	72.0	97.0	5,920			UUT2

Notes:

1. In model number, _ may be A, B or C depending upon whether the motors are wired for 208, 230 or 460 V, respectively.
2. Scroll Lab Air (LA) units are the same as Scroll Medical Air (SA) units, but inlet connection is not pre-piped.

Special Seismic Certification Nomenclature Chart



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Certified Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 15 HP, desiccant drying stem, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

BeaconMedaes Scroll System Model Number Chart

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

Variable	Definition	Allowable Value*	Allowable Value Description*
A	Technology	SA	Scroll Medical Air Compressor
		LA	Scroll Lab Air compressor
B	System Type	S	Single Point Connection
C	HP	02	2 HP
		03	3 HP
		05	5 HP
		07	7.5 HP
		10	10 HP
		15	15 HP
D	System Size	D	Duplex
		T	Triplex
		Q	Quadruplex
		P	Pentaplex
E	Tank Size	H	Hexaplex
		080	80 Gallon (Galvanized)
		120	120 Gallon (Galvanized)
		200	200 Gallon (Galvanized)
F	Tank Orientation	240	240 Gallon (Galvanized)
G	Panel Size	V	Vertical
		D	Duplex Control Panel
		T	Triplex Control Panel
		Q	Quadruplex Control Panel
		P	Pentaplex Control Panel
H	Voltage	H	Hexaplex Control Panel
		A	208/3/60
		B	230/3/60
J	Starting Method	C	460/3/60
K	Spring Type	D	Direct on Line
		Z	Seismic Isolation

Special Seismic Certification Certified Subcomponents



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Compressor Tower

Model Number	Manufacturer	Description	Material	Unit
ATSL-140E	Atlas Copco	Compressor	Cast aluminum and plastic	UUT1
ATSL-165E	Atlas Copco	Compressor	Cast aluminum and plastic	Interpolated
ATSL-1651E	Atlas Copco	Compressor	Cast aluminum and plastic	Interpolated
OFSL-E01	Atlas Copco	Compressor	Cast aluminum and plastic	Interpolated
OFSL-E02	Atlas Copco	Compressor	Cast aluminum and plastic	Interpolated
OFSL-E03	Atlas Copco	Compressor	Cast aluminum and plastic	UUT2
EM3157T	Baldor	Motor 2HP 208-460/3/60	Carbon steel housing and copper	UUT1
EM3158T	Baldor	Motor 3HP 208-460/3/60	Carbon steel housing and copper	Interpolated
EM3212T	Baldor	Motor 5HP 208-460/3/60	Carbon steel housing and copper	Interpolated
EM3219T	Baldor	Motor 7.5HP 208-460/3/60	Carbon steel housing and copper	Interpolated
EM3312T	Baldor	Motor 10HP 208-460/3/60	Carbon steel housing and copper	Interpolated
EM3314T	Baldor	Motor 15HP 208-460/3/60	Carbon steel housing and copper	UUT2
4107650567	Atlas Copco	Air cooler	Aluminum	UUT1
4107650494	Atlas Copco	Air cooler	Aluminum	UUT2
OD254AP	Orion	Air cooler fan	Plastic	UUT1/UUT2
BRB-RE	Mason	Isolator	Rubber and carbon steel	UUT1/UUT2

Tank

Model Number	Manufacturer	Description	Material	Unit
4107652917	MPV	Tank 80 Gallon	Carbon steel	UUT1
4107652918	MPV	Tank 120 Gallon	Carbon steel	Interpolated
4107652919	MPV	Tank 200 Gallon	Carbon steel	Interpolated
4107652920	MPV	Tank 240 Gallon	Carbon steel	UUT2

Control Panel

Model Number	Manufacturer	Description	Material	Unit
LD2570-3	Littelfuse	Power distribution block 175A	Aluminum and plastic	UUT1
LD3552-3	Littelfuse	Power distribution block 335A	Aluminum and plastic	Interpolated
1333575	Littelfuse	Power distribution block 420A	Aluminum and plastic	UUT2
FD	Eaton	Disconnect switch	Plastic, aluminum, and copper	UUT2
EHD	Eaton	Circuit breaker	Plastic, aluminum, and copper	UUT1/UUT2
XTCE	Eaton	Contactactor	Plastic, aluminum, and copper	UUT1/UUT2
XTOB	Eaton	Overload relay	Plastic, aluminum, and copper	UUT1/UUT2

Special Seismic Certification Certified Subcomponents



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Dryer

Model Number	Manufacturer	Description	Material	Unit
R434004358	Rexroth	Valve dryer switching ISO2	Aluminum, carbon steel and ceramic	UUT1
R434004359	Rexroth	Valve dryer switching ISO3	Aluminum, carbon steel and ceramic	Interpolated
R434004360	Rexroth	Valve dryer switching ISO4	Aluminum, carbon steel and ceramic	UUT2
2000 B	Burkert	Valve dryer purge	Bronze and plastic	UUT1/UUT2
PD17	Atlas Copco	Dryer inlet filter	Aluminum and plastic	UUT1
PD32	Atlas Copco	Dryer inlet filter	Aluminum and plastic	Interpolated
PD44	Atlas Copco	Dryer inlet filter	Aluminum and plastic	Interpolated
PD60	Atlas Copco	Dryer inlet filter	Aluminum and plastic	Interpolated
PD120	Atlas Copco	Dryer inlet filter	Aluminum and plastic	UUT2
DDp17	Atlas Copco	Dryer outlet filter	Aluminum and plastic	UUT1
DDp32	Atlas Copco	Dryer outlet filter	Aluminum and plastic	Interpolated
DDp44	Atlas Copco	Dryer outlet filter	Aluminum and plastic	Interpolated
DDp60	Atlas Copco	Dryer outlet filter	Aluminum and plastic	Interpolated
DDp120	Atlas Copco	Dryer outlet filter	Aluminum and plastic	UUT2
EA2-TX	Kahn	Dew point sensor	Stainless steel, plastic and ceramic	UUT1/UUT2
4035-22B	GFG	CO sensor	Carbon steel	UUT1/UUT2

Control Panel

Model Number	Manufacturer	Description	Material	Unit
CSD362008	Hoffman	Enclosure N4/N12	Carbon Steel	UUT1
CSD522408	Hoffman	Enclosure N4/N12	Carbon Steel	Interpolated
CSD543608	Hoffman	Enclosure N4/N12	Carbon Steel	UUT2
LD2570-3	Littelfuse	Power distribution block 175A	Aluminum and plastic	UUT1
LD3552-3	Littelfuse	Power distribution block 335A	Aluminum and plastic	Interpolated
1333575	Littelfuse	Power distribution block 420A	Aluminum and plastic	UUT2
FD	Eaton	Disconnect switch	Plastic, aluminum, and copper	UUT2
EHD	Eaton	Circuit breaker	Plastic, aluminum, and copper	UUT1/UUT2
XTCE	Eaton	Contactator	Plastic, aluminum, and copper	UUT1/UUT2
XTOB	Eaton	Overload relay	Plastic, aluminum, and copper	UUT1/UUT2
WRA/DRAN120	Lutze	Power supply	Carbon steel and plastic	UUT1/UUT2
4107651184	Atlas Copco	Circuit board pump/dryer 10 I/O	8 layer polyclad	UUT1/UUT2
4107651191	Atlas Copco	Circuit board master 19 I/O	8 layer polyclad	UUT1/UUT2
4107651180	Atlas Copco	Circuit board 5.7 display	8 layer polyclad	UUT1/UUT2
4107651181	Atlas Copco	Circuit board 3.5 display	8 layer polyclad	UUT1/UUT2
4107651542	Atlas Copco	LCD 3.5 display	Stainless steel and glass	UUT1/UUT2
4107651543	Atlas Copco	LCD 5.7 display	Stainless steel and glass	UUT1/UUT2
SFN 5TX	Phoenix	Ethernet switch	Carbon steel & plastic	UUT1/UUT2
SFN 8TX	Phoenix	Ethernet switch	Carbon steel & plastic	UUT2

Special Seismic Certification Tested Components



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Tested Product Construction: Powder-coated carbon steel frame

Tested Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 15 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Tested Mounting Description: Rigid base mount with 1/2-inch diameter Grade 5 bolts

UUT	Model Number	Description	Dimensions (inches)			Weight (lb)	Sds (g), z/h=1	Sds (g), z/h=0
			Depth	Width	Height			
UUT1	SAS02D-080V-DCDZ	Single Point Connection Duplex, 2HP	47.5	34.5	74.0	1,240	2.5	2.5
UUT2	SAS15H-240V-HCDZ	Single Point Connection Hexaplex, 15HP	138.0	72.0	97.0	5,920	2.2	2.5

UUT1**UNIT UNDER TEST (UUT) Summary Sheet****Manufacturer:** Atlas Copco Compressors LLC (Beacon Medaes)**Product Line:** LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line**Model Number:** SAS02D-080V-DCDZ**Product Construction Summary:** Powder-coated carbon steel frame**Options / Subcomponent Summary:**

Single Point Connection (SPC) Duplex, 2 HP. Scroll compressors, variable voltage motors (each motor is 208V to 460V), desiccant drying system, integral pre-wired control panel, vertical air receiver.

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)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,240	47.5	34.5	74	3.8	3.5	17.5

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

Unit Mounting Description:

Unit base-mounted to the DCL steel shake table interface plate with four 1/2-inch diameter Grade 5 bolts. The plate was attached to the shake table with M12 threaded rod, spaced approximately 8-inches on-center.

UUT2

UNIT UNDER TEST (UUT) Summary Sheet



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine "Oil-Less" Scroll Medical Air and Laboratory Air System Product Line

Model Number: SAS15H-240V-HCDZ

Product Construction Summary: Powder-coated carbon steel frame

Options / Subcomponent Summary:

Single Point Connection (SPC) Hexaplex 15 HP. Scroll compressors, variable voltage motors (each motor is 208V to 460V), desiccant drying system, integral pre-wired control panel, vertical air receiver

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)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
5,920	138	72	97	4.0	3.3	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	2.2	1.0	1.5	3.52	2.64	1.47	0.59
		2.5	0.0	1.5	2.50	1.00	1.67	0.67

Unit Mounting Description:



Unit base-mounted to the DCL steel shake table interface fixture with sixteen 1/2-inch diameter Grade 5 bolts. The fixture was attached to the shake table with M12 threaded rod, spaced approximately 8-inches on-center.