



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

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

OFFICE USE ONLY

APPLICATION #: OSP – 0605

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Beacon Medaes (Atlas Copco Compressors, LLC)

Manufacturer's Technical Representative: Tim Conner, Engineering Manager, Medical Gas Products

Mailing Address: 1059 Paragon Way, Rock Hill, SC 29730

Telephone: 803-817-5600

Email: tim.conner@beaconmedaes.com

Product Information

Product Name: LifeLine Lubricated Rotary Vane and LifeLine "Oil-Less" Claw Medical Vacuum Systems

Product Type: Medical Vacuum Systems

Product Model Number: See attached

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

General Description: Medical vacuum systems

Mounting Description: Rigid base mounted with internal isolators.

Applicant Information

Applicant Company Name: The VMC Group


Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thevmcgroup.com

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

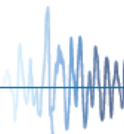
Signature of Applicant: 

Date: 10/19/2020

Title: President

Company Name: The VMC Group

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





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

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

Company Name: The VMC Group

Name: Kenneth Tarlow California License Number: SE-2851

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): _____

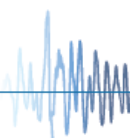
Testing Laboratory

Company Name: DCL Labs

Contact Name: Josh Sailer, Laboratory Manager

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

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





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 3.60

Sds (Design spectral response acceleration at short period, g) = 1.60

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

Rp (Equipment or component response modification factor) = 2.0

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See attachment

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

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

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

Sds (Design spectral response acceleration at short period, g) =

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (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: [X] 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, 2025

Signature: [Handwritten Signature]

Date: October 20, 2020

Print Name: Timothy J. Piland

Title: SSE

Special Seismic Certification Valid Up to: Sds (g) = 1.60

z/h = 1

Condition of Approval (if applicable):

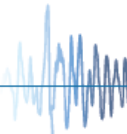


Table 1 - Certified Components - Lubricated Rotary Vane

Manufacturer: Beacon Medaes, LLC

Certified Level: $S_{DS} = 1.60g$, $z/h = 1.0$

Model Number	Description	Max. Dimensions (in)			Max. Weight (lb)	Mounting	Unit
		Depth	Width	Height			
SPC (Single Point Connection) Base Mount Systems							
VLS05X-XXXV-XXD	5 HP, SPC and Expandable SPC	Varies ¹	62	81 to 96	Varies ¹	Rigid Base Mount	Extrapolated
VLS07X-XXXV-XXD	7.5 HP, SPC and Expandable SPC	Varies ¹	62	81 to 96	Varies ¹	Rigid Base Mount	Extrapolated
VLS10T-240V-QCD	10 HP, SPC	66	67	96	3,480	Rigid Base Mount	UUT 5
VLS10X-XXXV-XXD	10 HP, SPC and Expandable SPC	Varies ¹	79 to 79	81 to 97	Varies ¹	Rigid Base Mount	Interpolated
VLS15X-XXXV-XXD	15 HP, SPC and Expandable SPC	Varies ¹	79 to 79	81 to 97	Varies ¹	Rigid Base Mount	Interpolated
VLS20X-XXXV-XXD	20 HP, SPC and Expandable SPC	Varies ¹	79 to 79	81 to 97	Varies ¹	Rigid Base Mount	Interpolated
VLS25X-XXXV-XXD	25 HP, SPC and Expandable SPC	Varies ¹	79 to 79	81 to 97	Varies ¹	Rigid Base Mount	Interpolated
VLS25D-240V-QAD	25 HP, SPC	86	79	97	5,710	Rigid Base Mount	UUT 9

Notes:

1. The dimensions and weights vary for the listed units because the number of pumps installed can vary from the number of pumps tested

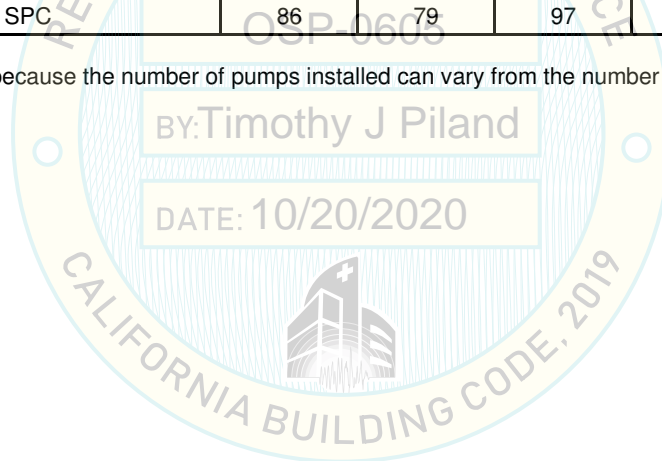


Table 2 - Nomenclature Chart - Lubricated Vane

Certified Level: $S_{DS} = 1.60g$, $z/h = 1.0$

Nomenclature: A B C D - E F - G H J			
Variable	Definition	Allowable Value	Allowable Value Description
A	Technology	VL	Scroll Medical Air Compressor
B	System Type	S	Single Point Connection
C	HP	01	1.5 HP
		02	2 HP
		03	3 HP
		05	5 HP
		07	7.5 HP
		10	10 HP
		15	15 HP
		20	20 HP
D	System Size	D	Duplex
		T	Triplex
		Q	Quadruplex
E	Tank Size	030	30 Gallon
		060	60 Gallon
		080	80 Gallon
		120	120 Gallon
		200	200 Gallon
		240	240 Gallon
F	Tank Orientation	H	Horizontal
		V	Vertical
G	Panel Size	D	Duplex Control Panel
		T	Triplex Control Panel
		Q	Quadruplex
H	Voltage	A	208V / 3 Ph / 60A
		B	230V / 3 Ph / 60A
		C	460V / 3 Ph / 60A
J	Starting Method	D	Direct on Line

Table 3 - Certified Options - Rotary Vane

Certified Level: $S_{DS} = 1.60g$, $z/h = 1.0$

Allowable Value	Description	Unit
Technology		
VL	Lubricated Rotary Vane System	UUT 5, 9
System Type		
S	Single Point Connection	UUT 5, 9
HP		
01	1.5 HP	UUT 7
02	2 HP	Interpolated
03	3 HP	Interpolated
05	5 HP	Interpolated
07	7.5 HP	Interpolated
10	10 HP	UUT 5
15	15 HP	Interpolated
20	20 HP	Interpolated
25	25 HP	UUT 9
System Size		
D	Duplex	UUT 9
T	Triplex	UUT 5
Q	Quadruplex	Extrapolated ¹
Tank Size		
030	30 Gallon	UUT 7
060	60 Gallon	Interpolated
080	80 Gallon	Interpolated
120	120 Gallon	Interpolated
200	200 Gallon	Interpolated
240	240 Gallon	UUT 5,9
Tank Orientation		
V	Vertical	UUT 5, 9
Panel Size		
D	Duplex Control Panel	UUT 7
T	Triplex Control Panel	Interpolated
Q	Quadruplex	UUT 5, 9
Voltage		
A	208V / 3 PH / 60A	UUT 9
B	230V / 3 PH / 60A	Interpolated
C	460V / 3 PH / 60A	UUT 5
Starting Method		
D	Direct on Line	UUT 5, 9

Notes:

1. Within the confines of the tested options. Quadruplex consists of two duplex modeules.

Table 4 - Certified Subcomponents

Certified Level: $S_{DS} = 1.60g$, $z/h = 1.0$

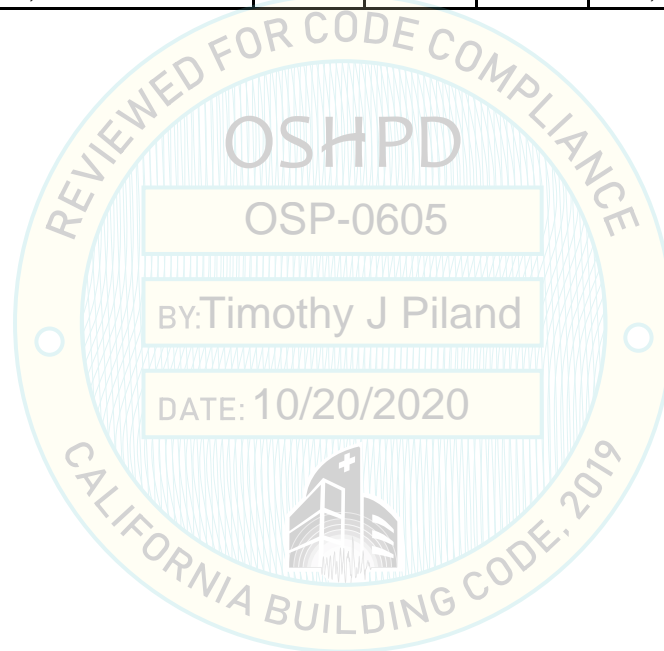
Subcomponent (Manufacturer)	Model Number	Description	Material	Unit
Vacuum Pump (Busch)	RC0025	1.5 HP	Carbon Steel and Copper	UUT 7
	RC0040	2 HP	Carbon Steel and Copper	Interpolated
	RC0063	3 HP	Carbon Steel and Copper	Interpolated
	RC0101	5 HP	Carbon Steel and Copper	Interpolated
	RC0155	5 HP	Carbon Steel and Copper	Interpolated
	RC0205	7.5 HP	Carbon Steel and Copper	Interpolated
	RC0305	10 HP	Carbon Steel and Copper	UUT 5
	RC0400	15 HP	Carbon Steel and Copper	Interpolated
	RC0502	20 HP	Carbon Steel and Copper	Interpolated
	RC0630	25 HP	Carbon Steel and Copper	UUT 9
Vertical Tank (MPV)	4107653152	30 Gallon Vertical	Carbon Steel	UUT 7
	4107651105	120 Gallon Vertical	Carbon Steel	Interpolated
	4107651104	200 Gallon Vertical	Carbon Steel	Interpolated
	4107651100	240 Gallon Vertical	Carbon Steel	UUT 5, 9
Enclosure (Hoffman)	CSD362008	NEMA 4	Carbon Steel	UUT 7
	CSD423010	NEMA 4	Carbon Steel	Interpolated
	CSD483010	NEMA 4	Carbon Steel	Interpolated
	CSD522408	NEMA 4	Carbon Steel	UUT 5
Power Supply (Lutze)	WRA/DRAN120	Power Supply	Copper	UUT 5
Circuit Boards (Atlas Copco)	4107651184	Pump Dryer 10 I/O	PCB	UUT 5
	4107651183	Pump Dryer 16 I/O	PCB	Interpolated
	4107651191	Master 19 I/O	PCB	UUT 5
	4107651180	Circuit Board 5.7 Display	PCB	UUT 5
	4107651181	Circuit Board 3.5 Display	PCB	UUT 5
	4107651542	5.7 Display	LCD	UUT 5
	4107651543	3.5 Display	LCD	UUT 5
Ethernet Switch (Phoenix)	SFN 5TX	Ethernet Switch	Copper	UUT 5

Table 5 - Tested Units

Manufacturer: Beacon Medaes, LLC

Certified Level: $S_{DS} = 1.60g$, $z/h = 1.0$

Model Number	Description	Max. Dimensions (in)			Max. Weight (lb)	Mounting	Unit
		Depth	Width	Height			
VLS10T-240V-QCD	10 HP, SPC	66	67	96	3,480	Rigid Base Mount	UUT 5
VLV01D-030V-DCD	1.5 HP, SPC	33	28	60	610	Rigid Base Mount	UUT 7
VLS25D-240V-QAD	25 HP, SPC	86	79	97	5,710	Rigid Base Mount	UUT 9



UUT5

Unit Under Test Summary Sheet



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine Lubricated Rotary Vane and LifeLine "Oil-Less" Claw Medical Vacuum Systems

Model Number: VLS10T-240V-QCD

Product Construction Summary:

Powder-coated carbon steel frame

Options / Component Summary:

LifeLine Lubricated Rotary Vane Medical Vacuum Single Point Connection (SPC) Triplex System, 10 HP, 240 gallon receiver tank, vertical tank orientation, quadruplex control panel, 460V, direct on line starting method.

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)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
3,480	66	67	96	6.5	7.3	13.5

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

Unit Mounting Description:



Unit base-mounted to the DCL steel shake table interface plate with eight 1/2-inch diameter Grade 5 bolts. Bolts were spaced at approximately 33", 2", and 30" on center in length and 65" in width.

UUT7

Unit Under Test Summary Sheet



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine Lubricated Rotary Vane and LifeLine "Oil-Less" Claw Medical Vacuum Systems

Model Number: VLV01D-030V-DCD

Product Construction Summary:

Powder-coated carbon steel frame

Options / Component Summary:

LifeLine Lubricated Rotary Vane Medical Vacuum Vertical Duplex System, 1.5 HP, 30 gallon receiver tank, vertical tank orientation, duplex control panel, 460V, direct on line starting method.

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)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
610	33	28	60	26.5	26.0	29.5

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

Unit Mounting Description:



Unit base-mounted to the DCL steel shake table interface plate with four 1/2-inch diameter Grade 5 bolts spaced approximately 30" in leght and 27" in width on center.

UUT9

Unit Under Test Summary Sheet



Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

Product Line: LifeLine Lubricated Rotary Vane and LifeLine "Oil-Less" Claw Medical Vacuum Systems

Model Number: VLS25D-240V-QAD

Product Construction Summary:

Powder-coated carbon steel frame

Options / Component Summary:

LifeLine Lubricated Rotary Vane Medical Vacuum Single Point Connection (SPC) Duplex System, 25 HP, 240 gallon receiver tank, vertical tank orientation, quadruplex control panel, 208V, direct on line starting method.

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)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
5,710	86	79	97	5.5	4.8	12.5

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	1.60	1.0	1.5	2.56	1.92	1.07	0.43

Unit Mounting Description:



Unit base-mounted to the DCL steel shake table interface plate with eight 1/2-inch diameter Grade 5 bolts. Bolts were spaced at approximately 33", 8", and 42" on center in length and 77" in width.