VSA Series Air Dryer



User's Guide

Models covered:

VSA1 VSA2 VSA3 VSA4



WARNING:



This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer/birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

1. Welcome & Congratulations

Congratulations on your purchase of a new ALTEC AIR VSA SERIES AIR DRYER! We here at ALTEC AIR are very proud of our products and we are committed to providing you with the best value and service possible.

We are sure that you will be satisfied with your new air dryer and would like to thank you for choosing ALTEC AIR for your air dryer requirements. We also hope that you will continue to choose us for your future air pressure and related products purchases.

For information about this and other ALTEC AIR products, please visit us on the web at

www.AltecAIR.com

2. Introduction

PLEASE READ THIS USER'S GUIDE THOROUGHLY AND SAVE FOR FUTURE REFERENCE.

This User's Guide is provided for the benefit of our customers and contains information and direction specific to the ALTEC AIR VSA SERIES AIR DRYER. It will cover topics including: safety, specifications, installation, testing, maintenance, and troubleshooting issues. Observation and compliance with this User's Guide will ensure the maximum life and efficiency of your air dryer.

This User's Guide should be read thoroughly prior to installing, operating, or servicing the air dryer in order to become familiar with the recommended procedures. This will minimize the possibility of personal injury or damage to the dryer due to improper operation or handling.

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4. Safety & Warning Information

This section contains general information about safety and warning points to consider and adhere to during installation and maintenance of your air dryer. PLEASE READ THIS SECTION BEFORE PERFORMING ANY OPERATION OR PROCEDURE ON YOUR AIR DRYER.

Additional warnings specific to an operation or procedure will also be presented throughout the following sections. These will include the A symbol as well as a label of "<u>WARNING!</u>", "<u>CAUTION!</u>", or "<u>IMPORTANT!</u>". Please be sure to pay close attention for these warnings and read them as you encounter them.



IMPORTANT!

Performing procedures not described in this User's Guide MAY VOID THE WARRANTY.



IMPORTANT!

Appropriate inlet filtration is **MANDATORY** and outlet filtration is recommended for all application.



IMPORTANT!

Each air dryer is sized for specific operating conditions. For **OPTIMUM** performance, the maximum available operating pressure should be maintained across the unit. Any pressure reduction or flow control should be done downstream of the unit. Depending on the magnitude of the change, the size of the desiccant chambers or orifice may need to be changed.



CAUTION!

This Air Dryer does not contain an internal Surge Protection Device (SPD). If an SPD is required it must be supplied by the user.

5. Overview & Specifications

5.1 Product Description

The VSA SERIES AIR DRYER from ALTEC AIR is a compact, regenerative desiccant air dryer designed to dry compressed air to a standard pressure dew point (PDP) of -40°F. Optional performance to -100°F atmospheric dew point (ADP) can be achieved. The pressure-swing adbsorption (PSA) process used is fully automatic and will remain consistent with minimal required periodic maintenance.

5.2 Key Features

- Ultra-dry air to better than -100°F ADP
- Continuous self-regenerative operation
- Outlet flow capacities of 0.1 to 8.8 SCFM at 100 PSIG
- Operating pressures of 30 to 150 PSIG
- Compact, lightweight aluminum construction
- Low power requirements (20 watts)
- Ideal for OEM and point-of-use applications

5.3 VSA Series Air Dryer Models

Model	Inlet Flow	Purge Flow	Outlet Flow
VSA1	2.8	0.8	2.0
VSA2	5.8	1.7	4.1
VSA3	8.0	2.5	5.5
VSA4	12.0	3.2	8.8

Notes:

- 1. Flow capacities in SCFM shown are for standard units operated at 100 PSIG and outlet dew point of -40°F PDP.
- 2. Inlet and outlet flow capacities will be greater at higher pressures and lower at lower pressures.
- 3. Standard inlet conditions are 100°F saturated.

5.4 Technical Specifications

Dimensions	
Dimensions	
VSA1	4.9" D x 8.1" W x 10.1" H
VSA2	4.9" D x 8.1" W x 13.1" H
VSA3	4.9" D x 8.1" W x 16.1" H
VSA4	4.9" D x 8.1" W x 25.1" H
Voltage Requirements	110 - 125 VAC, 50/60 Hz
	OR
	208 - 240 VAC, 50/60 Hz
Power	20 Watts
Electrical Rating	NEMA 1
Solenoid Valve Coil Voltage	53 VDC (115 VAC Dryer)
	106 VDC (240 VAC Dryer)
Operating Ambient	33° to 120° F (5° to 30° C)
Temperature Range	
Inlet Temperature	
_	<120°F Maximum
	<100°F Recommended
Maximum Inlet Pressure	150 PSIG
Cycle Timer	Solid State with memory
Purge Cycle	30 seconds per side continuous
Separation Media	4A Molecular Sieve
Noise Level	<90 dBA
Inlet / Outlet Connections	1/4" NPT Female

6. Installing Your Air Dryer

6.1 Safety & Warning Information



WARNING!

Extreme care should be exercised to avoid contact with live electrical circuits. Many procedures performed during installation, and testing of this air dryer require the equipment to be running, creating a situation for potential electrical shock. It is highly recommended that you remove all jewelry before performing any procedures.



CAUTION!

Proper Installation & Maintenance as outlined in this User's Guide is extremely important to ensure the reliability and longevity of the equipment as well as prevent damage or personal injury.



CAUTION!

Incoming power to dryer must be:

• 110 - 125 VAC, 50/60 Hz

OR

• 208 - 240 VAC, 50/60 Hz

6.2 Before You Begin

- 6.2.1 Carefully inspect the unit, including the shipping box as well as the air dryer, for ANY DAMAGE CAUSED BY SHIPPING. If any shipping damage is detected, it is important to file a claim with the shipping company prior to continuing the installation procedures.
- **6.2.2** Read the entire *Installing Your Air Dryer* section to familiarize yourself with the components and procedures before performing the installation.
- **6.2.3** Verify the installation location of the air dryer:
 - 6.2.3.1 Ambient temperature is between 33° and 120°FNOTE: Higher temperatures will decrease component lifespan.
 - **6.2.3.2** Meets the following power requirements:
 - 110 125 VAC, 50/60 Hz
 - 208 240 VAC, 50/60 Hz

6.3 Included Contents

- (1) VSA SERIES AIR DRYER
- (1) User's Guide (not shown)



6.4 Required Tools and Materials

- 1/4" nut driver
- Needle nose pliers
- 1/4" hex head wrench
- Mounting hardware
- Drill
- Drill bit (varies on mounting hardware)
- Medium adjustable wrench (used only when installing a Complete System)
- Cup of soapy water
- 1-inch paint brush (recommended)

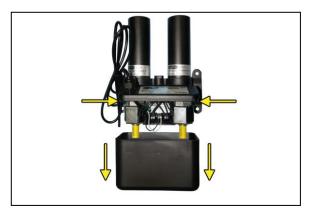
6.5 Installation Steps



IMPORTANT!

To properly operate the Air Dryer, ALTEC AIR recommends that all essential elements and certain options be installed. **SEE SECTION 13.3**

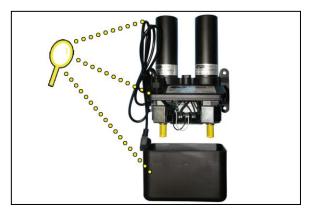
- **6.5.1** Remove the VSA Series Air Dryer from packaging.
- **6.5.2** With a 1/4" nut driver loosen screws and remove Manifold Cover.

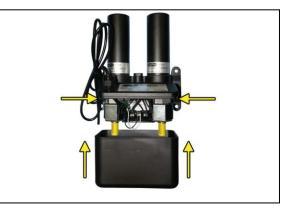


6.5.3 Check for loose parts or wiring.

NOTE: If ANY SHIPPING DAMAGE is detected, file a claim with the shipping company prior to continuing the installation procedures.

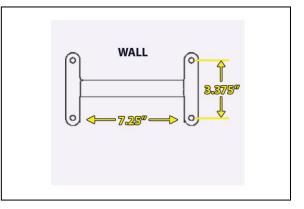
6.5.4 Re-install Manifold Cover.





- **6.5.5** Place the VSA Series Air Dryer at the operating location.
- **6.5.6** Pre-drill holes in wall, and install wall mount hardware.

NOTE: Wall mounting hardware installation instructions may vary.

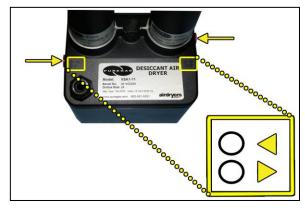


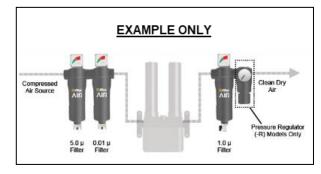
6.5.7 With needle nose pliers remove and discard red plugs. With hex head wrench, arrange port plugs for desired flow direction.

NOTE: The arrows on the top surface of the manifold

indicate the inlet and outlet ports on both sides.

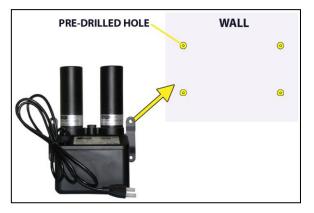
6.5.8 Install Inlet and Outlet fittings or assemblies to Air Dryer.

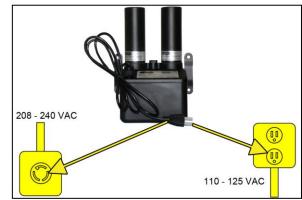




CAUTION: When installing a typical Complete Air Dryer, or Point-of-Use System, Altec AIR recommends assembling ALL components before mounting the VSA Series Air Dryer.

- **6.5.9** Mount VSA to wall using secure wall mounting hardware.
- **6.5.10** Connect the air supply line to the Inlet and Outlet Port.
- **6.5.11** Plug in the Power Cord to an outlet:
 - 110 -125 VAC power outlet
 - 208 -240 VAC power outlet





NOTE: Customer must supply a 240 VAC plug to match their receptacle.

6.5.12 Check for air leaks:

NOTE: This is a general procedure that can be applied to any fitting or hose that has air pressure in it.

- **6.5.12.1** Listen for any 'hissing' sounds which may indicate a fitting or hose air leak.
- **6.5.12.2** Use a 1-inch paint brush to dab soapy water on the air fitting or hose connection to be tested.

If air bubbles appear at the connection, this indicates that air is leaking from the connection.



If any leaks are detected, take steps to seal them off (as necessary):

- *Tighten the fitting*
- *Re-connect the hose end*
- *Replace the fitting / hose / component*

6.5.13 REGISTER YOUR AIR DRYER. See section 7. for details.

6.6 Installation Checklist

- □ No shipping damage was detected.
- □ Wall mounted properly.
- \Box No air leaks are present.

7. Registering Your VSA Series Air Dryer

Please take a moment to register your ALTEC AIR VSA SERIES AIR DRYER. Registering is necessary to activate the Limited Warranty on your product. Once you register, you are eligible to receive free technical support, as well as updates concerning your ALTEC AIR products.

Register Online at <u>www.AltecAIR.com/registration</u>

Or by Phone 1-800-521-5351 (option 2)

Have the following information available:

Model #:	Serial #:			
Company Name:	Location Name:			
Shipping Address:				
City:	State:	Zip Code:		
Contact Name:	Phone #: () - ext.		
Email:				

8. Testing Your Air Dryer

8.1 Safety & Warning Information



WARNING!

Extreme care should be exercised to avoid contact with live electrical circuits. It is highly recommended that you remove all jewelry before performing any procedures.



WARNING!

Extreme care should be exercised to avoid contact with live electrical circuits. Many procedures performed during installation, testing, and maintenance of this air dryer require the equipment to be running, creating a situation for potential electrical shock. It is highly recommended that you remove all jewelry before performing any procedures.



CAUTION!

Observe precautions for handling Electrostatic Sensitive Devices.



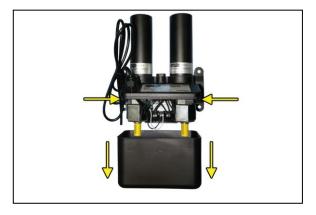
CAUTION!

Depressurizing the air dryer may be necessary before performing certain procedures.

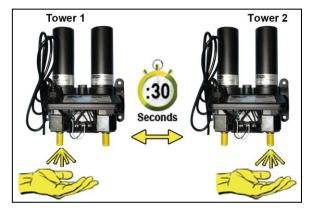
8.2 Testing Consistent Dryer Cycling

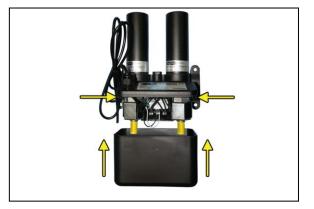
8.2.1 Remove the Manifold

Cover



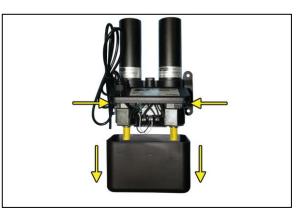
- **8.2.2** Place your hand beneath the purge fittings to feel for purging air. Air should:
 - Purge from Tower 1 side
 - Purge from Tower 2 side
 30 Seconds later
 - Purge from Tower 1 side
 30 Seconds later
 - ...and so on.
- **8.2.3** Reinstall the Manifold Cover.





8.3 Measuring Incoming Voltage

8.3.1 Remove the Manifold Cover.



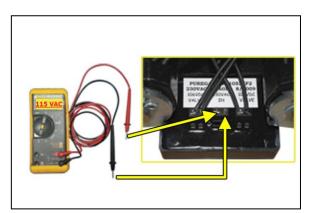
8.3.2 Locate the Cycle Timer.

The timer has three (3) sets of terminals (from left-to-right): "VALVE" – Left solenoid "IN" – Incoming power "VALVE" – Right solenoid

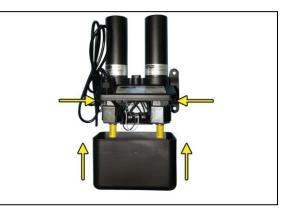
8.3.3 Use a Voltmeter to measure the AC voltage across the "**IN**" terminals.

The voltage should measure:

- 110 125 VAC
- 208 240 VAC

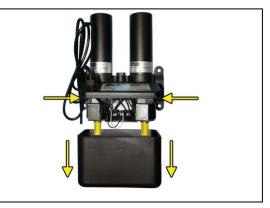


If the incoming voltage measures less than indicated above, it is recommended that steps be taken at your facility to increase the incoming power to the recommended levels. **8.3.4** Reinstall the Manifold Cover.



8.4 Measuring Solenoid Voltage

8.4.1 Remove the Manifold Cover.



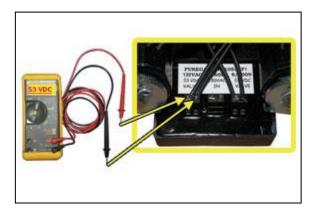
8.4.2 Locate the Cycle Timer.

The timer has three (3) sets of terminals (from left-to-right): "VALVE" – Left solenoid "IN" – Incoming power "VALVE" – Right solenoid



8.4.3 Use a Voltmeter to measure the DC voltage across each set of "VALVE" terminals.

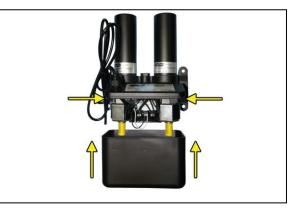
Continue to measure for up to 45 seconds if no voltage is initially measured.



The voltage should measure:

- **53 VDC** for the 115 VAC models.
- **106 VDC** for the 240 VAC models.

8.4.4 Reinstall the Manifold Cover.



If the voltage does not measure as indicated above, verify incoming power section 8.3 or is an indication that the Cycle Timer is defective and should be replaced. See sections 10.1 for part detail and 15.2 for ordering information.

8.5 Testing Air Fittings & Hoses for Leaks

NOTE: This is a general procedure that can be applied to any fitting or hose that has air pressure in it.

- **8.5.1** Listen for any 'hissing' sounds which may indicate a fitting or hose air leak.
- **8.5.2** Use a 1-inch paint brush to dab soapy water on the air fitting or hose connection to be tested.

If air bubbles appear at the connection, this indicates that air is leaking from the connection.



If any leaks are detected, take steps to seal them off (as necessary):

- Tighten the fitting
- Re-connect the hose end
- Replace the fitting / hose / component

9. Maintaining Your Dryer

In order to ensure that your VSA Air Dryer continues to operate efficiently and reliably, ALTEC AIR recommends performing the following maintenance procedures at the specified Six Month and Two Year intervals.

It is also recommended that you print out the included *Maintenance* log sheet (*section 16*. and record all completed maintenance for historical tracking and reference purposes.

The log sheet includes a Section reference column which indicates the User's Guide section containing the information about the specific procedure. Please refer to these sections for detailed procedural information.

NOTE: When operating at higher ambient temperatures, it is recommended that maintenance be performed more frequently.

9.1 Safety & Warning Information



WARNING!

Extreme care should be exercised to avoid contact with live electrical circuits. Many procedures performed during installation, operation, testing, and maintenance of this air dryer require the equipment to be running, creating a situation for potential electrical shock. It is highly recommended that you remove all jewelry before performing any procedures.



CAUTION!

SHUT DOWN IMMEDIATELY FOR REPAIRS if the air dryer shows any evidence of excessive noise.



CAUTION!

Observe precautions for handling Electrostatic Sensitive Devices.



IMPORTANT!

After performing any maintenance, always soap test pressure fittings to check for air leaks. Also, check for any loose or disconnected wiring.

9.2 Maintenance Log Sheet

MODEL: SERIAL NUMBER: _____ DATE INSTALLED:

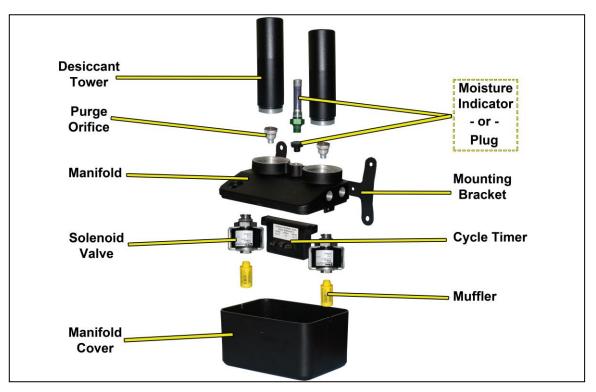
LOCATION NAME: _____ ADDRESS:

			Maintena	nce Interva	l (Months)
Procedure	Section	6	12	18	24	30
Visually Inspect VSA for Loose Wiring or	6.5.3		п			
Hardware	0.3.3					
Test Consistent Dryer Cycling	8.2					
Measure & Record Incoming Voltage	8.3					
Test Cycle Timer Voltage	8.4					
Install New Desiccant Towers	10.1					
Install air Dryer Maintenance Kit	10.1					
Maintenance Pe	rformed by:		*****			
Date of M	laintenance:					
			1			1

NOTE: COPY OR PRINT THIS PAGE AND KEEP IT WITH THE AIR DRYER

10. Replacement Parts & Accessories

10.1 Parts



Description	Part N	umber	Quantity	Recommend	
Description	115VAC 240VAC		Quantity	Spare	
VSA1 Desiccant Tower - 6"	51	51305			
VSA2 Desiccant Tower - 9"	51306		2		
VSA3 Desiccant Tower -12"	51307		2	✓ (2)	
VSA4 Desiccant Tower - 20"	51	417			
*Purge Orifice (specify #)	51315-XX		2		
Manifold	P300	P300495P			
Solenoid Valve	P400589DC1 P400589DC2		2	✓ (2)	
Manifold Cover	P3005052		1		
Plug (standard)	P07559		1		
Moisture Indicator (optional)	51308		1		
Mounting Bracket	P01	P010437			
Cycle Timer	P010530F1 P010530F2		1	✓ (1)	
Muffler	10040		2	✓ (2)	

*Notes: The orifice number is located on the serial decal and stamped on the top of the purge orifice.

10.2 Accessories for Your Air Dryer

	Description	Part Number
	Dryer Maintenance Kit Includes solenoids, check ball, check springs, and o-rings.	51325
Compared No Sawing Sawing Colling Sawing Colling Sa	Filter Kit with Regulator Includes 5.0 micron coalescing pre-filter, 0.01 micron coalescing pre-filter, and 1.0 micron particulate post-filter, gauge, and regulator.	AD21-VSA14-R
Corpesses Ar Borrow 60 J 00 J J Filter Titor	Filter Kit Includes 5.0 micron coalescing pre-filter, 0.01 micron coalescing pre-filter, and 1.0 micron particulate post-filter.	AD21-VSA14
	Regulator	R18-03-F0G0
	Moisture Indicator Includes o-ring	51308
	Surge Tank Includes air tank, pipe plugs, and pressure gauge.	P07994
	Sound Suppression Kit Includes fittings and hardware to connect to the VSA.	P08084
	VSA1-3 Enclosure Kit	51985
Notes	VSA4 Enclosure Kit	51934

10.3 Ordering Parts from ALTEC AIR



IMPORTANT!

Instruction for the replacement of individual listed components goes beyond the scope of this User's Guide and will not be covered. Please refer to the information included with the specific replacement part for this instruction.

Once you have identified your required parts and accessories, contact the ALTEC AIR Inside Sales / Service department to order:

(800) 700-8537 Fax – (303) 465-9294 <u>sales@airdryers.com</u>

11. Service & Repair

11.1 Services Offered by the Altec AIR Facility

- Heatless Dryer Rebuild
 - Replace desiccant, o-rings, check valves, springs, and complete solenoid assembly
 - Test proper component operation
- Desiccant Tower Repack
 - Clean out tower and replace desiccant, filter, and o-ring
- Complete Dryer Repair

11.2 Initiating a Service Transaction

- Contact our Parts & Service Department at **1-800-521-5351 (option 3)** to obtain a Return Authorization (RA) number.
- Carefully package the item(s) to be returned.
- Mark the Return Authorization (RA) number on the outside of the shipping container.
- Include the main address and phone number of the individual to contact for related inquiry and follow-up information.
- Include the purchase order number.

12. Troubleshooting Your Air Dryer

12.1 Before You Call ALTEC AIR

PLEASE READ THIS SECTION FIRST. It is important that you use the following sections in order to diagnose and attempt to fix the problem with your air dryer before placing a call to ALTEC AIR Technical Support.

This troubleshooting guide is intended to simplify the isolation of problems, present possible causes, provide test procedures for verification, and suggest corrective actions to restore the air dryer back to normal operation. Each section begins with the most likely cause(s) of the issue. Otherwise, they start from the simplest possibilities and progress to more complicated ones.

This troubleshooting guide is designed to be easy to follow and very effective when used properly. It is suggested to always start at the beginning of the specific problem section and continue in sequence, following the procedures indicated.

12.2 Safety & Warning Information



WARNING!

For your safety, all the information in this User's Guide must be followed to minimize the risk of electrical shock, and prevent property damage or personal injury.



WARNING!

Extreme care should be exercised to avoid contact with live electrical circuits. Many procedures performed during installation and testing of this air dryer require the equipment to be running, creating a situation for potential electrical shock. It is highly recommended that you remove all jewelry before performing any procedures.



IMPORTANT!

Performing procedures not described in this User's Guide or installing components not supplied by ALTEC AIR is NOT RECOMMENDED AND MAY VOID THE WARRANTY.

12.3 Restricted Pressure or Flow

Possible Cause	Check	Corrective Action
No power to unit	Verify power is supplied	Troubleshoot facility
	to the unit (section	power supply to air
	6.5.11)	dryer
Dirty or obstructed inlet	Verify inlet air filters are	Replace
filter	clean	
Inlet and outlet ports	Verify ports for proper	Reconnect properly
reversed	orientation (see section	
	6.5.7)	

12.4 Excessive Purge

Possible Cause	Check	Corrective Action
Purge orifice(s) incorrect	Measure purge flow with flow meter, contact Altec AIR for correct flow.	Install correct purge orifice(s).
Solenoid coil burned out	Test for consistent dryer cycle, and verify voltage (see section 8.2)	Replace coil

12.5 Delivers Wet Air

Possible Cause	Check	Corrective Action
High inlet temperature	Verify inlet temperature	Reduce inlet air
	is below 100°F.	temperature.
Air flow through dryer	Verify outlet flow does	Reduce air usage
in excess of rated	not exceed air dryer's	downstream.
capacity	rated flow	
Low inlet pressure	Verify inlet pressure	Increase pressure, or
	meets air dryer's rated	replace filters.
	pressure, or is not	
	restricted.	
	(section 12.3)	
Purge orifice plugged.	Measure purge flow	Replace orifice (section
	with flow meter, contact	10.1)
	Altec AIR for correct	
	flow.	
Solenoid coil burned out	Listen for proper purge	Replace coil (section
	cycle, and verify voltage	10.1)
	(see section 8.2)	
Contamination of	Remove tower and	If disc is depressed more
desiccant	depress perforated disc.	than 1/4" replace towers
		(section 10.1)
Defective timer	Verify timing cycle	Replace timer (section
	(section 8.4)	10.1)
Purge flow restricted	Verify mufflers for	Replace mufflers
	excessive back pressure	(section 10.1)
	(section 8.2)	

12.6 Contacting ALTEC AIR Technical Support

Please read the *Before You Call ALTEC AIR* section (12.1)

Once you have exhausted all of the potential problems and solutions covered in the *Troubleshooting Your Dryer* section, and you still require further assistance to correct a problem, contact ALTEC AIR Technical Support:

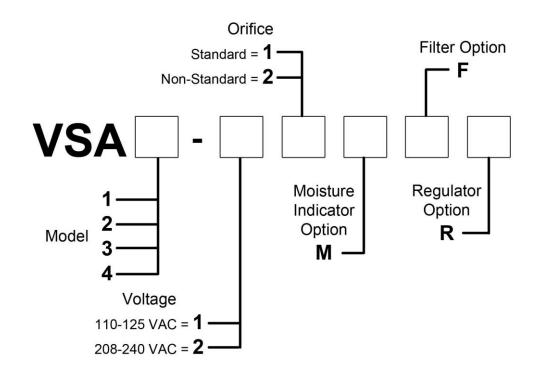
(800) 521-5351 (option 1)

Have the following information available:

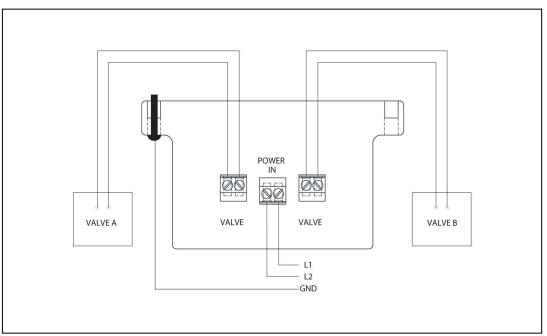
Trouble Ticket # (if following	-up on a pre	vious call):	
Technician Name:		Phone #:	
Model #:		Serial #:	
Company Name:		Location Name:	
City:	State:		

13. Appendix

13.1 Model Number Coding

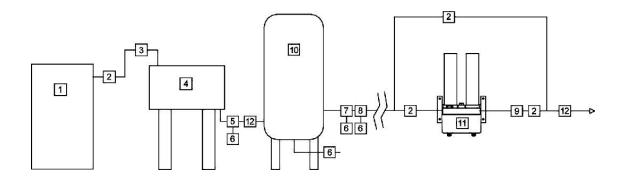


13.2 Wiring Diagram



13.3 Recommended Dryer Installation

13.3.1 Typical Point-of-Use



Ref.#	Description	Ref.#	Description
1	Compressor	7	Pre-Filter, 5.0 Micron Coalescing
2	Shut-off Valve	8	Pre-Filter, 0.01 Micron Coalescing
3	Flex Connector	9	Post-Filter Regulator Assembly
4	Aftercooler	10	Storage Tank
5	Liquid Separator	11	VSA Series Air Dryer
6	Drain Valve	12	Check Valve

14. Limited Warranty Agreement

ALTEC AIR products carry a one (1) year warranty against defective workmanship and material. This period starts at date of shipment. Not included are the components subject to normal replacement during a year's operating time.

No claims for labor in replacing defective parts or for consequential damages will be allowed. Replacement parts will be invoiced in the regular way, with invoices subject to adjustment after the parts claimed defective are examined at our factory. In addition, no material or parts will be accepted at our factory for in-warranty repairs or credit without previous authorization from ALTEC AIR.

Responsibility for damages incurred in transit will be borne by the user and the user in turn should file any damage claim against the carrier. All warranty items are F.O.B. Broomfield, Colorado. Freight charges are the responsibility of the user.

This warranty shall not apply to any ALTEC AIR product which shall have been repaired or altered in any way by anyone other than ALTEC AIR or authorized personnel so as to affect, in our judgment, its proper functioning or reliability, neither will it apply to any product which has been subject to misuse, negligence, or accident. The installation of unauthorized non ALTEC AIR parts will void the warranty on those ALTEC AIR products.

Registration Reminder

If you haven't already done so, please take a moment to register your ALTEC AIR VSA SERIES AIR DRYER. **Registering is necessary to activate this Limited Warranty on your product.** Once you register, you are eligible to receive free technical support, as well as updates concerning your ALTEC AIR products.

See Section 7. for details on Registering Your Air Dryer.

15. Contacting ALTEC AIR 15.1 General ALTEC AIR, LLC 226A Commerce Street Broomfield, Colorado 80020 (800) 700-8537 (303) 465-3063 Fax – (303) 465-9294 info@airdryers.com www.airdryers.com 15.2 Sales (800) 700-8537 Fax – (303) 465-9294 sales@airdryers.com 15.3 Service

(800) 521-5351 (**option 3**) Fax – (303) 657-2205

15.4 Technical Support

(800) 521-5351 (option 1)

DON'T FORGET TO REGISTER YOUR VSA AIR DRYER!

See Section 7. for details on Registering Your Air Dryer.

16. Maintenance Log Sheet

MODEL:	LOCATION NAME:
SERIAL NUMBER:	ADDRESS:
DATE INSTALLED:	

		Maintenance Interval (Months)				
Procedure	Section	6	12	18	24	30
Visually Inspect VSA for Loose Wiring or	6.5.3					
Hardware						
Test Consistent Dryer Cycling	8.2					
Measure & Record Incoming Voltage	8.3					
Test Cycle Timer Voltage	8.4					
Install New Desiccant Towers	10.1					
Install air Dryer Maintenance Kit	10.1					
Maintenance Performed by:						
Date of Maintenance:						

NOTE: COPY OR PRINT THIS PAGE AND KEEP IT WITH THE AIR DRYER

17. Notes