



# SFD

## Suburban Filter Dryer User Manual Installation Instructions



Take your air system into the future with patented, molecular sieve technology used in the SFD regenerative cycle compressed air drying system.

# **YOUR SAFETY IS IMPORTANT**

Read ALL instructions before you begin the installation of your SFD  
Observe and follow all caution and warning instructions

## **!!WARNING!!**

Make sure you allow enough room around the SFD Ultra System for maintenance personnel to access all dryer components.

Recommend mounting at least 24" from wall.

## **!!CAUTION!!**

**\*\*SYSTEM PRESSURE MUST BE RELEASED  
PRIOR TO INSTALLING DRYER\*\***

- SFD dryer should be installed with built-in bypass circuit to provide proper maintenance to unit
- Always wear eye protection when working on SFD dryer
- Use only proper tools and follow all precautions which pertain to the use of those tools
- Check all hose clamps for tightness and possible damage to hose prior to energizing with compressed air
- 175 PSI Maximum air pressure allowed through unit

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Congratulations on your purchase of the Tsunami™ Suburban Filter Dryer (SFD). We are very pleased that you have decided to use the latest technology to improve your compressed air system.

Your air system, using patented drying technology will provide years of service with little maintenance required.

Thank You.

# The Tsunami™ Suburban Filter Dryer

## Product Description

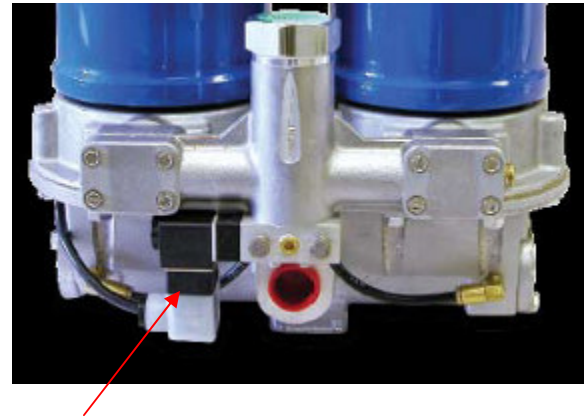
The Tsunami™ Suburban Filter Dryer uses the latest technology to provide your shop with the cleanest, driest compressed air available.

Provides a consistent  $-10^{\circ}\text{F}$  dew point with only a 4% sweep rate. Sweep rate refers to the amount of the clean, dry air which is used to “sweep” through the molecular sieve canister carrying along the water vapor that is captured by the molecular sieve desiccant bead.

This technology accomplishes its goal by taking the inlet air through one of the desiccant canisters which removes the water vapor contained in your compressed air. The molecular sieve bead draws the vapor in while under system pressure, holding it until the cycling of the dryer allows the pressure to be released in the canister, thereby allowing the water vapor to be removed with the sweep air. This technology uses two canisters, while one is under pressure the other canister is in its sweep cycle.



Each canister contains over six pounds of molecular sieve desiccant.

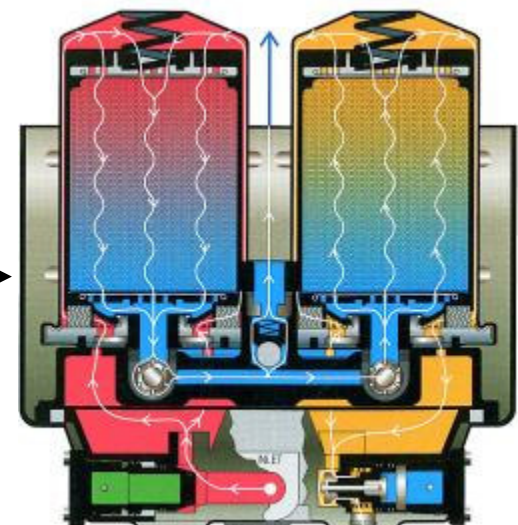


These are the inlet check valves which shift the cycling of the canisters. The two unloading purge valves are in the SFD body behind the inlet check valves.

This timer and cord set has a built in timer with a two minute cycle time. When the timer opens the solenoid, the connected three-way valve shifts, changing the cycling of the canisters.

This schematic shows a colored representation of the air flow path through the SFD unit.

- The red indicates the hot, wet air coming into the dryer.
- The blue shows the removal of the water vapor from the air and is now very dry, clean air.
- The tan color depicts the water vapor and its removal during the regeneration cycle of the SFD dryer.



# Easy to Install Instructions

Connect inlet air supply to 1" NPT port  
On water separator

Connect outlet air supply to 1" NPT port  
on regulator

Connect control timer  
to 110v power source

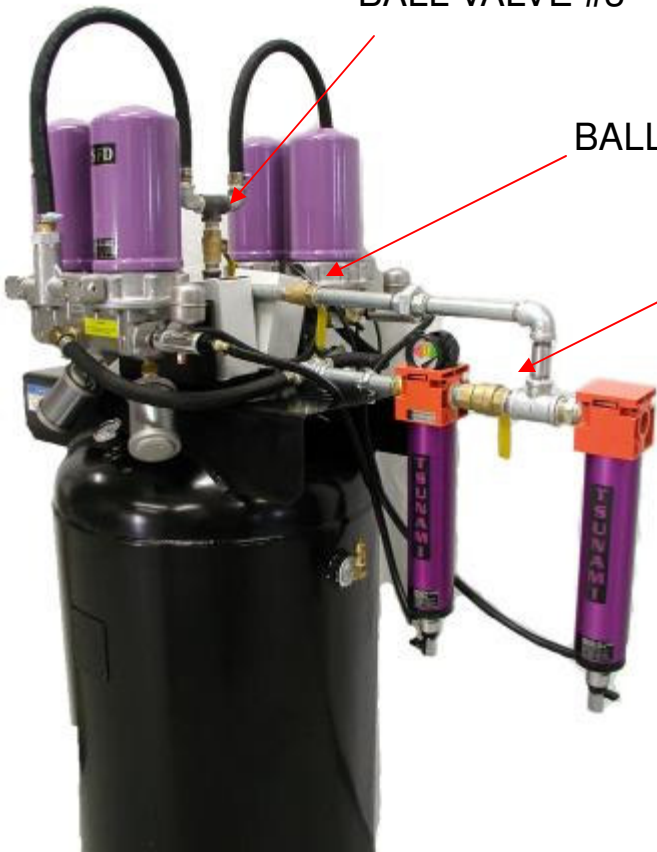
Set outlet pressure only as  
high as is necessary to  
achieve 90 psi at furthest  
air drop



BALL VALVE #3

BALL VALVE #2

BALL VALVE #1



To use dryer system, open ball valves #1 and  
#3 and close ball valve #2.

Bypass system can be used in emergency  
situations. To use bypass system, close ball  
valves #1 and #3 and open ball valve #2.

# Maintenance Guide for Your SFD Dryer System

## 6-month Maintenance: (Mandatory)

- Check the oil coalescing element

\*\*\*If DPI gauge on top of filter is reading in the yellow it is time to change the element\*\*\*



- Check all hose clamps for tightness
- Check all hoses for wear

P/N 21999-0202-Z-SP  
Oil Coalescing  
Replacement Element



## Annual Maintenance: (Recommended)

- Perform minor service repair
  - replace inlet check valves
  - replace unloading purge valves
- Replace oil coalescing filter element

P/N 619702-00  
Minor Service Kit



## 5-year Maintenance Program: (Recommended)

- Perform major service repair
  - replace inlet check valves
  - replace unloading purge valves
  - replace molecular sieve canisters
- Replace oil coalescing filter element

P/N 619960-00  
Major Service Kit

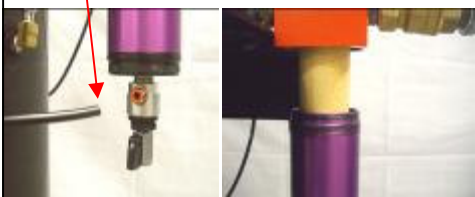


**\*\*SYSTEM PRESSURE MUST BE RELEASED PRIOR TO PERFORMING MAINTENANCE PROCEDURES\*\***

## Replacing the oil coalescing pre-filter element

Step 1: Remove drain line and unscrew the filter housing

Note: To remove tubing you must first push in with tubing and hold tubing release while pulling tubing out.



Step 2: Remove the bottom nut and replace element



Step 3: Screw housing into filter head and attach drain line



# Maintenance Guide for Your SFD Dryer System

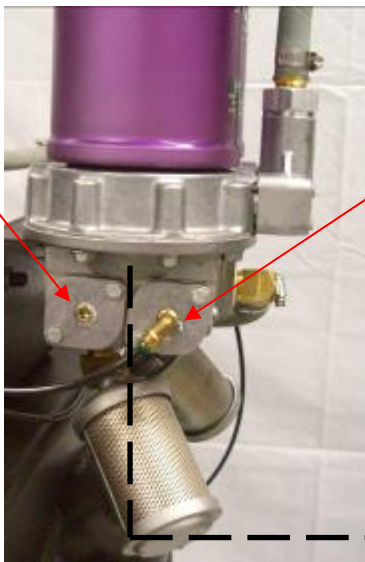
**\*\*SYSTEM PRESSURE MUST BE RELEASED PRIOR TO PERFORMING MAINTENANCE PROCEDURES\*\***

## Replacing the inlet check valves and unloading purge valves

Unloading Purge Valve Ports  
-these are located on the  
backside ports of the dryer

Inlet Check Valve Ports  
-these are located on the  
front side ports of the dryer

Step 1  
Remove bolts and  
remove port cover



Step 1  
Remove bolts and  
remove port cover.



Step 2  
Remove unloading  
purge valve.



**NOTE:**  
This may require a needle  
nose pliers to grab the  
bolt head of the valve

Step 3  
Remove internal o-ring  
carefully.  
Grease and install new o-ring  
**Do not scratch the housing**



Step 2  
Remove inlet check valve. Clean  
the valve bore then grease bore  
and apply an ample amount of  
grease to the check valve before  
installing.



Step 4  
Mark the location of  
the unloading valve  
port on the edge of  
the valve



Step 5  
Lightly grease the bore before sliding the  
unloading purge valve into the housing.



**NOTE**

The unloading port **must** be located  
downwards; in the direction of the muffler.

Step 3  
Replace port cover o-ring, grease  
and install cover. Tighten down  
bolts.

**DO NOT OVER TIGHTEN BOLTS**



Step 6  
Replace port cover o-rings, grease  
and install cover. Tighten down bolts.  
**DO NOT OVER TIGHTEN BOLTS**





Manufactured By:  
Suburban Manufacturing, Inc.  
Monticello, MN 55362

Suburban Manufacturing, Inc. warrants this unit to be free from manufacturing defects for a period of two years from the date the unit is shipped from factory according to the following terms:

This unit must be installed and maintained in accordance with the manufacturers' written recommendations and requirements as they exist from time to time,

This unit must be used for appropriate applications;

This unit must not have been altered from its original state.

Any portion of this unit found defective in material or workmanship will be repaired or replaced, at the manufacturers option, without charge for parts or labor, providing the unaltered product is returned to the manufacturer, shipped prepaid, within the two year time period set forth in this warranty and provided further that the customer establishes that the product is defective in its material or workmanship.

This warranty specifically does not apply to:

Any unit which has been altered from its original state by the customer or anyone acting on behalf of the customer other than the manufacturer;

Repairs necessitated by accident, abuse, or failure to use the product in a manner for which it was designed;

Failure by the customer to follow the normal installation, application and maintenance requirements of the manufacturer;

Loss of use of any system of which this unit is a part, loss of time, inconvenience or any other incidental or consequential damages sustained by the customer.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. THIS REMEDY OF REPAIR OR REPLACEMENT UNDER THIS WARRANTY IS EXCLUSIVE AND NEITHER THE MANUFACTURER NOR ITS AGENTS AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION OF ANY FORM OTHER THAN THE OBLIGATION TO REPAIR OR REPLACE WHICH IS SET FORTH IN THIS WRITTEN WARRANTY. THIS WRITTEN WARRANTY COMPLETELY EXCLUDES THE MANUFACTURERS' RESPONSIBILITY FOR BUSINESS INTERRUPTIONS, LOSS OF PROFITS, PERSONAL INJURY, COSTS OR DELAY, OR ANY OTHER DIRECT OR INDIRECT INCIDENTAL OR CONSEQUENTIAL LOSSES, COSTS, OR DAMAGES. THE CUSTOMER ACCEPTS THIS WARRANTY AS AN EXPRESS CONDITION OF PURCHASE OF THIS UNIT.