BD1500W Series Air Dryers

User's Guide

Models covered:

BD1500W BD1500WLP BD1502W BD1502WLP

100518834 – Rev. B

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 BD1500W 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 BD1500W Series Air Dryers. Models covered include BD1500W, BD1500WLP, BD1502W, and BD1502WLP. This guide covers 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.

3. Table of Contents

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 ⚠ symbol as well as a label of "**WARNING!**", "**CAUTION!**", or "**IMPORTANT!**" 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!

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 BD1500W & BD1500WLP models
- 208 - 230 VAC, 50/60 Hz, 1 Phase for BD1502W & BD1502WLP 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.

IMPORTANT!

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

5. Overview & Specifications

5.1 Product Description

The BD1500W Series Air Dryers from RFS are 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. These dryers are designed specifically for indoor use. The BD1500W Series Air Dryers employ a fully digital operating platform offering the most accurate readings of dryer variables, removable access panel allowing easier access for adjustment and maintenance, and ultra-quiet Compressor 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 ± 0.1% RH
- Quietest dryer on the market - less than 50 dBA
- Oil-less Compressors with 8,000-hour maintenance interval

5.3 BD1500W Series Air Dryer Models

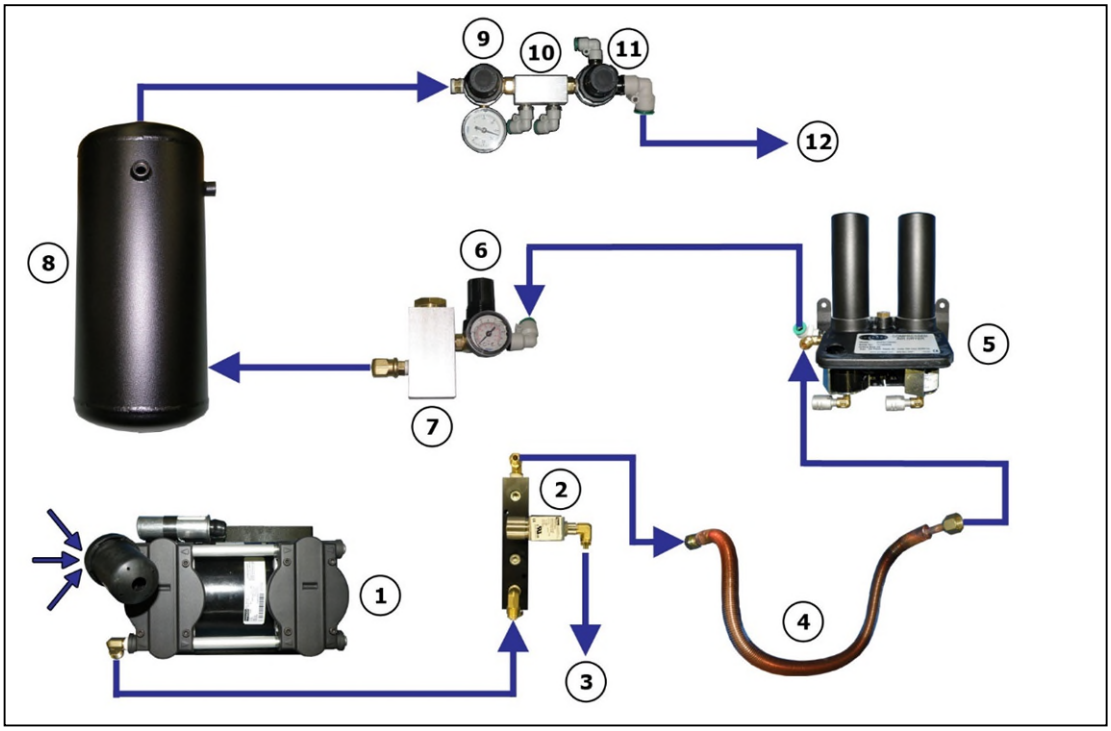
Model	Description
BD1500W	110 - 125 VAC, Standard Pressure 2 - 15 PSI (13.8 - 103.4 KPa)
BD1500WLP	110 - 125 VAC, Low Pressure 0.30 - 7.50 PSI (2.1 - 51.7 KPa)
BD1502W	208 - 230 VAC, Standard Pressure 2 - 15 PSI (13.8 - 103.4 KPa)
BD1502WLP	208 - 230 VAC, Low Pressure 0.30 - 7.50 PSI (2.1 - 51.7 KPa)

5.4 Technical Specifications

	BD1500W	BD1500WLP	BD1502W	BD1502WLP
Output Capacity *	Normal: Up to 1200 SCFD (34 SCMD) continuous * Maximum: 1500 SCFD (42.5 SCMD) emergency *			
Power Requirements	110 - 125 VAC, 50/60 Hz, 7.0 Amps		208 – 230 VAC, 1 Phase, 50/60 Hz, 3.5 Amps	
Outlet Pressure Range	2 - 15 PSI (13.8-103.4 KPa)	0.30 - 7.50 PSI (2.1-52.7 KPa)	2 - 15 PSI (13.8-103.4 KPa)	0.30 - 7.50 PSI (2.1-52.7 KPa)
Outlet Air Humidity	Less than 2% RH			
Compressor Type	Two-cylinder, 3/4 HP, oil-less type			
Drying Method	Heatless Desiccant			
Operating Temperature Range	40° to 85°F (optimal) (4° to 29°C)			
Noise Level	48 dBA at 10' (3m)			
Alarms	Standard alarms – complete readings of all critical measurement points, individual alarm indication display			
Outlet Connections	3/8" O.D. tube fitting			
Dimensions	12" D x 17.25" W x 27" H (30.48cm D x 43.8cm W x 68cm H)			
Net Weight	80 lbs. (36.3 Kg)			

* **NOTE**: The Flow measurement will display **** for flows over 1000 SCFD (28.3 SCMD) for the **&** models.

5.5 Dryer Function Overview



	Component	Description
1	Compressor	Compresses drawn in ambient air.
2	Unloader Valve	Relieves excess Compressor head pressure.
3	Unloader Valve Exhaust	Exhausts the air from the Unloader Valve.
4	In-Line Cooler	Cools compressed air prior to drying function.
5	Heatless Dryer	Removes moisture from compressed air.
6	Capacity Control Valve	Regulates System Pressure and prevents air from bleeding back through the Heatless Dryer.
7	Humidity Sensor	Measures the Humidity of the compressed air.
8	Air Tank	Stores dry compressed air.
9	Static Pressure Regulator	Regulates the Static Pressure (17 PSI (117.2 KPa) for W & WLP, 60 PSI (413.7 KPa) for WHP). Maintains constant pressure on the Flow Block for accurate Flow measuring.
10	Flow Block	Measures the Flow Rate of compressed air.
11	Outlet Pressure Regulator	Regulates the Outlet Pressure.
12	Pressure Outlet	Outputs the pressure set by the Outlet Pressure Regulator.

6. Installing Your Dryer

6.1 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!

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

CAUTION!

Incoming power to dryer must be:

- 15-amp service recommended
- 110 - 125 VAC, 50/60 Hz for BD1500W & BD1500WLP models
- 208 - 230 VAC, 50/60 Hz, 1 Phase for BD1502W & BD1502WLP models

WARNING!

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

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.

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 (4.4° and 29.4°C) (optimal).

NOTE: Higher temperatures will decrease component lifespan.

6.2.3.3 Meets the following power requirements:

- 15-amp service recommended
- 110 - 125 VAC, 50/60 Hz for BD1500W & BD1500WLP models
- 208 - 230 VAC, 50/60 Hz, 1 Phase for BD1502W & BD1502WLP models

6.2.4 Notify the alarm center of the installation and potential for alarms during the process (as necessary).

6.3 Included Contents

(1) BD1500W Series Air Dryer

(1) Installation Guide (not shown)

Package located inside the dryer:

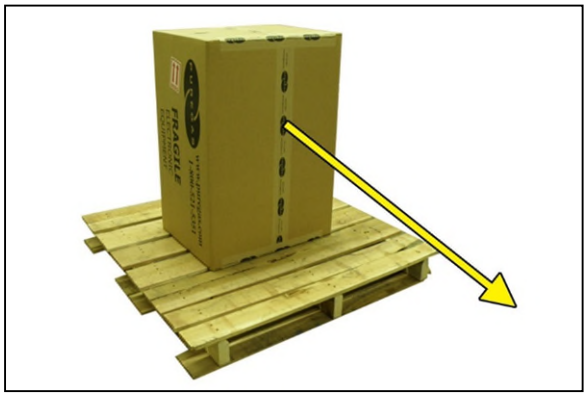
(1) 120 VAC Power Cord (for BD1500W & BD1500WLP models)
(1) 220 VAC Power Cord (for BD1502W & BD1502WLP models)
(1) Precision Bleed Orifice Fitting
(1) User's Guide (not shown)

6.4 Required Tools and Materials

- 9/16" wrench
- Cup of soapy water
- 1-inch paint brush (recommended)
- Box cutter

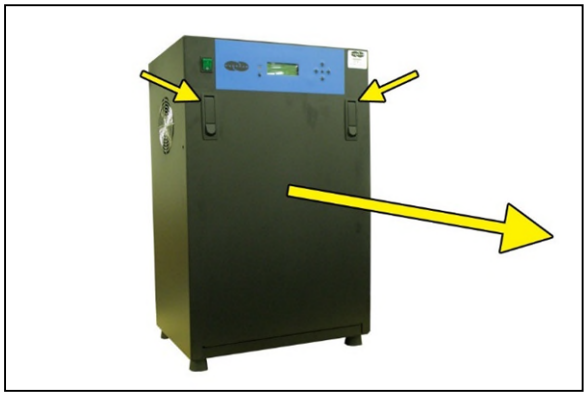
6.5 Installation Steps

6.5.1 Using a box cutter remove the Dryer from box and all shipping materials.

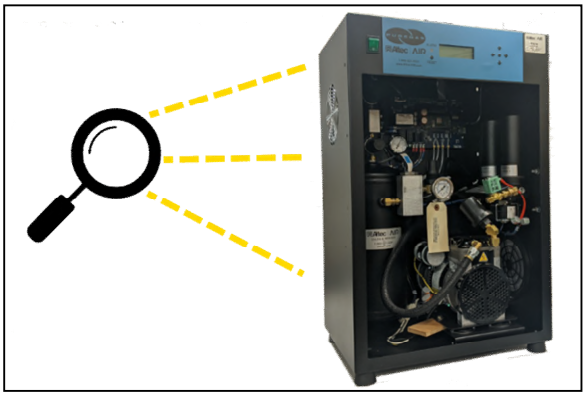


NOTE: If ANY SHIPPING DAMAGE is detected, file a claim with the shipping company prior to continuing the installation procedures.

6.5.2 Open Front Panel locking latches and remove the Front Panel.

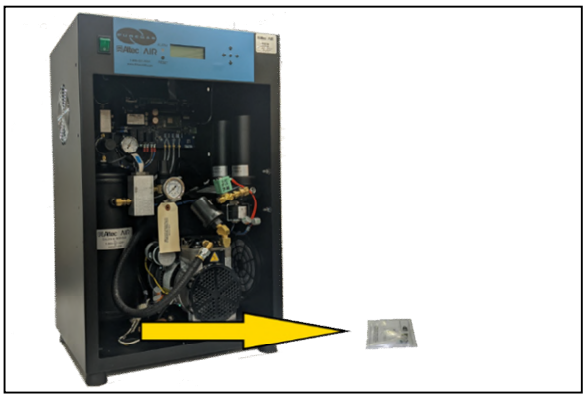


6.5.3 Check for loose parts, hoses, or wiring.

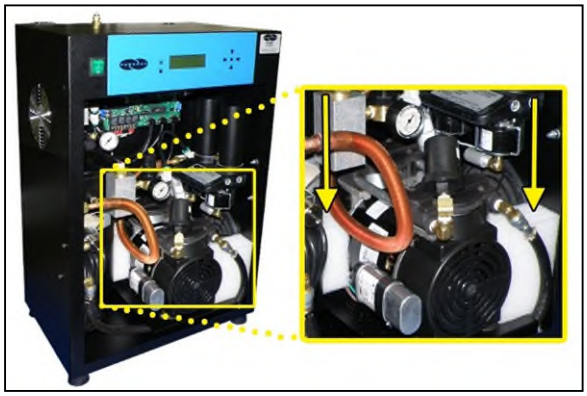


NOTE: If ANY SHIPPING DAMAGE is detected, file a claim with the shipping company prior to continuing the installation procedures.

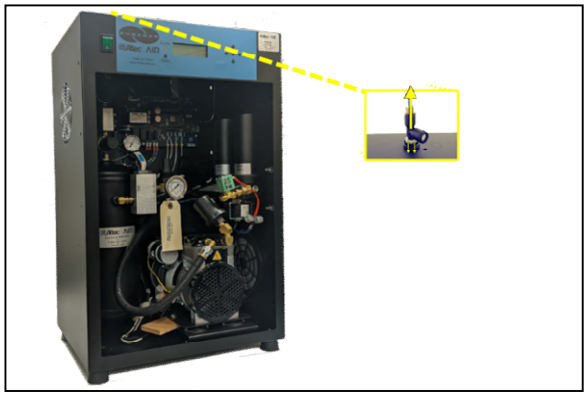
6.5.4 Remove the ship-loose contents package.



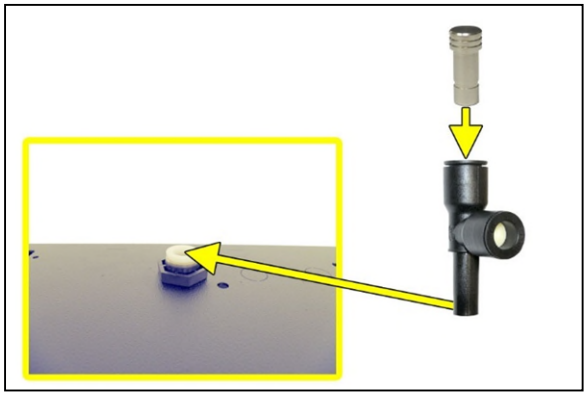
6.5.5 Remove and discard the packing foam blocks from around the Compressor.



6.5.6 Remove the Plug from the Outlet Port by pressing the ferrule down then pulling the plug upward.



6.5.7 Install the Plug into the included Precision Bleed Orifice Fitting and then into the dryer Outlet Port.

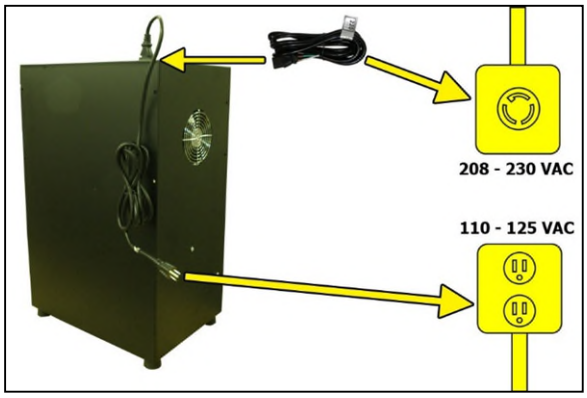


6.5.8 Place the dryer at the desired operating location:

- Place the dryer on a leveled surface
- For rack install use Universal Rack Mounting Kit P011674 (section 11.6)
- For wall install use Wall Mounting Kit P011773 (section 11.6)

6.5.9 Verify that the dryer is powered **OFF**.

6.5.10 Plug AC Power Cord to dryer.

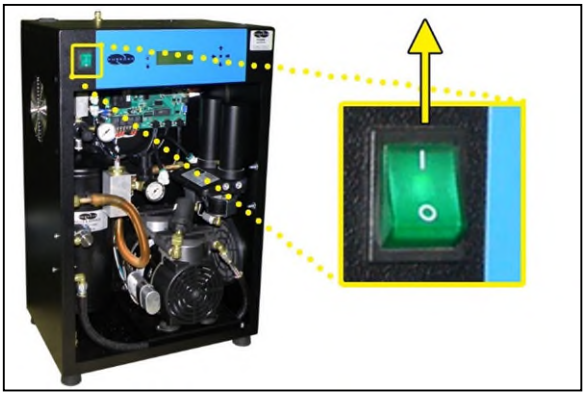


6.5.11 Wire or plug the power cord into:

- 110 - 125 VAC power outlet for BD1500W & BD1500WLP models.

- 208 - 230 VAC, 1 phase, power outlet for BD1502W & BD1502WLP models.
    - Line – Black (Brown)
    - Neutral – White (Blue)
    - Ground – Green (Green/Yellow)

6.5.12 Power the dryer **ON**.



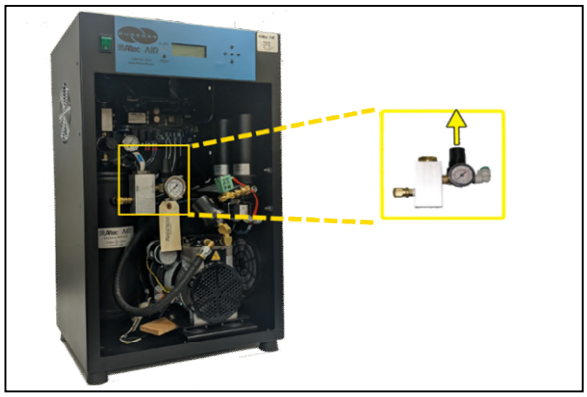
NOTE: The Compressor and heatless dryer will start, creating air flow through the Outlet Port.

6.5.13 Set the System Pressure:

With Compressor running:

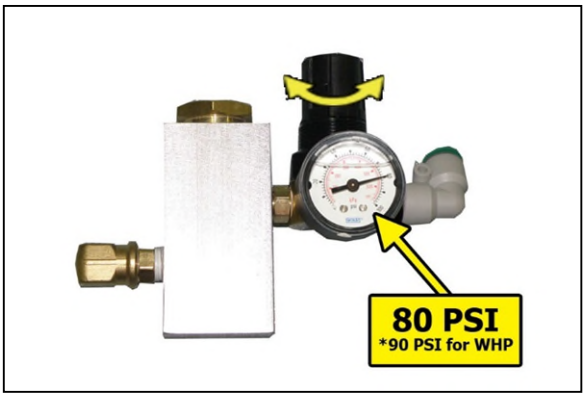
6.5.13.1 Pull the Capacity Control Valve knob out.

6.5.13.2 Turn the knob until the reading on the pressure gauge is: **80 PSI (551.6 KPa)** for W & WLP



NOTE: 90 PSI (620.5 KPa) may be used on W & WLP dryers in low flow applications to maintain low humidity.

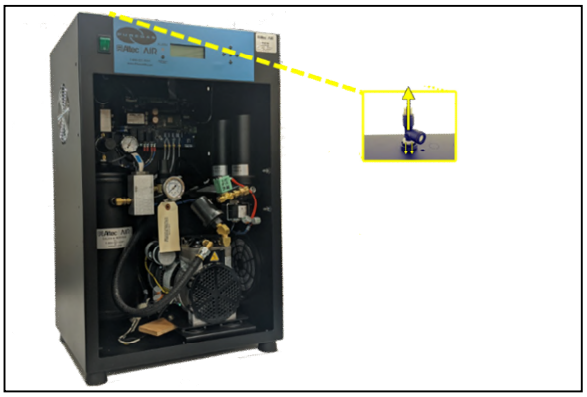
6.5.13.3 Push the knob in to lock.



6.5.14 Let the dryer run until the Humidity drops below 2% (may take up to 15 minutes). Press the **RESET** Button if the dryer goes into **SHUTDOWN** mode.

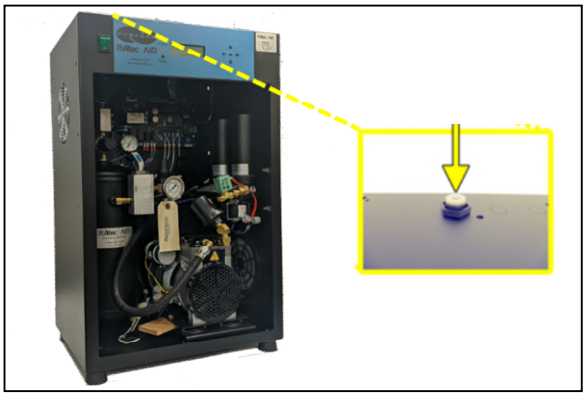
6.5.15 Power the dryer **OFF**.

6.5.16 Remove the Precision Bleed Orifice fitting from the Outlet Port by pressing the ferrule down then pulling the fitting upward.



NOTE: Save this fitting for use in low flow applications.

6.5.17 Connect the air supply line to the Outlet Port.

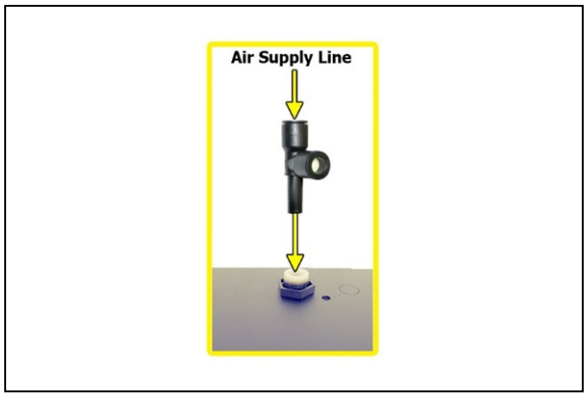


NOTE: If the downstream system is pressurized prior to installation of dryer, make reasonable attempts to install the dryer while minimizing system depressurization. Complete depressurization may result in ambient moisture being introduced into the system, which may require extended run time and dryer cycling to reduce or eliminate. Ambient moisture in the downstream system may result in high humidity alarms and shutdowns.

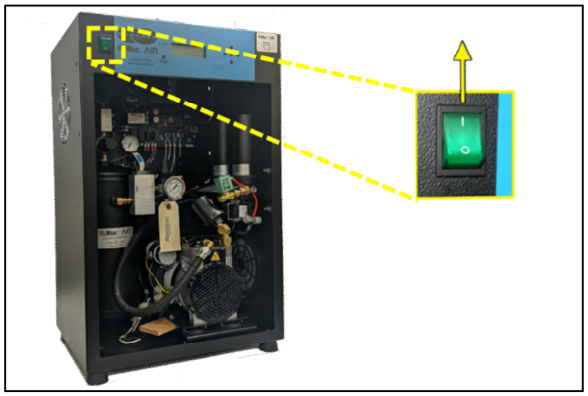
6.5.18 When connecting to a completely depressurized system, a high compressor run time alarm may be triggered. This alarm will need to be manually reset until the system is pressurized and humidity levels have reached their defined levels.

NOTE: For all dryers with minimal FLOW:

Install the included Precision Bleed Orifice fitting to maintain a constant air flow.

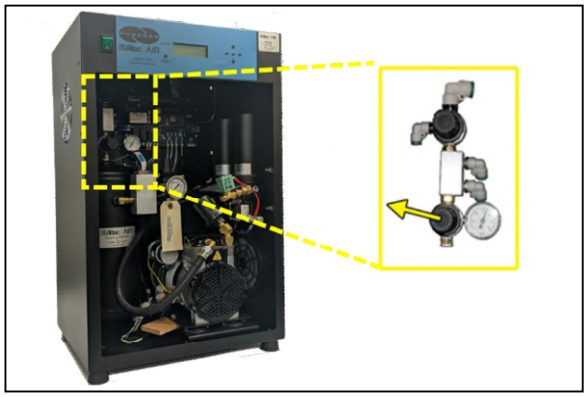


6.5.19 Power the dryer **ON**.



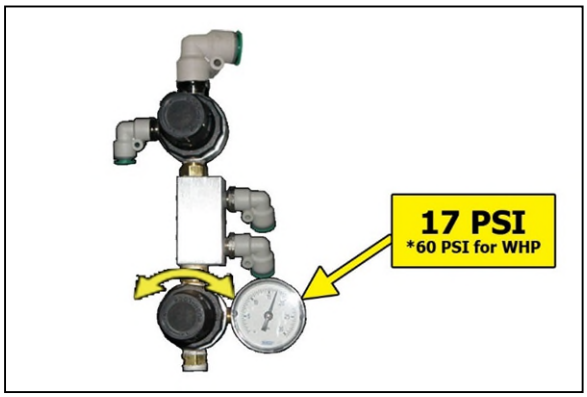
6.5.20 Set the Static Pressure:

6.5.20.1 Pull Static Pressure Regulator knob out.



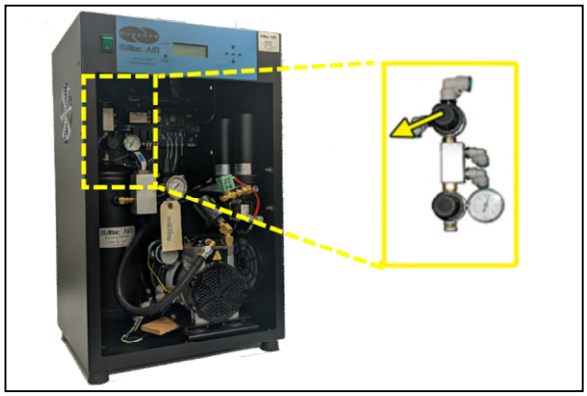
6.5.20.2 Turn knob until the reading on the pressure gauge is:

17 PSI (117.2 PSI) for W & WLP



6.5.20.3 Push knob in to lock.

6.5.21 Set the Outlet Pressure:



6.5.21.1 Pull the Outlet Pressure Regulator knob out (or loosen the retaining nut – LP Models).

6.5.21.2 Turn knob until Outlet Pressure (**OUTP**) reading is at the desired setting.

6.5.21.3 Push knob in to lock (or tighten the retaining nut – LP Models).

6.5.22 Check for air leaks:

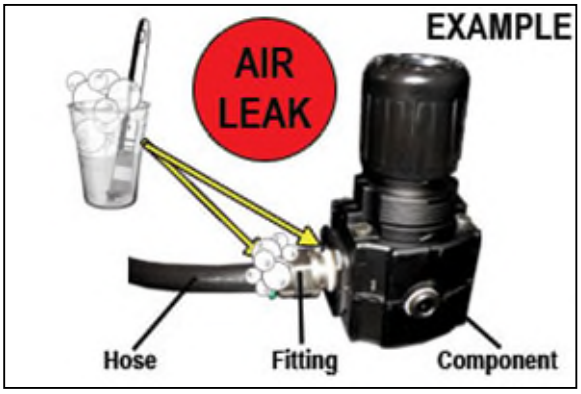
NOTE: This is a general procedure that can be applied to any fitting or hose that has air pressure in it. **DO NOT SOAP TEST THE HUMIDITY SENSOR FITTING. DAMAGE TO THE SENSOR MAY OCCUR.**

With Compressor NOT running:

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

With Compressor running:

6.5.22.2 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 loose hose*
- *Replace the fitting / hose / component*

6.5.23 It is recommended to observe the air dryer for a minimum of 30 minutes (1 hour preferred) and/or through multiple run and dwell cycles to ensure there are no issues (e.g., humidity, flow, compressor run time, etc.) which may result in alarms and/or dryer shut down.

6.5.24 Re-install the Front Panel.

6.5.25 REGISTER YOUR DRYER. *See section 7. for detail*

Note: Contact RFS technical support with any questions or concerns during installation. See section **Error! Reference source not found.**

6.6 Installation Checklist

- ☐ No shipping damage was detected.
- ☐ Dryer location meets the following requirements:
  - Well ventilated
  - Free from abrasive dust or chemicals
  - Ambient temperature is between 40° and 85°F (4.4 and 29.4°C) (optimal)
- ☐ Shipping foam blocks removed from Compressor.
- ☐ System Pressure is set to:

  80 PSI (551.6 KPa) for W & WLP models
- ☐ Static Pressure is set to

  17 PSI (117.2 KPa) for W & WLP models
- ☐ 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 BD1500W 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.AltecAIR.com/registration

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

Have the following information available:

Model #:_____ **Serial #**:_____

Company Name:_____ **Location Name**:_____

Shipping Address:_____

City:_____ **State**:_____ **Zip Code**:_____

Contact Name:_____ **Phone #**: (___) ___ - ____ **ext.** ____

Email:_____

8. 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.

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 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.

8.2.1 ALARM LED – Indicates an alarm is present.

8.2.2 RESET Button – Clears an alarm and allows the system to continue operating.

8.2.3 HOLD Button – Freezes the current information screen on the display. When pressed again, it will allow the information screens to begin cycling again.

8.2.4 Arrow Buttons – Used to navigate screens and set values

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

8.2.5.1 Tank Screen

TANK – Air Tank pressure - fluctuates between

- **25 – 90 PSI* (172.4 – 620.5 KPa)*** for BD1500W, BD1500WLP, BD1502W & BD1502WLP models
  **(50 – 90 PSI (344.7 – 620.5 KPa) for Dryers using Firmware v2.84 and older)*

OUTLET – Outlet Pressure regulated by the Outlet Pressure Regulator

Flow – Air flow out of the system

CABINET – Temperature of the dryer cabinet compartment

8.2.6 System Status Screen

SYS STATUS: ONLINE if dryer working normally, SHUTDOWN during temperature or humidity alarm

CABINET – Cabinet Temperature

HUMIDITY – Outlet Humidity

8.3 Identifying Dryer Alarms

8.3.1 High Outlet Pressure Alarm -

Occurs when the Outlet Pressure (**OUTP**) rises above the alarm set point for more than one (1) minute. (Default setting is 12.0 PSI (82.7 KPa) for W models, 7.50 PSI (51.7 KPa) for WLP models

See section 13.5 for troubleshooting information.

8.3.2 Low Outlet Pressure Alarm –

Occurs when the Outlet Pressure (**OUTP**) drops below the alarm set point for more than one (1) minute. (Default setting is 6.5 PSI for W models, 0.30 PSI for WLP models)

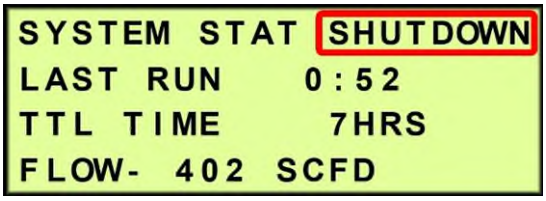
See section 13.7 for troubleshooting information.

8.3.3 High Flow Rate Alarm –

Occurs when the Flow Rate (**FLOW**) rises above the alarm set point for more than one (1) minute. (Default setting is 500 SCFD (14.2 SCMD))

8.3.4 High Humidity Alarm –

Occurs when the Humidity level rises above the alarm set point for more than one (1) minute. (Default setting is 10.0%)

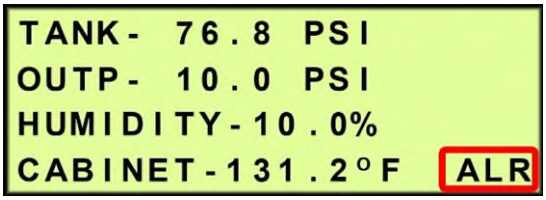


If this alarm is present for one (1) minute or more, the air Dryer will go into **SHUTDOWN** mode to prevent saturated air from being delivered to the supply line.

See section 13.9 for troubleshooting information.

8.3.5 High Cabinet Temperature Alarm -

Occurs when the temperature in the cabinet rises above 120°F (48.9°C) for more than ten (10) seconds.

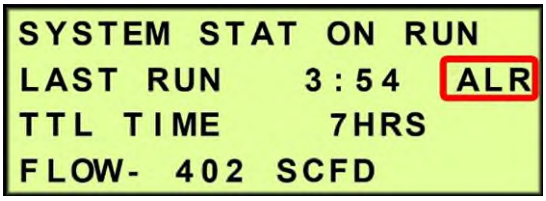


If this alarm is present for three (3) minutes or more, the Compressor will **SHUTDOWN** to protect against damage due to overheating. Once the temperature lowers to 112°F (44.4°C) the Compressor will re-start.

See section 13.12 for troubleshooting information.

8.3.6 High Compressor Last Run Time Alarm –

Occurs when the compressor takes longer to pressurize the air tank than the set point for the alarm. (Default setting is 3:00 minutes)



See section 13.17 for troubleshooting information.

8.3.7 Compressor Total Hour Alarm –

Occurs when the compressor has reached an 8,000-hour maintenance interval. Perform the required maintenance.

See section 10.3 for maintenance information.

8.4 Adjusting & Resetting Dryer Set Points

Dryer Set Points are simply limits programmed for a specific reading. Once this limit is reached (or exceeded) this results in an alarm for that reading. Each of these set points is factory programmed with a default value based on typical usage of the air dryer. Many of the set points for dryer alarms can be modified to levels more closely based upon your specific application.

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

- Press the Up (↑) Arrow Button to access the Set Point Adjust screens.
- Press the Up (↑) & Down (↓) Arrow Buttons to navigate through the available Set Point Adjust screens.
- To change a specific Set Point:

8.4.1 High Flow Rate Alarm Set Point (Default setting is 1500 SCFD (42.5 SCMD) for the W & WLP models.

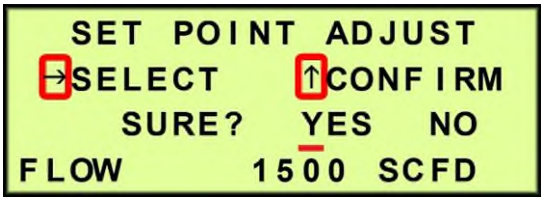
8.4.1.1 Press the Right (→) Arrow Button to access the Change Value Screen.

8.4.1.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digit to change.

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

8.4.1.4 Press the Right (→) Arrow Button until the underscore disappears.

8.4.1.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).

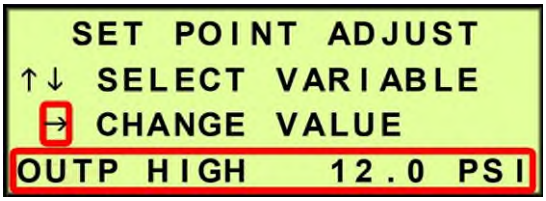


8.4.1.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

8.4.2 High Outlet Pressure Alarm Set Point

(default setting is 12.0 PSI (82.7 KPa) for W models, 7.50 PSI (51.7 KPa) for WLP models

8.4.2.1 Press the Right (→) Arrow Button to access the Change Value Screen.

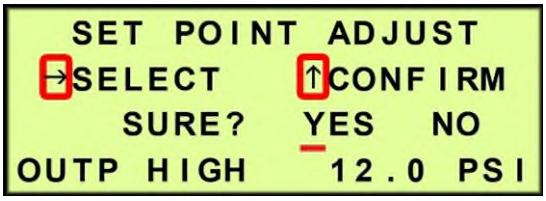


8.4.2.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digit to change.

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

8.4.2.4 Press the Right (→) Arrow Button until the underscore disappears.

8.4.2.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).

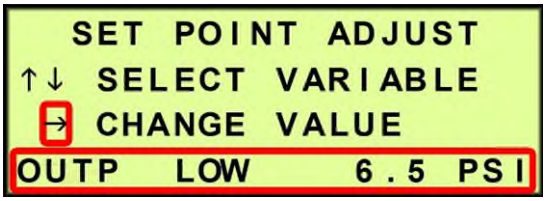


8.4.2.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

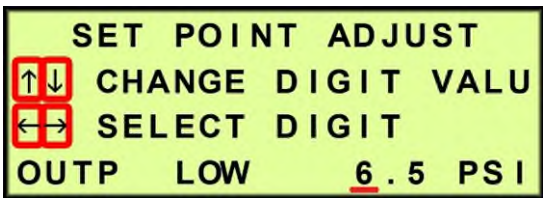
8.4.3 Low Outlet Pressure Alarm Set Point

(default setting is 6.5 PSI (44.8 KPa) for W models, 0.30 PSI (2.1 KPa) for WLP models

8.4.3.1 Press the Right (→) Arrow Button to access the Change Value Screen.



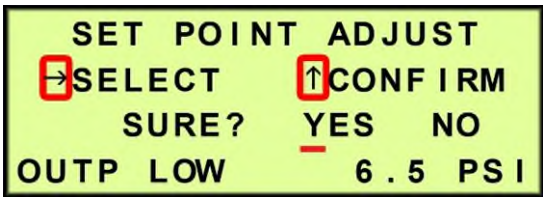
8.4.3.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digit to change.



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

8.4.3.4 Press the Right (→) Arrow Button until the underscore disappears.

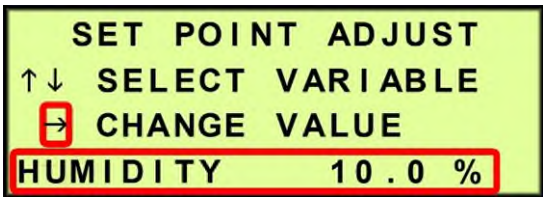
8.4.3.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).



8.4.3.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

8.4.4 High Humidity Alarm Set Point (default setting is 10.0%) –

8.4.4.1 Press the Right (→) Arrow Button to access the Change Value Screen.

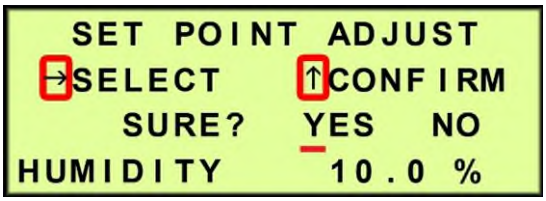


8.4.4.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digit to change.

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

8.4.4.4 Press the Right (→) Arrow Button until the underscore disappears.

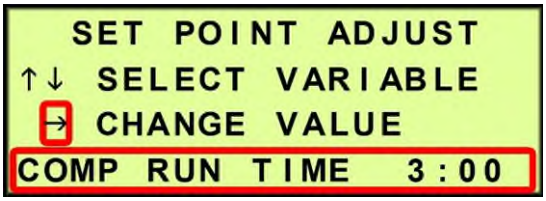
8.4.4.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).



8.4.4.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

8.4.5 High Compressor Last Run Time Alarm Set Point (default setting is 3:00 minutes) –

8.4.5.1 Press the Right (→) Arrow Button to access the Change Value Screen.



8.4.5.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digit to change.

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

8.4.5.4 Press the Right (→) Arrow Button until the underscore disappears.

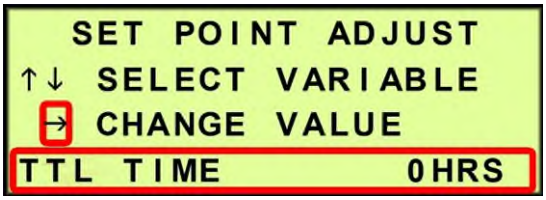
8.4.5.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).

8.4.5.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

8.4.6 Compressor Total Time Reset –

The Total Time (**TTL TIME**) is the time the Compressor runs measured in hours since startup or the last time the Compressor time counter was reset. The dryer will display an alarm when this counter has reached 8,000 hours, signaling is it time for maintenance.

8.4.6.1 Press the Right (→) Arrow Button to access the Change Value Screen.

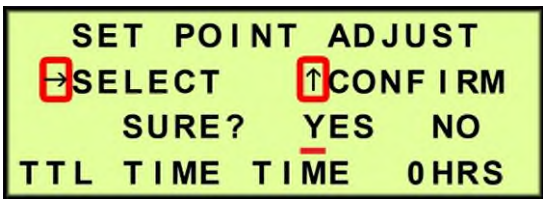


8.4.6.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digits to change to zero (0).

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

8.4.6.4 Press the Right (→) Arrow Button until the confirmation screen appears.

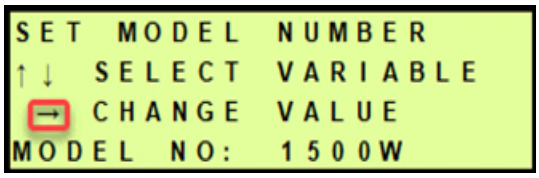
8.4.6.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).



8.4.6.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

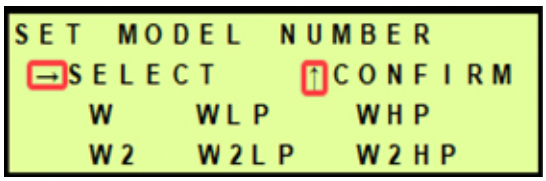
8.4.7 System Units–

8.4.7.1 Press the and hold the Left Arrow (←) . While holding the Left Arrow (←), press and release the Down arrow (↓). This will open the "Set Model Number" menu.



8.4.7.2 Navigate to the model selection menu by pressing the right arrow (→).

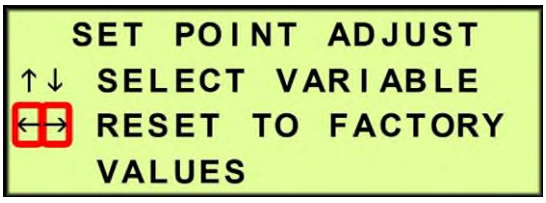
8.4.7.3 The models types listed determine the units that are displayed. Models that begin with "W2" will display Metric units, while units that begin with "W" will display Imperial Units.



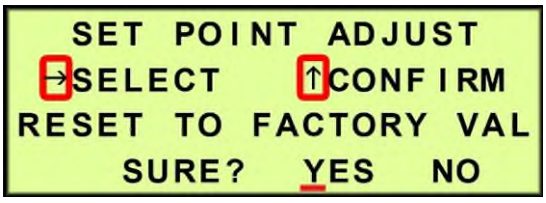
8.4.7.4 Using the Right arrow select your model with your desired units. To confirm your model selection press the Up Arrow (↑).

8.4.8 Reset to Factory Values –

8.4.8.1 Press the Left (←) & Right (→) Arrow Buttons at the same time.



8.4.8.2 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).



8.4.8.3 Press the Up (↑) Arrow to confirm. This will lock in the factory default values.

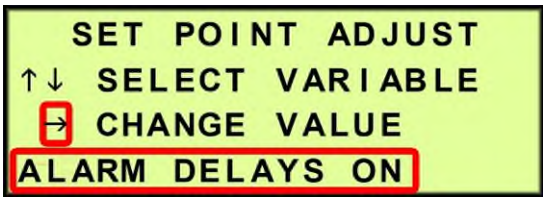
8.4.9 Alarm Delays Set Point -

The Alarm Delay allows the dryer to come out of the alarm condition on its own without signaling an alarm.

ON (default) – waits one (1) minute before signaling alarms

OFF – signals alarms immediately

8.4.9.1 Press the Right (→) Arrow Button to change the value.



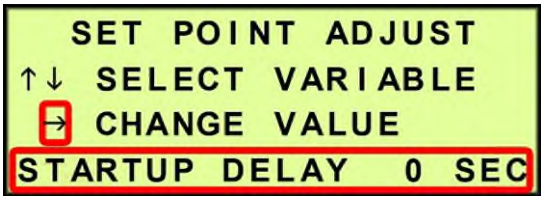
8.4.9.2 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**OFF** or **ON**).

8.4.9.3 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

8.4.10 Startup Delay Set Point (default setting is 0 sec) –

The Startup Delay keeps the Compressor from turning on immediately when the dryer is powered on for up to 10 seconds. This allows multiple dryers to power on in separate intervals in case of a power loss.

8.4.10.1 Press the Right (→) Arrow Button to access the Change Value Screen.

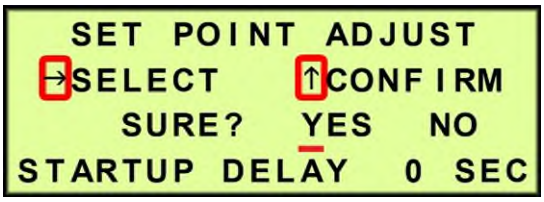


8.4.10.2 Press the Right (→) & Left (←) Arrow Buttons to move the underscore beneath the digit to change.

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

8.4.10.4 Press the Right (→) Arrow Button until the underscore disappears.

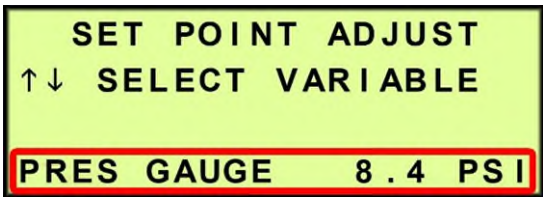
8.4.10.5 Press the Right (→) Arrow Button until the underscore appears under the correct setting (**YES** or **NO**).



8.4.10.6 Press the Up (↑) Arrow to confirm. This will lock in the new setting value.

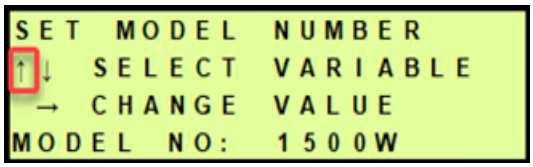
8.4.11 Pressure Gauge –

This is an information screen only and will not time-out, returning to the cycling information screens. It also masks air dryer alarms while in use. This screen can be used during air dryer troubleshooting.



In the Setup Menu:

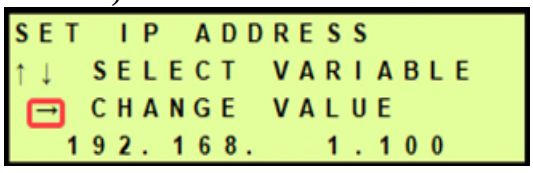
8.4.12 Press the and hold the Left Arrow (←) . While holding the Left Arrow (←), press and release the Down arrow (↓). This will open the "Set Model Number" menu.



8.4.12.1 Press the Up (↑) Arrow to access various Network Settings.

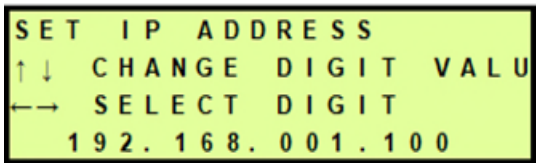
8.4.13 Set IP Address (default is 192.168.1.100)

8.4.13.1 Press the Right (→) Arrow Button to access the edit screen.

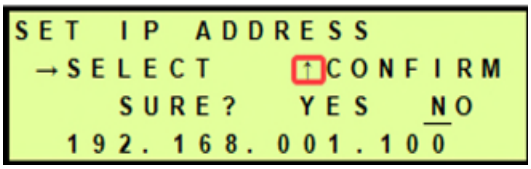


8.4.13.2 Press the Left (←) & Right (→) Arrow Buttons to Select the digit to change.

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



8.4.13.4 When desired value is displayed, press the Right (→) Arrow Button until the confirmation screen appears.

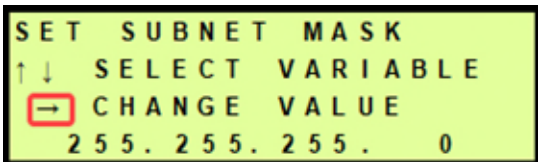


8.4.13.5 Press the Right (→) Arrow Button to Select the correct choice (**Y**es or **N**o).

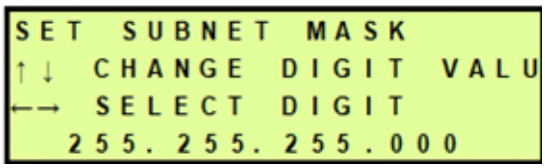
8.4.13.6 Press the Up (↑) Arrow to confirm the selected choice. This will lock in the new setting.

8.4.14 Set Subnet Mask (default is 255.255.255.000) –

8.4.14.1 Press the Right (→) Arrow Button to access the edit screen.



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

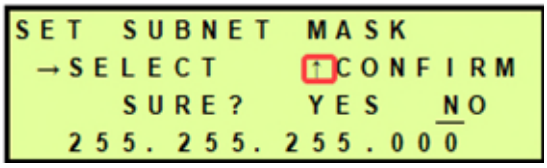


8.4.14.3 Press the Up (↑) & Down (↓) Arrow Buttons to Change the value of the selected digit.

8.4.14.4 When desired value is displayed, press the Right (→) Arrow Button until the confirmation screen appears.

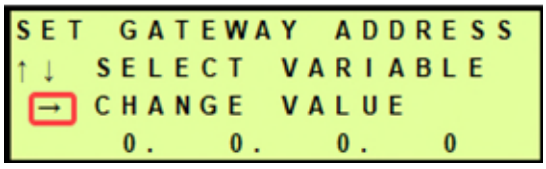
8.4.14.5 Press the Right (→) Arrow Button to Select the correct choice (**Y**es or **N**o).

8.4.14.6 Press the Up (↑) Arrow to confirm the selected choice. This will lock in the new setting.



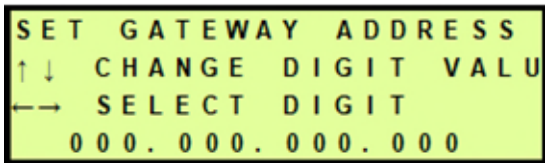
8.4.15 Set Gateway Address (default is 000.000.000.000) –

8.4.15.1 Press the Right (→) Arrow Button to access the edit screen.



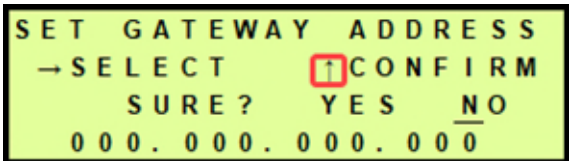
8.4.15.2 Press the Left (←) & Right (→) Arrow Buttons to Select the digit to change.

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



8.4.15.4 When desired value is displayed, press the Right (→) Arrow Button until the confirmation screen appears.

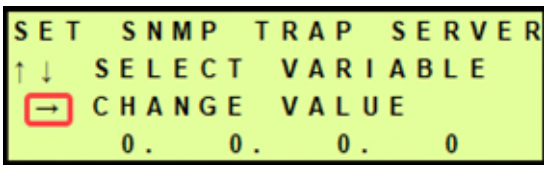
8.4.15.5 Press the Right (→) Arrow Button to Select the correct choice (**Y**es or **N**o).



8.4.15.6 Press the Up (↑) Arrow to confirm the selected choice. This will lock in the new setting.

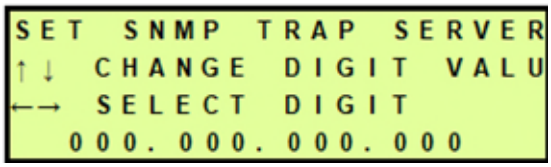
8.4.16 Set SNMP Trap Server (default is 000.000.000.000) –

8.4.16.1 Press the Right (→) Arrow Button to access the edit screen.



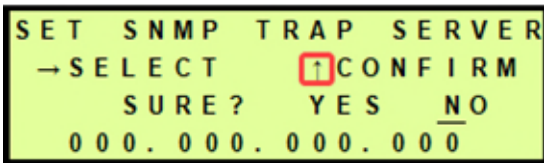
8.4.16.2 Press the Left (←) & Right (→) Arrow Buttons to Select the digit to change.

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



8.4.16.4 When desired value is displayed, press the Right (→) Arrow Button until the confirmation screen appears.

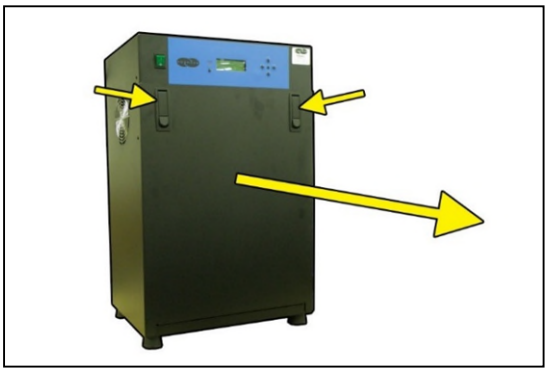
8.4.16.5 Press the Right (→) Arrow Button to Select the correct choice (**Y**es or **N**o).



8.4.16.6 Press the Up (↑) Arrow to confirm the selected choice. This will lock in the new setting.

8.5 Open Front Panel

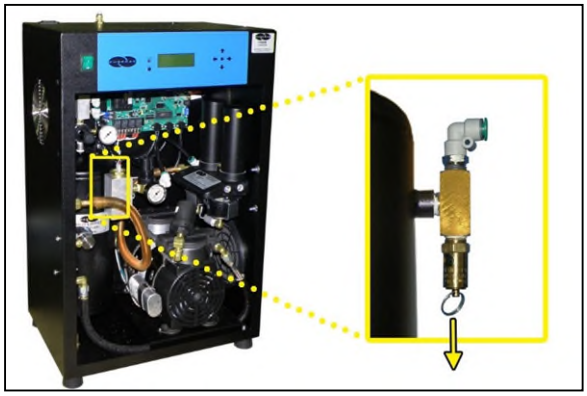
8.5.1 Open Front Panel locking latches and remove the Front Panel.



8.6 Depressurizing the Dryer

8.6.1 Open Front Panel (section 8.5).

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



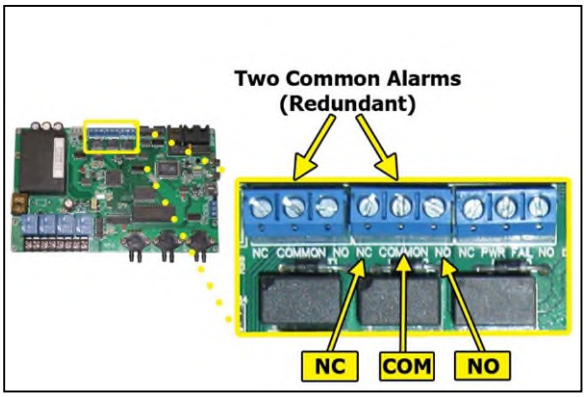
8.6.3 To prevent pressure from building back up, power the dryer **OFF**

8.6.4 Close Front Panel.

8.7 Connecting to Common Alarm Terminals

8.7.1 Locate the external Common Alarm pins on the Control Board

8.7.2 Wire the Common Alarm wire pair to the Control Board as required:



- **COMMON** & **NO** for CLOSE ON ALARM operation.
- **NC** & **COMMON** for OPEN ON ALARM operation.

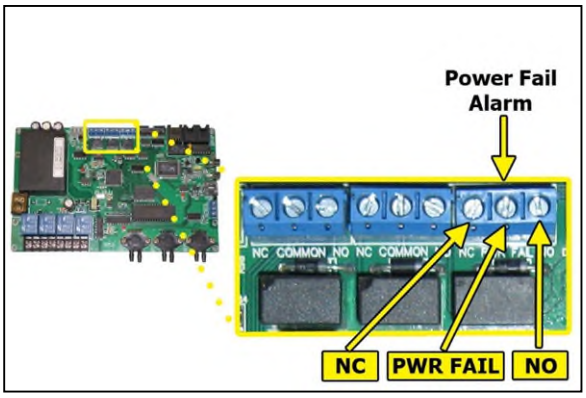
8.7.3 Close Panel.

8.8 Connecting to Power Fail Alarm Terminals

8.8.1 Open Panel

8.8.2 Locate the external Power Fail pins on the Control Board.

8.8.3 Wire the Power Fail Alarm wire pair to the Control Board as required:



- **PWR FAIL** & **NC** for CLOSE ON ALARM operation.
- **NO** & **PWR FAIL** for OPEN ON ALARM operation

8.8.4 Close Panel.

8.9 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 is 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 UTP Port on the Control Board 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.

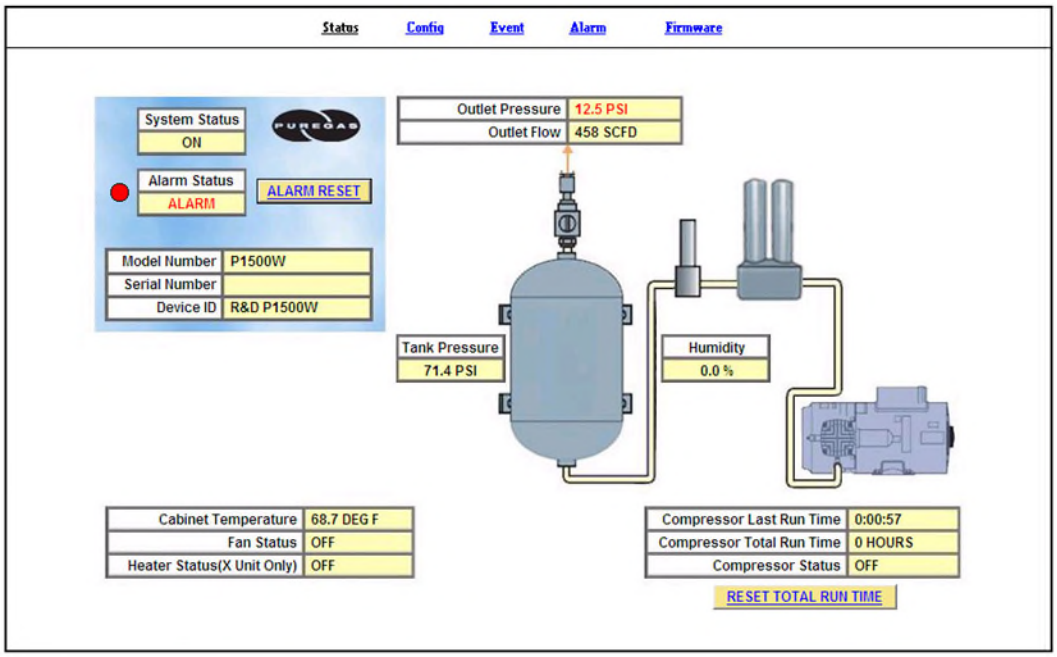
8.9.1 Type the IP Address of the BD1500W Series air Dryer in the Address text box of the web browser.

The Web Browser connection offers five (5) screens to the user:

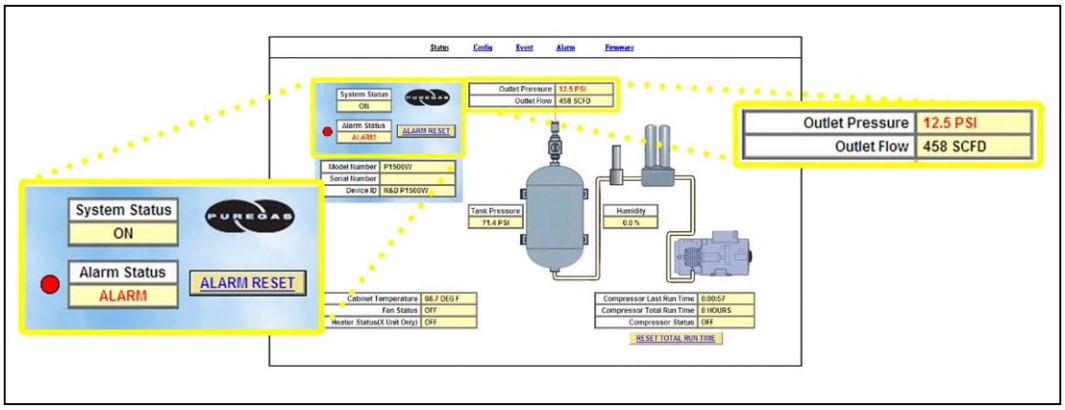
- **Status Screen** - Displays the readings and alarms monitored in the BD1500W Series Air Dryer. Provides remote ALARM RESET.
- **Setup Screen** - All configurations of Set Points, Setups, and Keyword can be made in this screen.
- **Event/Alarm Screen** - Displays all events such as alarms, changes made, and alarm resets registered by the BD1500W Series Air Dryer. This screen is informational only.
- **Firmware Screen** – Allows the user to upload any software updates or upgrades to the Air Dryer.

8.10 Using the Status Screen

Displays the readings and alarms monitored in the BD1500W Series Air Dryer. Provides remote ALARM RESET.



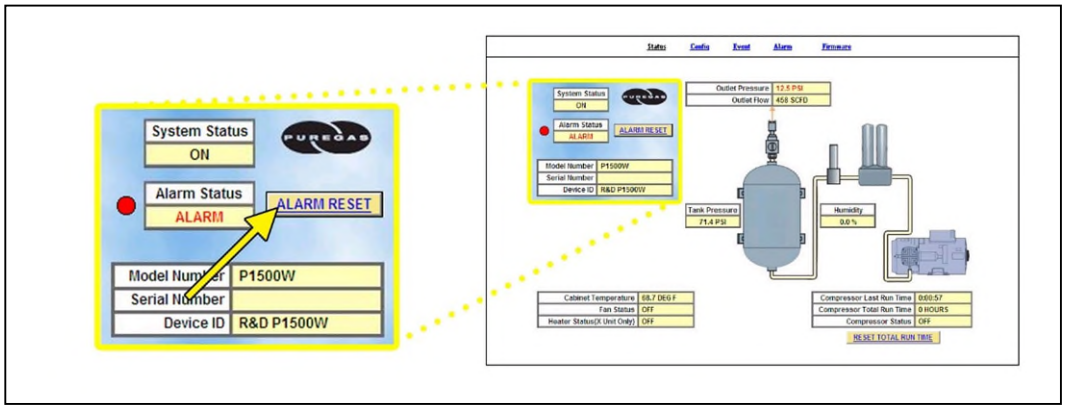
- Readings are displayed in **BLACK** unless an alarm is present.
- Alarms are displayed in **RED** next to the parameter in alarm.



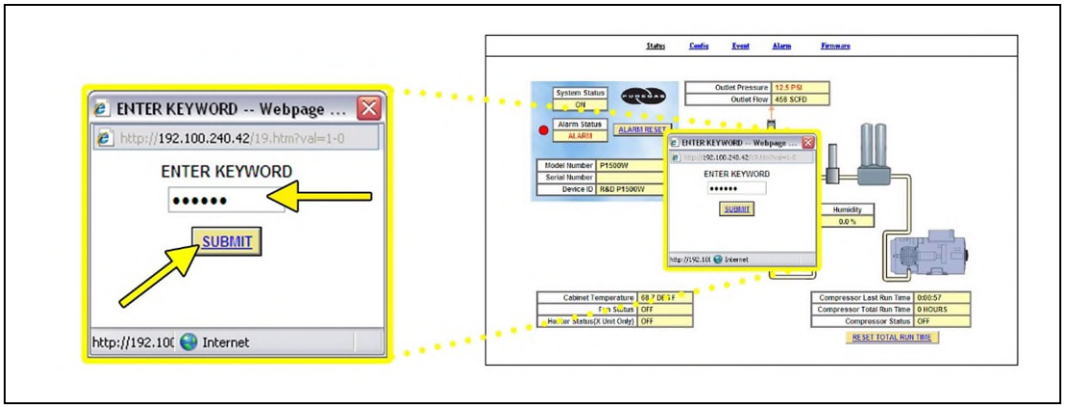
- Alarm Status will display **Alarm** if any alarms are present.
- Keyword validation is required for ALARM RESET and RESET TOTAL RUN TIME.

8.10.1 Resetting an Alarm

8.10.1.1 Click on the **ALARM RESET** Button to remotely reset Air Dryer alarms displayed on Status Screen.



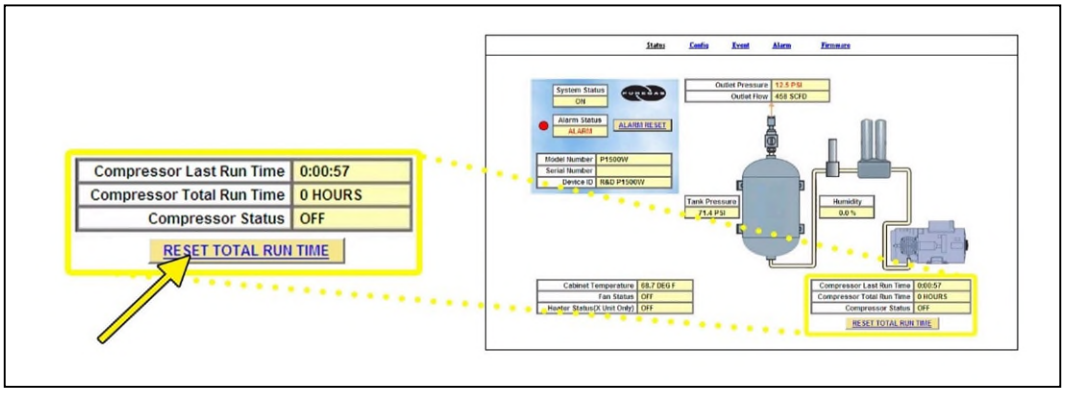
8.10.1.2 Enter Keyword (default is 123456)



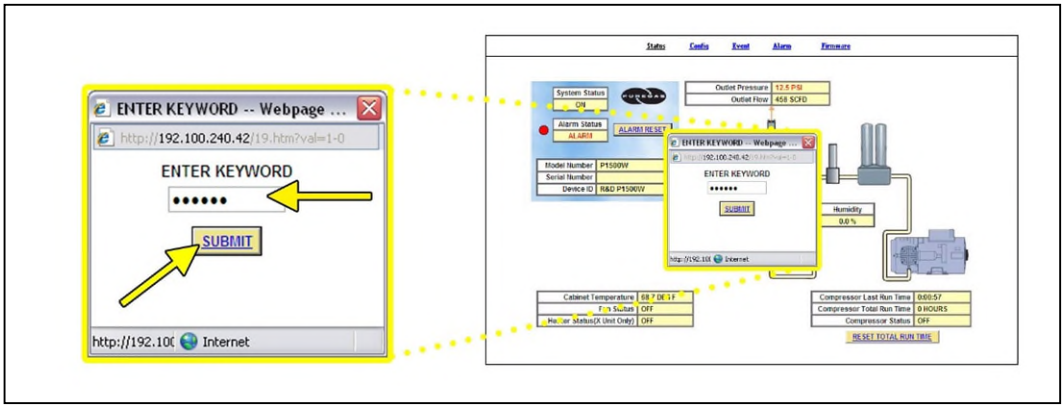
8.10.1.3 Click on **SUBMIT** Button when done.

8.10.2 Resetting Compressor Total Run Time

8.10.2.1 Click on the **RESET TOTAL RUN TIME** Button to remotely reset Compressor Total Run Time displayed on Status Screen.



8.10.2.2 Enter Keyword (default is 123456)

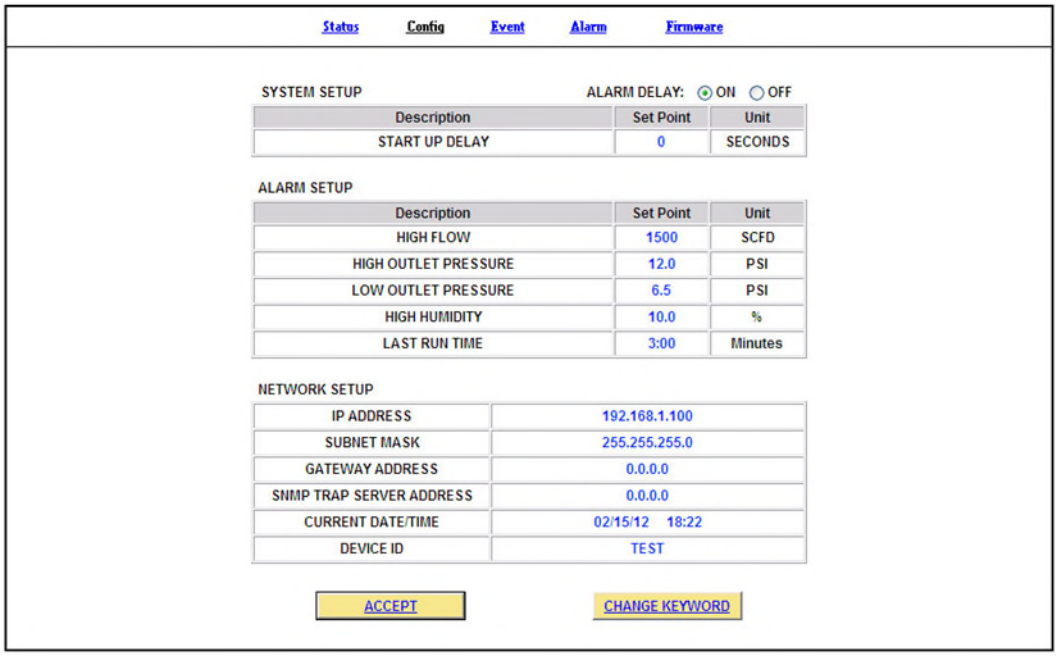


8.10.2.3 Click on **SUBMIT** Button when done.

8.11 Using the Configuration Screen

All configuration of Set Points, Setups, and Keyword can be made in this screen.

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



- Values in **BLUE** represent the current setting.

- The **Enter Key** is used to change values.

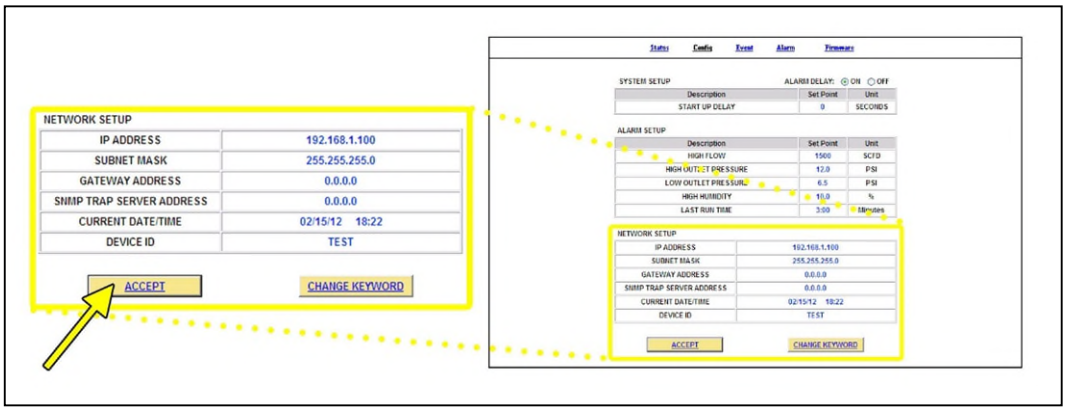
- Clicking the Keyword allows you to configure a new Keyword.

- Keyword validation is required for the following:
  - Changing a Set Point value
  - Changing the Keyword

8.11.1 Changing a Set Point or Setup value:

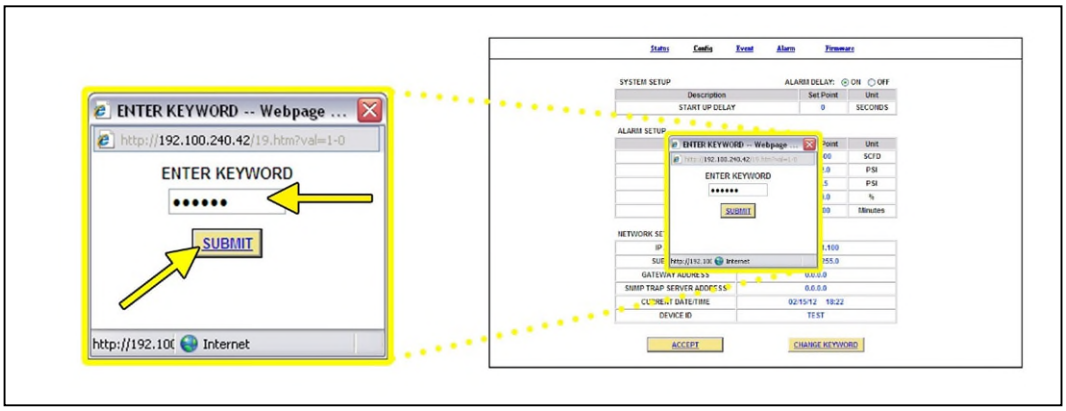
8.11.1.1 Click on the value to change.

8.11.1.2 Type in the new value.



8.11.1.3 Click the **ACCEPT** Button when done.

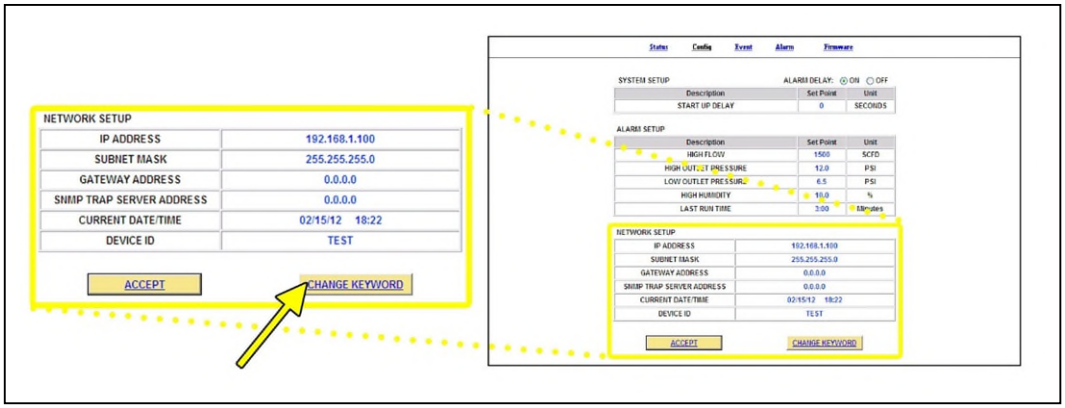
8.11.1.4 Enter Keyword (default is 123456)



8.11.1.5 Click on **SUBMIT** Button when done. This will lock in the new setting value.

8.11.2 Changing the Keyword

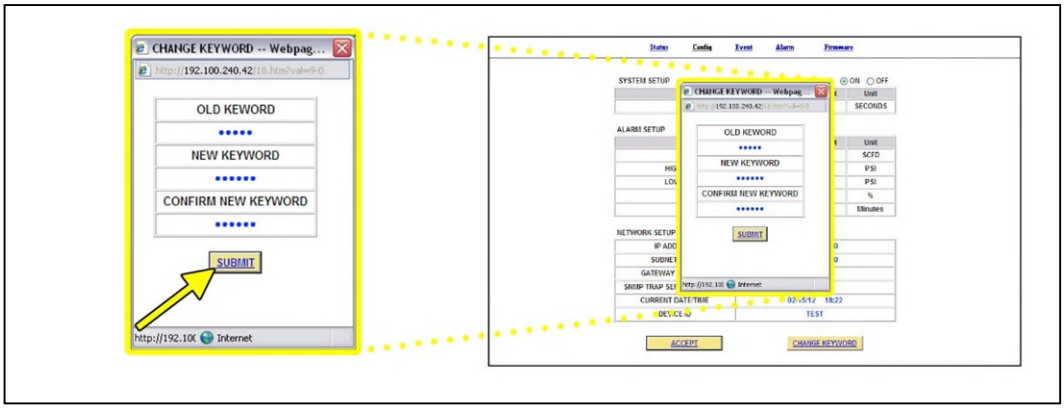
8.11.2.1 Click on **CHANGE KEYWORD** Button to change the keyword.



8.11.2.2 Type the Old Keyword.

8.11.2.3 Type the New Keyword.

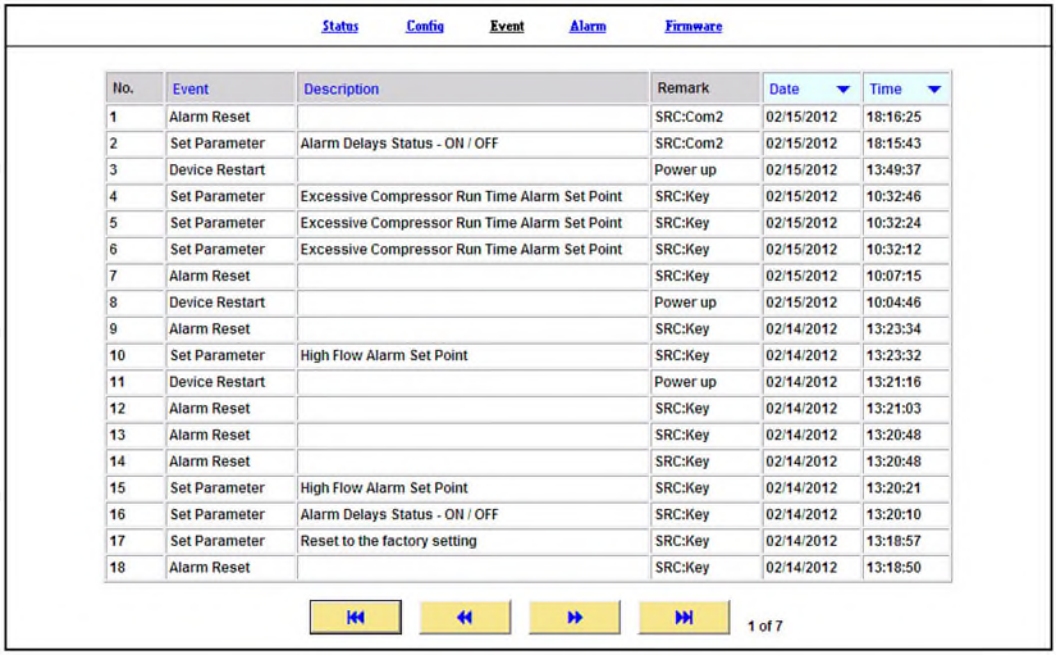
8.11.2.4 Type the Confirm New Keyword.



8.11.2.5 Click on **SUBMIT** Button to confirm. This will lock in the new setting value.

8.12 Using the Event/Alarm Screen

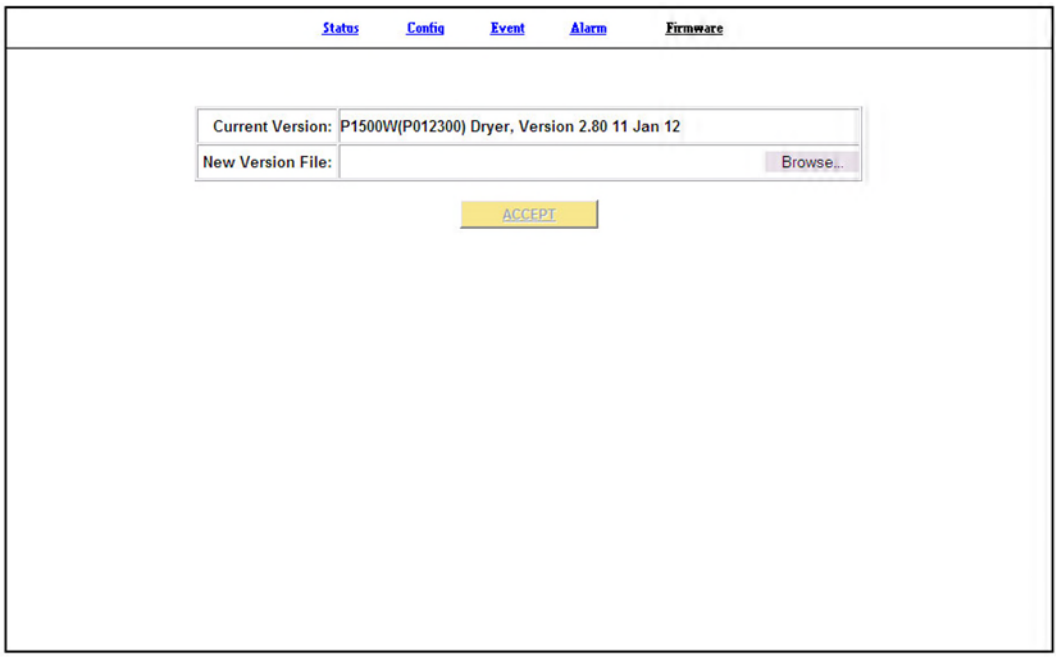
Displays all events such as alarms, changes made, and alarm resets registered by the BD1500W Series Air Dryers. This screen is informational only.



No.	Event	Description	Remark	Date	Time
1	Alarm Reset		SRC:Com2	02/15/2012	18:16:25
2	Set Parameter	Alarm Delays Status - ON / OFF	SRC:Com2	02/15/2012	18:15:43
3	Device Restart		Power up	02/15/2012	13:49:37
4	Set Parameter	Excessive Compressor Run Time Alarm Set Point	SRC:Key	02/15/2012	10:32:46
5	Set Parameter	Excessive Compressor Run Time Alarm Set Point	SRC:Key	02/15/2012	10:32:24
6	Set Parameter	Excessive Compressor Run Time Alarm Set Point	SRC:Key	02/15/2012	10:32:12
7	Alarm Reset		SRC:Key	02/15/2012	10:07:15
8	Device Restart		Power up	02/15/2012	10:04:46
9	Alarm Reset		SRC:Key	02/14/2012	13:23:34
10	Set Parameter	High Flow Alarm Set Point	SRC:Key	02/14/2012	13:23:32
11	Device Restart		Power up	02/14/2012	13:21:16
12	Alarm Reset		SRC:Key	02/14/2012	13:21:03
13	Alarm Reset		SRC:Key	02/14/2012	13:20:48
14	Alarm Reset		SRC:Key	02/14/2012	13:20:48
15	Set Parameter	High Flow Alarm Set Point	SRC:Key	02/14/2012	13:20:21
16	Set Parameter	Alarm Delays Status - ON / OFF	SRC:Key	02/14/2012	13:20:10
17	Set Parameter	Reset to the factory setting	SRC:Key	02/14/2012	13:18:57
18	Alarm Reset		SRC:Key	02/14/2012	13:18:50

8.13 Using the Firmware Screen

Displays the current firmware version and date of the BD1500W Series Air Dryers.



- **Current Version:** Displays the current firmware version of the BD1500W Air Dryer.

- **New Version File:** Displays the new location and new firmware version chosen.

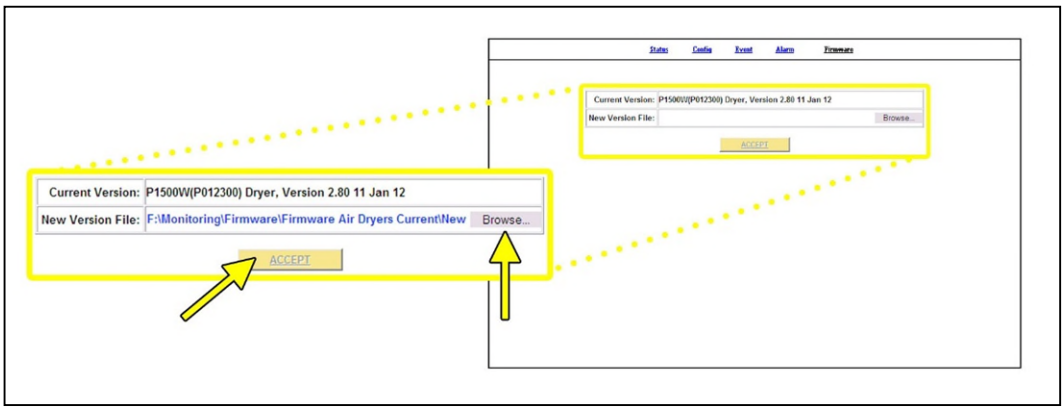
- The **BROWSE** Button allows you to locate the new firmware file.

- The **ACCEPT** Button is used to change values.

- Keyword validation is required to update firmware.

8.13.1 Updating the Firmware:

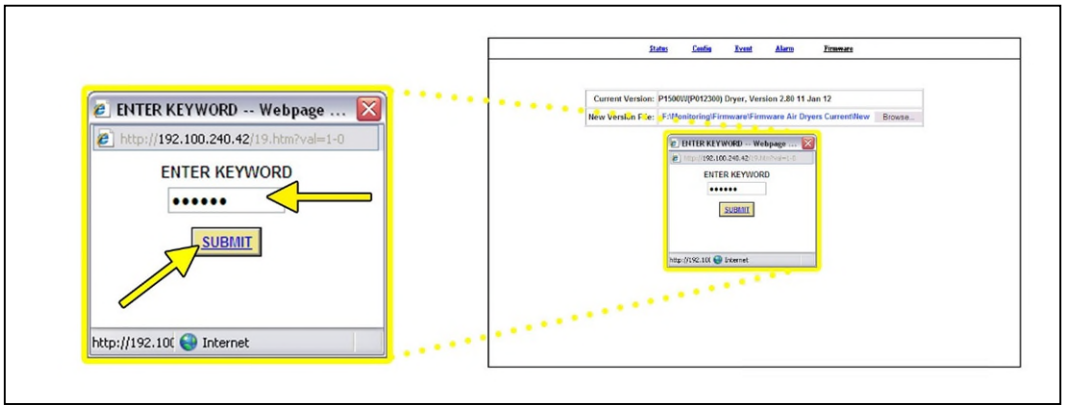
8.13.1.1 Click on **BROWSE** Button to locate the firmware file.



8.13.1.2 Navigate and select the correct .bin file. Press the **OK** Button.

8.13.1.3 Click the **ACCEPT** Button.

8.13.1.4 Enter Keyword (default is 123456)



8.13.1.5 Click on **SUBMIT** Button when done. This will lock in the new firmware version.

8.14 Connecting via SNMP

Using SNMP to connect and communicate with the BD1500W 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 BD1500W 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 including Limits, Defaults, and Formats.

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.

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

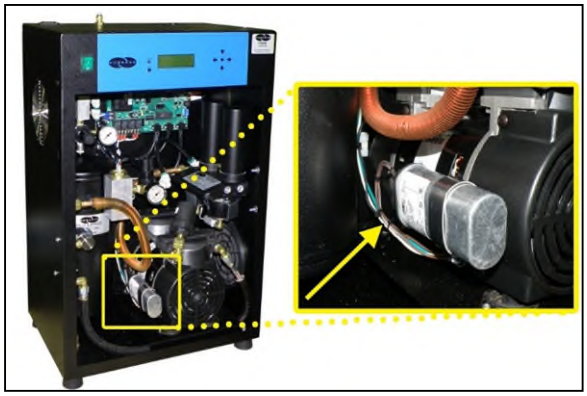
WARNING!

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.

With the Compressor running:

9.2.1 Open Front Panel (section 8.5).

9.2.2 Locate wire #5 coming directly from the Compressor.



9.2.3 Use an Amp Meter to measure the running amps. With the Compressor running, the running amps should measure:

- **6.3 amps or below** for the BD1500W & BD1500WLP models
- **3.2 or below** for the BD1502W & BD1502WLP models

If the Compressor measures over running amps indicated above, see section 13.16 for troubleshooting information.

9.2.4 Close Front Panel.

9.3 Measuring Compressor Voltage

WARNING!

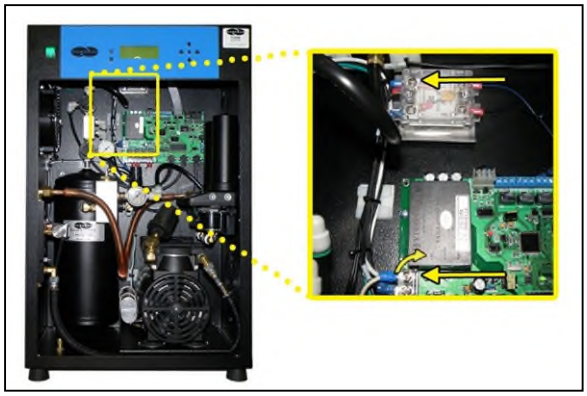
Extreme care should be exercised to avoid contact with live electrical circuits. It is highly recommended that you remove all jewelry before performing any procedures.

9.3.1 Power the air dryer **OFF**

9.3.2 Open Front Panel (section 8.5).

9.3.3 Depressurize the air dryer (section 8.5.1).

9.3.4 Locate wire #5 at the solid-state relay and wire #6 on Control Board.

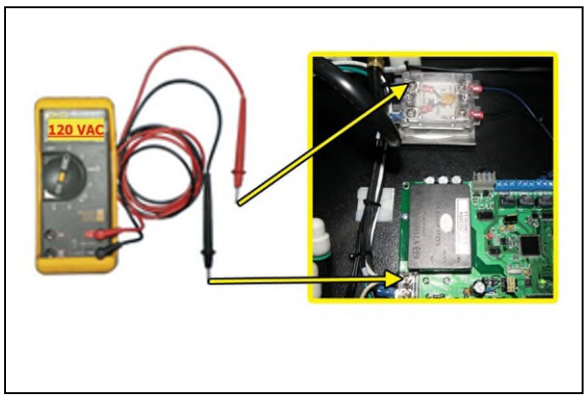


9.3.5 Lift plastic cover on Control Board over wire #6.

9.3.6 Power the air dryer ON

9.3.7 Use a Voltmeter to measure the voltage:

9.3.7.1 Place the probes over terminals for wire #5 and wire #6.



The voltage should measure:

- **110 - 125 VAC** for the BD1500W & BD1500WLP models
- **208 - 230 VAC** for the BD1502W & BD1502WLP models

9.3.8 Close plastic cover on Control Board over wire #6.

9.3.9 Close Front Panel.

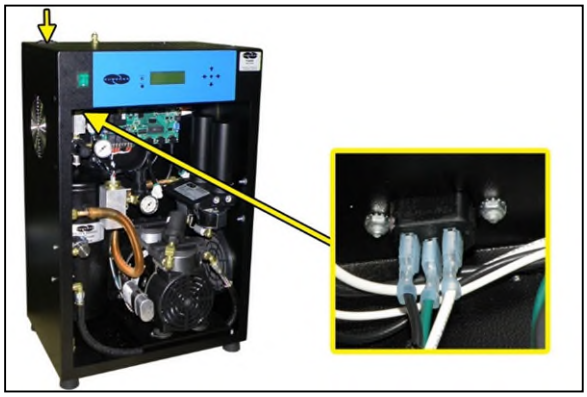
9.4 Measuring Incoming Voltage

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.

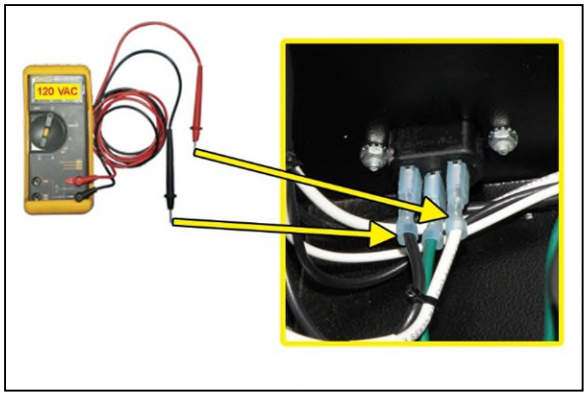
9.4.1 Open Front Panel (section 8.5).

9.4.2 Locate the Incoming **POWER** connector inside the dryer.



9.4.3 Use a Voltmeter to measure the voltage (inside dryer):

9.4.3.1 Place the probes between the Power Connector and terminal insulation so that they touch the metal contacts for BLACK (BROWN) wire and WHITE (BLUE) wire.



The voltage should measure:

- **110 - 125 VAC** for the BD1500W & BD1500WLP models
- **208 - 230 VAC** for the BD1502W & BD1502WLP models

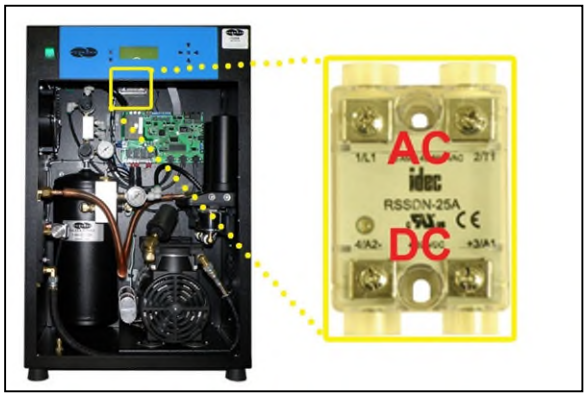
If the incoming voltage measures less than indicated above, it is recommended that steps be taken at your facility to bring the power to the recommended level of voltage.

9.4.4 Close Front Panel.

9.5 Measuring Voltages at Solid State Relay

9.5.1 Open Front Panel (section 8.5).

9.5.2 Locate the Solid-State Relay inside the dryer at the top of back wall.

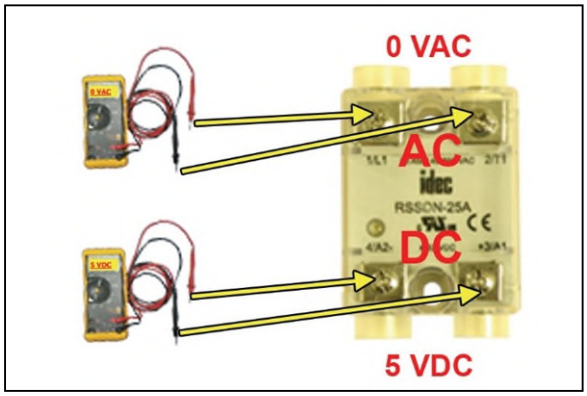


With Compressor running:

9.5.3 Use a Voltmeter to measure across the AC terminals. Should measure **0 VAC**.

9.5.4 Use a Voltmeter to measure across the DC terminals.

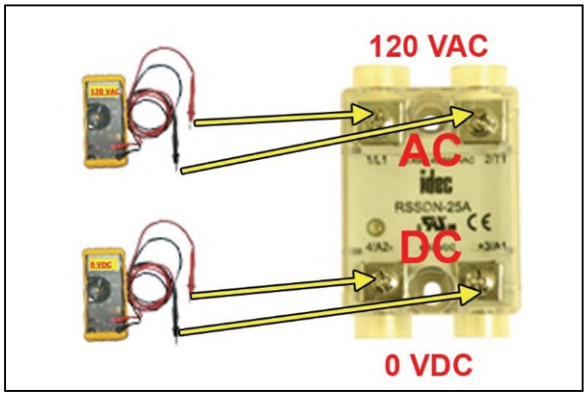
Should measure: **5 VDC**



With Compressor NOT running:

9.5.5 Use a Voltmeter to measure across the AC terminals. Should measure:

- **110 - 125 VAC** for the BD1500W & BD1500WLP models
- **208 - 230 VAC** for the BD1502W & BD1502WLP models



9.5.6 Use a Voltmeter to measure across the DC terminals. Should measure **0 VDC**.

9.5.7 Close Front Panel.

If any of the AC voltage measurements are different than indicated above, the Solid-State Relay is defective and should be replaced.

If any of the DC voltage measurements are different that indicated above, the Control Board may be defective and should be replaced.

See sections 11.1 for part detail and 11.7 for ordering information.

9.6 Testing Consistent Heatless Dryer Cycling

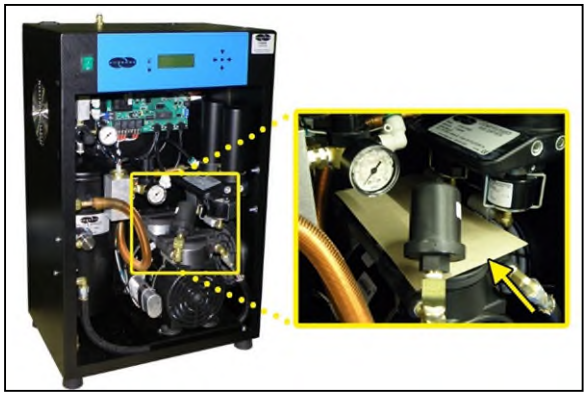
WARNING!

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.

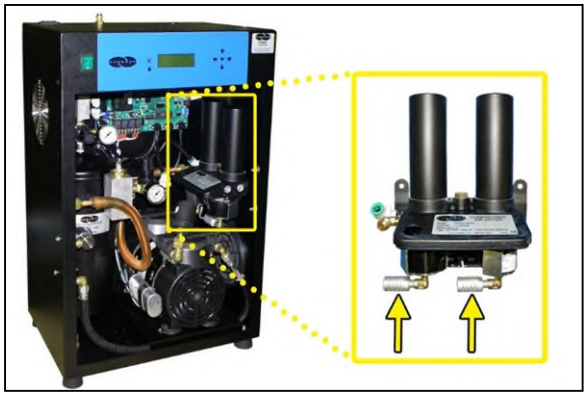
With Compressor running:

9.6.1 Open Front Panel (section 8.5).

9.6.2 Place a piece of insulating material over the Compressor for this test *(i.e. piece of cardboard).*

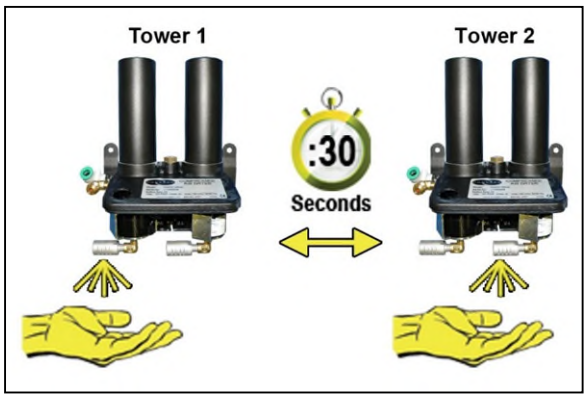


9.6.3 Locate the heatless dryer purge solenoids inside the air dryer.



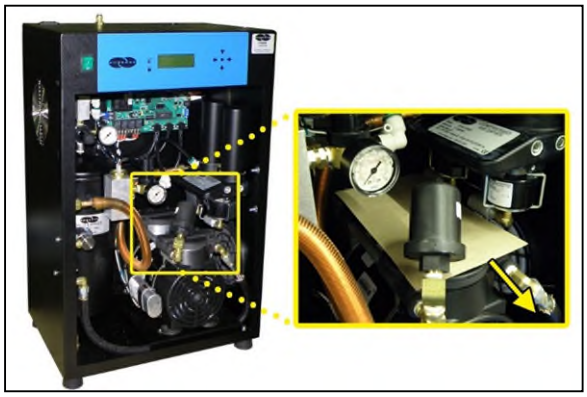
9.6.4 Place your hand beneath the purge solenoids to feel for purging air. Air should:

- Purge from Tower 1 side
- Purge from Tower 2 side **30 Seconds** later
- Purge from Tower 1 side **30 Seconds** later
- …and so on.



9.6.5 Remove insulating material from top of the Compressor.

9.6.6 Close Front Panel.



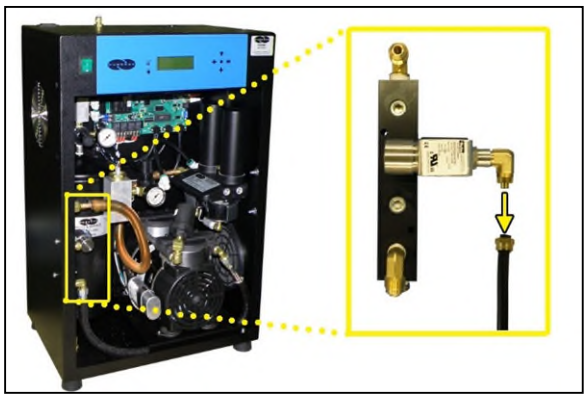
If the Heatless Dryer is not cycling consistently as described, see section 13.13 for troubleshooting information.

9.7 Testing Unloader Valve

With Compressor running:

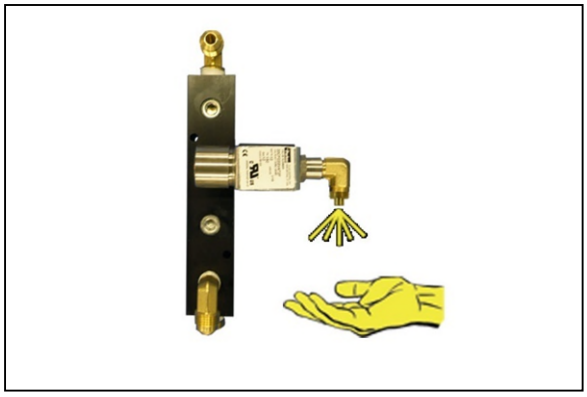
9.7.1 Open Front Panel (section 8.5).

9.7.2 Locate the Unloader Valve on the left side of the Dryer.



9.7.3 With a 9/16" wrench disconnect hose from the Unloader Valve.

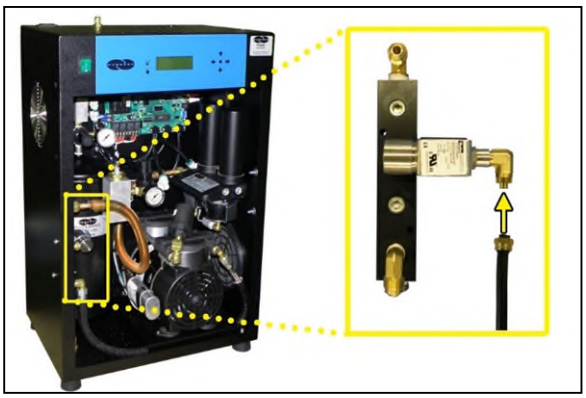
9.7.4 Place your hand under the Unloader Valve to verify for air flow.



The Unloader Valve should purge all the head pressure when the Compressor turns off, and for approximately 2 seconds when the Compressor starts up again.

If air flows from this valve continuously the Unloader Valve is defective and should be replaced. See sections 11.2 for part detail and 11.7 for ordering information.

9.7.5 With a 9/16" wrench connect hose to the Unloader Valve.



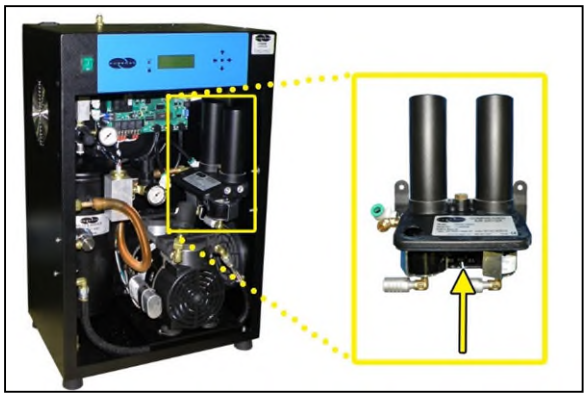
9.7.6 Close Front Panel.

9.8 Measuring Heatless Dryer Solenoid Voltage

With Compressor running:

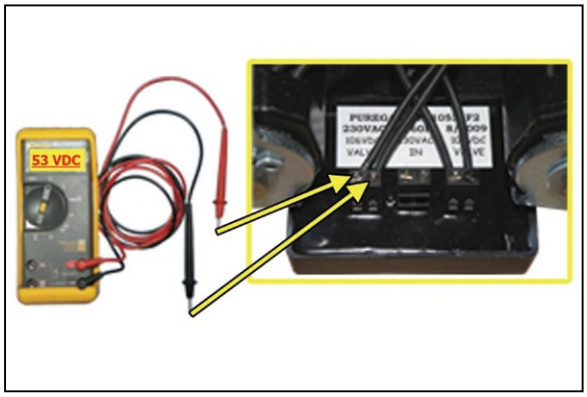
9.8.1 Open Front Panel (section 8.5).

9.8.2 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

9.8.3 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 BD1500W & BD1500WLP models
- **106 VDC** for the BD1502W & BD1502WLP models

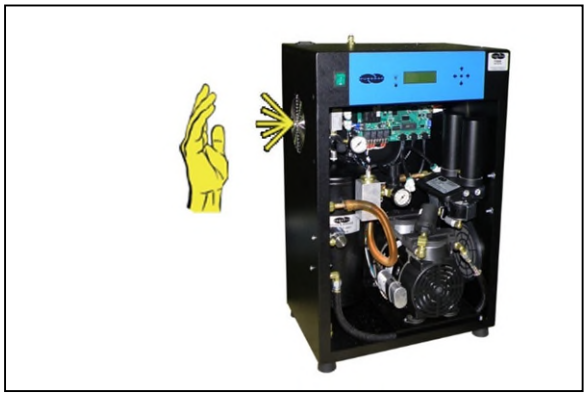
9.8.4 Close Front Panel.

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 11.3 for part detail and 11.7 for ordering information.

9.9 Testing Air Dryer Fan

NOTE: To test the fan, the cabinet temperature must be above 90°F (32.2°C).

9.9.1 Place your hand outside the dryer to feel for air being blown outwards.



NOTE: The fan will turn OFF when the cabinet temperature is below 80°F (26.7°C).

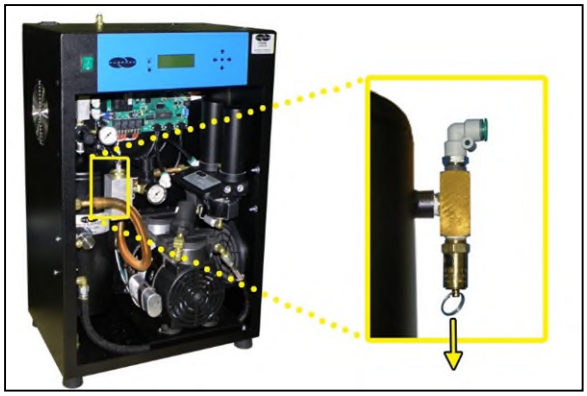
If the fan is not blowing air outwards as described:

- *Verify the cabinet temperature is above 90°F (32.2°C).*
- *Check for loose wiring. Refer to the Wiring Diagram (section 14.1)*
- *Replace defective fan (see sections 11.1 for part detail and 11.7 for ordering information).*
- *Replace defective Control Board if fan does not respond properly to temperature changes (see sections 11.2 for part detail and 11.7 for ordering information).*

9.10 Testing Safety Relief Valve

9.10.1 Open Front Panel (section 8.5).

9.10.2 Pull the ring handle on the Safety Relief Valve to verify air pressure is released.



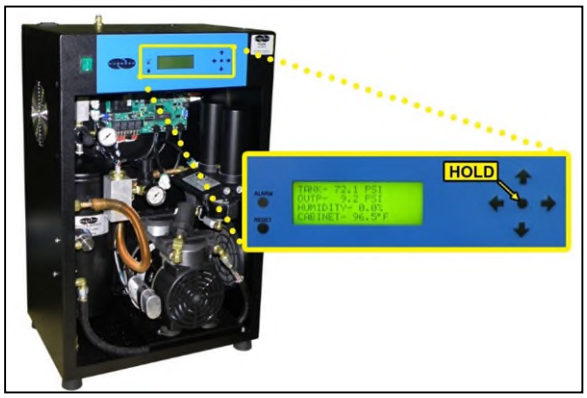
9.10.3 Release ring handle and verify that no air is leaking from the valve.

9.10.4 Close Front Panel.

If the Safety Relief Valve fails either test described, it must be replaced. See sections 11.2 for part detail and 11.7 for ordering information.

9.11 Testing Compressor ON/OFF Cycling

9.11.1 Open Front Panel (section 8.5).



9.11.2 When the Unit Screen (8.2.5.1) appears on the display, press the **HOLD Button** on the Front Panel to freeze that screen.

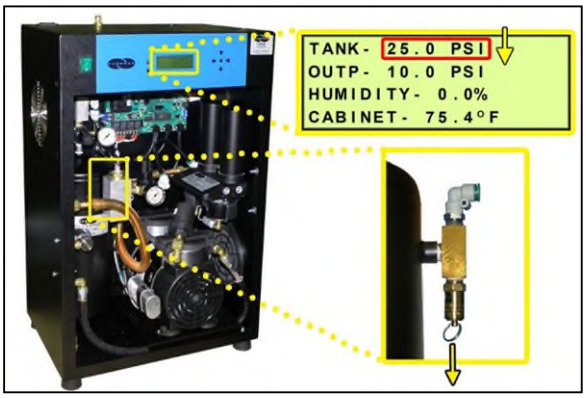
With Compressor running:

9.11.3 Verify the Compressor shuts down when the tank pressure (**TANK**) reaches **90.0 PSI (620.5 KPa)**.

*If the tank pressure (**TANK**) fails to reach 90 PSI (620.5 KPa), see section 13.15 for troubleshooting information.*

With Compressor NOT running:

9.11.4 Pull the ring handle on the Safety Relief Valve to release air pressure from the air tank.



9.11.5 Verify the Compressor turns on when the tank pressure (**TANK**) falls to:

- **25.0 PSI* (172.4 KPa)** for the BD1500W/2, BD1500WLP, BD1502W, & BD1502WLP models. **(50 PSI (344.7 KPa) for Dryers using Firmware v2.84 and older)*

9.11.6 Close Front Panel

If the Compressor Cycling fails either test described, it indicates a problem with the Control Board which will need to be replaced. See sections 11.2 for part detail and 11.7 for ordering information.

9.12 Testing High Compressor Last Run Time Alarm

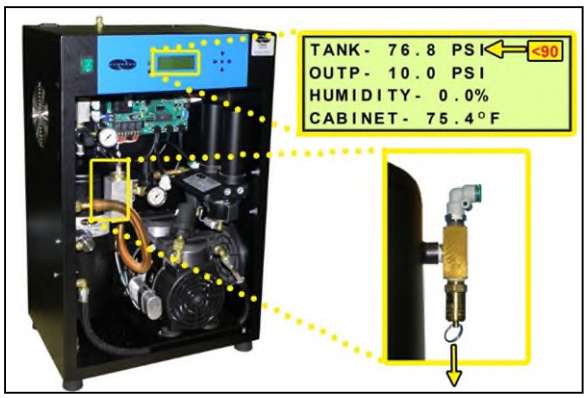
NOTE: For this test, allow the Display Screen to cycle through the information screens.

9.12.1 Open Front Panel (section 8.5).

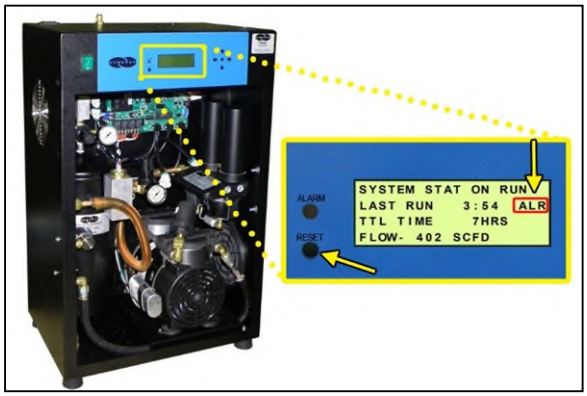
9.12.2 Start timing when the Compressor turns on.

9.12.3 Pull the ring handle on the Safety Relief Valve (when necessary) to keep the Tank Pressure (**TANK**) from reaching **90 PSI (650.5 KPa).**

This prevents the Compressor from shutting down.



When the Compressor runs for 3:00 minutes (unless adjusted to a different Set Point by the user), a High Compressor Last Run Time (**LAST RUN**) alarm should appear on the System Screen.



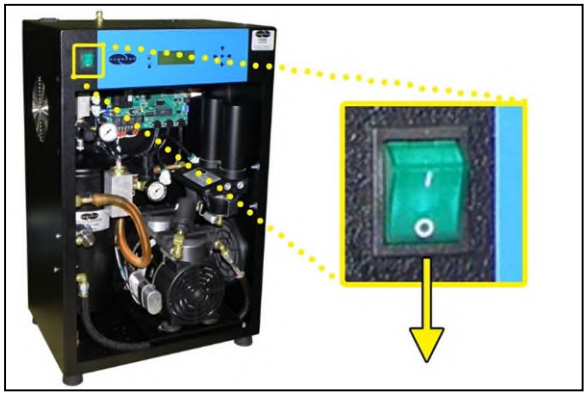
9.12.4 Press the **RESET Button**.

9.12.5 Close Front Panel.

*If you are unable to create a High Compressor Last Run Time (**LAST RUN**) alarm as described, see section 13.18 for troubleshooting information.*

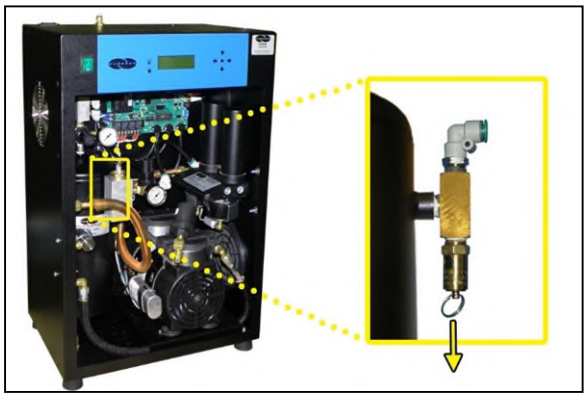
9.13 Testing Humidity Alarm and System Shutdown

9.13.1 Power the air dryer **OFF**.

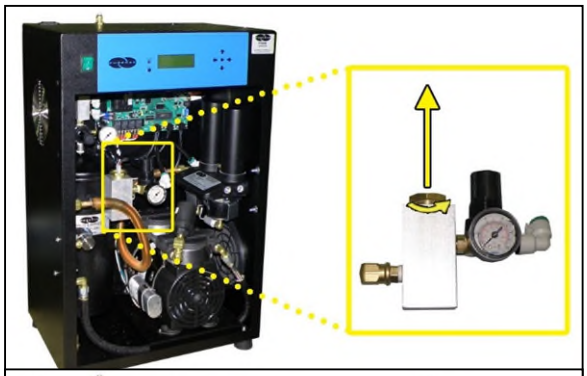


9.13.2 Open Front Panel (section 8.5).

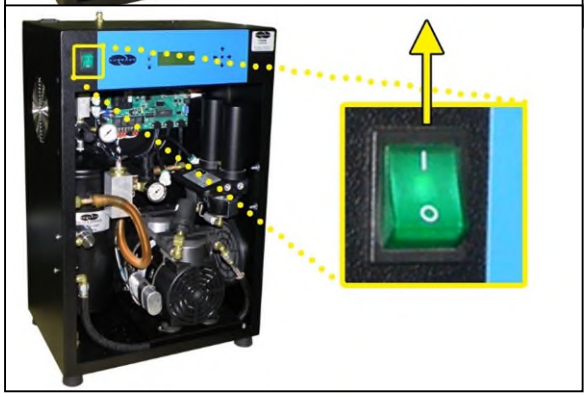
9.13.3 Depressurize the air dryer.



9.13.4 Unscrew and remove the Humidity Sensor from the Humidity Block.

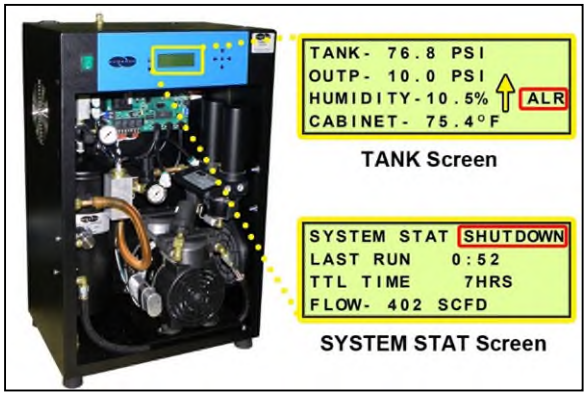


9.13.5 Power the air dryer **ON**.

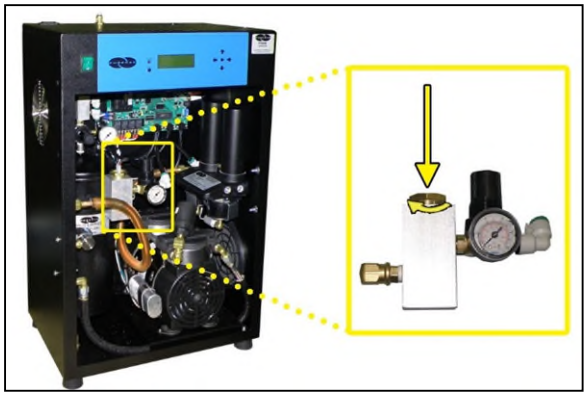


9.13.6 Allow the Humidity reading to rise over 10.0%

After three (3) minutes, verify that a Humidity Alarm appears, and the dryer goes into **SHUTDOWN** mode.

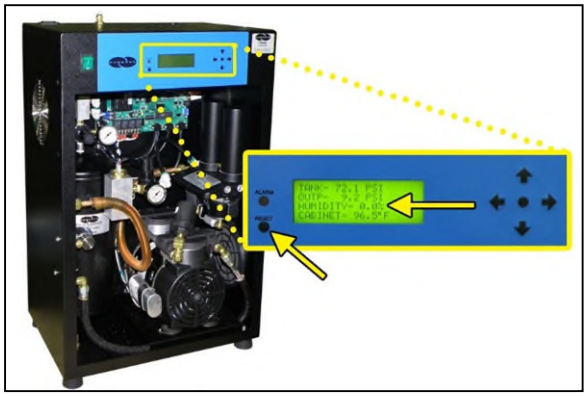


9.13.7 Replace the Humidity Sensor into the Humidity Block.



9.13.8 Press the **RESET Button** to clear the Humidity alarm.

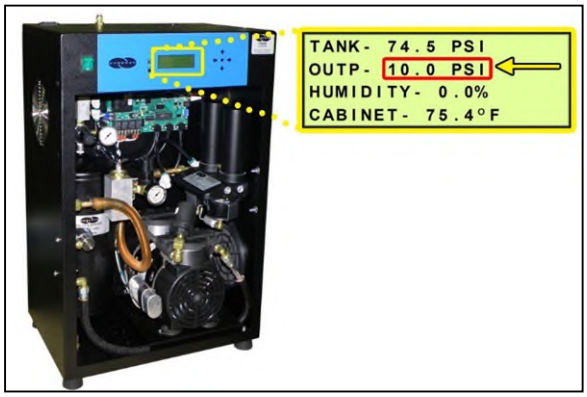
9.13.9 Close Front Panel.



If you are unable to create a Humidity / Shutdown alarm as described, see section 13.10 for troubleshooting information.

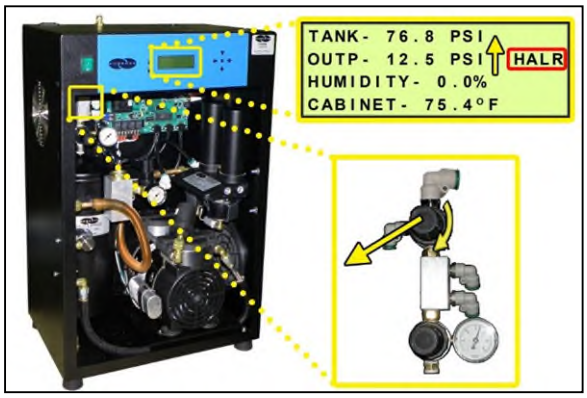
9.14 Testing High Outlet Pressure Alarm

9.14.1 Make a note of the current Outlet Pressure (**OUTP**) reading.



9.14.2 Open Front Panel (section 8.5).

9.14.3 Pull the Outlet Pressure Regulator knob out (or loosen the retaining nut – LP Models).



9.14.4 Turn knob clockwise until Outlet Pressure (**OUTP**) reading climbs **over:**

- **12.0 PSI (82.7 KPa)** for BD1500W & BD1502W models
- **7.50 PSI (51.5 KPa)** for BD1500WLP & BD1502WLP models

After one (1) minute, the High-Pressure Alarm should appear on the display.

9.14.5 Turn Outlet Pressure Regulator knob counterclockwise until Outlet Pressure (**OUTP**) reading lowers to the reading recorded in step 9.14.1

9.14.6 Push knob in to lock (or tighten the retaining nut – LP Models).

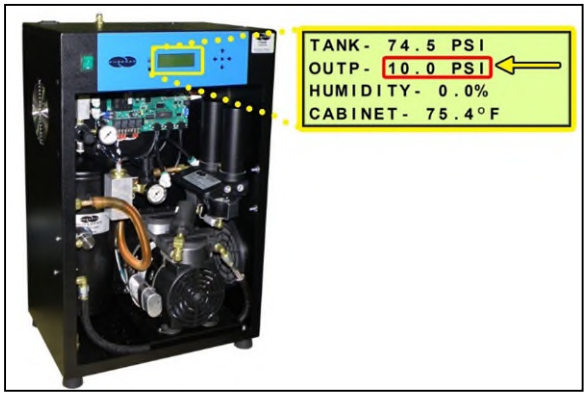
9.14.7 Press the **RESET Button**.

9.14.8 Close Front Panel.

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

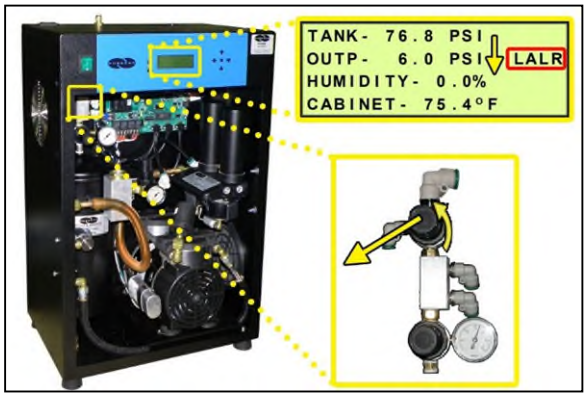
9.15 Testing Low Outlet Pressure Alarm

9.15.1 Make a note of the current Outlet Pressure (**OUTP**) reading.



9.15.2 Open Front Panel (section 8.5).

9.15.3 Pull the Outlet Pressure Regulator knob out (or loosen the retaining nut – LP Models).



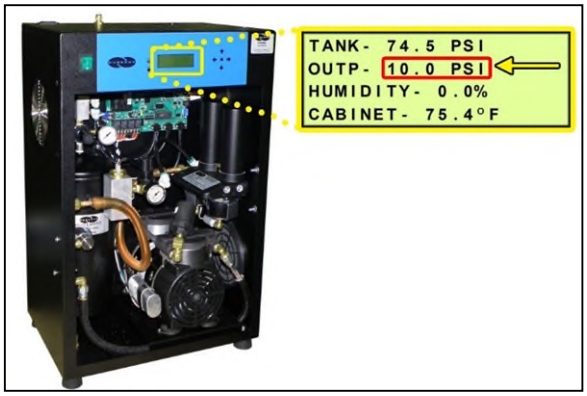
9.15.4 Turn knob counterclockwise until Outlet Pressure (**OUTP**) reading drops **below:**

6.5 PSI (41.4 KPa) for BD1500W & BD1502W models

0.30 PSI (2.1 KPa) for BD1500WLP & BD1502WLP models

After one (1) minute, the Low-Pressure Alarm should appear on the display.

9.15.5 Turn Outlet Pressure Regulator knob clockwise until Outlet Pressure (**OUTP**) reading rises to the reading recorded in step 9.15.1



9.15.6 Push knob in to lock (or tighten the retaining nut – LP Models).

9.15.7 Press the **RESET Button**.

9.15.8 Close Front Panel.

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

9.16 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:

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

With Compressor running:

9.16.2 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 BD1500W 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 Compressors and heatless dryers 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.**

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.

IMPORTANT!

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

10.2 Six Month Maintenance

MODEL:_____ LOCATION NAME: _____

SERIAL NUMBER: _____ ADDRESS:_____

DATE INSTALLED: _____ _____

Procedure	Section	Maintenance Interval (Months) 6	12	18	24	30
Install Six Month Maintenance Kit **NOTE:** Order and install P5000647D if equipped. See section 11.4 .	11.6	☐	☐	☐	☐	☐
Read & Record Flow Rate (**FLOW**)	8.3.1					
Measure & Record Compressor Amp Draw	9.2					
Measure & Record Incoming Voltage: • **110 - 125 VAC** for BD1500W & BD1500WLP models • **208 - 230 VAC** for BD1502W & BD1502WLP models	9.4					
Set System Pressure: • **80 PSI (551.6 KPa)** for BD1500W, BD1500WLP, BD1502W & BD1502WLP models	6.5.13	☐	☐	☐	☐	☐
Set Static Pressure: • **17 PSI (117.2 KPa)** for BD1500W, BD1500WLP, BD1502W & BD1502WLP models	6.5.20	☐	☐	☐	☐	☐
Set Outlet Pressure	6.5.21	☐	☐	☐	☐	☐
Test Consistent Heatless Dryer Cycling	9.6	☐	☐	☐	☐	☐
Test Fan	9.9	☐	☐	☐	☐	☐
Test Compressor ON/OFF Cycling	9.11	☐	☐	☐	☐	☐
Test High Compressor Last Run Time Alarm	9.12	☐	☐	☐	☐	☐
Test Humidity Alarm & System Shutdown	9.13	☐	☐	☐	☐	☐
Test High & Low Outlet Pressure Alarms	9.14 & 9.15	☐	☐	☐	☐	☐
Test Air Fittings for Leaks	9.16	☐	☐	☐	☐	☐
Visually Inspect Inside & Outside of Unit for Loose Wiring or Hardware		☐	☐	☐	☐	☐
Maintenance Performed by:						
Date of Maintenance:						

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 **TTL TIME** Alarm on the display.

MODEL:_____ LOCATION NAME: _____

SERIAL NUMBER: _____ ADDRESS:_____

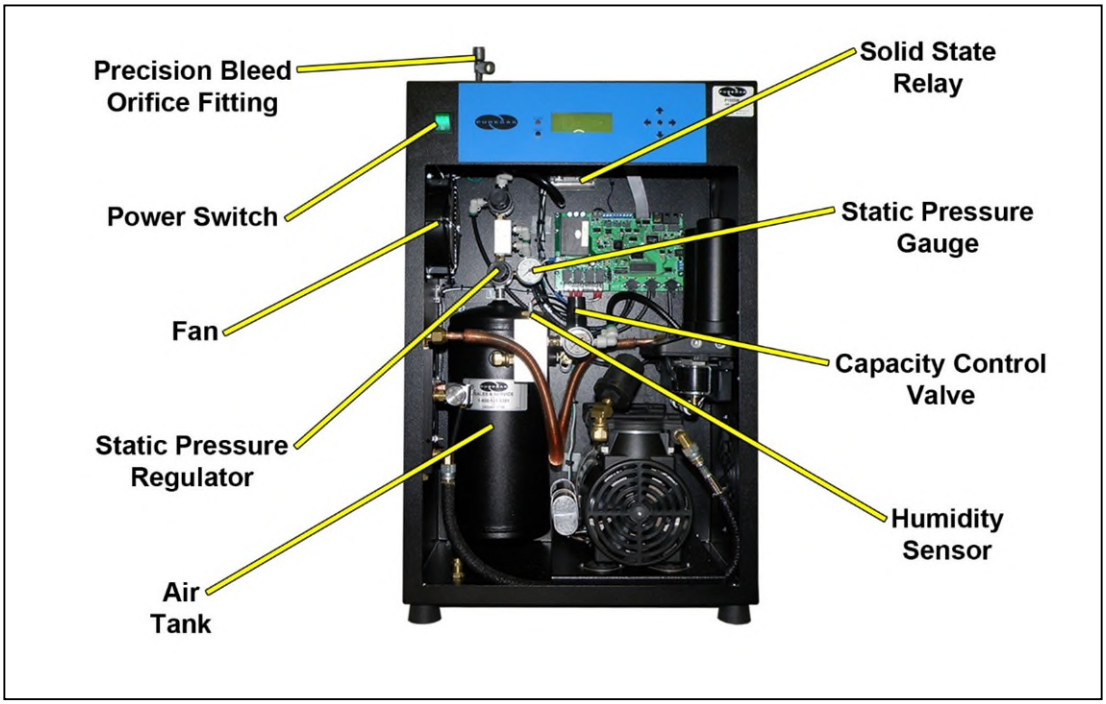
DATE INSTALLED: _____ _____

Procedure	Section	Maintenance Interval (Hours)				
		8,000	16,000	24,000	32,000	40,000
Install 8,000 Hour Maintenance Kit	11.6	☐	☐	☐	☐	☐
Read & Record Flow Rate (**FLOW**)	8.2					
Measure & Record Compressor Amp Draw	9.2					
Set System Pressure: • **80 PSI (551.6 KPa)** for BD1500W, BD1500WLP, BD1502W & BD1502WLP models	6.5.13	☐	☐	☐	☐	☐
Set Static Pressure: • **17 PSI (117.2 KPa)** for BD1500W, BD1500WLP, BD1502W & BD1502WLP models	6.5.20	☐	☐	☐	☐	☐
Set Outlet Pressure	6.5.21	☐	☐	☐	☐	☐
Test Consistent Heatless Dryer Cycling	9.6	☐	☐	☐	☐	☐
Test Compressor ON/OFF Cycling	9.11	☐	☐	☐	☐	☐
Test Air Fittings for Leaks	9.16	☐	☐	☐	☐	☐
Reset TTL TIME Reading to Zero	8.4.6	☐	☐	☐	☐	☐
Visually Inspect Inside & Outside of Unit for Loose Wiring or Hardware		☐	☐	☐	☐	☐
Maintenance Performed by:						
Date of Maintenance:						

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

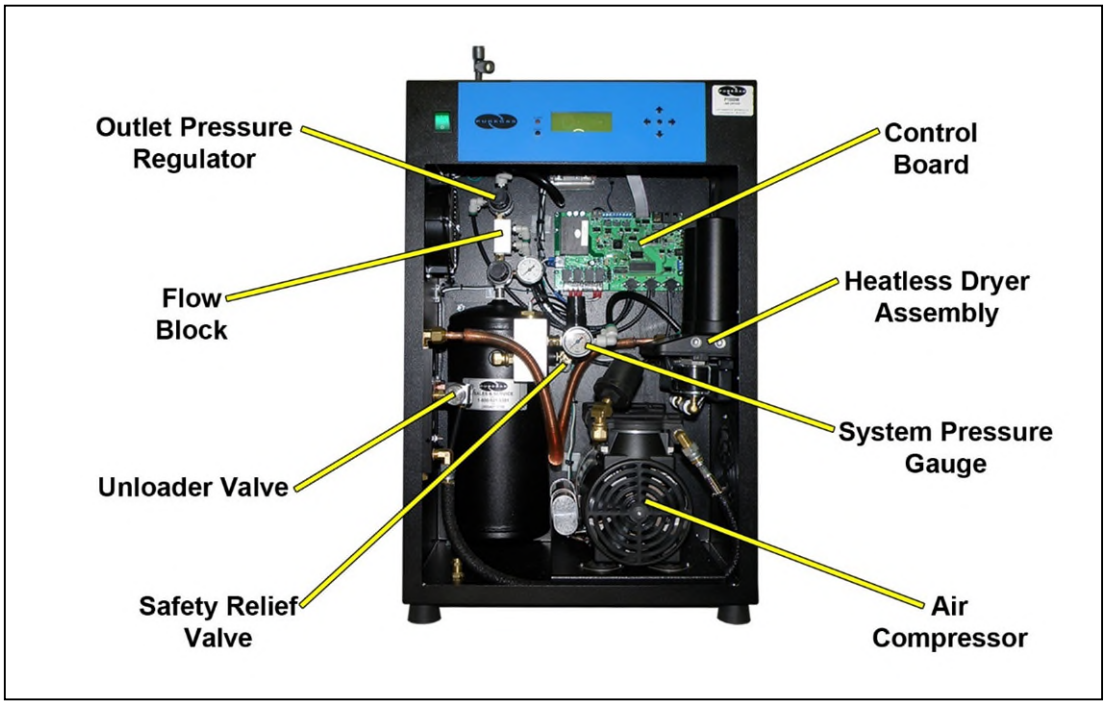
11. Replacement Parts & Accessories

11.1 Dryer Parts



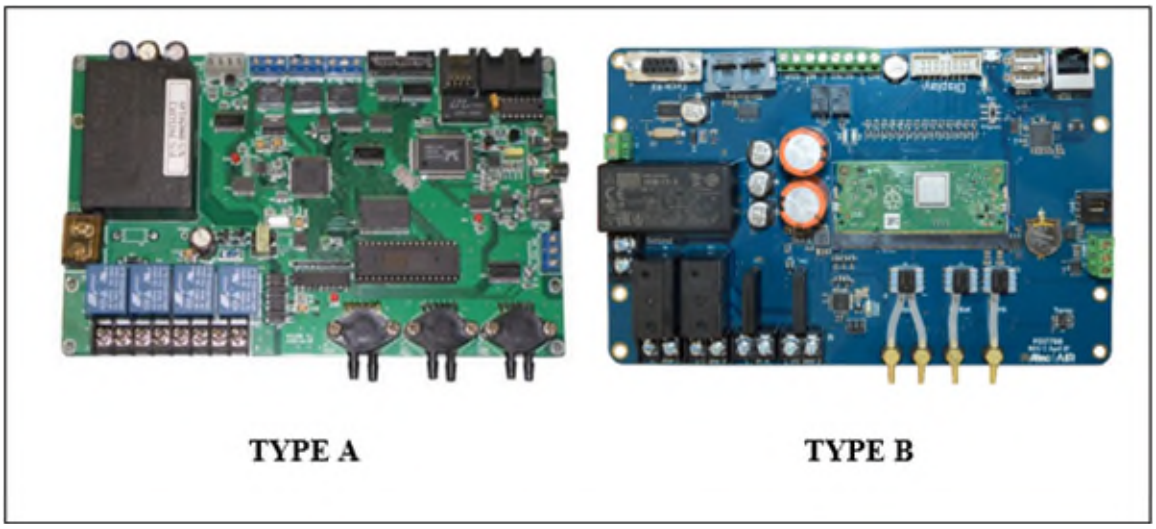
Description	Part Number	Quantity	Recommend Spare
Precision Bleed Orifice Fitting	P013349	1	
Power Switch	M038428	1	
Fan	P40801	1	
Static Pressure Regulator - **W & WLP**	P010279	1	
Air Tank		1	
Solid State Relay	P05992	1	✓ (1)
Static Pressure Gauge - **W & WLP**	P8345	1	
Capacity Control Valve	P010492	1	✓ (1)
Humidity Sensor – (Section 11.3) (Type 1) (Type 2) (Type 3) (Type 4)	 P5000647D P011380 P013403 P013401	1	

11.2 Dryer Parts cont.



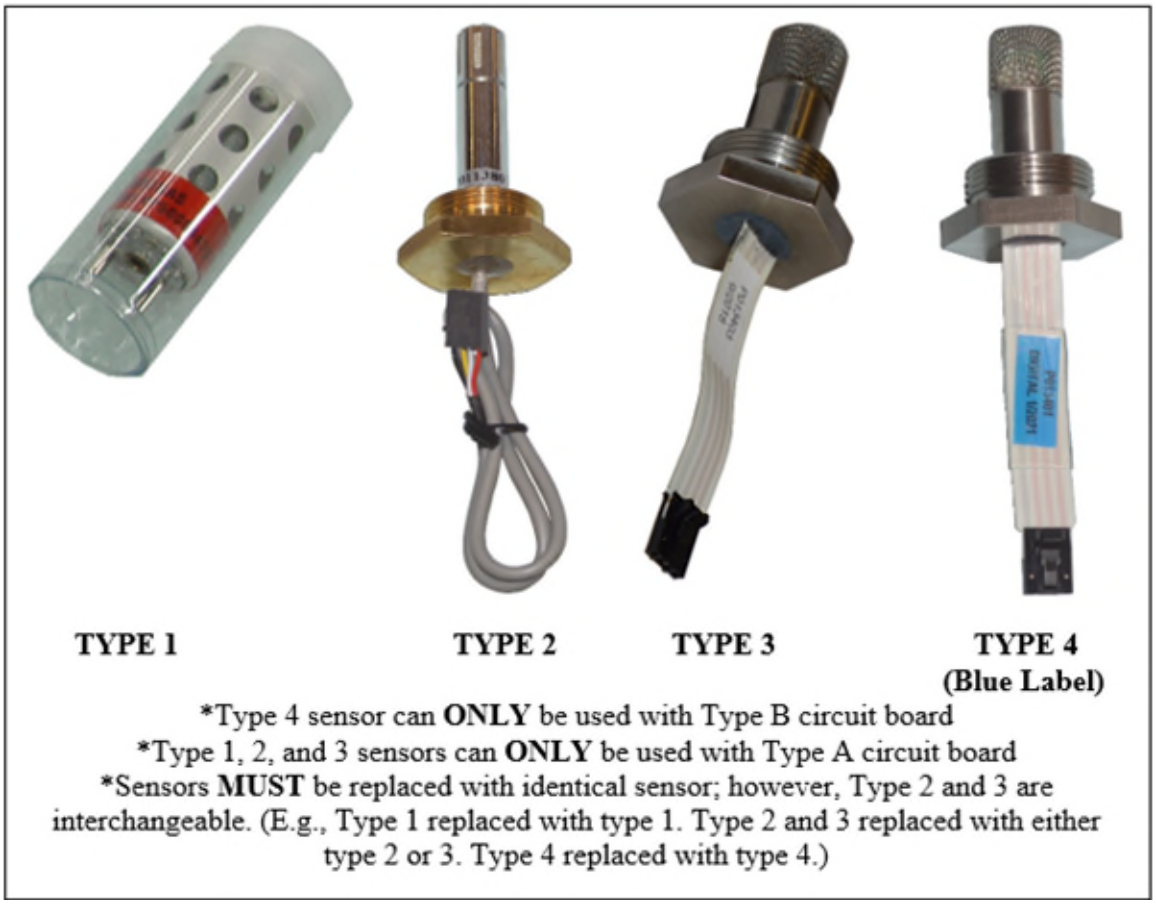
Description	Part Number	Quantity	Recommend Spare
Outlet Pressure Regulator – **W** **WLP**	P010279 P012316	1	
Flow Block		1	
Unloader Valve - **BD1500W** Series (110 VAC) **BD1502W** Series (220 VAC)	P011022 P010453	1	
Safety Relief Valve	P011777	1	
Control Board – (Section 11.3) **W** (Type A) **WLP** (Type A) **All Models** (Type B)	P012074 P012381 P013708-RFS	1	✓ (1)
Heatless Dryer Assembly	*See section 11.3 for detail.*		
System Pressure Gauge	P010695	1	
Air Compressor – **BD1500W** Series (110 VAC) **BD1502W** Series (220 VAC)	P011781 P011873	1	✓ (1)

11.3 Dryer Parts Cont. (Circuit Board Selection)



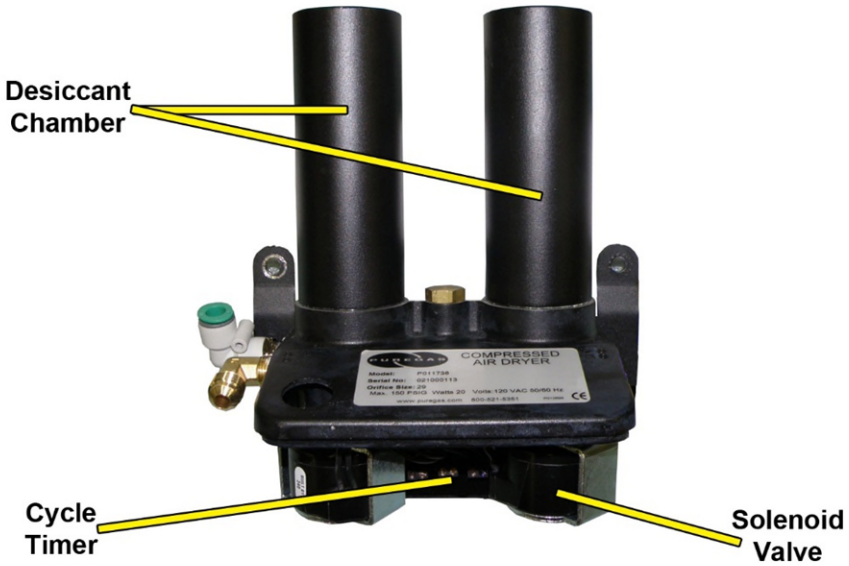
Circuit Board Comparison to determine correct Replacement Part #

11.4 Dryer Parts Cont. (Humidity Sensor Selection)



*Type 4 sensor can **ONLY** be used with Type B circuit board
*Type 1, 2, and 3 sensors can **ONLY** be used with Type A circuit board
*Sensors **MUST** be replaced with identical sensor; however, Type 2 and 3 are interchangeable. (E.g., Type 1 replaced with type 1. Type 2 and 3 replaced with either type 2 or 3. Type 4 replaced with type 4.)

11.5 Heatless Dryer Assembly Parts



Description	Part Number	Quantity	Recommend Spare
Heatless Dryer - **BD1500W** Series (110 VAC) **BD1502W** Series (220 VAC)	 PHF2C106023 PHF2C20623	1	
Desiccant Chamber	P2004036	2	
Cycle Timer - **BD1500W** Series (110 VAC) **BD1502W** Series (220 VAC)	 P010530F1 P010530F2	1	
Solenoid Valve Kit	*In Kit P012252. See section 11.6 for detail.*		

11.6 Accessories for Your Dryer

	Description	Part Number	Recommend Spare
	Six Month Maintenance Kit Includes air intake filter, Compressor muffler	P018302	✓ (2)
	8,000 Hour Maintenance Kit Includes heatless dryer maintenance kit and Compressor maintenance kit.	P012252	✓ (1)
	Universal Rack Mounting Kit Includes mounting brackets and hardware for 19" or 23" racks.	P011674	
	Wall Mounting Kit Includes mounting brackets and hardware.	P011773	
	Cycle Kit Allows multiple dryers to be cycled.	P08033W	
	Cycle Kit Interface Kit	PVDW34	

11.7 Ordering Parts from RFS

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

sales@AltecAIR.com

parts@AltecAIR.com

12. Service & Repair

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

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

12.1 Services Offered

- **Piston 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.**

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!

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

13.3 Air Dryer Won't Power ON

Possible Cause	Check	Corrective Action
POWER Switch in **OFF** position	Verify **POWER** switch is in the **ON** position	Turn **POWER** switch to the **ON** position
No incoming voltage to air dryer	Measure incoming voltage (section 9.4)	Troubleshoot facility power supply to air dryer

13.4 Display Screen Not Functioning

Possible Cause	Check	Corrective Action
Dryer experienced a power spike		Power the air dryer **OFF** for 15+ seconds. Power the air dryer **ON**.
Ribbon cable disconnected	Verify ribbon cable from the decal is connected at the display board	Reconnect the ribbon cable properly.

13.5 High Outlet Pressure Alarm

Possible Cause	Check	Corrective Action
Outlet Pressure set too high	Verify Outlet Pressure (**OUTP**) reading (section 8.2.5.1)	Adjust Outlet Pressure Regulator
High Outlet Pressure Alarm set point too low	Verify High Outlet Pressure Alarm set point	Raise High Outlet Pressure Alarm set point

13.6 Can't Create a High-Pressure Alarm

Possible Cause	Check	Corrective Action
Defective Outlet Pressure Regulator	Verify that the Outlet Pressure Regulator can be adjusted	Replace Outlet Pressure Regulator if unable to adjust pressure (section11.2)
High Outlet Pressure Alarm set point higher than default setting	Verify High Outlet Pressure Alarm set point	Adjust Outlet Pressure Regulator so that Outlet Pressure (**OUTP**) reading climbs over verified set point (section 9.14)
Defective Control Board	Verify that the Outlet Pressure (**OUTP**) reading is higher than the High Outlet Pressure Alarm set point (above)	Replace Control Board (section 11.2) if Outlet Pressure (**OUTP**) reading is over verified High Outlet Pressure Alarm set point for more than 1 minute and fails to create an alarm.

13.7 Low Outlet Pressure Alarm

Possible Cause	Check	Corrective Action
Outlet Pressure set too low	Verify Outlet Pressure (**OUTP**) reading (section 8.2.5.1)	Adjust Outlet Pressure Regulator
High Flow condition	Verify Flow Rate (**FLOW**) reading is not higher than expected	Troubleshoot High Flow condition (section 13.11)
Low Outlet Pressure Alarm set point too high	Verify Low Outlet Pressure Alarm set point	Lower the Low Outlet Pressure Alarm set point
Leak in the air system	With no outlet flow, test fittings and hoses for leaks (section 9.16)	Tighten any loose connections as required

13.8 Can't Create a Low-Pressure Alarm

Possible Cause	Check	Corrective Action
Defective Outlet Pressure Regulator	Verify that the Outlet Pressure Regulator can be adjusted	Replace Outlet Pressure Regulator if unable to adjust pressure (section 11.2)
Low Outlet Pressure Alarm set point lower than default setting	Verify Low Outlet Pressure Alarm set point	Adjust Outlet Pressure Regulator so that Outlet Pressure (**OUTP**) reading drops below verified set point (section 9.15)
Defective Control Board	Verify that the Outlet Pressure (**OUTP**) reading is lower than the Low Outlet Pressure Alarm set point (above)	Replace Control Board (section 11.2) if Outlet Pressure (**OUTP**) reading is under verified Low Outlet Pressure Alarm set point for more than 1 minute and fails to create an alarm.

13.9 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	Adjust System Pressure.
Low Flow Rate	Verify Flow Rate (**FLOW**) reading is low	Install the included Precision Bleed Orifice fitting to maintain a constant air flow. Raise capacity control setting to 90 PSI (620.5 KPa). (section 6.5.13)
High Humidity Alarm set point too low	Verify High Humidity Alarm set point If Flow Rate is low, allowing a higher alarm set point (up to 10%) will allow dryer to run within acceptable levels.	Raise High Humidity Alarm set point Over 10% not recommended
Defective Humidity Sensor	Perform the Testing Humidity Alarm and System Shutdown test (section 9.13)	Troubleshoot *Can't Create a High Humidity Alarm / Shutdown* condition (section 13.10)
Heatless Dryer not cycling between towers	Verify consistent Heatless Dryer cycling (section 9.6)	Troubleshoot *Inconsistent Heatless Dryer Cycling* condition (section 13.13)
Defective Control Board	Unplug Humidity Sensor from Control Board (see section 11.1 for Board location) Humidity reading should drop to 0%	If Humidity did not drop to 0%, replace Control Board (section 11.2)

13.10 Can't Create a High Humidity Alarm / Shutdown

These troubleshooting steps assume that the Humidity Element is removed from the Humidity Block during the *Testing Humidity Alarm and System Shutdown* (section 9.13) procedures.

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

13.11 High Flow Rate Alarm

Possible Cause	Check	Corrective Action
Air leak in downstream cable outside of dryer	Verify Flow Rate (**FLOW**) reading is not higher than expected	Fix downstream problem
Air leak inside of dryer	Test fittings and hoses for leaks (section 9.16)	Reconnect or replace bad fitting / hose
High Flow Alarm set point too low	Verify High Flow Alarm set point	Raise High Flow Alarm set point

13.12 High Cabinet Temperature Alarm

Possible Cause	Check	Corrective Action
Fan Failure	Verify fan is running (section 9.9)	Check for loose fan wiring (section 14.1) Replace defective fan (section 11.1)
High Ambient Temperature	Verify temperature of dryer operating location. Recommended ambient temperature is 40°-85°F (4.4°-29.4°C)	Lower the ambient temperature of the dryer's operating location

13.13 Inconsistent Heatless Dryer Cycling

Possible Cause	Check	Corrective Action
Defective Solenoid Valve	Measure voltage going to the Heatless Dryer Solenoid Valves (section 9.8)	If voltage **IS** present, replace Solenoid Valves included in the 8,000 Hour Maintenance Kit (section 11.6)
Defective Cycle Timer	Measure voltage going to the Heatless Dryer Solenoid Valves (section 9.8)	If voltage **IS NOT** present, replace the Cycle Timer (section 11.3)

13.14 Compressor Doesn't Operate

Possible Cause	Check	Corrective Action
System is in Shutdown state	On the Display Panel, verify that the system is in **SHUTDOWN** state	Press the **RESET** Button
Defective Compressor	Measure Compressor voltage (section 9.3)	If voltage is good, replace Compressor (section 11.2) or send it in for repair (section 12.)
No power to Compressor	Measure Compressor voltage (section 9.3)	If voltage is not present or fluctuates, continue to next Possible Cause
Defective Solid-State Relay	Measure AC voltages at Solid State Relay (section 9.5)	If measurements are bad, replace Solid State Relay (section 11.1)
Defective Control Board	Measure DC voltages at Solid State Relay (section 9.5)	If measurements are incorrect, replace Control Board (section 11.2)

13.15 Compressor Won't Build Pressure

Possible Cause	Check	Corrective Action
Low System Pressure	Verify System Pressure	Adjust System Pressure.
Defective Unloader Valve	Test Unloader Valve operation (section 9.7) If this is continuously flowing high amounts	Replace Unloader Valve (section 11.2)

	of air, the Unloader Valve is defective.	
Leak in air system	Check all hoses and fittings between Compressor and Air Tank for air leaks (section 9.16)	Connect, tighten, or replace leaking component

13.16 Compressor Excessive AMP Draw

Possible Cause	**Check**	**Corrective Action**
Restriction in air line	Remove Discharge Hose from Compressor (hose to the heatless dryer) Re-measure Compressor AMP Draw (section 9.2)	If measurement is below the recommended amps, trace hoses from Compressor to Unloader Valve looking for restrictions or kinks
Compressor failing	Remove Discharge Hose from Compressor (hose to the heatless dryer) Re-measure Compressor AMP Draw (section 9.2)	If measurement is still above the recommended amps, replace the Compressor (section 11.2) or send it in for repair (section 12.)

13.17 High Compressor Last Run Time Alarm

Possible Cause	**Check**	**Corrective Action**
Low System Pressure	Verify System Pressure	Adjust System Pressure
High Flow condition	Verify Flow Rate (**FLOW**) reading is not higher than expected	Troubleshoot High Flow condition (section 13.11)
Defective Unloader Valve	Test Unloader Valve operation (section 9.7) If this is continuously flowing high amounts	Replace Unloader Valve (section 11.2)

	of air, the Unloader Valve is defective.	
Defective Heatless Dryer Solenoid Valve	Verify consistent Heatless Dryer cycling (section 9.6) If either side is continuously flowing high amounts of air, the Solenoid Valve is defective.	Replace Solenoid Valves included in the 8,000 Hour Maintenance Kit (section 11.6)
Defective Solid-State Relay	Measure AC voltages at Solid State Relay (section 9.5)	If measurements are bad, replace Solid State Relay (section 11.1)
Defective Control Board	Measure DC voltages at Solid State Relay (section 9.5)	If measurements are incorrect, replace Control Board (section 11.2)

13.18 Can't Create a High Compressor Last Run Time Alarm

Possible Cause	Check	Corrective Action
High Compressor Last Run Time Alarm Set Point higher that the default of 3:00 minutes	Verify High Compressor Last Run Time Alarm Set Point	Allow the Compressor to run longer than the verified set point (section 9.12)
Defective Control Board	Verify that the Compressor has run longer than the verified High Compressor Last Run Time Alarm Set Point (above)	Replace Control Board (section 11.2) if the Compressor runs longer than the verified High Compressor Last Run Time Alarm Set Point 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 Relay	Measure AC voltages at Solid State Relay (section 9.5)	If measurements are bad, replace Solid State Relay (section 11.1)
Defective Control Board	Measure DC voltages at Solid State Relay (section 9.5)	If measurements are incorrect, replace Control Board (section 11.2)

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 #**:_____

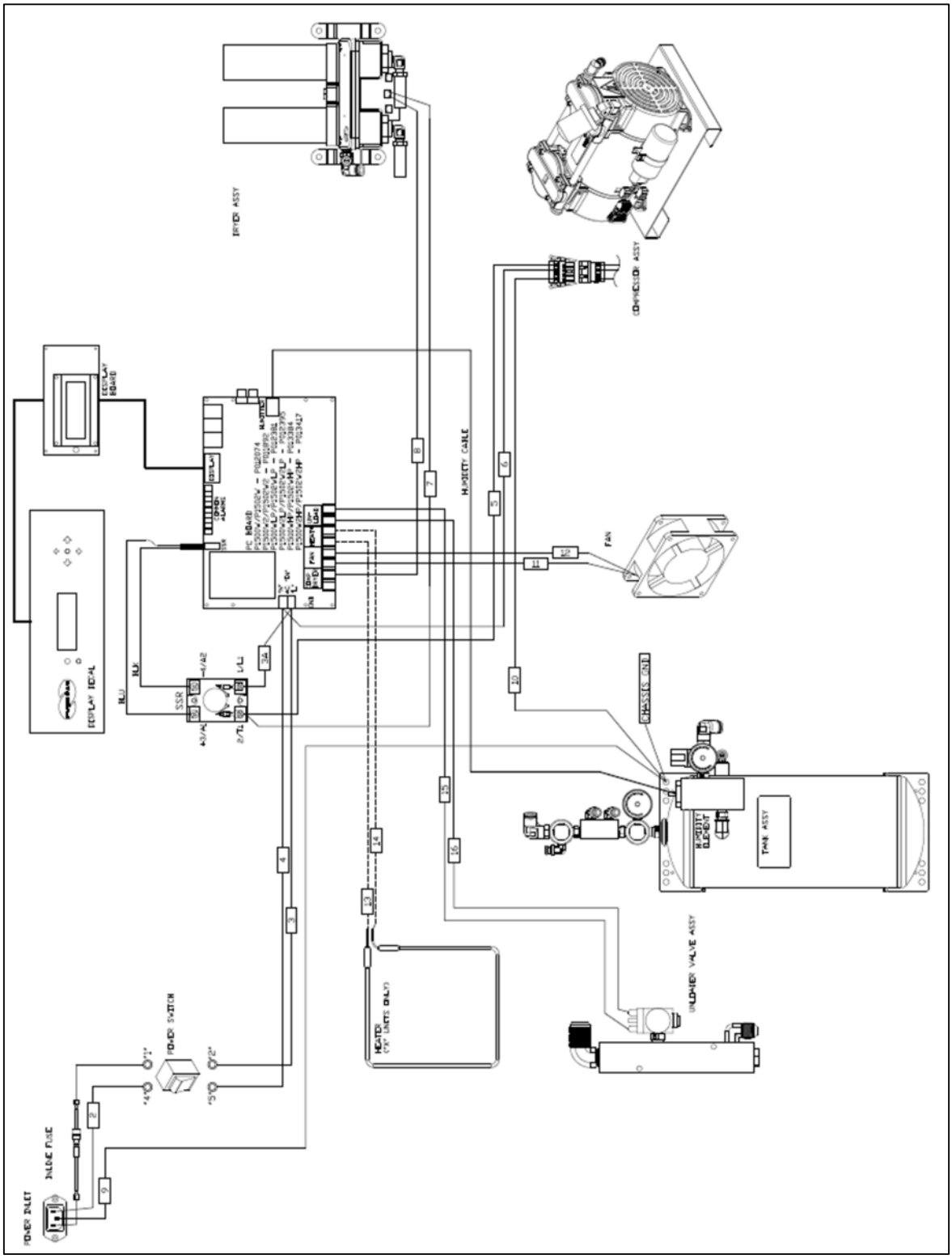
Model #:_____ **Serial #**:_____

Company Name:_____ **Location Name**:_____

City:_____ **State**:_____

14. Appendix

14.1 Wiring Diagram



14.2 Set Point Limits and Defaults

14.2.1 System Adjustments

Description	Minimum Value	Maximum Value	Default Value	Unit of Measurement
System Pressure W & WLP			80 (551.6)	PSI (KPa)
Static Pressure W & WLP			17 (117.2)	PSI (KPa)
Outlet Pressure W WLP	2.0 (13.8) 0.30 (2.1)	15.0 (103.4) 7.50 (51.7)		PSI (KPa)
Alarm Delay	OFF	ON	ON	
Startup Delay	0	10	0	Seconds

14.2.2 Alarm Set Points

Description	Minimum Value	Maximum Value	Default Value	Unit of Measurement	Shut down
High Flow Rate Alarm W & WLP	0 0	2000 (56.6)	1500 (42.5)	SCFD (SCMD)	
High Outlet Pressure Alarm W WLP	0.6 (4.1) 0.31 (2.1)	20.0 (137.9) 7.50 (51.7)	12.0 (82.7) 7.50 (51.7)	PSI (KPa)	
Low Outlet Pressure Alarm W WLP	0.5 (3.4) 0.30 (2.1)	19.9 (137.2) 7.49 (51.6)	6.5 (44.8) 0.30 (2.1)	PSI (KPa)	
High Humidity Alarm	3	15	10	%	YES
High Compressor Last Run Time Alarm	2:00	5:00	3:00	Minutes	
High Cabinet Temperature Alarm			120 (48.9)	Deg F (Deg C)	YES
Compressor Total Run Time Alarm			8000	Hours	

14.2.3 System Operations

Description	ON Value	OFF Value	Default Value	Unit of Measurement
Compressor W & WLP	25.0* (172.4)*	90.0 (620.5)		PSI (KPa)
Fan	90 (32.2)	80 (26.7)		Deg F (Deg C)

**(50 – 90 PSI (344.7 – 620.5 KPa) for Dryers using Firmware v2.84 and older)*

14.3 SNMP Parameters

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 (also sets SNMP Trap Community String)	Alphanumeric (6-14 digits, Default = "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
Compressor Status	ON / OFF
Fan Status	ON / OFF
Heater Status (Outdoor Unit Only)	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
High 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 (%)
High Compressor Last Run Time Alarm Threshold	Numeric (Seconds)
Reset Compressor Total Run Time Reading	Numeric (Hours)
Start Up Delay	Numeric (Seconds)
Alarm Reset	RESET
Alarm Delay	ON / OFF
Alarm Traps Sent to SNMP Server	
High Flow	
High Outlet Pressure	
Low Outlet Pressure	
High Humidity	
High Cabinet Temperature	
High Compressor Last Run Time	
Maintenance 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 BD1500W 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

support@AltecAIR.com

(800) 521-5351

Fax – (303) 657-2205

DON'T FORGET TO REGISTER YOUR DRYER!

See Section 7. for details on Registering Your Dryer.

17. Notes