



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

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

OFFICE USE ONLY

APPLICATION #: OSP-0291

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: Medical Gas and Vacuum Systems

Product Type: Medical Air and Vacuum Systems

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

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.

Mounting Description: Rigid, Floor Mounted

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

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories, LLC.

Contact Person: Kelly Laplace

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

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

Title: Business Manager





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

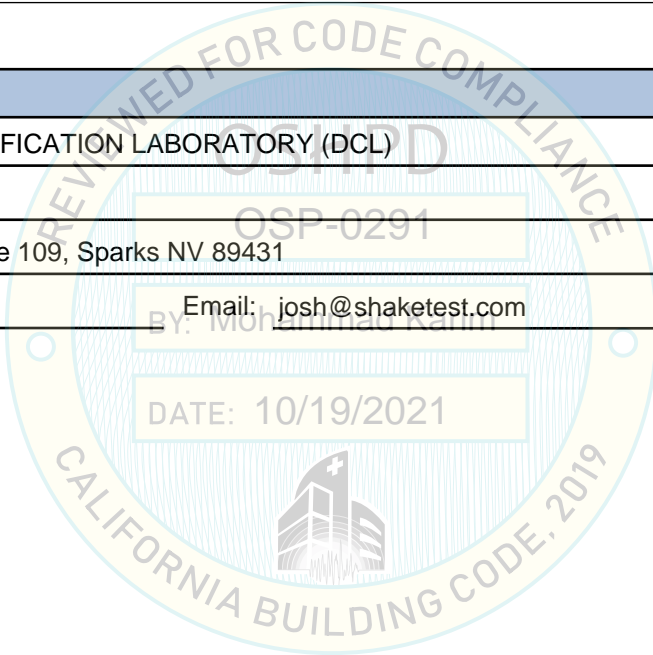
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)
Contact Person: Josh Sailer
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431
Telephone: (775) 358-5085 Email: josh@shaketest.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 4.5

SDS (Design spectral response acceleration at short period, g) = 2.0

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 2.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 10/21/2027

Date: 10/19/2021

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): DATE: 10/19/2021

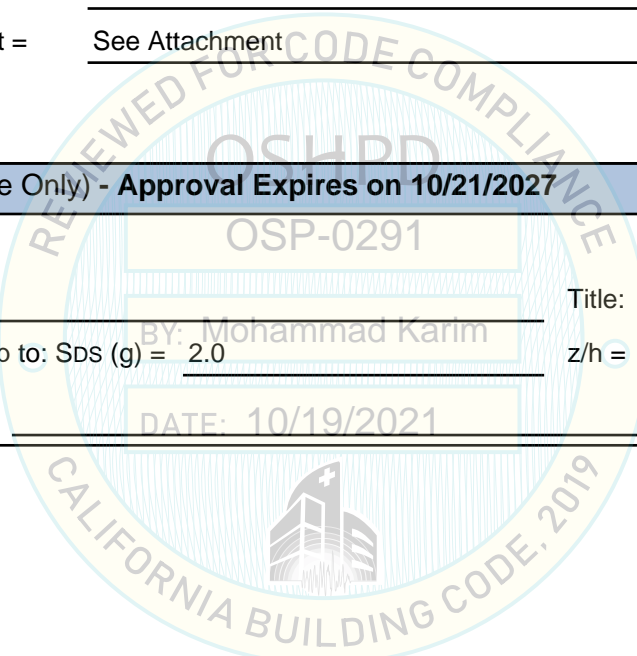


Table 1- Special Seismic Certification Certified Components



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 20 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ^{1,2}	Scroll Laboratory Model Number ^{1,2}	Dimensions (inches)			Weight (lb)	S _{DS} (g)	z/h	UUT
		Depth	Width	Height				
SAS02D-080V-DCDZ	LAS02D-080V-DCDZ	47.5	34.5	74.0	1,240	2.0	1.0	UUT-1
SAS02D-080V-D_DZ	LAS02D-080V-D_DZ	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,240 to 5,920			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							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						

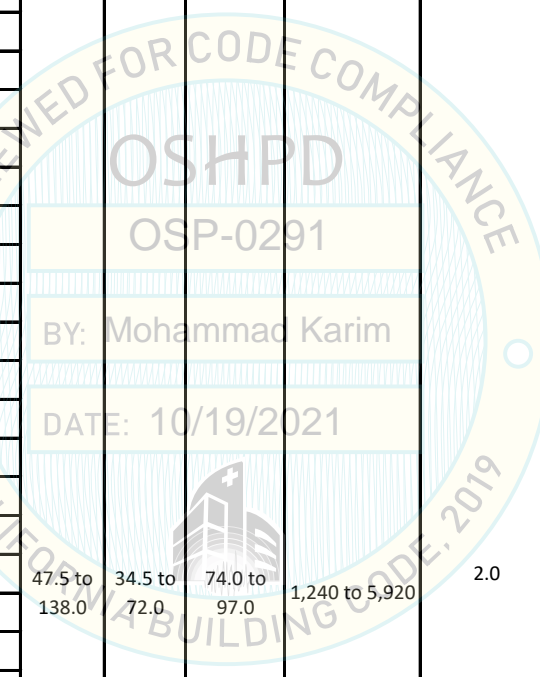


Table 2- Special Seismic Certification Certified Components (Continued)



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 20 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ^{1,2}	Scroll Laboratory Model Number ^{1,2}	Dimensions (in)			Weight (lb)	S _{DS} (g)	z/h	UUT
		Depth	Width	Height				
SAS07Q-200V-Q_DZ	LAS07Q-200V-Q_DZ							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	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,240 to 5,920	2.0	1.0	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

Table 3- Special Seismic Certification Certified Components (Continued)



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 20 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ^{1,2}	Scroll Laboratory Model Number ^{1,2}	Dimensions (in)			Weight (lb)	S _{DS} (g)	z/h	UUT
		Depth	Width	Height				
SAS10P-200V-H_DZ	LAS10P-200V-H_DZ							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
SAS15D-240V-T_DZ	LAS15D-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	47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,240 to 5,920	2.0	1.0	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

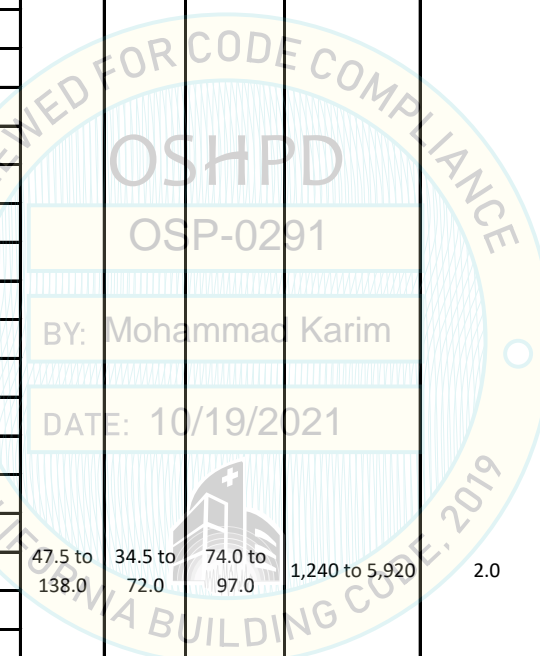


Table 4- Special Seismic Certification Certified Components (Continued)



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 20 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Mounting Description: Rigid base mount

Scroll Medical Model Number ^{1,2}	Scroll Laboratory Model Number ^{1,2}	Dimensions (in)			Weight (lb)	S _{DS} (g)	z/h	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	1,240 to 5,920	2.0	1.0	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	UUT-2
SAS20D-200V-D_DZ	LAS20D-200V-D_DZ							47.5 to 138.0	34.5 to 72.0	74.0 to 97.0	1,240 to 6,760	2.0
SAS20D-200V-T_DZ	LAS20D-200V-T_DZ	Interpolated										
SAS20T-200V-T_DZ	LAS20T-200V-T_DZ	Interpolated										
SAS20T-240V-Q_DZ	LAS20T-240V-Q_DZ	Interpolated										
SAS20Q-240V-Q_DZ	LAS20Q-240V-Q_DZ	Interpolated										
SAS20Q-240V-P_DZ	LAS20Q-240V-P_DZ	Interpolated										
SAS20P-240V-P_DZ	LAS20P-240V-P_DZ	Interpolated										
SAS20P-240V-H_DZ	LAS20P-240V-H_DZ	Interpolated										
SAS20H-240V-HCDZ	LAS20H-240V-HCDZ	138.0	72.0	97.0	6,760	UUT-3						

Notes:

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

**Table 6- Special Seismic Certification
Certified Subcomponents**



DCL Project Numbers: 12052-1201 and 13938-2102

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	Weight (lb.)	Unit
ATSL-140E	ATLAS COPCO	COMPRESSOR	Cast aluminum and plastic	42	UUT-1
ATSL-165E	ATLAS COPCO	COMPRESSOR	Cast aluminum and plastic	44	Interpolated
ATSL-1651E	ATLAS COPCO	COMPRESSOR	Cast aluminum and plastic	44	Interpolated
OFSL-E01	ATLAS COPCO	COMPRESSOR	Cast aluminum and plastic	55	Interpolated
OFSL-E02	ATLAS COPCO	COMPRESSOR	Cast aluminum and plastic	55	Interpolated
OFSL-E03	ATLAS COPCO	COMPRESSOR	Cast aluminum and plastic	55	UUT-2
SRL-7.5CBUM	HITACHI	COMPRESSOR	Cast aluminum and plastic	62	UUT-3
EM3157T	BALDOR	MOTOR 2HP 208-460/3/60	Carbon steel housing and copper	40	UUT-1
EM3158T	BALDOR	MOTOR 3HP 208-460/3/60	Carbon steel housing and copper	46	Interpolated
EM3212T	BALDOR	MOTOR 5HP 208-460/3/60	Carbon steel housing and copper	61	Interpolated
EM3219T	BALDOR	MOTOR 7.5HP 208-460/3/60	Carbon steel housing and copper	74	Interpolated
EM3312T	BALDOR	MOTOR 10HP 208-460/3/60	Carbon steel housing and copper	121	Interpolated
EM3314T	BALDOR	MOTOR 15HP 208-460/3/60	Carbon steel housing and copper	124	UUT-2
39LYB101	BALDOR	MOTOR 20HP 208-460/3/60	Carbon steel housing and copper	194	UUT-3
4107650567	ATLAS COPCO	AIR COOLER	Aluminum	14	UUT-1
4107650494	ATLAS COPCO	AIR COOLER	Aluminum	16	UUT-2
4107656842	ATLAS COPCO	AIR COOLER	Aluminum	20	UUT-3
OD254AP	ORION	AIR COOLER FAN	Plastic	5	UUT-1, UUT-2
OA280AP11	ORION	AIR COOLER FAN	Plastic	7	UUT-3
BRB-RE	MASON	ISOLATOR	Rubber and carbon steel	7	UUT-1, UUT-2, UUT-3
Dryer					
Model Number	Manufacturer	Description	Material	Weight (lb.)	Unit
R434004358	REXROTH	VALVE DRYER SWITCHING ISO2	Aluminum, carbon steel and ceramic	6	UUT-1
R434004359	REXROTH	VALVE DRYER SWITCHING ISO3	Aluminum, carbon steel and ceramic	8	Interpolated
R434004360	REXROTH	VALVE DRYER SWITCHING ISO4	Aluminum, carbon steel and ceramic	10	UUT-2
2000 B	BERKERT	VALVE DRYER PURGE	Bronze and plastic	6	UUT-1, UUT-2
PD17	ATLAS COPCO	DRYER INLET FILTER	Aluminum and plastic	2	UUT-1
PD32	ATLAS COPCO	DRYER INLET FILTER	Aluminum and plastic	3	Interpolated
PD44	ATLAS COPCO	DRYER INLET FILTER	Aluminum and plastic	4	Interpolated
PD60	ATLAS COPCO	DRYER INLET FILTER	Aluminum and plastic	5	Interpolated
PD120	ATLAS COPCO	DRYER INLET FILTER	Aluminum and plastic	9	UUT-2
UD180+	ATLAS COPCO	DRYER INLET FILTER	Aluminum and plastic	10	UUT-3
DDp17	ATLAS COPCO	DRYER OUTLET FILTER	Aluminum and plastic	2	UUT-1
DDp32	ATLAS COPCO	DRYER OUTLET FILTER	Aluminum and plastic	3	Interpolated
DDp44	ATLAS COPCO	DRYER OUTLET FILTER	Aluminum and plastic	4	Interpolated
DDp60	ATLAS COPCO	DRYER OUTLET FILTER	Aluminum and plastic	5	Interpolated
DDp120	ATLAS COPCO	DRYER OUTLET FILTER	Aluminum and plastic	9	UUT-2
DDp150	ATLAS COPCO	DRYER OUTLET FILTER	Aluminum and plastic	10	UUT-3
PD0300	WALKER	DRY PD0300 300 SCFM	Aluminum, carbon steel and plastic	534	UUT-3
EA2-TX	KAHN	DEWPOINT SENSOR	Stainless steel, plastic and ceramic	1	UUT-1, UUT-2, UUT-3
4035-22B	GFG	CO SENSOR	Carbon steel	3	UUT-1, UUT-2, UUT-3

**Table 7- Special Seismic Certification
Certified Subcomponents (Continued)**



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Control Panel					
Model Number	Manufacturer	Description	Material	Weight (lb.)	Unit
CSD362008	HOFFMAN	ENCLOSURE N4/N12	Carbon steel	55	UUT-1
CSD522408	HOFFMAN	ENCLOSURE N4/N12	Carbon steel	107	Interpolated
CSD543608	HOFFMAN	ENCLOSURE N4/N12	Carbon steel	131	UUT-2
4107655954	HAMMOND	ENCLOSURE N4/N12	Carbon steel	131	UUT-3
3VA5225	SIEMENS	DISCONNECT SWITCH	Plastic, aluminum, and copper	2	UUT-3
C0350E2AFB	EATON	TRANSFORMER	Plastic, aluminum, and copper	12	UUT-3
3VA51	SIEMENS	CIRCUIT BREAKER	Plastic, aluminum, and copper	3	UUT-3
3RT20	SIEMENS	CONTACTOR	Plastic, aluminum, and copper	1	UUT-3
3RU21	SIEMENS	OVERLOAD RELAY	Plastic, aluminum, and copper	1	UUT-3
LD2570-3	LITTELFUSE	POWER DISTRIBUTION BLOCK 175A	Aluminum and plastic	1	UUT-1
LD3552-3	LITTELFUSE	POWER DISTRIBUTION BLOCK 335A	Aluminum and plastic	2	Interpolated
1333575	LITTELFUSE	POWER DISTRIBUTION BLOCK 420A	Aluminum and plastic	2	UUT-2
FD	EATON	Disconnect Switch	Plastic, aluminum, and copper	4	UUT2
EHD	EATON	Circuit Breaker	Plastic, aluminum, and copper	3	UUT1/UUT2
XTCE	EATON	Contactors	Plastic, aluminum, and copper	1	UUT1/UUT2
XTOB	EATON	Overload relay	Plastic, aluminum, and copper	1	UUT1/UUT2
WRA/DRAN120	LUTZE	Power Supply	Plastic, aluminum, and copper	2	UUT1/UUT2
1469470000	WEIDMULLER	POWER SUPPLY	Carbon steel and plastic	2	UUT-3
4107651184	ATLAS COPCO	CIRCUIT BOARD PUMP/DRYER 10 I/O	8 Layer polyclad	1	UUT-1, UUT-2, UUT-3
4107651191	ATLAS COPCO	CIRCUIT BOARD MASTER 19 I/O	9 Layer polyclad	1	UUT-1, UUT-2, UUT-3
4107651180	ATLAS COPCO	CIRCUIT BOARD 5.7 DISPLAY	10 Layer polyclad	1	UUT-1, UUT-2, UUT-3
4107651181	ATLAS COPCO	CIRCUIT BOARD 3.5 DISPLAY	11 Layer polyclad	1	UUT-1, UUT-2, UUT-3
4107651542	ATLAS COPCO	LCD 3.5 DISPLAY	Stainless steel and glass	1	UUT-1, UUT-2, UUT-3
4107651543	ATLAS COPCO	LCD 5.7 DISPLAY	Stainless steel and glass	1	UUT-1, UUT-2, UUT-3
SFN 5TX	PHOENIX	ETHERNET SWITCH	Carbon steel and plastic	1	UUT-1, UUT-2, UUT-3
SFN 8TX	PHOENIX	ETHERNET SWITCH	Carbon steel and plastic	1	UUT-2, UUT-3
Tank					
Model Number	Manufacturer	Description	Material	Weight (lb.)	Unit
4107652917	MPV	TANK 80 GALLON	Carbon steel	210	UUT-1
4107652918	MPV	TANK 120 GALLON	Carbon steel	285	Interpolated
4107652919	MPV	TANK 200 GALLON	Carbon steel	465	Interpolated
4107652920	MPV	TANK 240 GALLON	Carbon steel	535	UUT-2, UUT-3

Table 8- Special Seismic Certification
Tested Components



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Product Construction: Powder-coated carbon steel frame

Tested Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 20 HP, desiccant drying system, integral pre-wired control panel, vertical air receiver

Tested Mounting Description: Rigid base mount

UUT	Model Number	Description	Dimensions (inches)			Weight (lb)	S _{DS} (g)	z/h
			Depth	Width	Height			
UUT-1	SAS02D-080V-DCDZ	Single Point Connection (SPC) Duplex, 2HP	47.5	34.5	74.0	1,240	2.0	1.0
							2.5	0.0
UUT-2	SAS15H-240V-HCDZ	Single Point Connection (SPC) Hexaplex, 15HP	138.0	72.0	97.0	5,920	2.0	1.0
							2.5	0.0
UUT-3	SAS20H-240V-HCDZ	Single Point Connection (SPC) Hexaplex, 20HP	138.0	72.0	97.0	6,760	2.0	1.0



Table 5- Special Seismic Certification Nomenclature Chart



DCL Project Numbers: 12052-1201 and 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Product Construction: Powder-coated carbon steel frame

Certified Options: Scroll compressors, variable voltage motors (each motor is 208V to 460V), 2 to 20 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	UUT
A	Technology	SA	Scroll Medical Air Compressor	UUT-1, UUT-2, UUT-3
		LA	Scroll Lab Air compressor	UUT-1, UUT-2, UUT-3
B	System Type	S	Single Point Connection	UUT-1, UUT-2, UUT-3
C	HP	02	2 HP	UUT-1
		03	3 HP	Interpolated
		05	5 HP	Interpolated
		07	7.5 HP	Interpolated
		10	10 HP	Interpolated
		15	15 HP	UUT-2
		20	20 HP	UUT-3
D	System Size	D	Duplex	UUT-1
		T	Triplex	Interpolated
		Q	Quadruplex	Interpolated
		P	Pentaplex	Interpolated
		H	Hexaplex	UUT-2, UUT-3
E	Tank Size	80	80 Gallon (Galvanized)	UUT-1
		120	120 Gallon (Galvanized)	Interpolated
		200	200 Gallon (Galvanized)	Interpolated
		240	240 Gallon (Galvanized)	UUT-2, UUT-3
F	Tank Orientation	V	Vertical	UUT-1, UUT-2, UUT-3
G	Panel Size	D	Duplex Control Panel	UUT-1
		T	Triplex Control Panel	Interpolated
		Q	Quadruplex Control Panel	Interpolated
		P	Pentaplex Control Panel	Interpolated
		H	Hexaplex Control Panel	UUT-2, UUT-3
H	Voltage	A	208/3/60	UUT-3
		B	230/3/60	Interpolated
		C	460/3/60	UUT-1, UUT-2
J	Starting Method	D	Direct on Line	UUT-1, UUT-2, UUT-3
K	Spring type	Z	Seismic Isolation	UUT-1, UUT-2, UUT-3

UNIT UNDER TEST (UUT)

Summary Sheet



UUT-1

DCL Project Number: 12052-1201

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

Mounting: Rigid Base Mount

Product Construction Summary: Powder-coated carbon steel frame

Options / Component 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	S _{DS} (g)	z/h	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	N/A	N/A
		2.5	0.0		N/A	N/A	1.67	0.67



Figure 1. Overall view of UUT-1

Unit Mounting Description:

UUT-1 was base-mounted to the DCL steel shake table interface plate with (4) 1/2-inch diameter Grade 5 bolts. The bolts were spaced approximately 46" on center depth-wise and approximately 32-1/2" on center width-wise. The plate was attached to the shake table with M12 threaded rod, spaced approximately 8-inches on-center.

UNIT UNDER TEST (UUT)

Summary Sheet



UUT-2

DCL Project Number: 12052-1201

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

Mounting: Rigid Base Mount

Product Construction Summary: Powder-coated carbon steel frame

Options / Component 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	S _{DS} (g)	z/h	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	N/A	N/A
		2.5	0.0		N/A	N/A	1.67	0.67



Figure 1. Overall view of UUT-2

Unit Mounting Description:

UUT-2 was base-mounted to the DCL steel shake table interface fixture with (16) 1/2-inch diameter Grade 5 bolts. The bolts were spaced approximately 36", 4-1/2", 28-1/2", 4-1/2", 28-1/2", 4-1/2" and 28-1/2" apart on center depth-wise and approximately 70-1/2" apart on center width-wise. The fixture was attached to the shake table with M12 threaded rod, spaced approximately 8-inches on-center.

UNIT UNDER TEST (UUT)

Summary Sheet



UUT-3

DCL Project Number: 13938-2102

Manufacturer: Atlas Copco Compressors LLC (Beacon Medaes)

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

Model Number: SAS20H-240V-HCDZ

Mounting: Rigid Base Mount

Product Construction Summary: Powder-coated carbon steel frame

Options / Component Summary:

Single Point Connection (SPC) Hexaplex 20 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
6,760	138	72	97	3.5	3.0	12.5

Seismic Test Parameters

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53



Figure 1. Overall view of UUT-3

Unit Mounting Description:

UUT-3 was base-mounted to the test fixture using (16) 5/8" diameter Grade 5 bolts. The bolts were spaced approximately 36", 4-1/2", 28-1/2", 4-1/2", 28-1/2", 4-1/2" and 28-1/2" apart on center depth-wise and approximately 70-1/2" apart on center width-wise. The fixture was attached to the shake table with M12 threaded rod, spaced approximately 8-inches on-center.