

**THE FOLLOWING USER MANUAL APPLIES TO TSUNAMI CORE SERIES DESICCANT AIR DRYERS**



21999-1225



21999-1235

**WARNING**

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami CORE Series Desiccant Dryer. Always wear safety eye protection when working with compressed air products. Failure to follow maintenance instructions could result in operating failure or product damage. System pressure must be released prior to any installation or service. Always install the system with the arrows indicating the direction of airflow. Use appropriate thread sealant on all connection fittings unless otherwise specified. Do not alter the dryer or filtration system from its original design as this may cause failure in its operational parameters.

**DESCRIPTION**

Congratulations on the purchase of your Tsunami CORE Series Desiccant Dryer System! By adhering to the specifications and maintenance schedule listed in the manual, your air system will provide years of service with minimal maintenance.

Incoming air enters the 1st stage water separator where water and particulates are removed down to 10 micron. The air then travels through the 2nd stage oil coalescing filter where oil aerosols are filtered down to .001 ppm and particulates are trapped down to .01 micron. The pretreated air enters the desiccant dryer where two types of desiccant captures water vapor. All filters come standard with automatic float drains to assure proper discharge of all contaminants captured in the water separator and oil coalescing filter and a manual drain on the desiccant air dryer to remove any possible moisture left behind before traveling up through the desiccant media.

**DRYER SPECIFICATIONS**

Dryer P/N	Max Flow	Inlet Port	Outlet Port	Weight
21999-1225	25 CFM	1/2" NPT	1/2" NPT	24 lbs.
21999-1235	25 CFM	1/2" NPT	1/2" NPT	18 lbs.

**INSTALLATION & SERVICE REQUIREMENTS**

**IMPORTANT:** The Tsunami CORE Series Desiccant Dryer is configurable to flow in either direction. Before beginning installation it is important to determine the direction of air flow which best meets your installation application requirements.

**Dryer Installation – P/N 21999-1225** \_\_\_\_\_ pg. 2

**Dryer Installation – P/N 21999-1235** \_\_\_\_\_ pg. 3

**Monthly Inspection Required** \_\_\_\_\_ pg. 4

- Inspect moisture indicator; replace desiccant cartridge if necessary
- Desiccant cartridge replacement: **P/N 21999-1230**
- Moisture indicator replacement, if necessary: **P/N 21999-1146**

**6 Month Service, Every 6 Months** \_\_\_\_\_ pg. 4

- Replace oil coalescing element

**1 Year Service** \_\_\_\_\_ pg. 4

- Replace Moisture Indicator

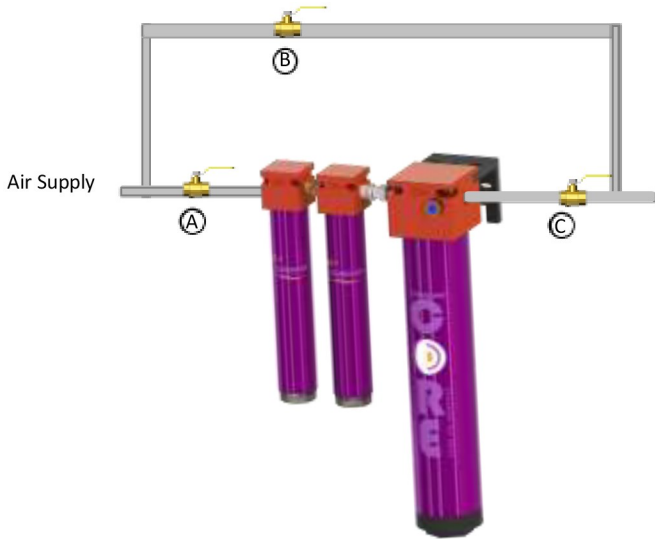
**Parts Breakdown – Service Parts** \_\_\_\_\_ pg. 5

**Troubleshooting Guide** \_\_\_\_\_ pg. 6

**INSTALLATION INSTRUCTIONS - BYPASS CIRCUIT INSTALL**

For ease of service, it is highly recommended to install a bypass circuit around the desiccant dryer; at the very least, install a ball valve on the inlet. Follow the diagram below when installing a bypass circuit. Verify that system pressure is relieved prior to performing installation.

A. Inlet Ball Valve    B. Bypass Ball Valve    C. Outlet Ball Valve



Using the dryer: Open the inlet (A) and outlet (C) ball valves and close the bypass (B) valve to direct air flow through the desiccant air dryer. This will provide clean, dry air downstream.

Bypassing the dryer: Close the inlet (A) and outlet (C) ball valves and open the bypass (B) valve to direct airflow around the dryer. This will allow service or maintenance to be performed without shutting down total compressed air supply.

**INSTALLATION INSTRUCTIONS - DRYER INSTALLATION**

**IMPORTANT:** The Tsunami CORE Series Desiccant Dryer is configurable to flow in either direction. Before beginning installation, it is important to determine the direction of air flow which best meets your installation application requirements.



Figure 1

1. Remove all system pressure.
2. Using the appropriate hardware (not included), mount dryer bracket to wall. Be sure fasteners and mounting location can hold the weight of the dryer (see dryer specifications on page 1). *Figure 1*

*Note: This bracket has two head mounting configurations, be sure you have the correct end sticking out for the desiccant dryer attachment.*

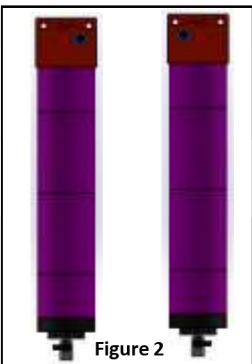


Figure 2

3. Prior to mounting, choose the direction of flow for the installation of the moisture indicator and the plug.
4. Using the appropriate thread sealant or thread tape, install the moisture indicator facing outwards and install the plug on the opposite side of the dryer head. *Figure 2*

**INSTALLATION INSTRUCTIONS - DRYER INSTALLATION cont.**

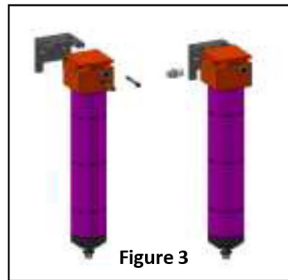


Figure 3

5. Install the Tsunami CORE Series Desiccant Dryer to the mounting bracket, as shown, using the two supplied bolts.
6. Verify the Male JIC connector is installed on the dryer inlet; if it is not, using appropriate thread sealant or thread tape, and install to the dryer inlet as shown. *Figure 3*

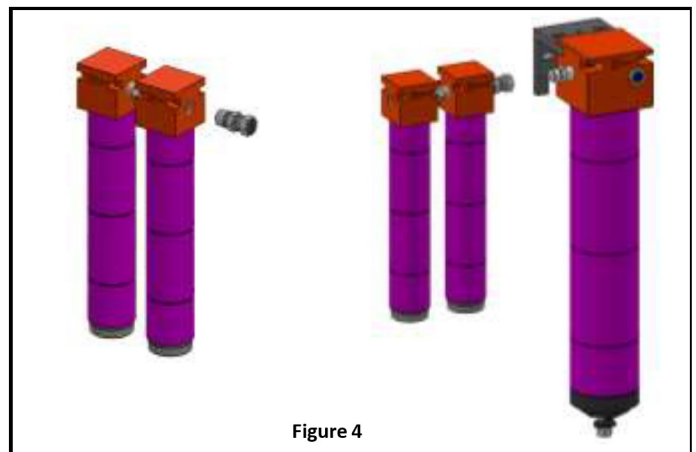


Figure 4

7. Verify the Tsunami pre-filters come with the Female JIC connector installed. If it is not, use appropriate thread sealant or thread tape and install to the filter outlet as shown. *Figure 4*
8. Attach the filters to the dryer, there is no need to use thread sealant of any sort when connecting the JIC fittings together.



Figure 5

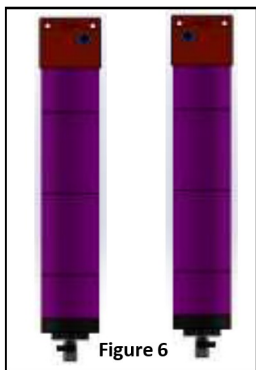
**INSTALLATION INSTRUCTIONS - DRYER INSTALLATION**

**IMPORTANT:** The Tsunami CORE Series Desiccant Dryer is configurable to flow in either direction. Before beginning installation, it is important to determine the direction of air flow which best meets your installation application requirements.



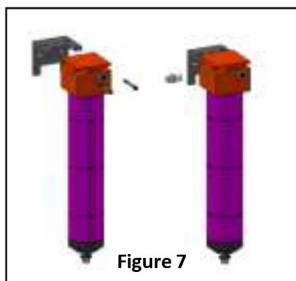
1. Remove all system pressure.
2. Using the appropriate hardware (not included), mount dryer bracket to wall. Be sure fasteners and mounting location can hold the weight of the dryer (see dryer specifications on page 1). *Figure 5*

*Note: This bracket has two head mounting configurations, be sure you have the correct end sticking out for the desiccant dryer attachment.*



3. Prior to mounting, choose the direction of flow for the installation of the moisture indicator and the plug.
4. Using the appropriate thread sealant or thread tape, install the moisture indicator facing outwards and install the plug on the opposite side of the dryer head. *Figure 6*

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5. Install the Tsunami CORE Series Desiccant Dryer to the mounting bracket, as shown, using the two supplied bolts.
6. The Male JIC connector to the dryer should come pre-installed. If it is not, using appropriate thread sealant or thread tape, install to the dryer inlet as shown. *Figure 7*



7. Connect your existing pre-filters to the dryer using the supplied Female JIC connector. If you are choosing to not use the JIC fittings, remove the Male JIC fitting from the Tsunami CORE Desiccant Dryer and connect your filters using appropriate thread sealant or thread tape. *Figure 8*

### MAINTENANCE INSTRUCTIONS – MOISTURE INDICATOR

#### Monthly

- Inspect moisture indicator for color change
- Replace moisture indicator, if necessary prior to annual replacement

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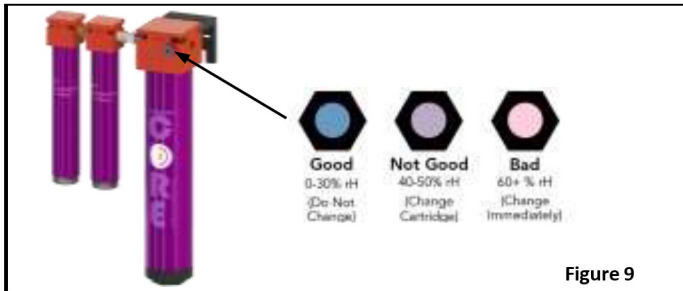


Figure 9

1. Inspect the moisture indicator for changes in color. *Figure 9*
2. If the moisture indicator has changed from blue to light pink or dark pink, follow the instructions to change out the desiccant cartridge; if no color change, desiccant cartridge is in good condition.
3. If the indicator is pink and desiccant cartridge is replaced, the moisture indicator will regenerate itself within 24hrs, turning back to blue. If it fails to turn back from pink to blue, replace with P/N 21999-1146.
4. Remove saturated moisture indicator, use thread sealant or tape, and install new unit.

### MAINTENANCE INSTRUCTIONS – DESICCANT CARTRIDGE

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami CORE Series Desiccant Dryer. Always wear safety eye protection when working with compressed air products. Failure to follow maintenance instructions could result in operating failure or product damage. System pressure must be released prior to any installation or service.

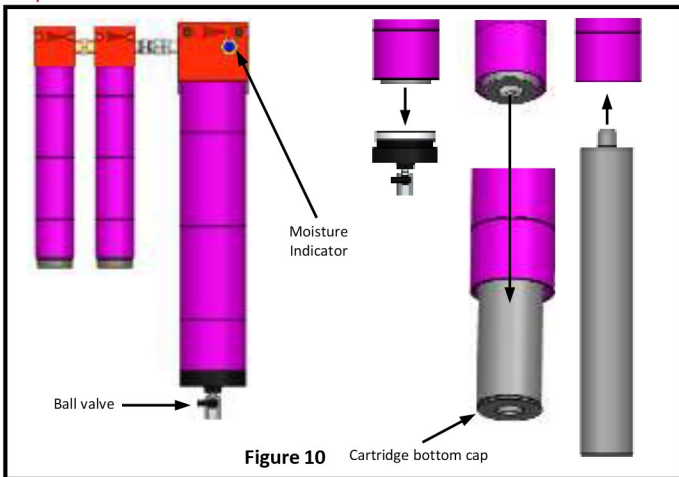


Figure 10

1. Open ball valve on the bottom of the dryer end cap to verify system pressure is not present in the dryer.
2. Remove the dryer end cap; if needed, use the machined hex on the end cap.
3. Grasp the desiccant cartridge bottom cap and outer cartridge with your fingers and thumb and pull downward, while slowly rocking, until the cartridge pulls free from the head, then slide the entire cartridge out.
4. Install the new cartridge by sliding up into the housing. When it nears the head, you may need to gently move around until the top adaptor slides into the head. Once aligned, push firmly upwards until the top adaptor will not slide further.
5. Inspect end cap o-ring, if damaged, replace with supplied end cap o-ring.
6. Replace dryer end cap and close off the ball valve.

### MAINTENANCE INSTRUCTIONS – OIL COALESCING FILTER ELEMENT

#### 6 Month Service, Every 6 Months

- Oil Coalescing Filter Element Replacement

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Figure 8

Figure 11

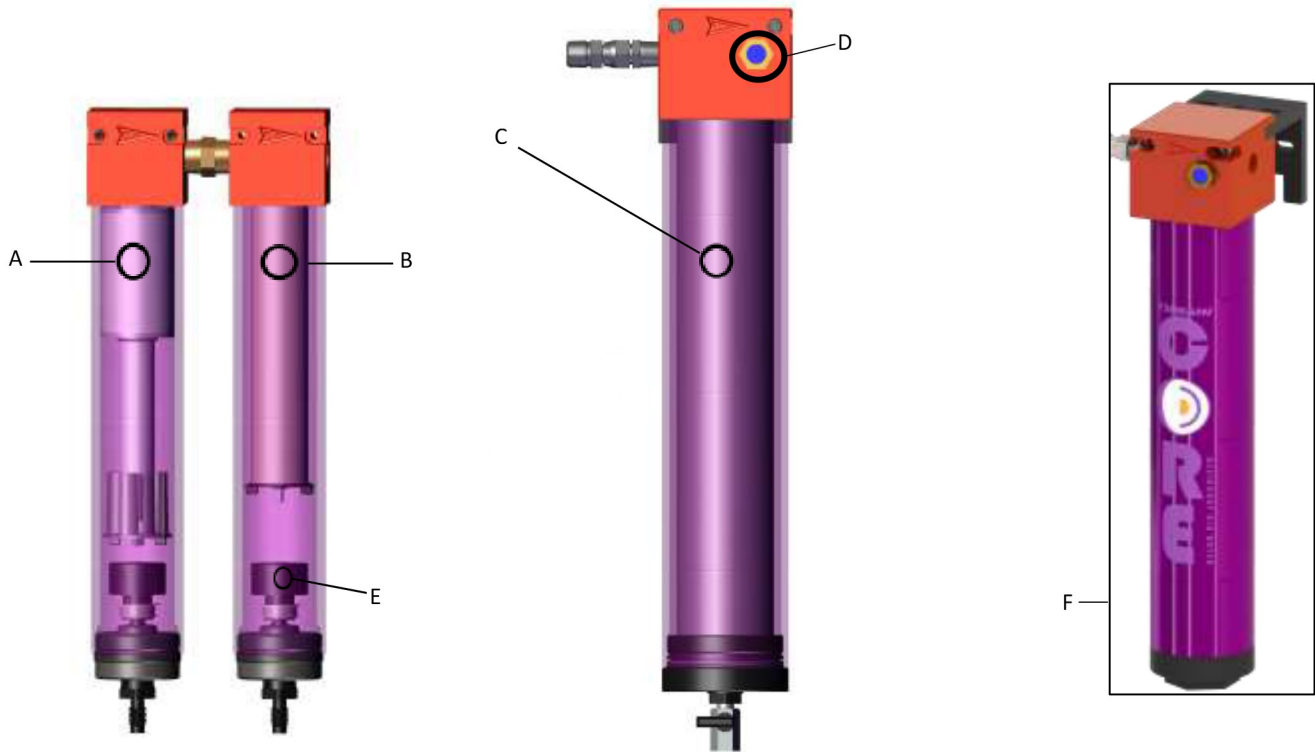
1. Release all system pressure.
2. Remove filter tube from filter head by holding filter head and rotating tube counter-clockwise.
3. Remove bottom baffle, filter element, top adaptor, and O-ring. *Figure 11*



Figure 12

4. Replace filter element and hardware in reverse order from previous steps. Tighten bottom baffle until filter element can no longer spin freely. DO NOT OVER TIGHTEN! Reinstall outer tube by rotating clockwise onto filter head. *Figure 12*
5. Slowly pressurize the unit.

**TSUNAMI CORE SERIES DESICCANT DRYER PARTS BREAKDOWN – SERVICE PARTS**



**A** Water Separator  
Service Kit P/N: 21999-0227

**B** Oil Coalescing Element  
Service Kit P/N: 21999-0202

**C** Desiccant Cartridge  
P/N: 21999-1230

**D** Moisture Indicator  
P/N: 21999-1146

**E** Automatic Float Drain  
Replacement P/N: 21999-0868

**F** Tsunami CORE Desiccant Dryer  
w/o pre-filtration P/N: 21999-1235

**TROUBLESHOOTING GUIDE - TSUNAMI CORE SERIES DESICCANT DRYER**

PROBLEM	PROBABLE CAUSE	CORRECTION
Water / Oil Carryover	<ul style="list-style-type: none"> <li>A. Water Separator is not draining properly</li> <li>B. Coalescing filter element cracked or over-saturated</li> <li>C. Desiccant cartridge saturated or oil carryover has coated the drying media</li> <li>D. Over flowing dryer; too much air volume</li> </ul>	<ul style="list-style-type: none"> <li>A. Remove and verify drain function; replace float drain if necessary</li> <li>B. Replace coalescing element; see maintenance instructions, Page 4</li> <li>C. Replace desiccant cartridge, Page 4</li> <li>D. Reduce air usage volume downstream of dryer</li> </ul>

Tsunami Compressed Air Solutions is a division of



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