BD4200W Series Air Dryer



User's Guide

Models covered:

BD4200W BD4200WLP BD4202W BD4202WLP



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 RFS BD4200W Series Air Dryer! We here at RFS 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 RFS for your air dryer requirements. We also hope that you will continue to choose us for your future air pressure and related product purchases.

For information about this and other RFS products, please visit us on the web at:

www.rfsworld.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 RFS BD4200W Series Air Dryer. Models covered include BD4200W, BD4200WLP, BD4202W, and BD4202WLP. It will cover topics including: safety, specifications, installation, registration, operation, testing, maintenance, replacement parts, service, 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 unit 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, operation, 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.



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, 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.



WARNING!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some of these components to become hot when in operation or standby.



WARNING!

High Noise. RFS air dryers are meant to be installed in an unattended area.



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!

Depressurizing the air dryer may be necessary before performing certain procedures. **NEVER** remove pressure sensing tubes from the Control Board without depressurizing the air dryer first, or **damage to the Control Board will occur.**



CAUTION!

Incoming power to dryer must be:

- 15 amp service recommended
- 110 125 VAC, 50/60 Hz for BD4200W & BD4200WLP models
- 220 230 VAC, 50/60 Hz, 1 Phase for BD4202W & BD4202WLP models



IMPORTANT!

Performing routine maintenance as outlined in the *Maintaining Your Dryer* section will ensure optimal performance over the lifecycle of your air dryer.



IMPORTANT!

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



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.



CAUTION!

Observe precautions for handling Electrostatic Sensitive Devices.



IMPORTANT!

Installation of RFS air dryers are intended for network

telecommunication facilities (non-customer premises) only.

5. Overview & Specifications

5.1 Product Description

The BD4200W Series Air Dryer from RFS is designed to intake wet ambient air and remove the moisture for delivery to applications requiring a constant, on-demand source of dry, pressurized air. This process is fully automatic and will remain consistent with minimal required periodic maintenance. This dryer is designed specifically for indoor use.

The BD4200W Series Air Dryer employs a fully digital operating platform offering the most accurate readings of dryer variables, removable access panels allowing easier access for adjustment and maintenance, and ultra quiet compressors with an industry leading maintenance interval of 8,000 hours.

5.2 Key Features

- LCD display of all operating parameters
- Solid state microprocessor-based circuitry eliminates costly maintenance
- Accurate humidity sensing within $\pm 0.1\%$ RH
- Quietest dryer on the market
- Pressure Ranges from 5 20 PSIG (35-138 KPa) or 0.3 10 PSIG (2-69 KPa) (LP Models)
- Remote alarm reset capabilities
- SNMP communication compatible
- Remote access through HTML interface
- Oil-less compressor with 8,000 hour maintenance interval

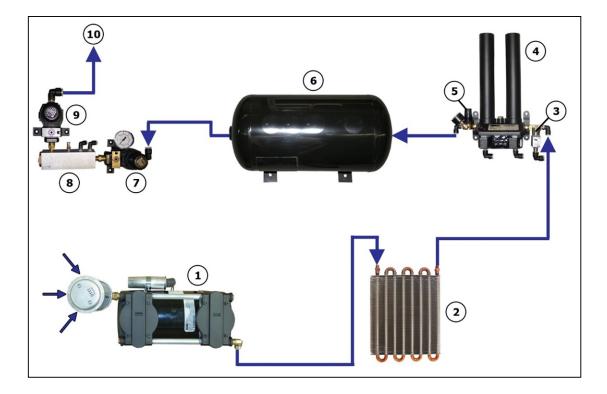
5.3 BD4200W Series Air Dryer Models

Model	Description
BD4200W	110 - 125 VAC, Standard Pressure 5 - 20 PSIG (35-138 KPa)
BD4200WLP	110 - 125 VAC, Low Pressure 0.3 - 10 PSIG (2-69 KPa)
BD4202W	220 - 230 VAC, Standard Pressure 5 - 20 PSIG (35-138 KPa)
BD4202WLP	220 - 230 VAC , Low Pressure 0.3 - 10 PSIG (2-69 KPa)

5.4 Technical Specifications

	BD4200W	BD4200WLP	BD4202W	BD4202WLP
Output Capacity	Normal: 2,600 SCFD Maximum: 4,200 SCFD (74 SCMD Maximum 119 SCMD)			
Power Requirements	110 - 125 VAC, 1 Phase, 50 / 60 Hz		220 - 230 VAC, 1 Phase, 50 / 60 Hz	
Running Amps	8.6 Amps (15 Amp service recommended)		3.9 Amps (15 Amp service recommended)	
Outlet Pressure Range	5 – 20 PSIG (35-138 KPa)	0.3 – 10 PSIG (2-69 KPa)	5 – 20 PSIG (35-138 KPa)	0.3 – 10 PSIG (2-69 KPa)
Outlet Air Humidity	Less than 2% RH			
Compressor	2-cylinder, 3/4 HP, oil-less type compressor			
Drying Method	Heatless Desiccant			
Operating Temperature Range	40° to 85° F (optimal) 5° to 30° C (optimal)			
Noise Level:	63 dBA @ 3'			
Heat Dissipation	3,500 BTU / hr 2,900 BTU		3TU / hr	
Alarms	Standard alarms – complete readings of all critical measurement points, individual alarm indication display			
Monitoring	Web Browser and SNMP compatible communications via Network IP			
Outlet Connections	1/2" NPT Female			
Dimensions	21" D x 25.25" W x 49" H			
Net / Shipping Weight	222 lbs / 278 lbs 100 kgs/126 kgs			

5.5 Dryer Function Overview



#	Component	Description
1	Compressor	Compresses drawn in ambient air.
2	Precooler	Cools compressed air prior to drying function.
3	Unloader Valve	Relieves excess Compressor head pressure.
4	Heatless Dryer	Removes moisture from compressed air.
5	Capacity Control Valve	Regulates System Pressure (50 PSI/345 KPa) and
		prevents air from bleeding back through the
		Heatless Dryer.
6	Air Tank	Stores dry compressed air.
7	Static Pressure Regulator	Regulates the Static Pressure (20 PSI/138 KPa)
		and maintains constant pressure on the Combo
		Block for accurate Flow measuring.
8	Combo Block	Measures the Flow of compressed air and houses
		the Humitter.
9	Outlet Pressure Regulator	Regulates the Outlet Pressure.
10	Pressure Outlet	Outputs the pressure set by the Outlet Pressure
		Regulator.

6. Installing Your Dryer

6.1 Safety & Warning Information



WARNING!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some of these components to become hot when in operation or standby.



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.



WARNING!

High Noise. RFS air dryers are meant to be installed in an unattended area.



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!

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



IMPORTANT!

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



IMPORTANT!

Installation of RFS air dryers are intended for network telecommunication facilities (non-customer premises) only.

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 Dryer* section to familiarize yourself with the components and procedures before performing the air dryer installation.
- **6.2.3** Verify the installation location of the air dryer:
 - **6.2.3.1** Well ventilated and free from abrasive dust or chemicals.
 - **6.2.3.2** Ambient temperature is between 40° and 85° F (optimal).

NOTE: Higher temperatures will decrease component lifespan.

- **6.2.3.3** Meets the following power requirements:
 - 110 125 VAC for BD4200W and BD4200WLP models
 - 220 230 VAC, 1 Phase for BD4202W and BD4202WLP models
 - All models require 50/60 Hz and minimum 15 amp service.
- **6.2.4** Notify the alarm center of the installation and potential for alarms during the process (as necessary).

6.3 Included Contents

- (1) BD4200W Series Air Dryer
- (1) Installation Guide (not shown)

Package located inside the dryer:

- (2) Alarm Connector
- (1) User's Guide (not shown)



(1) Compressor Connector Tool

(1) Purge Muffler

(1) Power Cord

6.4 Required Tools and Materials

- Large adjustable wrench
- Medium adjustable wrench
- 7/16" wrench
- Band cutters or snips

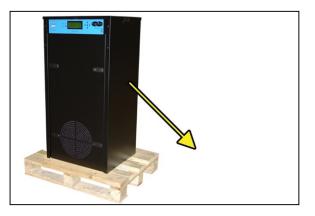
- Pipe dope or pipe thread tape
- Cup of soapy water
- 1-inch paint brush (recommended)

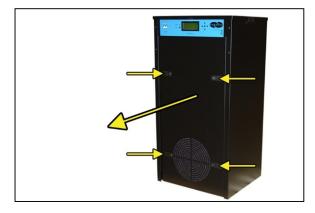
6.5 Installation Steps

6.5.1 Remove all shipping materials.

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

- **6.5.2** Place the dryer at the operating location.
- **6.5.3** Remove the Front Panel.

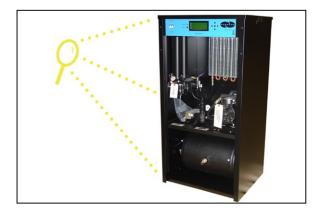




6.5.4 Check for loose parts, hoses, or wiring.

NOTE: If ANY SHIPPING

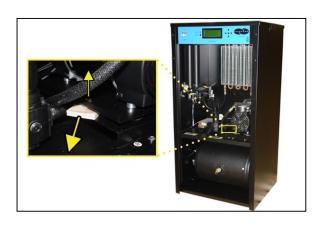
DAMAGE is detected, file a claim with the shipping company prior to continuing the installation procedures.

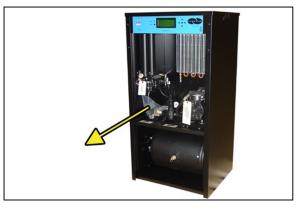


6.5.5 Using a 7/16" wrench, remove the shipping block from under the Compressor Plate.

Discard block and bolt.

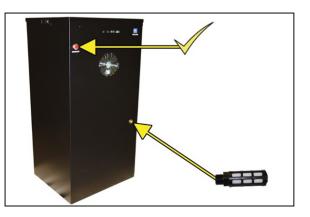
6.5.6 Remove the ship-loose contents package.

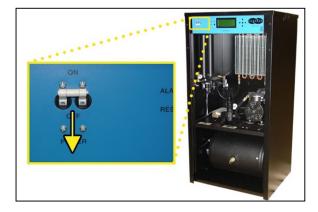




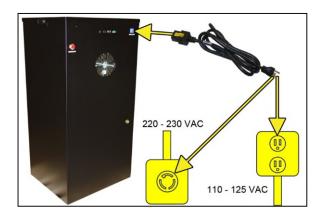
On BACK of dryer:

- **6.5.7** Verify that the Red Orifice Plug is still installed where shown.
- **6.5.8** Install the Purge Muffler (optional).
- **6.5.9** Verify that the dryer is powered **OFF**.





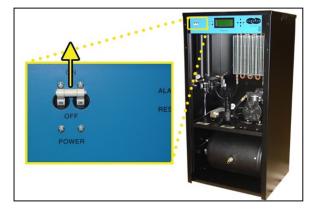
- **6.5.10** Plug the AC Power Cord into the dryer.
- **6.5.11** Plug in or wire the Power Cord to an outlet:
 - 110 125 VAC power outlet for BD4200W and BD4200WLP model



 220 – 230 VAC, 1 phase, power outlet for BD4202W & BD4202WLP models.

6.5.12 Power the dryer **ON**.

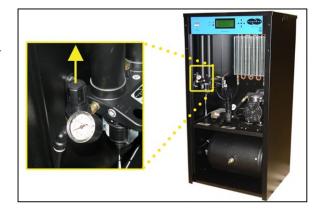
NOTE: The Compressor and Heatless Dryer will start, creating air flow through the Red Orifice Plug.



6.5.13 Set the System Pressure:

With Compressor running:

6.5.13.1 Pull the Capacity Control Valve knob out.



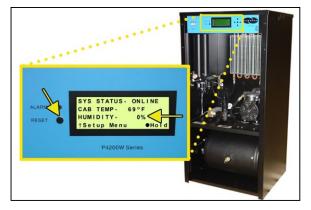
- 6.5.13.2 Turn the knob until the reading on the Pressure Gauge is 50PSI (345 KPa).
- **6.5.13.3** Push the knob in to lock.

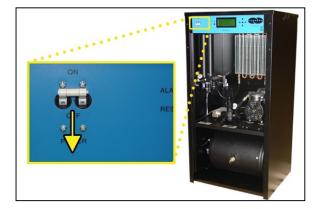


6.5.14 Let the dryer run until the Humidity drops below 2% (may take up to 15 minutes).

NOTE: Press RESET if the dryer goes into SHUTDOWN.

6.5.15 Power the dryer OFF.





6.5.16 Remove the Red Orifice Plug from the Outlet Pressure Port.

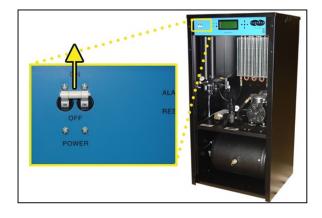
CAUTION: Be careful when removing plug. System may be pressurized.



6.5.17 Connect the air supply line to the Outlet Pressure Port.

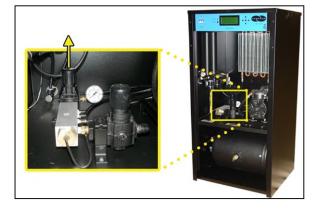
RFS recommends using Installation Kit **P011752** *to connect your air dryer to the air supply line (See section 11.6 for detail).*

6.5.18 Power the dryer **ON**.

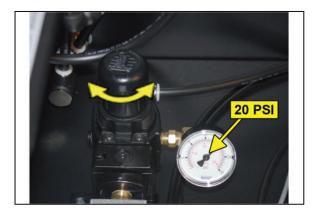


6.5.19 Set the Static Pressure:

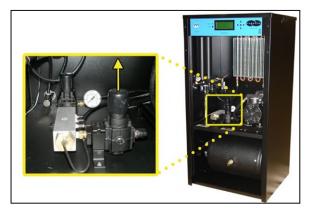
6.5.19.1 Pull Static Pressure Regulator knob out.



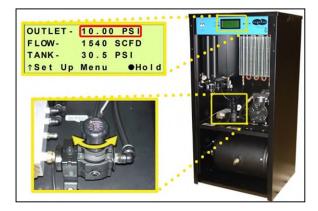
- 6.5.19.2 Turn knob until the reading on the Pressure Gauge is 20 PSI (138 KPa).
- **6.5.19.3** Push knob in to lock.



- **6.5.20** Set the Outlet Pressure:
 - **6.5.20.1** Pull the Outlet Pressure Regulator knob out or loosen the retaining nut (LP models).



- 6.5.20.2 Turn knob untilOutlet Pressure(OUTLET) reading is at the desired setting.
- **6.5.20.3** Push knob in to lock or tighten retaining nut (LP models).
- **6.5.21** 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. **DO NOT SOAP TEST THE HUMIDITY SENSOR FITTING. DAMAGE TO THE SENSOR MAY OCCUR.**

With Compressor NOT running:

6.5.21.1 Listen for any 'hissing' sounds which may indicate a fitting or hose air leak.

With Compressor running:

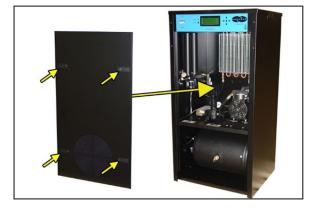
6.5.21.2 Use a 1-inch paint brush to dab soapy water on the air fitting or hose connection to be tested.If air bubbles appear at the connection, this indicates that air is leaking from the connection.



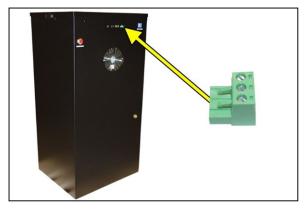
If any leaks are detected, take steps to seal them off (as necessary):

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

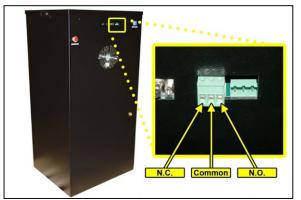
6.5.22 Re-install the Front Panel.



- **6.5.23** Connect a Common Alarm (as required):
 - 6.5.23.1 Insert the included Alarm Connector into either of the two (2) Alarm Ports.



- 6.5.23.2 Wire an external alarm wire pair to the Alarm Connector as required:
 - Common and N.C. for OPEN ON ALARM operation.



• Common and N.O. for CLOSE ON ALARM operation.

6.5.24 REGISTER YOUR DRYER. See section 7 for details.

6.6 Installation Checklist

- □ No shipping damage was detected.
- Dryer location meets the following requirements:
 - o Well ventilated
 - o Free from abrasive dust or chemicals
 - \circ Ambient temperature is between 40° and 85° F (optimal)
- □ Shipping block removed from Compressor Tray.
- □ System Pressure is set to 50 PSI (345 KPa).
- □ Static Pressure is set to 20 PSI (138 KPa).
- \Box No air leaks are present in the system.
- □ No alarms are present on the Display Panel.

7. Registering Your Dryer

Please take a moment to register your RFS BD4200W 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 RFS products.

Register Online at	www.AltecAIRcom/registration
register ennie at	m m m m m m com n cg ib m anon

Or by Phone

1-800-521-5351 (option 2)

Have the following information available:

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

8. Operating Your Dryer

8.1 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.



WARNING!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some of these components to become hot when in operation or standby.



WARNING!

High Noise. RFS air dryers are meant to be installed in an unattended area.



CAUTION!

Observe precautions for handling Electrostatic Sensitive Devices.

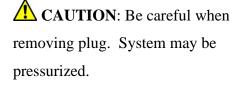


IMPORTANT!

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

8.2 Connecting an Air Line to the Dryer

8.2.1 Remove the Red Orifice Plug from the Outlet Pressure Port.





8.2.2 Connect the air supply line to the Outlet Pressure Port.

RFS recommends using Installation Kit **P011752***to connect your air dryer to the air supply line (See section 11.6 for detail).*

8.3 Powering the Dryer ON & OFF



CAUTION!

Incoming power to dryer must be:

- 15 amp service recommended
- 110 125 VAC, 50/60 Hz for BD4200W & BD4200WLP models
- 220 230 VAC, 50/60 Hz, 1 Phase for BD4202W & BD4202WLP models

8.3.1 Power Circuit Breaker -Controls the main power to the dryer.

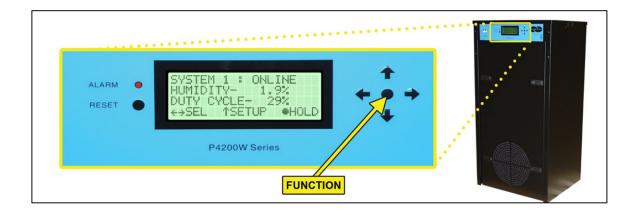


8.4 Using the Front Panel Display



CAUTION!

The Display Screen is covered by a clear protective layer that guards against Electrostatic Discharge (ESD). DO NOT REMOVE THIS LAYER.



- 8.4.1 ALARM LED Indicates an alarm is present.
- **8.4.2 RESET Button** Clears an alarm and allows the system to continue operating.

8.4.3 FUNCTION Button –

- Acts as a **HOLD** button to freeze the current information screen on the display. When pressed again, it will allow the information screens to begin cycling again.
- Acts as an **ENTER** button in the Setup Menu screens.
- **8.4.4** Arrow Buttons Used to access, navigate, and change values in the Setup Menu screens.
- **8.4.5** Contrast Adjust On the back of the LCD there is a knob to ajust the contrast of the display. You may adjust this knob if your display is too light or too dark.



8.4.6 Display Screen - Shows the current dryer readings. Will cycle between the following three (3) information screens (unless the **HOLD** button has been pressed):

SYSTEM	1:04	LINE
HUMIDI	TY1	.9%
DUTY C	YÇLE-	29%
+→>EL	TSETUP	#HULD

SYS STATUS - Running Status of the system:

- **ONLINE** System is Online.
- **SHUTDOWN** System has been shutdown as a result of either a High Humidity or High Cabinet Temperature alarm.
- •

HUMIDITY – Humidity level of the system.

Duty Cycle – Percent of time compressor ran during last cycle.

8.4.6.2 Outlet Screen

OUTLET-	· 10.0 PSI	
FLOW-	2500 SCFD	
TANK-	32.6 PSI	
÷⇒SEL	TSETUP #HOLD)

OUTLET – Outlet Pressure regulated by the Outlet Pressure Regulator.

FLOW – Air Flow Rate.

TANK – Air Tank Pressure - fluctuates between 25 – 50 PSI (172-345 KPa).

8.4.6.3 Compressor Run Time Screen



LAST – How many minutes the Compressor ran during the last Air Tank pressurization cycle.

TOTAL – How many hours the Compressor has run since the last Compressor Total Time Reset.

8.4.6.4 Unit in Standby Screen



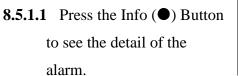
Occurs when the dryer is connected to a Cycle Kit and has been switched to Standby Mode.

8.5 Identifying Dryer Alarms

8.5.1 High Cabinet Temperature Alarm -

Occurs when the temperature in the dryer cabinet (**CAB TEMP**) rises above 115°F for more than one (1) minute. If the temperature rises above 120°F for more than one (1) minute, the air dryer will go into **SHUTDOWN** mode to protect against damage due to overheating.

SHUTDOWN HIGH CAB TEMP 01/14/2019 05:08 #INFO



TEMPER	ATURE:	
COMP-	103.5	iof
CABIN		OF ALR
+→SEL	†SETUP	<pre>#HOLD</pre>

See section 13.12 for	r troubleshooting information.
-----------------------	--------------------------------

8.5.2 High Humidity Alarm –

Occurs when the Humidity level (**HUMIDITY**) rises above the alarm threshold for more than one (1) minute. The air dryer will go into **SHUTDOWN** mode to prevent saturated air from being delivered to the supply line. (Default setting is 10%)

This screen will be displayed, showing the Date and Time that the alarm occurred.

8.5.2.1 Press the Info (●) Button to see the detail of the alarm.



See section 13.10 for troubleshooting information.

8.5.3 Low Outlet Pressure Alarm –

Occurs when the Outlet Pressure (**OUTLET**) drops below the alarm threshold for more than one (1) minute. (Default setting is 0.30 PSI/2.0KPa)

8.5.3.1 Press the Info (●) Button to see the detail of the alarm.

	ALA LOW O	RM UTLET	
01	/14/20		:08 @INFO
OUTL	ET- 5.	8 PSI	LALR
TOUR	- 250	8 PSI 0 SCF 6 PSI TUP	D D

See section 13.7 for troubleshooting information.

8.5.4 High Outlet Pressure Alarm -

Occurs when the Outlet Pressure (**OUTLET**) rises above the alarm threshold for more than one (1) minute. (Default setting is 20.00 PSI/138 KPa)

This screen will be displayed, showing the Date and Time that the alarm occurred.

8.5.4.1 Press the Info (●) Button to see the detail of the alarm.

	ALARM HIGH OUTLET 01/14/2019 05:08 ●INFO
1	OUTLET-12.2 PSI HALR FLOW- 2500 SCFD TANK- 32.6 PSI ↔SEL ↑SETUP ●HOLD

See section 13.5 for troubleshooting information.

8.5.5 High Flow Rate Alarm –

Occurs when the Flow Rate (**FLOW**) rises above the alarm threshold for more than one (1) minute. (Default setting is 2600 SCFD)

8.5.5.1 Press the Info (●) Button to see the detail of the alarm.

					<u>AL</u>	AR	M				
	0	1/		14.	GH /2	91	10 9	ιω Θ5		<u>0</u> 8	,
									#	ΙŅ	ΗL
OI	JT	LF	- T		10	. 8	F	51			
		LE W-		-	10 52	.0	H	S) CF		A	
		LE W-			10 52 32	.226				A	

See section 13.9 for troubleshooting information.

8.5.6 Compressor Last Run Time Alarm –

Occurs when the Compressor Last Run Time (**LAST**) exceeds the alarm threshold during the Air Tank pressurization cycle. (Default setting is 4:00 minutes)

This screen will be displayed, showing the Date and Time that the alarm occurred.

8.5.6.1 Press the Info (●) Button to see the detail of the alarm.

ALARM COMP 1 LAST RUNTIME 01/14/2019 05:08 #INFO SYS 1 COMP RUN TIME: LAST- 09:59 MIN ALR TOTAL- 154 HRS

See section 13.1 for troubleshooting information.

8.5.7 Compressor Total Run Time Alarm –

Occurs when the Compressor has reached an 8,000 Hour maintenance interval. Perform the required maintenance.

₩HOL

8.5.7.1 Press the Info (●) Button to see the detail of the alarm.

ALARM COMP 1 TOTAL RUNTIME 01/14/2019 05:08 #INFO
SYS 1 COMP RUN TIME: LAST- 09:59 MIN TOTAL- 8002 HRS ALR ↔SEL ↑SETUP ●HOLD

See section 10.3 for maintenance information.

8.6 Accessing the Setup Menu

The BD4200W has three (3) Setup sections:

- System Setup Used to set specific values for the system.
- Alarm Setup– Used to set the alarm thresholds for specific readings. Once the threshold is reached (or exceeded) this results in an alarm. Each of these thresholds is factory programmed with a default value. Many of can be modified to levels based upon your specific application.
- Network Setup Used to configure network settings including the IP Address, Subnet Mask, Gateway Address, and Keyword.

NOTE: Reference Appendix Section 14.2 for Limits, Defaults, and Formats.

8.6.1 Press the Up (↑) Arrow Button to access the Setup Menu.



8.6.2 Press the Up (↑) & Down (↓)Arrow Buttons to Select the required menu option.



8.6.3 Press the Enter (●) Button to access the menu selected or press the Left
(←) Arrow Button to Escape to the information screens.

8.7 Using the System Setup Menu

In the Setup Menu:

- 8.7.1 Press the Up (↑) & Down (↓) Arrow Buttons to Select the "<u>S</u>" in System Setup.
- 8.7.2 Press the Enter (●) Button to access System Setup.

8.7.3 Set Alarm Delay (default setting is ON) –
--

8.7.3.1 Press the Enter (●)Button to access the edit screen.

+ESC	↑↓SEL	•ENTER
is ON) –		

SET	ALARM DELAY	
	OFF	
,		
etsc 1	∿Scroll ⊕Enter	•

- 8.7.3.2 Press the Up & Down Arrow Buttons to Select the correct choice ($\underline{O}n$ or $\underline{O}ff$).
- 8.7.3.3 Press the Enter (●) Button to submit the selection.

8.7.3.4 Press the Left (←) &
Right (→) Arrow Buttons to Select the correct confirmation choice (<u>Y</u>es or <u>N</u>o).



- 8.7.3.5 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.7.4** Press the Up (\uparrow) Arrow Button to access the next screen.
- 8.7.5 Set Start Up Delay (default setting is 0 seconds) -
 - 8.7.5.1 Press the Enter (●)Button to access the edit screen.

SET		TUP	DELAY
	00 9	ECON	DS
(DEF	AULT=		
+Esc	†4Sc	roll	Enter

8.7.5.2 Press the Up & Down Arrow Buttons to Select the digit to change.

SET	START	UP D	ELAY
	00 SE	COND	S
(RANGE=	0-1	0)
	†↓S	el '	●Enter

- 8.7.5.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.7.5.4** Press the Enter (\bullet) Button to submit the new setting.
- 8.7.5.5 Press the Left (←) &
 Right (→) Arrow Buttons to
 Select the correct
 confirmation choice (Yes or
 No).



- 8.7.5.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.7.6** Press the Up (\uparrow) Arrow Button to access the next screen.

8.7.7 Reset Compressor Total Time -

- 8.7.7.1 Press the Enter (●)Button to access the reset screen.
- 8.7.7.2 Press the Left (←) &
 Right (→) Arrow Buttons to
 Select the correct
 confirmation choice (Yes or
 No).

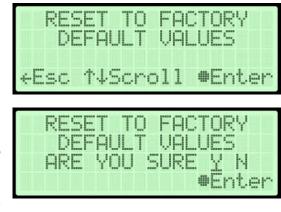




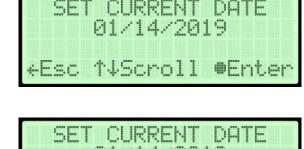
- **8.7.7.3** Press the Enter (●) Button to confirm the selected choice. This will reset the Total Time to zero (0).
- **8.7.8** Press the Up (\uparrow) Arrow Button to access the next screen.

8.7.9 Reset to Factory Default Values –

- 8.7.9.1 Press the Enter (●)Button to access the reset screen.
- 8.7.9.2 Press the Left (←) &
 Right (→) Arrow Buttons to
 Select the correct
 confirmation choice (Yes or
 No).



- **8.7.9.3** Press the Enter (●) Button to confirm the selected choice. This will reset all settings to Factory Default Values (section 14.2).
- **8.7.10** Press the Up (\uparrow) Arrow Button to access the next screen.
- 8.7.11 Set Date -
 - 8.7.11.1 Press the Enter (●)Button to access the edit screen.
 - 8.7.11.2 Press the Left (←) &
 Right (→) Arrow Buttons to Select the digit to change.



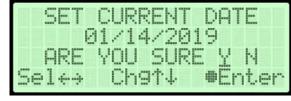
Chg↑↓

●Enter

8.7.11.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.

elee

- **8.7.11.4** Press the Enter (\bullet) Button to submit the new setting.
- 8.7.11.5 Press the Left (←) &
 Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



8.7.11.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.

8.7.12 Set Time –

8.7.12.1 Press the Enter (\bullet) Button to access the edit screen.

- 8.7.12.2 Press the Left (←) & Right (→) Arrow Buttons to Select the digit to change.
- 8.7.12.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.

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					2	0	==	0	4						
÷F	- -	-	4	Ŀ	q	c.	m	n	1	1	1	F	m	t.	pr

SET CURRENT TIME 20:04 Sel↔ Ch9↑↓ **⊕**Enter

8.7.12.4 Press the Enter (●) Button to submit the new setting.

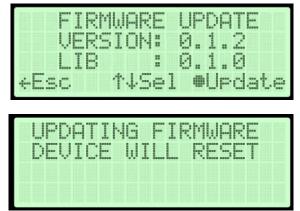
8.7.12.5 Press the Left (←) &
Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



8.7.12.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.

8.7.1 Firmware Update –

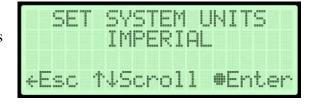
8.7.1.1 Insert a USB drive containing an appropriate ".pgz" firmware file from RFS into the USB



A port on the control board.

- **8.7.1.2** Press the Enter (●) Button to access the Firmware Update Screen.
- **8.7.1.3** Enter the device keyword and press the Enter (●) Button to access the firmware update screen.
- **8.7.1.4** Select the correct file version using the Up (\uparrow) and Down (\downarrow) Buttons
- **8.7.1.5** Press the Enter (\bullet) button to select the file
- **8.7.1.6** Press the Left (\leftarrow) & Right (\rightarrow) Arrow Buttons to Select the correct confirmation choice (<u>Y</u>es or <u>N</u>o) and begin the update.
- 8.7.2 System Units-
 - **8.7.2.1** Press the Enter (\bullet) Button to access the edit screen.
 - 8.7.2.2 Press the Up (↑) andDown (↓) Arrow Buttons

to Change the value.



8.7.2.3 Press the Enter (●)

Button to submit the new setting.

8.7.2.4 Press the Left (←) &

Right (→) Arrow Buttons to Select the correct confirmation choice (<u>Y</u>es or <u>N</u>o).

8.7.2.5 Press the Enter (●) Button to confirm the SET SYSTEM UNITS IMPERIAL ++Sel #Enter SET SYSTEM UNITS IMPERIAL ARE YOU SURE Y N ++Sel #Enter

selected choice. This will lock in the new setting.

8.8 Using the Alarm Setup Menu

In the Setup Menu:

8.8.1 Press the Up (↑) & Down (↓)
Arrow Buttons to Select the "<u>A</u>" in Alarm Setup.



- **8.8.2** Press the Enter (\bullet) Button to access Alarm Setup.
- 8.8.3 Set High Humidity Threshold (default setting is 10%)
 - 8.8.3.1 Press the Enter (●)Button to access the edit screen.
 - 8.8.3.2 Press the Left (←) &
 Right (→) Arrow Buttons to select the digit to change.



- 8.8.3.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.8.3.4** Press the Enter (\bullet) Button when to submit the new setting.
- 8.8.3.5 Press the Left (←) & Right
 (→) Arrow Buttons to Select
 the correct confirmation
 choice (Yes or No).

SE			H]	G	Н	HU	MI	D	[mont]	TΥ		B
	TI	HR	ES	Н	OL	D-	• 1	0		0%		
ŀ	-	RE	5	10	U	SU	RE		Y	N		
SEL		()		Ť	40	hg		-	-	NT	E	R

- **8.8.3.6** Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.8.4** Press the Up (\uparrow) Arrow Button to access the next screen.
- 8.8.5 Set High Outlet Threshold (default setting is 20.00 PSI/138 KPa) -
 - 8.8.5.1 Press the Enter (●)Button to access the edit screen.



8.8.5.2 Press the Left (←) &
Right (→) Arrow Buttons to
Select the digit to change.

9	SE	Т	HI	GH	0	UT	LE	T	
the second second second								PS	Ι
<pre><f< pre=""></f<></pre>									
\leftrightarrow	90	1	↑ ↓	Ch	9	⊕E	int	.er	

- 8.8.5.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- 8.8.5.4 Press the Enter (●)Button when to submit the new setting.

SET	HIGH OUT	LET
THRESH	OLD- 10.	5 PSI
ARE Y	OU SURE	Y_N
+→Sel	ti↓Chg	<pre>#Enter</pre>

- 8.8.5.5 Press the Left (←) & Right (→) Arrow Buttons to Select the correct confirmation choice (<u>Y</u>es or <u>N</u>o).
- 8.8.5.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.8.6** Press the Up (\uparrow) Arrow Button to access the next screen.

8.8.7 Set Low Pressure Threshold (default setting is 0.30 PSI/2.0 KPa) –

8.8.7.1 Press the Enter (●)Button to access the edit screen.

SET LOW OUTLET THRESHOLD- 0.2 PSI (DEFAULT= 0.3 PSI) +Esc 1+Scroll @Enter

S	ET	LO	W	OU	TL	ET	
THRE	SHO	LD		Q	.3	PS	51
(RA	NGE	10000 10000	0.	3-	19	. 9)	1
÷⇒SE		$\uparrow\downarrow$	CH	G	-	ENT	ER

8.8.7.2 Press the Left (←) &
Right (→) Arrow Buttons to Select the digit to change.



- 8.8.7.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.8.7.4** Press the Enter (\bullet) Button when to submit the new setting.
- 8.8.7.5 Press the Left (←) &
 Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).

	SET	LOW	OUT	LET	
THR	ESH	OLD-	0.	3 PS.	Ι
A	RE	YOU S	SURE	YN	
SEL	÷÷	44C	n9	ENTE	ER

- 8.8.7.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.8.8** Press the Up (\uparrow) Arrow Button to access the next screen.
- **8.8.9** Set High Flow Threshold (default setting is 2600 SCFD)
 - 8.8.9.1 Press the Enter (●)Button to access the edit screen.



8.8.9.2 Press the Left (←) &
Right (→) Arrow Buttons to
Select the digit to change.

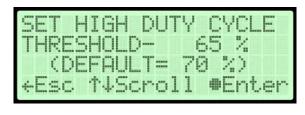
the second se	HIGH	Carl Scott Scott (2.5) and and the second scott
	0LD- 2	
(RAN	GE= 0-	4200)
+→SEL	↑↓CHG	# ENTER

- 8.8.9.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.8.9.4** Press the Enter (\bullet) Button when to submit the new setting.

8.8.9.5 Press the Left (←) &
Right (→) Arrow Buttons to
Select the correct
confirmation choice (Yes or
No).

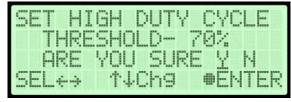


- 8.8.9.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.8.10** Press the Up (\uparrow) Arrow Button to access the next screen.
- 8.8.11 Set Duty Cycle Threshold (default setting is 70%)
 - 8.8.11.1 Press the Enter (●)Button to access the edit screen.
 - 8.8.11.2 Press the Left (←) &
 Right (→) Arrow Buttons to Select the digit to change.





- 8.8.11.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.8.11.4** Press the Enter (\bullet) Button when to submit the new setting.
- 8.8.11.5 Press the Left (←) &
 Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



- **8.8.11.6** Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- 8.8.12 Set Compressor Last Run Threshold (default setting is 4:00 min)
 - 8.8.12.1 Press the Enter (●)Button to access the edit screen.



- 8.8.12.2 Press the Left (←) &
 Right (→) Arrow Buttons to Select the digit to change.
- SET COMP LAST RUN THRESHOLD- 04:00 MIN (RANGE= 00:00-04:00) Sel↔ Ch9↑↓ ⊕Enter
- 8.8.12.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.8.12.4** Press the Enter (\bullet) Button when to submit the new setting.

8.8.12.5 Press the Left (←) &
Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



- 8.8.12.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- **8.8.13** Press the Up (\uparrow) Arrow Button to access the next screen.

8.9 Using the Network Setup Menu

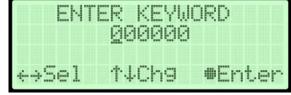
In the Setup Menu:

- 8.9.1 Press the Up (↑) & Down (↓) Arrow Buttons to Select the "<u>N</u>" in Network Setup.
 - **8.9.1.1** Press the Enter (●) Button to access Network Setup.



8.9.2 Enter Keyword (default Keyword is 123456) -

8.9.2.1 Press the Left (←) &
Right (→) Arrow Buttons to Select the digit to change.



- 8.9.2.2 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.9.2.3** Press the Enter (\bullet) Button to submit the Keyword.
- 8.9.3 Set IP Address (default is 192.168.1.100) -
 - 8.9.3.1 Press the Enter (●)Button to access the edit screen.



- 8.9.3.2 Press the Left (←) & Right (→) Arrow Buttons to Select the digit to change.
- 8.9.3.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.

									D								
	1	9	2	 1	6	8		1	0	0		2	41	0			
Se	1	÷	÷		С	h	g	1	4		ų	I +	E	n	t.	e	

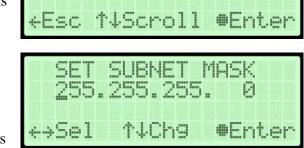
- **8.9.3.4** Press the Enter (\bullet) Button when to submit the new setting.
- 8.9.3.5 Press the Left (←) &
 Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).

the second s	IP ADDRESS
192.	168.100.240
Design month assess chirty parties being	YOU SURE Y N
Sel+>	Ch9↑↓ ●Enter

- 8.9.3.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- 8.9.4 Set Subnet Mask (default is 255.255.255.000) -

8.9.4.1 Press the Enter (\bullet) Button to access the edit screen.

- 8.9.4.2 Press the Left (←) &
 Right (→) Arrow Buttons to Select the digit to change.
- **8.9.4.3** Press the Up (\uparrow) & Down (\downarrow) Arrow Buttons to Change the value of the selected digit.



255.255.

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8.9.4.4 Press the Enter (\bullet) Button when to submit the new setting.

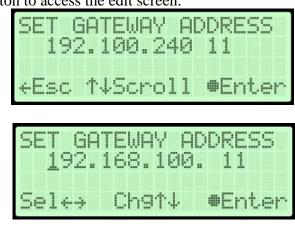
8.9.4.5 Press the Left (←) &
Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



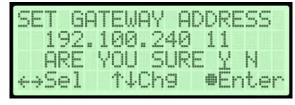
- 8.9.4.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- 8.9.5 Set Gateway Address (default is 000.000.000) -

8.9.5.1 Press the Enter (\bullet) Button to access the edit screen.

8.9.5.2 Press the Left (←) &
Right (→) Arrow Buttons to Select the digit to change.



- 8.9.5.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.
- **8.9.5.4** Press the Enter (\bullet) Button when to submit the new setting.
- 8.9.5.5 Press the Left (←) &
 Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



8.9.5.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.

- 8.9.6 Set SNMP Trap Server (default is 000.000.000) -
 - **8.9.6.1** Press the Enter (\bullet) Button to access the edit screen.
 - 8.9.6.2 Press the Left (←) &
 Right (→) Arrow Buttons to Select the digit to change.

.168.100.

TROP

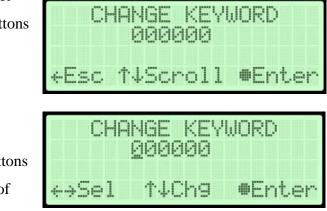
211

- 8.9.6.3 Press the Up (\uparrow) & Down (\downarrow) Arrow Buttons to Change the value of the selected digit.
- **8.9.6.4** Press the Enter (\bullet) Button when to submit the new setting.

8.9.6.5 Press the Left (←) &
Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



- 8.9.6.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.
- 8.9.7 Change Keyword (default is 123456)
 - **8.9.7.1** Press the Enter (\bullet) Button to access the edit screen.
 - 8.9.7.2 Press the Left (←) &
 Right (→) Arrow Buttons to Select the digit to change.
 - 8.9.7.3 Press the Up (↑) &
 Down (↓) Arrow Buttons to Change the value of the selected digit.



- **8.9.7.4** Press the Enter (\bullet) Button when to submit the new setting.
- 8.9.7.5 Press the Left (←) &
 Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).



- 8.9.7.6 Press the Enter (●) Button to confirm the selected choice. This will lock in the new settings
- 8.9.8 Set Monitoring System Address (default is 0)
 - **8.9.8.1** Press the Enter (\bullet) Button to access the edit screen.
 - 8.9.8.2 Press the Up (↑) &Down (↓) Arrow Buttons to Change the value
 - 8.9.8.3 Press the Enter (●)Button when to submit the new setting.
- SET SYSTEM ADDRESS 3 +Esc †4Scroll •Enter SET SYSTEM ADDRESS 3 †4Sel •Enter

8.9.8.4 Press the Left (←) &
Right (→) Arrow Buttons to Select the correct confirmation choice (Yes or No).

SET S	YSTĘM ADDRES	ŝ
ARE	YOU SURE Y N	
	ît↓Sel ® Ênt	er

8.9.8.5 Press the Enter (●) Button to confirm the selected choice. This will lock in the new setting.

8.9.9 View MAC address

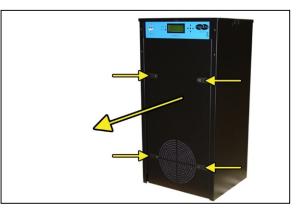
8.9.9.1 The device MAC address can be viewed

from the network setup menu



8.10 Removing the Front Panel

- **8.10.1** Depress the four (4) Locking Latches.
- **8.10.2** Pull the Front Panel away from the dryer.



8.11 Removing the Top Cover

- **8.11.1** Use the included Latch Keys to unlock the two (2) Locking Latches.
- **8.11.2** Depress the two (2) Locking Latches.
- **8.11.3** Lift the Top Cover off of the dryer.

NOTE: There is a wire connected between the Top Cover and the dryer's main frame. This is used for grounding purposes.

8.12 Depressurizing the Dryer

8.12.1 Remove the Front Panel (section 8.10).

8.12.2 Pull the ring handle on the Safety Relief Valve until all air pressure is released.

NOTE: To prevent pressure from building back up, power the dryer **OFF** (section 8.3).

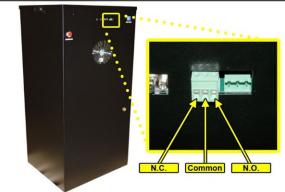
8.12.3 Reinstall the Front Panel (section 8.10).

8.13 Connecting to Common Alarm Socket

8.13.1 Insert the included Alarm Connector into either of the two (2) Alarm Ports.



- **8.13.2** Wire an external alarm wire pair to the Alarm Connector as required:
 - Common and N.C. for OPEN ON ALARM operation.
 - Common and N.O. for
 CLOSE ON ALARM operation.

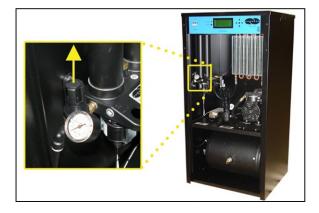


8.14 Setting the System Pressure

8.14.1 Remove the Front Panel (section 8.10).

With Compressor running:

8.14.2 Pull the Capacity Control Valve knob out.



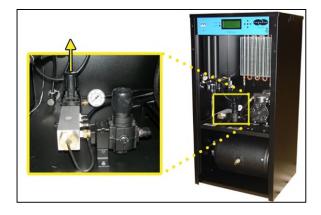
- **8.14.3** Turn the knob until the reading on the Pressure Gauge is **50 PSI/345 KPa**.
- **8.14.4** Push the knob in to lock.



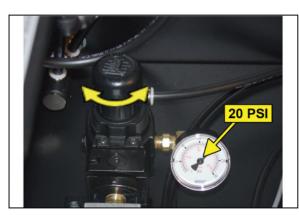
8.14.5 Reinstall the Front Panel (section 8.10).

8.15 Setting the Static Pressure

- **8.15.1** Remove the Front Panel (section 8.10).
- **8.15.2** Pull the Static Pressure Regulator knob out.



- 8.15.3 Turn knob until the reading on the Pressure Gauge is 20 PSI/138 KPa.
- **8.15.4** Push knob in to lock.



8.15.5 Reinstall the Front Panel (section 8.10).

8.16 Setting the Outlet Pressure

- **8.16.1** Remove the Front Panel (section 8.10).
- **8.16.2** Pull the Outlet Pressure Regulator knob out.



- 8.16.3 Turn knob until OutletPressure (OUTLET) readingis at the desired setting.
- **8.16.4** Push knob in to lock.



OUTLET - 10.00 PSI

↑Set Up Menu

1540 SCFD

•Hold

30.5 PSI

FLOW-

TANK-

8.16.5 Reinstall the Front Panel (section 8.10).

8.17 Connecting via Web Browser

If the Air Dryer IS connected to an IP network:

- The Air Dryer must be configured with a valid IP Address, Subnet Mask, and Gateway Address for the network.
- An IP cable must be connecting the air dryer to the network.
- Use a computer that is on the same network as the air dryer.
- Use Internet Explorer (6.0 or newer) or Mozilla Firefox Web Browser.

If the Air Dryer IS NOT connected to an IP network and has not been configured with IP information:

- Use the default IP Address (192.168.1.100) of the air dryer to connect.
- Use an IP Cable (may require Cross-over cable) plugged directly into a Laptop/PC and the other end plugged into the Network Port of the air dryer.
- Configure the network card on the Laptop/PC to use the IP Address *192.168.1.101*. This will make the Laptop/PC compatible with the air dryer.
- Use Internet Explorer (6.0 or newer) or Mozilla Firefox Web Browser.
- **8.17.1** Type the IP Address of the BD4200W Series Air Dryer in the Address text box of the Web Browser.

The Web Browser connection offers five (4) screens to the user:

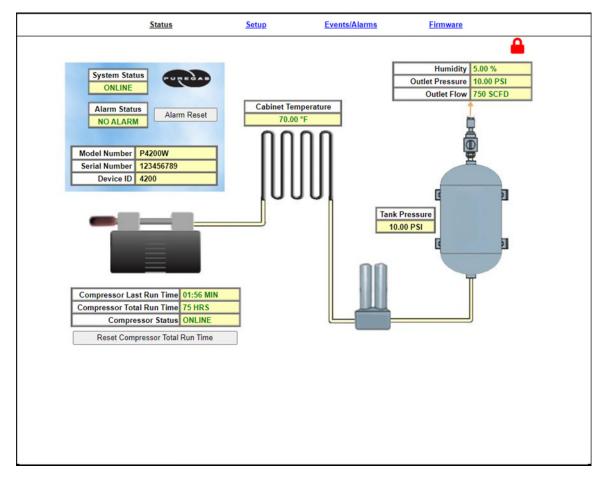
- **Status Screen** Displays the readings and alarms monitored in the BD4200W Series Air Dryer. Provides remote ALARM RESET.
- Setup Screen All configurations for System, Alarms, Network, and Keyword can be made in this screen.
- Event/Alarm Screen Displays all events such as alarms, changes made, and alarm resets registered by the BD4200W Series Air Dryer. This screen is informational only.

• **Firmware Screen** – Allows the user to upload any software updates or upgrades to the Air Dryer.

8.17.2 Click on the Menu Bar selection to access a specific screen.

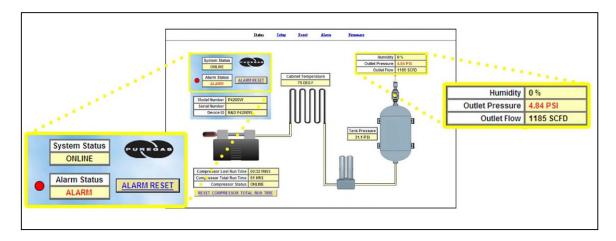
<u>Status</u>	<u>Setup</u>	Events/Alarms	<u>Firmware</u>

8.18 Using the Status Screen

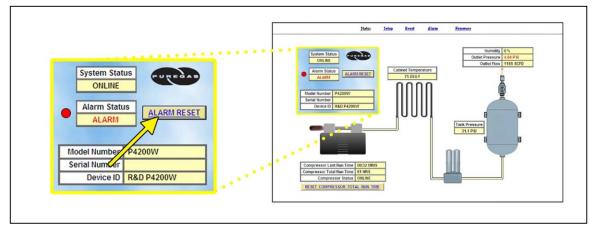


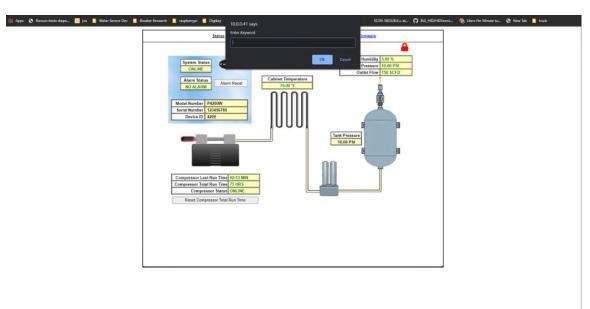
Displays the readings and alarms monitored in the BD4200W Series Air Dryer. Provides remote ALARM RESET.

- Readings are displayed in **BLACK** unless an alarm is present.
- Alarms are displayed in **RED** next to the parameter in alarm.



- Alarm Status will display **ALARM** if any alarms are present.
- Keyword validation is required for ALARM RESET and RESET COMPRESSOR TOTAL RUN TIME.
- 8.18.1 Resetting an Alarm
 - **8.18.1.1** Click on the **ALARM RESET** Button to remotely reset Air Dryer alarms displayed on Status Screen.





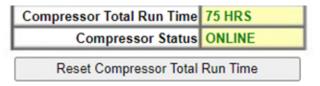
8.18.1.2 Enter Keyword (default is 123456)

8.18.1.3 Click on SUBMIT Button when done.

8.18.2 Resetting Compressor Total Run Time

8.18.2.1 Click on the RESET COMPRESSOR TOTAL RUN TIME

Button to remotely reset Compressor Total Run Time displayed on Status Screen.



- **8.18.2.2** Enter Keyword (default is 123456)
- **8.18.2.3** Click on **SUBMIT** Button when done.

8.19 Using the Setup Screen

All configurations for the System, Alarms, Network, and Keyword can be made in this screen.

SYSTEM SETUP Description		C-	etting	
•				
Alarm Delay			N O OFF	
Startup Delay		NONE	~	
Units		Imperial	~	
Current Date		01/0	4/2000	
Current Time		0	0:46	
Device ID		4	200	
Keyword		×	8.9.9.8.A	
ALARM SETUP		Reset All Alarm Settings	To Factory Default Values	
Description	Default	Range	Current Setting	Unit
High Outlet Pressure	20	0.4 - 20	20.0	PSI
Low Outlet Pressure	0.3	0.3 - 19.9	0.3	PSI
High Flow	4500	0 - 6500	4200.0	SCFD
High Humidity	10.0	3.0 - 15.0	10.0	%
High Duty Cycle	70	0 - 99	70	%
High Compressor Last Run Time	3:00	1:00 - 59:59	03:00	MIN: SEC
NETWORK SETUP			·	
Description		Se	etting	
IP Address		10.	0.0.41	
Subnet Mask		255.25	55.255. 0	
Gateway Address		10	.0.0.1	
SNMP Trap Server Address		0.	0. 0. 0	
	A			

- Values in **BLUE** represent the current setting.
- The **ENTER** key is used to change values.
- The CHANGE KEYWORD Button allows you to configure a new Keyword.
- Keyword validation is required for the following:
 - Changing a Threshold value
 - Changing the Keyword

8.19.1 Changing a Threshold or Setup value:

- **8.19.1.1** Click on the value to change.
- **8.19.1.2** Type in the new value.
- **8.19.1.3** press the **ENTER** key when done.
- **8.19.1.4** Enter Keyword (default is 123456)
- **8.19.1.5** Click on **SUBMIT** Button when done. This will lock in the new setting value.

8.19.2 Changing the Keyword

- **8.19.2.1** Click on the ***** display in the keyword row to change the keyword.
- **8.19.2.2** Type the Old Keyword.
- **8.19.2.3** Type the New Keyword.
- **8.19.2.4** Type the Confirm New Keyword.
- **8.19.2.5** Click on **OK** Button to confirm. This will lock in the new setting value.

8.20 Using the Event Screen

Displays all events such as alarms, changes made, and alarm resets registered by the BD4200W Series Air Dryer. This screen is informational only.

	Status	Setup	Events/Alarms	<u>Firmware</u>	
Event Type	Description			Timestamp	
Alarm	High Compressor 1	1 Last Runtime	1/4/2000, 12:44:56 AM		
Info	Alarms Reset		1/4/2000, 12:44:54 AM		
Alarm	High Compressor 1	I Last Runtime	1/4/2000, 12:43:21 AM		
Parameter Change	Device ID changed	from "" to "4200"	1/4/2000, 12:40:41 AM		
Info	Alarms Reset		1/4/2000, 12:40:18 AM		
Alarm	High Humidity Sys	tem 1 (System SHUTDO	1/4/2000, 12:37:43 AM		
Alarm	Low Outlet Pressu	re	1/4/2000, 12:37:43 AM		
Info	Unit Power On (Fin	mware: 0.1.9 Library: 0.1	1/4/2000, 12:35:38 AM		
Parameter Change	High Flow Thresho	old Changed From "4500	1/1/2000, 2:34:52 AM		
Alarm	High Humidity Sys	tem 1 (System SHUTDO	1/1/2000, 12:09:28 AM		
Alarm	Low Outlet Pressur	re	1/1/2000, 12:09:28 AM		
Info	Unit Power On (Fin	mware: 0.1.9 Library: 0.1	1/1/2000, 12:07:23 AM		
Alarm	High Humidity Sys	tem 1 (System SHUTDO	1/1/2000, 12:28:45 AM		
Alarm	Low Outlet Pressu	re	1/1/2000, 12:28:45 AM		
Info	Unit Power On (Fin	mware: 0.1.7 Library: 0.1	1/1/2000, 12:26:41 AM		
Info	Unit Power On (Fin	mware: 0.1.7 Library: 0.1	1/1/2000, 12:24:13 AM		

• Click on the Event Type Header to sort data.

8.21 Using the Firmware Screen

Displays the current firmware version of the BD4200W Series Air Dryer.

<u>Status</u>	<u>Setup</u>	Events/Alarms	Firmware	
Current Version:	Firmware Version: 0.1.9	Library Version: 0.1.1		
New Version File:	Choose File No file chos	en		
		CEDT		
	A	CCEPT		

- **Current Version:** Displays the current firmware version of the BD4200W Series Air Dryer.
- New Version File: Displays the new location and new firmware version chosen.
- The **BROWSE** Button allows you to locate the new firmware file.
- The ACCEPT Button is used to change values.

• Keyword validation is required to update firmware.

8.21.1 Updating the Firmware:

- **8.21.1.1** Click on **BROWSE** Button to locate the firmware file.
- **8.21.1.2** Navigate and select the correct .pgz file. Press the **OK** Button.
- **8.21.1.3** Click the **ENTER** Button.
- **8.21.1.4** Enter Keyword (default is 123456)
- **8.21.1.5** Click on **SUBMIT** Button when done. This will lock in the new firmware version.

8.22 Connecting via SNMP

Using SNMP to connect and communicate with the BD4200W Series Air Dryer is dependent upon the specific SNMP Management software used on your network. This software requires a SNMP Definition & Configuration File (MIB file) in order to properly communicate with the Air Dryer.

The files for the BD4200W Series Air Dryers can be downloaded from our website (AltecAIR.com) under the Product Support section SNMP Files link. It is necessary to import this file into your SNMP operating software.

NOTE: Reference Appendix section 14.3 for a list of SNMP Parameters.

9. Testing Your Dryer

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.



WARNING!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some of these components to become hot when in operation or standby.



WARNING!

High Noise. RFS air dryers are meant to be installed in an unattended area.



CAUTION!

Observe precautions for handling Electrostatic Sensitive Devices.



CAUTION!

Depressurizing the air dryer may be necessary before performing certain procedures. **NEVER** remove pressure sensing tubes from the control board without depressurizing the air dryer first, or **damage to the control board will occur.**

9.2 Measuring Compressor Amp Draw



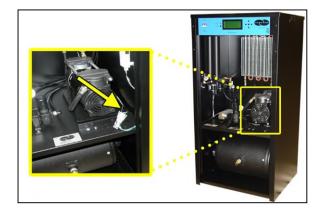
WARNING!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some these components to become hot when in operation or standby.

9.2.1 Remove the Front Panel (section 8.10).

With the Compressor running:

9.2.2 Locate the BLACK wire coming directly from the Compressor.



9.2.3 Use an Amp Meter to measure the Amps of the BLACK wire.

With the Compressor running, the running amps should measure:



- **8.6 amps or below** for the BD4200W & BD4200WLP models.
- **3.9 or below** for the BD4202W & BD4202WLP models.

If the Compressor measures over the recommended running amps, see section 13.16 *for troubleshooting information.*

9.2.4 Reinstall the Front Panel (section 8.10).

9.3 Measuring Voltage to Compressor



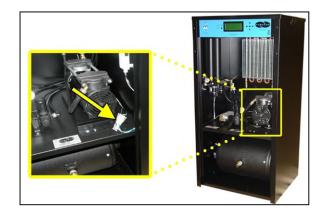
WARNING!

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.

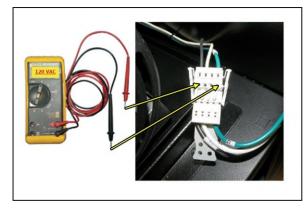
9.3.1 Remove the Front Panel (section 8.10).

With the Compressor running:

9.3.2 Locate the Compressor power connector.



- **9.3.3** Use a Voltmeter to measure the voltage between the BLACK and WHITE wires:
 - **9.3.3.1** Place the Voltmeter probes in the openings in the power connector.



The voltage should measure:

- **110 125 VAC** for the BD4200W & BD4200WLP models.
- 220 230 VAC for the BD4202W & BD4202WLP models.
- **9.3.4** Reinstall the Front Panel (section 8.10).

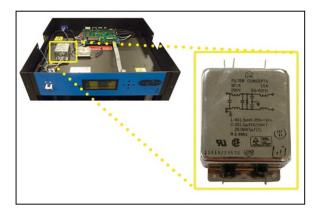
9.4 Measuring Voltage at the Power Line Filter



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.

- **9.4.1** Remove the Top Cover (section 8.11).
- **9.4.2** Locate the Power Line Filter inside the Top Section of the air dryer.



- **9.4.3** Use a Voltmeter to measure the voltage:
 - **9.4.3.1** Place the probes between the Power Line Filter and terminal insulation so that they touch the metal contacts.

Received and the second second

The voltage should measure:

- **110 125 VAC** for the BD4200W & BD4200WLP models.
- 220 230 VAC for the BD4202W & BD4202WLP models.

If any of the voltage measurements are different than indicated above, the Power Line Filter is defective and should be replaced. See sections 11.1 for part detail and 0 for ordering information.

9.4.4 Reinstall the Top Cover (section 8.11).

120 VAC

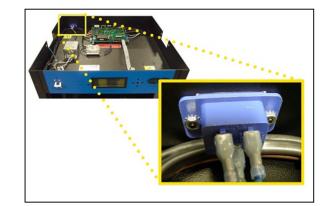
9.5 Measuring Incoming Voltage



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.

- **9.5.1** Remove the Top Cover (section 8.11).
- **9.5.2** Locate the Power IEC Connector inside the Top Section of the air dryer.



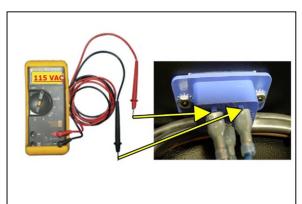
- **9.5.3** Use a Voltmeter to measure the voltage:
 - **9.5.3.1** Place the probes between the IEC Connector and terminal insulation so that they touch the metal contacts.

The voltage should measure:

- **110 125 VAC** for the BD4200W & BD4200WLP models.
- 220 230 VAC for the BD4202W & BD4202WLP models.

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.

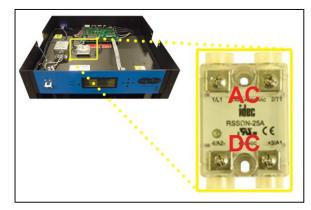
9.5.4 Reinstall the Top Cover (section 8.11).



9.6 Measuring Voltages at Solid State Relay

9.6.1 Remove the Top Cover (section 8.11).

9.6.2 Locate the Solid State Relay inside the Top Section of the air dryer.



With the Compressor running:

9.6.3 Use a Voltmeter to measure across the AC terminals.

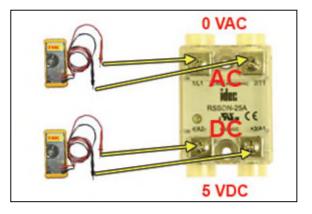
The voltage should measure **0 VAC**.

9.6.4 Use a Voltmeter to measure across the DC terminals.

The voltage should measure:

- **5 VDC** for the BD4200W & BD4200WLP models.
- **12 VDC** for the BD4202W & BD4202WLP models.

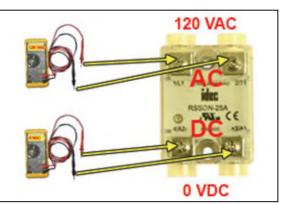
With the Compressor NOT running:



9.6.5 Use a Voltmeter to measure across the AC terminals.

The voltage should measure:

• **110 - 125 VAC** for the BD4200W & BD4200WLP models.



- **220 230 VAC** for the BD4202W & BD4202WLP models.
- **9.6.6** Use a Voltmeter to measure across the DC terminals. The voltage should measure **0 VDC**.
- 9.6.7 Reinstall the Top Cover (section 8.11).

If any of the voltage measurements are different than indicated above, the Solid State Relay is defective and should be replaced. See sections 11.1 for part detail and Ofor ordering information.

9.7 Testing Consistent Heatless Dryer Cycling

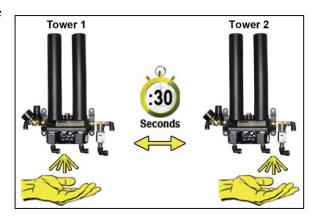
9.7.1 Remove the Front Panel (section 8.10).

With the Compressor running:

9.7.2 Disconnect the purge tubes from the Heatless Dryer.



- **9.7.3** 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.
- **9.7.4** Re-connect the purge tubes to the Heatless Dryer.
- **9.7.5** Reinstall the Front Panel (section 8.10).





If the Heatless Dryer is not cycling consistently as described, see section 13.13 for troubleshooting information.

9.8 Testing Unloader Valve

9.8.1 Remove the Front Panel (section 8.10).

With the Compressor running:

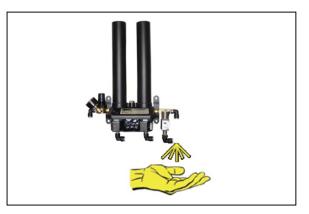
9.8.2 Disconnect the unloader tube from the Unloader Valve.

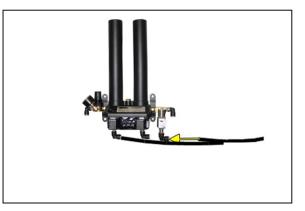


9.8.3 Place your hand beneath the Unloader Valve fitting to feel for air flow.

Air should **NOT** flow from this fitting continuously. Air should only be released in a short burst when the Compressor shuts off.

- **9.8.4** Re-connect the unloader tube to the Unloader Valve.
- **9.8.5** Reinstall the Front Panel (section 8.10).





If air flows from this valve continuously the Unloader Valve is defective and should be replaced. See sections 11.4 for part detail and Ofor ordering information.

9.9 Measuring Heatless Dryer Solenoid Voltage

9.9.1 Remove the Front Panel (section 8.10).

With the Compressor running:

9.9.2 Locate the Heatless Dryer Cycle Timer.

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

9.9.3 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.

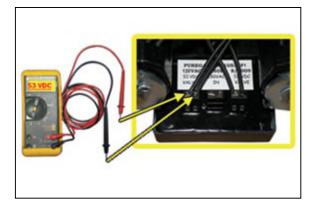
The voltage should measure:

- **53 VDC** for the BD4200W & BD4200WLP models.
- **106 VDC** for the BD4202W & BD4202WLP models.

9.9.4 Reinstall the Front Panel (section 8.10).

If the voltage does not measure as indicated above, this is an indication that the Cycle Timer is defective and should be replaced. See sections 11.4 for part detail and 0 for ordering information





9.10 Testing Precooler Fan

9.10.1 Place your hand in front of the Precooler Fan to feel for air being blown outward.

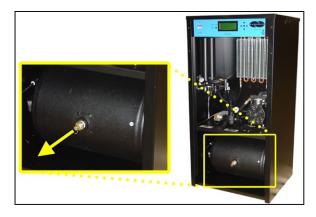


If the fan is not blowing air outward as described:

- Check for loose wiring. Refer to the Wiring Diagram (section 14.1)
- *Replace defective fan (see sections 11.3 for part detail and 0for ordering information).*

9.11 Testing Safety Relief Valve

- **9.11.1** Remove the Front Panel (section 8.10).
- **9.11.2** Pull the ring handle on the Safety Relief Valve to verify air pressure is released.
- **9.11.3** Release ring handle and verify that no air is leaking from the valve.



9.11.4 Reinstall the Front Panel (section 8.10).

If the Safety Relief Valve fails either test described, it must be replaced. See sections 11.3 for part detail and 0 for ordering information.

9.12 Testing Compressor ON/OFF Cycling

- **9.12.1** Remove the Front Panel (section 8.10).
- 9.12.2 When the Outlet Screen

(section 8.4.6.2) appears on the display, press the **HOLD Button** on the Front Panel to freeze that screen.

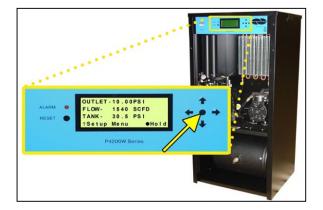
With Compressor running:

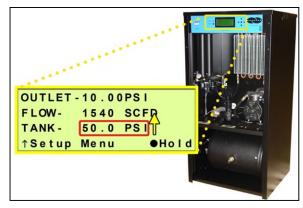
9.12.3 Verify the Compressor shuts down when the Tank Pressure (TANK) reaches 50.0 PSI/345 KPa.

If the Tank Pressure (**TANK**) fails to reach 50 PSI, see section 13.15 for troubleshooting information.

With Compressor NOT running:

- **9.12.4** Pull the ring handle on the Safety Relief Valve to release air pressure from the Air Tank.
- 9.12.5 Verify the Compressor turns on when the Tank Pressure (TANK) falls to 25.0 PSI/345 KPa.







9.12.6 Reinstall the Front Panel (section 8.10).

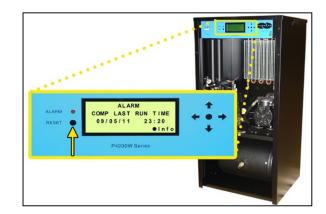
If the Compressor Cycling fails either test described, it indicates a problem with the Control Board which may need to be replaced. See sections 11.1 for part detail and 0 for ordering information.

9.13 Testing Compressor Last Run Time Alarm

NOTE: For this test, allow the Display Screen to cycle through the information screens.

- **9.13.1** Remove the Front Panel (section 8.10).
- 9.13.2 Start timing when the Compressor turns on.
- 9.13.3 Pull the ring handle on the Safety Relief Valve (when necessary) to keep the Tank Pressure (TANK) from reaching 50 PSI/345 KPa. *This prevents the Compressor from shutting down.*
 - When the Compressor runs for 4:00 minutes (unless adjusted to a different threshold by the user), a Compressor Last Run Time Alarm should appear on the System Screen.

OUTLET-10.00PSI FLOW- 1540 SCFD TANK- 20.0 PC <50 ↑Setup Menu Hold



9.13.4 Press the **RESET Button** to clear the alarm.

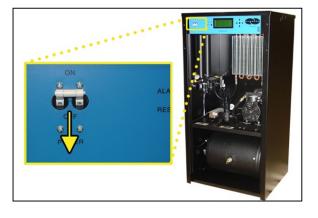
9.13.5 Reinstall the Front Panel (section 8.10).

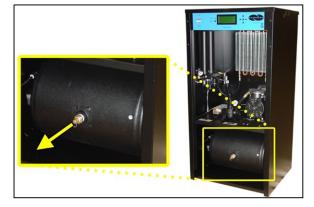
If you are unable to create a Compressor Last Run Time alarm as described, see section 13.18 for troubleshooting information.

9.14 Testing Humidity Alarm and System Shutdown

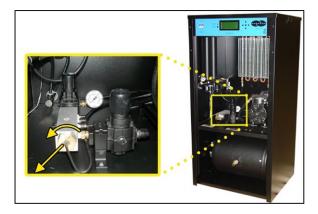
- **9.14.1** Power the air dryer **OFF**.
- **9.14.2** Remove the Front Panel (section 8.10).

9.14.3 Depressurize the air dryer.





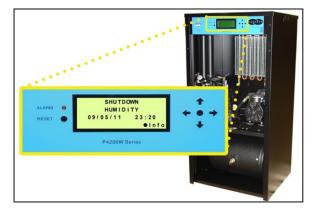
9.14.4 Unscrew and remove the Humitter from the Combo Block.

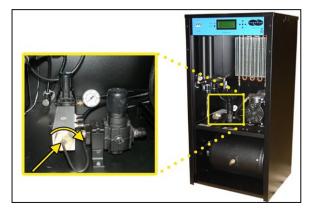


9.14.5 Power the air dryer **ON**.

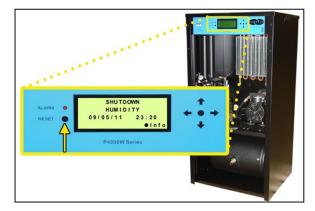


- **9.14.6** Allow the Humidity reading to rise over 10.0%.
- **9.14.7** After three (3) minutes, verify that a Humidity Alarm appears and the dryer goes into **SHUTDOWN** mode.
- **9.14.8** Replace the Humitter into the Combo Block.





- **9.14.9** Press the **RESET Button** to clear the alarm.
- **9.14.10** Reinstall the Front Panel (section 8.10).

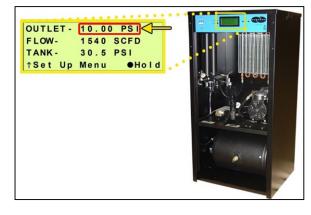


NOTE: If the Humitter is disconnected from the Control Board, ****%** will appear on the Humidity reading and after 5 minutes the unit will Shutdown. This is to allow for troubleshooting.

If you are unable to create a Humidity / Shutdown alarm as described, see section 13.11 for troubleshooting information.

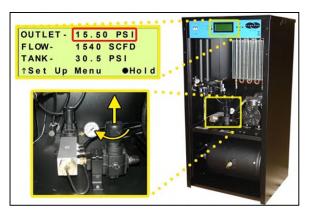
9.15 Testing High Outlet Pressure Alarm

- **9.15.1** Make a note of the current Outlet Pressure (**OUTLET**) reading.
- **9.15.2** Remove the Front Panel (section 8.10).

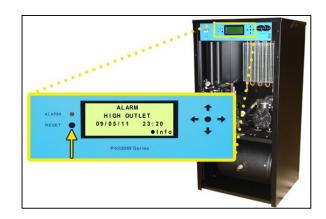


With Compressor running:

- **9.15.3** Pull the Outlet Pressure Regulator knob out.
- **9.15.4** Turn knob clockwise until Outlet Pressure (**OUTLET**) reading climbs over the alarm threshold. (section 8.8.5)



- **9.15.5** After one (1) minute, verify that a High Outlet Pressure Alarm appears on the display.
- **9.15.6** Press the **RESET Button** to clear the alarm.



- 9.15.7 Turn Outlet Pressure Regulator knob counterclockwise until Outlet Pressure (OUTLET) reading lowers to the reading recorded in step 9.15.1
- 9.15.8 Push knob in to lock.



9.15.9 Reinstall the Front Panel (section 8.10).

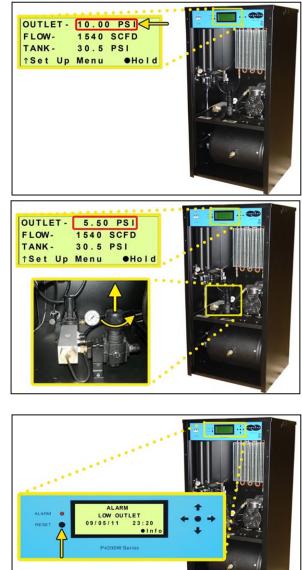
If you are unable to create a High Outlet Pressure Alarm as described, see section 13.6 for troubleshooting information.

9.16 Testing Low Outlet Pressure Alarm

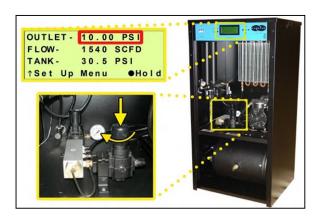
- **9.16.1** Make a note of the current Outlet Pressure (**OUTLET**) reading.
- **9.16.2** Remove the Front Panel (section 8.10).

With Compressor running:

- **9.16.3** Pull the Outlet Pressure Regulator knob out.
- **9.16.4** Turn knob counterclockwise until Outlet Pressure (**OUTLET**) reading drops below the alarm threshold. (section 8.8.7)
- **9.16.5** After one (1) minute, verify that a Low Outlet Pressure Alarm appears on the display.
- **9.16.6** Press the **RESET Button** to clear the alarm.



9.16.7 Turn Outlet Pressure Regulator knob clockwise until Outlet Pressure (OUTLET) reading raises to the reading recorded in step 9.16.1



9.16.8 Push knob in to lock.

9.16.9 Reinstall the Front Panel (section 8.10).

If you are unable to create a Low Outlet Pressure Alarm as described, see section 13.8 for troubleshooting information.

9.17 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. **DO NOT SOAP TEST THE HUMIDITY SENSOR FITTING. DAMAGE TO THE SENSOR MAY OCCUR.**

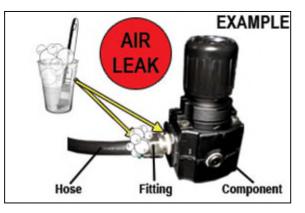
With Compressor NOT running:

9.17.1 Listen for any 'hissing' sounds which may indicate a fitting or hose air leak.

With Compressor running:

9.17.2 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*

10. Maintaining Your Dryer

In order to ensure that your BD4200W Series Air Dryer continues to operate efficiently and reliably, RFS recommends performing the following maintenance procedures at the specified Six Month and 8,000 Hour intervals.

It is also recommended that you print out the included *Six Month Maintenance (section 10.2)* and *8,000 Hour Maintenance (section 10.3)* log sheets and record all completed maintenance for historical tracking and reference purposes.

The log sheets include 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.

NOTE: After 16,000 hours of run time, RFS recommends sending in your Compressor and Heatless Dryer for a complete and comprehensive rebuild by our Service Department technicians. *See sections 12.1 and 12.2 for information on services and contacting RFS*.

10.1 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.



WARNING!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some of these components to become hot when in operation or standby.



CAUTION!

SHUT DOWN IMMEDIATELY FOR REPAIRS if the air

compressor shows any evidence of overheating or presents excessive noise.



CAUTION!

Depressurizing the air dryer may be necessary before performing certain procedures. **NEVER** remove pressure sensing tubes from the Control Board without depressurizing the air dryer first, or **damage to the Control Board will occur.**



WARNING!

High Noise. RFS air dryers are meant to be installed in an unattended area.



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.

Maintenance Interval (Months)

10.2 Six Month Maintenance

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

Procedure	Section	6	12	18	24	30
Install Six Month Maintenance Kit	11.6					
Read & Record Flow Rate (FLOW)	8.4.6.2					
Measure & Record Compressor Amp Draw	9.2					
Measure & Record Incoming Voltage	9.5					
Test High & Low Outlet Pressure Alarms	9.15 &					
	9.16					
Set System Pressure (50 PSI/345 KPa)	8.14					
Set Static Pressure (20 PSI/138 KPa)	8.15					
Set Outlet Pressure	8.16					
Test Consistent Heatless Dryer Cycling	9.7					
Test Precooler Fan	9.10					
Test Safety Relief Valve	9.11					
Test Compressor ON/OFF Cycling	9.12					
Test Compressor Last Run Time Alarm	9.13					
Test Humidity Alarm & System Shutdown	9.14					
Test Air Fittings and Hoses for Leaks	9.17					
Clean Precooler Coils						
Visually Inspect Inside & Outside of Unit for Loose						
Wiring or Hardware						
Maintenance Perf	formed by:					
Date of Maintenance:						
			I	I		L

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

10.3 8,000 Hour Maintenance

Under typical operating conditions:

8,000 hours of run time will occur between one (1) and two (2) years of use. This will be identified by a **COMPERSSOR RUN TIME: TOTAL** Alarm on the display.

MODEL:	LOCATION NAME:
SERIAL NUMBER:	ADDRESS:

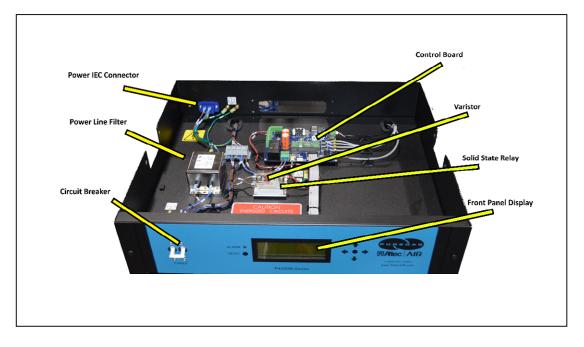
DATE INSTALLED: _____

		Maintenance Interval (Hours)				
Procedure	Section	8,000	16,000	24,000	32,000	40,000
Install 8,000 Hour Maintenance Kit	11.6					
Read & Record Flow Rate (FLOW)	8.4.6.2					
Measure & Record Compressor Amp Draw	9.2					
Set System Pressure (50 PSI/345 KPa)	8.14					
Set Static Pressure (20 PSI/138 KPa)	8.15					
Set Outlet Pressure	8.16					
Test Consistent Heatless Dryer Cycling	9.7					
Test Compressor ON/OFF Cycling	9.12					
Test Air Fittings and Hoses for Leaks	9.17					
Reset COMPRESOR TOTAL RUN TIME Reading to Zero	8.7.7					
Visually Inspect Inside & Outside of Unit for Loose Wiring or Hardware						
Maintenance Per	Maintenance Performed by:					
Date of Maintenance:						

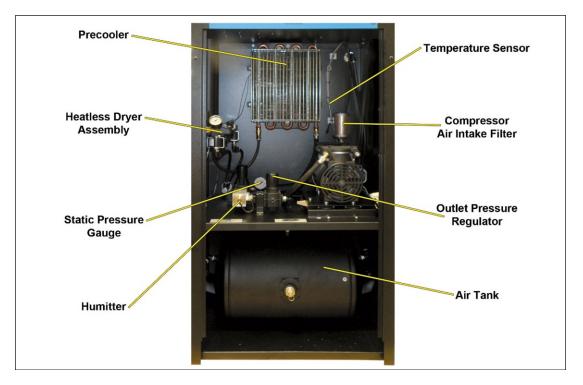
NOTE: COPY OR PRINT THIS PAGE AND KEEP IT WITH THE AIR DRYER

11. Replacement Parts & Accessories

11.1 Top Section Parts



Description	Part Number		Quantity	Recommend Spare
	BD4200W & BD4200WL P (120 VAC)	BD4202W & BD4202WLP (220 VAC)		
Power IEC Connector	P012279		1	
Power Line Filter	P011628		1	
Circuit Breaker	POe	6136	1	✓(1)
Control Board	P017795-RFS		1	√ (1)
Varistor	P012033 P012034		1	✓(1)
Solid State Relay	P05992		1	√ (1)
Front Panel Display	P01	2261	1	

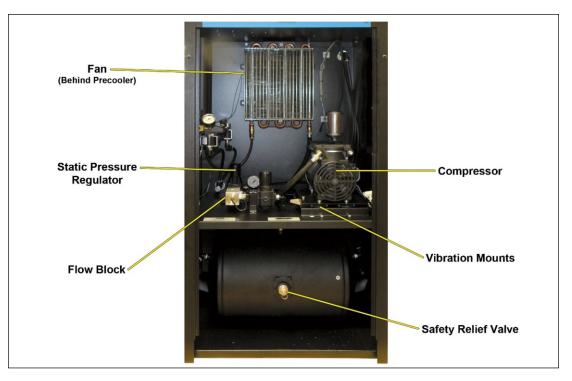


11.2 Middle & Lower Section Parts 1

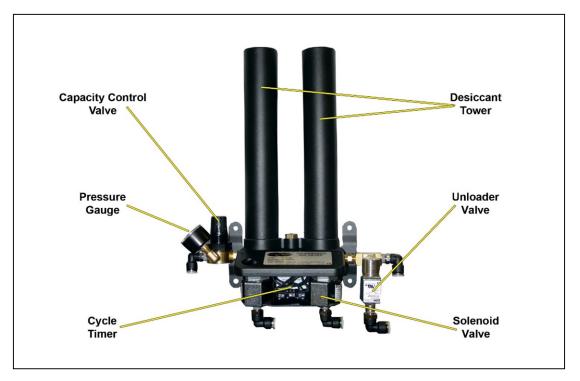
Description	Part Number		Quantity	Recommend Spare
	BD4200W & BD4200WL P (120 VAC)	BD4202W & BD4202WL P (220 VAC)		
Precooler	P4642		1	
Heatless Dryer Assembly		See sectio	on 11.4 for de	tail
Static Pressure Gauge (0-30 PSI)	P013339		1	
Humitter	P013401		1	
Temperature Sensor	P012	1823	1	
Compressor Air Intake Filter	In K	it P012314. S	ee section 11	.6 for detail
Outlet Pressure Regulator (Low Pressure)	P013203 (P012316)		1 (1)	√(1)

Air Tank	1	
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11.3 Middle & Lower Section Parts 2



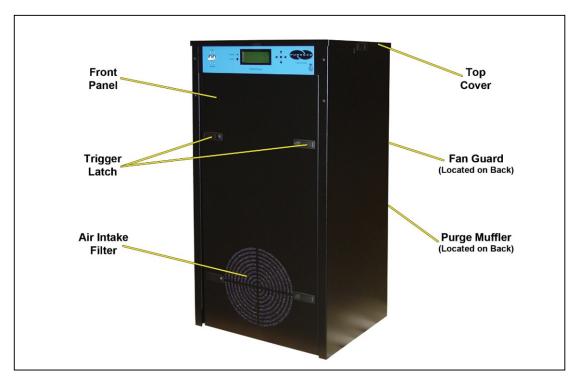
Description	Part Number		Quantit	Recommend
Description		umber	У	Spare
	BD4200W & BD4200WL P (120 VAC)	BD4202W & BD4202WLP (220 VAC)		
Fan	P012366	P012368	1	
Static Pressure Regulator	P013	3203	1	✓ (1)
Flow Block			1	
Compressor	P013261	P013262		✓ (1)
Vibration Mounts	P4582S		4	
Safety Relief Valve	P03	646	1	



11.4 Heatless Dryer Assembly Parts

Description	Part Number		Quantity	Recommend Spare
	BD4200W & BD4200WLP (120 VAC)	BD4202W & BD4202WLP (220 VAC)		
Heatless Dryer Assembly	PHF2C112041	PHF2C212041	1	
Capacity Control Valve	P4634		1	✓ (1)
Pressure Gauge (0–100 PSI)	P010695		1	
Cycle Timer	P010530F1	P010530F2	1	
Desiccant Chamber	P20040312		2	
Unloader Valve	P011022	P010453	1	✓ (1)
Solenoid Valve	In Kit I	P011471. See secti	on 11.6 for a	letail.

11.5 Frame Section Parts



Description	Part Number	Quantity	Recommend Spare	
Front Panel		1		
Locking Trigger Latches		6		
Air Intake Filter	In Kit P012314. See section 11.6 for detail.			
Top Cover		1		
Fan Guard	P03703	1		
Purge Muffler	In Kit P012314. See section 11.6 for detail.			

11.6 Accessories for Your Dryer

	Description	Part Number	Recommend Spare
	Installation Kit Includes fittings required to connect to 3/4" flexible hose or 1/2" tubing.	P011752	
	Six Month Maintenance Kit Includes air intake filter, compressor air intake filter, and purge muffler.	P012314	√ (2)
Å:° ∞ ∞	8,000 Hour Maintenance Kit Includes heatless dryer maintenance kit and compressor maintenance kit.	P011471	✓ (1)
	Cycle Kit Allows multiple dryers to be cycled.	P08033W	
Ó.	Cycle Kit Interface Kit	PVDW34	
	1/2" Bleed Orifice Kit Allows the Compressor and Heatless Dryer to cycle in low flow applications.	P013292	

Ordering Parts from RFS



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) 521-5351 (**option 2**) Fax – (303) 657-2205 <u>sales@AltecAIR.com</u> <u>parts@AltecAIR.com</u>

12. Service & Repair

Only RFS can offer factory direct rebuilds backed by a 6 month factory warranty.

- 2 week turnaround time
- Estimates available upon request
- Minimum service charge fee applies

12.1 Services Offered

- Compressor Rebuild
 - Replace motor bearings, piston rod assemblies, and install a complete compressor maintenance kit.
 - Test air flow, air pressure, and electrical performance

• 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
- Circuit Board Repair (Limited to current model boards only)
- Complete Dryer Repair

12.2 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.

13. Troubleshooting Your Dryer

13.1 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.

13.2 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!

Internal surfaces may be hot. Use care when coming into contact with internal components as there is a potential for some of these components to become hot when in operation or standby.



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!

Depressurizing the air dryer may be necessary before performing certain procedures. **NEVER** remove pressure sensing tubes from the Control Board without depressurizing the air dryer first, or **damage to the Control Board will occur.**



CAUTION!

Do not test the Humidity Sensor with an ohm meter or apply any DC voltage. This will render the Humidity Sensor defective.



WARNING!

High Noise. RFS air dryers are meant to be installed in an unattended area.



CAUTION!

Observe precautions for handling Electrostatic Sensitive Devices.

13.3 Air Dryer Won't Power ON

Possible Cause	Check	Corrective Action
Power Circuit Breaker	Verify Power Circuit	Move Power Circuit
in OFF position	Breaker is in ON	Breaker to ON position
	position	(section 8.3)
	(section 8.3)	
No voltage to the	Measure voltage to the	If voltage is correct
Circuit Breaker	Power Line Filter	replace Circuit Breaker
	(section 9.4)	(section 11.1). If
		voltage is not correct go
		to next possible cause
No incoming voltage to	Measure incoming	Troubleshoot facility
air dryer	voltage (section 9.5)	power supply to air
		dryer

13.4 Display Screen Not Functioning

Possible Cause	Check	Corrective Action
Dryer experienced a		Power the air dryer
power spike		OFF for 15+ seconds.
		Power the air dryer ON .

13.5 High Outlet Pressure Alarm

Possible Cause	Check	Corrective Action
Outlet Pressure set too	Verify Outlet Pressure	Adjust Outlet Pressure
high	(OUTLET) reading	Regulator (section 8.16
	(section 8.4.6.2))
High Outlet Pressure	Verify High Outlet	Raise High Outlet
Alarm threshold too	Pressure threshold	Pressure threshold
low	(section 8.8.5)	(section 8.8.5)

Possible Cause	Check	Corrective Action
Defective Outlet	Verify that the Outlet	Replace Outlet Pressure
Pressure Regulator	Pressure Regulator can	Regulator if unable to
	be adjusted	adjust pressure
	(section 8.16)	(section 11.2)
High Outlet Pressure	Verify High Outlet	Adjust Outlet Pressure
Alarm threshold higher	Pressure threshold	Regulator so that Outlet
than default	(section 8.8.5)	Pressure (OUTLET)
		reading climbs over
		verified threshold
		(section 8.16)
Defective Control	Verify that the Outlet	Replace Control Board
Board	Pressure (OUTLET)	(section 11.1) if Outlet
	reading is higher than	Pressure (OUTLET)
	the High Outlet	reading is over verified
	Pressure threshold	High Outlet Pressure
	(above)	threshold for more than
		1 minute and fails to
		create an alarm.

13.6 Can't Create a High Pressure Alarm

13.7 Low Outlet Pressure Alarm

Possible Cause	Check	Corrective Action
Outlet Pressure set too	Verify Outlet Pressure	Adjust Outlet Pressure
low	(OUTLET) reading	Regulator (section 8.16)
	(section 8.4.6.1)	
High Flow condition	Verify Flow Rate	Troubleshoot High Flow
	(FLOW) reading is	condition
	not higher than	(section 13.9)
	expected	
	(section 8.4.6.2)	
Compressor will not	Verify System	Troubleshoot
build up pressure	Pressure (section 8.14	Compressor Won't Build
)	Pressure (section 13.15)
Low Outlet Pressure	Verify Low Outlet	Lower the Low Outlet
Alarm threshold too	Pressure threshold	Pressure threshold
high	(section 8.8.7)	(section 8.8.7)

Possible Cause	Check	Corrective Action
Defective Outlet	Verify that the Outlet	Replace Outlet Pressure
Pressure Regulator	Pressure Regulator can	Regulator if unable to
	be adjusted	adjust pressure
	(section 8.16)	(section 11.2)
Low Outlet Pressure	Verify Low Outlet	Adjust Outlet Pressure
Alarm threshold lower	Pressure threshold	Regulator so that Outlet
than default setting	(section 8.8.7)	Pressure (OUTLET)
		reading drops below
		verified threshold
		(section 8.16)
Defective Control	Verify that the Outlet	Replace Control Board
Board	Pressure (OUTLET)	(section 11.1) if Outlet
	reading is lower than	Pressure (OUTLET)
	the Low Outlet Pressure	reading is under
	threshold (above)	verified Low Outlet
		Pressure threshold for
		more than 1 minute and
		fails to create an alarm.

13.8 Can't Create a Low Pressure Alarm

13.9 High Flow Rate Alarm

Possible Cause	Check	Corrective Action
Air leak in downstream	Verify Flow Rate	Fix downstream
cable outside of dryer	(FLOW) reading is not	problem
	higher than expected	
	(section 8.4.6.2)	
Air leak inside of dryer	Test fittings and hoses	Reconnect or replace
	for leaks (section 9.17)	bad fitting / hose
High Flow Alarm	Verify High Flow	Raise High Flow
threshold too low	threshold	threshold
	(section 8.8.9)	(section 8.8.9)

13.10 High Humidity



CAUTION!

Do not test the Humidity Sensor with an ohm meter or apply

any DC voltage. This will render the Humidity Sensor defective.

Possible Cause	Check	Corrective Action
Low System Pressure	Verify System Pressure (section 8.14)	Adjust System Pressure to 50 PSI/345 KPA (section 8.14)
Low Flow Rate	Verify Flow Rate (FLOW) reading is low (section 8.4.6.2)	Increase flow by creating an artificial leak outside of the air dryer
High Humidity Alarm threshold too low	Verify High Humidity threshold (section 8.8.3)	Raise High Humidity threshold (section 8.8.3)
	If Flow Rate is low, allowing a higher Humidity alarm threshold (up to 10%) will allow dryer to run within acceptable levels.	Over 10% not recommended
Heatless Dryer not cycling between towers	Verify consistent Heatless Dryer cycling (section 9.7)	Troubleshoot Inconsistent Heatless Dryer Cycling condition (section 13.13)
Plugged or obstructed Outlet Purge	Test fittings and hoses to Outlet Purge	Remove obstruction
Defective Humitter	Perform the Testing Humidity Alarm and System Shutdown test (section 9.14)	Troubleshoot <i>Can't</i> <i>Create a High Humidity</i> <i>Alarm / Shutdown</i> condition (section 13.11)
Defective Control Board	Unplug Humitter from Control Board (see section 11.1 for Control Board location) Humidity reading should display **%	If Humidity reading does not display **% , replace Control Board (section 11.1)

13.11 Can't Create a High Humidity Alarm / Shutdown

These troubleshooting steps assume that the Humitter is removed from the Humidity Block during the *Testing Humidity Alarm and System Shutdown* (section 9.14) procedures.

Possible Cause	Check	Corrective Action
Humitter Cable	Verify that Humitter	Connect Humitter cable
disconnected	cable is connected to	
	the Control Board	
Defective Humitter	Verify that Humidity	Replace Humitter
	reading fails to climb	(section 11.2)
	higher than 15% or	
	creates sporadic	
	readings	
Defective Control	Verify that Humidity	Replace Control Board
Board	reading is over 15% for	if no alarm is created
	more than 1 minute	and system does not
		shut down (section 11.1
)

13.12 High Cabinet Temperature Alarm

Possible Cause	Check	Corrective Action
Fan Failure	Verify fan is running	Check for loose fan
	(section 9.10)	wiring (section 14.1)
		Replace defective fan
		(section 11.3)
Defective Control	Unplug Temperature	If Cabinet Temperature
Board	Probe from Control	did not drop to 0°F,
	Board (see section 11.1	replace Control Board
	for Control Board	(section 11.1)
	location)	
	Cabinet Temperature	
	reading should drop to	
	0°F.	
High Ambient	Verify temperature of	Lower ambient
Temperature	dryer operating	temperature of dryer
	location. Recommended	operating location
	ambient temperature is	
	40°-85°F.	

13.13 Inconsistent Heatless Dryer Cycling

Possible Cause	Check	Corrective Action
Defective Solenoid	Measure voltage going	If correct VDC IS
Valve	to the Heatless Dryer	present, replace
	Solenoid Valves	Solenoid Valves
	(section 9.9)	included in the 8,000
		Hour Maintenance Kit
		(section 11.6)
Defective Cycle Timer	Measure voltage going	If correct VDC IS NOT
	to the Heatless Dryer	present, replace the
	Solenoid Valves	Cycle Timer
	(section 9.9)	(section 11.4)

13.14 Compressor Doesn't Operate

Possible Cause	Check	Corrective Action
Defective Compressor	Measure voltage to	If voltage is good,
	Compressor	replace Compressor
	(section 9.3)	(section 11.5)
		or send it in for repair
		(section 12.)
No power to	Measure voltage to	If voltage is not present
Compressor	Compressor	or fluctuates, continue
	(section 9.3)	to next Possible Cause
Defective Solid State	Measure voltages at	If measurements are
Relay	Solid State Relay	bad, replace Solid State
	(section 9.6)	Relay (section 11.1)
System is in	On the Display Panel,	Press the RESET
SHUTDOWN state	verify that the system is	Button
	in SHUTDOWN state	

13.15 Compressor Won't Build Pressure

Possible Cause	Check	Corrective Action
Low System Pressure	Verify System Pressure	Adjust System Pressure
	(section 8.14)	to 50 PSI/345
		KPa(section 8.14)
Defective Unloader	Test Unloader Valve	Replace Unloader
Valve	operation (section 9.8)	Valve
		(section 11.4)
Leak in air system	Check all hoses and	Connect, tighten, or
	fittings between	replace leaking
	Compressor and Air	component
	Tank for air leaks	
	(section 9.17)	

Possible Cause	Check	Corrective Action
Restriction in air line	Remove Discharge	If measurement is
	Hose from Compressor	below the
	(see section 11.3 for	recommended running
	location of hose)	amps, trace hoses from
		Compressor to
	Re-measure	Unloader Valve looking
	Compressor AMP	for restrictions or kinks
	Draw	
	(section 9.2)	
Compressor failing	Remove Discharge	If measurement is still
	Hose from Compressor	above recommended
	(see section 11.5 for	amps, replace
	location of hose)	Compressor
		(section 11.3)
	Re-measure	or send it in for repair
	Compressor AMP	(section 12.)
	Draw	
	(section 9.2)	

13.16 Compressor Excessive AMP Draw

13.17 Compressor Last Run Time Alarm

Possible Cause	Check	Corrective Action
Low System Pressure	Verify System Pressure	Adjust System Pressure
	(section 8.14)	to 50 PSI/345 KPa
		(section 8.14)
High Flow condition	Verify Flow Rate	Troubleshoot High
	(FLOW) reading is not	Flow Alarm condition
	higher than expected	(section 13.9)
	(section 8.4.6.2)	
Defective Unloader	Test Unloader Valve	Replace Unloader
Valve	operation (section 9.8)	Valve
	If this is continuously	(section 11.4)
	flowing high amounts	
	of air, the Unloader	
	Valve is defective.	
Defective Heatless	Verify consistent	Replace Solenoid
Dryer Solenoid Valve	Heatless Dryer cycling	Valves included in the
	(section 9.7)	8,000 Hour
	If either side is	Maintenance Kit
	continuously flowing	(section 11.6)
	high amounts of air, the	
	Solenoid Valve is	
	defective.	

Defective Solid State	e Measure voltages at	If measurements are
Relay	Solid State Relay	bad, replace Solid State
	(section 9.6)	Relay (section 11.1)

13.18 Can't Create a Compressor Last Run Time Alarm

Possible Cause	Check	Corrective Action
Compressor Last Run	Verify Compressor Last	Allow the Compressor
Time Alarm threshold	Run Time threshold	to run longer than the
higher than the default	(section 8.8.11)	verified threshold
		(section 9.13)
Defective Control	Verify that the	Replace Control Board
Board	Compressor has run	(section 11.1) if the
	longer than the verified	Compressor runs longer
	Compressor Last Run	than the verified
	Time threshold (above)	Compressor Last Run
		Time threshold by 1
		minute or more and
		fails to create an alarm.

13.19 Compressor Rapid ON/OFF Cycling

Possible Cause	Check	Corrective Action
Defective Solid State	Measure voltages at	If measurements are
Relay	Solid State Relay	bad, replace Solid State
	(section 9.6)	Relay (section 11.1)
Defective Control	Measure voltages at	If measurements are
Board	Solid State Relay	good, replace Control
	(section 9.6)	Board (section 11.1)

13.20 Contacting Altec AIR Technical Support

Please read the *Before You Call Altec AIR* section 13.1

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:

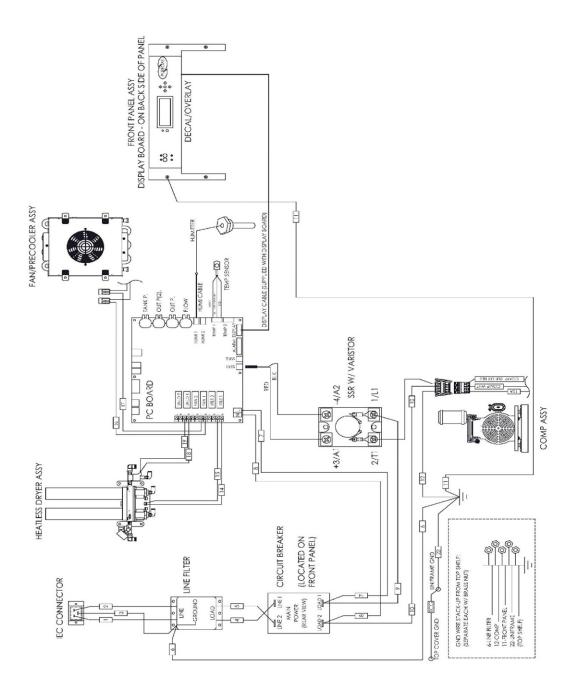
(800) 521-5351 (option 1)

Have the following information available:

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

14. Appendix

14.1 Wiring Diagram



14.2 Operational Limits and Defaults

14.2.1 System Adjustments

Description	Minimum Value	Maximum Value	Default Value	Unit of Measurement
System Pressure			50/345	PSI/KPa
Static Pressure			20/138	PSI/KPa
Outlet Pressure (LP UNITS)	5.00/35 (0.30/2.0)	20.00/138 (10.00/69)		PSI/KPa
Alarm Delay	OFF	ON	ON	
Start Up Delay	0	10	0	Seconds

14.2.2 Alarm Thresholds

Description	Minimum Value	Maximum Value	Default Value	Unit of Measurement	Shutdown
High Humidity Alarm	3	15	10	%	YES
High Outlet Pressure Alarm	0.40/2.8	20.00/138	20.00/138	PSI/KPa	
Low Outlet Pressure Alarm	0.30/2	19.90/137	0.30/2	PSI/KPa	
High Flow Rate Alarm	0	4200/119	2600/74	SCFD/SCMD	
Compressor Last Run Time Alarm	0.00	10.00	4.00	Minutes	
High Duty Cycle Alarm	0	99	70	%	
Compressor Total Run Time Alarm			8000	Hours	
High Cabinet Temperature Alarm			115/46	Deg F/Deg C	Shutdown at 120°F/50 °C

14.2.3 System Operations

Description	ON Value OFF Value		Description ON Value OFF		Default Value	Unit of Measurement
Compressor	25/172	50/345		PSI/KPa		
Fan			ON			

14.3 SNMP Parameters

Device Configuration Information

Device Configuration Information	
Device ID	Alphanumeric (Defined by Customer)
Device Model	Alphanumeric (Factory Preset)
Device Firmware Version	Numeric (Factory Preset)
Current Date/Time	Numeric (mm/dd/yy hh:mm)
IP Address	Numeric (xxx.xxx.xxx.xxx)
Subnet Mask	Numeric (xxx.xxx.xxx.xxx)
Gateway Address	Numeric (xxx.xxx.xxx.xxx)
SNMP Trap Server Address	Numeric (xxx.xxx.xxx.xxx)
SNMP Read Community String	Alphanumeric (6-14 digits, Default =
(also sets SNMP Trap Community String)	"public")
SNMP Write Community	Alphanumeric (6-14 digits, Default = "123456")
Status Readings (Read-Only)	
Outlet Pressure Reading	Numeric (PSI/KPa)
Tank Pressure Reading	Numeric (PSI/KPa)
Humidity Reading	Numeric (%)
Flow Reading	Numeric (SCFD/SCMD)
Cabinet Temperature Reading	Numeric (DEG F/DEG C)
Compressor Total Run Time Reading	Numeric (Hours)
Compressor Last Run Time Reading	Numeric (Seconds)
System Status	ON / SHUTDOWN / STANDBY
Compressor Status	ON / OFF
Alarm Readings (Read-Only)	
High Flow Alarm	OK / Alarm
High Outlet Pressure Alarm	OK / Alarm
Low Outlet Pressure Alarm	OK / Alarm
High Humidity Alarm	OK / Alarm
High Cabinet Temperature Alarm	OK / Alarm
Compressor Last Run Time Alarm	OK / Alarm
Maintenance Required Alarm	OK / Alarm
Total Alarm	OK / Alarm
Configuration Settings (Read-Write)	
High Flow Alarm Threshold	Numeric (SCFD/SCMD)
High Outlet Pressure Alarm Threshold	Numeric (PSI/KPa)
Low Outlet Pressure Alarm Threshold	Numeric (PSI/KPa)
High Humidity Alarm Threshold	Numeric (%)
Compressor Last Run Time Alarm Threshold	Numeric (Seconds)
Reset Compressor Total Run Time Reading	Numeric (Hours)
Start Up Delay Time	Numeric (Seconds)
Alarm Delay (1 Minute)	ON / OFF
Alarm Traps Sent to SNMP Server	
High Flow	
High Outlet Pressure	
Low Outlet Pressure	
High Humidity	
High Cabinet Temperature	
Compressor Last Run Time	
Maintenance Required	
manitemance Required	

15. Limited Warranty Agreement

RFS products carry a two (2) 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 RFS.

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 RFS product which shall have been repaired or altered in any way by anyone other than RFS 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 RFS parts will void the warranty on those RFS products.

Registration Reminder

If you haven't already done so, please take a moment to register your RFS BD4200W 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 RFS products.

See Section 7 for details on Registering Your Dryer.

16. Contacting RFS

16.1 General / Sales

Radio Frequency Systems

https://info.rfsworld.com/contact-us

16.2 Service

Altec AIR, LLC 226A Commerce Street Broomfield, Colorado 80020 parts@AltecAIR.com

> (800) 521-5351 Fax - (303) 657-2205

16.3 Technical Support

Radio Frequency Systems ApplicationsEngineering@rfsworld.com (800) 659-1880 Fax – (203) 634-2057

> Altec AIR, LLC 226A Commerce Street Broomfield, Colorado 80020 <u>support@AltecAIR.com</u> (800) 521-5351 Fax – (303) 657-2205

DON'T FORGET TO REGISTER YOUR DRYER!

See Section 7 for details on Registering Your Dryer.

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17. Notes

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