



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

!!CAUTION!!

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

- SFD dryer should be installed with a 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
- Use appropriate thread sealant on all fittings unless otherwise specified

IMPORTANT! Installation of the all the moisture and oil removing peripherals should be done before mounting SFD to the wall.

****It is recommended to install dryer with a bypass circuit for maintenance purposes****

— use appropriate thread sealant on all fittings unless otherwise specified —

TABLE OF CONTENTS

Safety Precautions	Page 2
Table of Contents	Page 3
Technical Description ..	Page 4
Installation Instructions	Page 5-8
Dryer Accessories	Page 9
Maintenance Guide	Page 10-11
Warranty	Page 12

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.

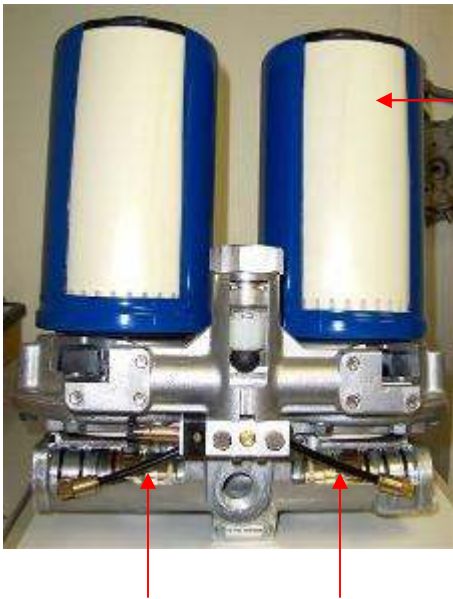
The Tsunami™ Suburban Filter Dryer

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°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.

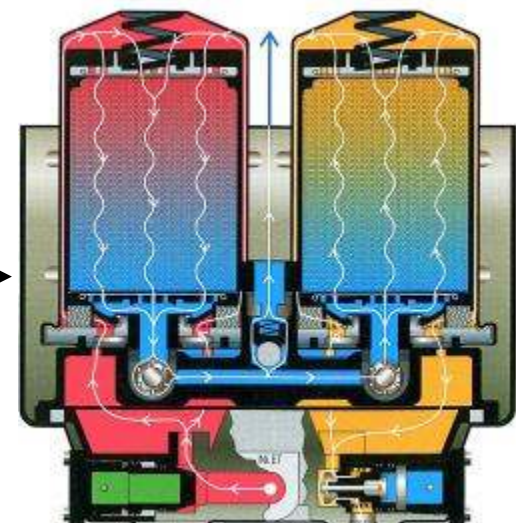


These are the inlet check valves which shift the cycling of the canisters. The two unloading purge valves are in the SFD body behind the inlet check valves.

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.

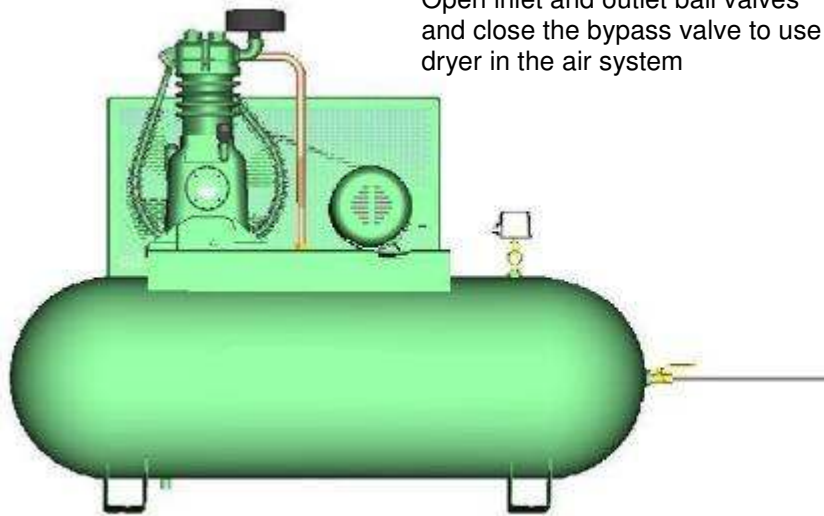
- The red indicates the hot, wet air coming into the dryer.
- The blue shows the removal of the water vapor from the air and is now very dry, clean air.
- The tan color depicts the water vapor and its removal during the regeneration cycle of the SFD dryer.



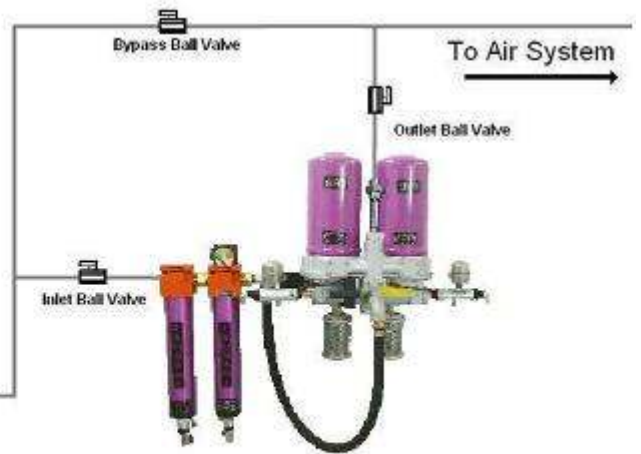
INSTALLATION INSTRUCTIONS

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

****It is strongly recommended to install a bypass circuit around the dryer****



Open inlet and outlet ball valves
and close the bypass valve to use
dryer in the air system



Close inlet and outlet ball valves
and open the bypass valve to
bypass the dryer

**NOTE: For optimal system efficiency, close inlet and outlet ball valves when air system is idle
—At the end of the day and over the weekend or anytime compressed air is not being used—**

Step 1

Step 1a



Mount dryer wall bracket on
wall with appropriate hardware.

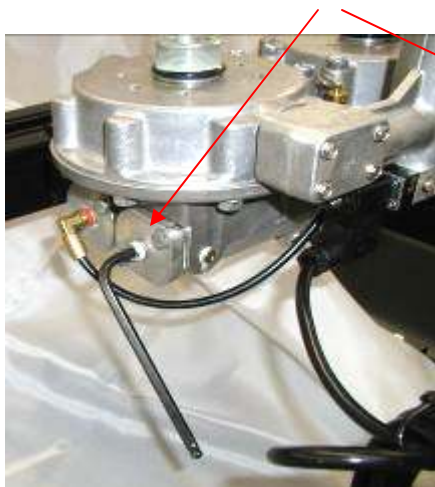
Step 1b



Place dryer mounting bracket
into wall bracket slot.

Step 2

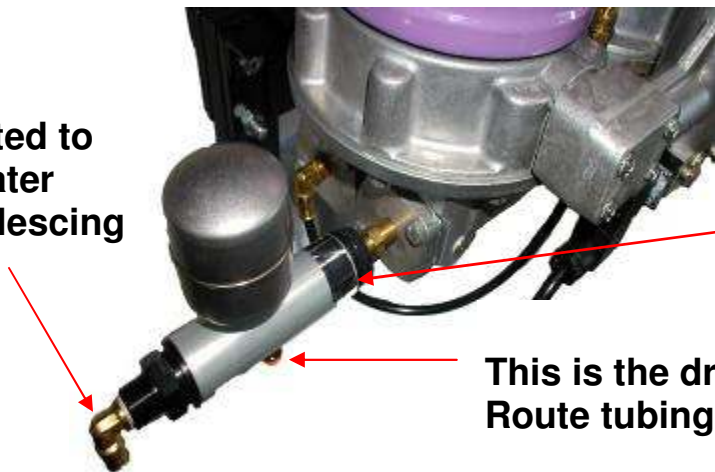
Remove the plugs from the left and right front ports of the dryer
using a 1/4" hex wrench.



Step 3 Place thread sealant on the 1/4" nipple and mount the automatic drains for the water separator and oil coalescing pre-filters.

Note:

This port is to be routed to the strainer on the water separator and oil coalescing pre-filters.



Please note that the intermittent air end is attached to dryer with nipple

Note:

This is the drain discharge port. Route tubing to floor drain or bucket

Step 4 Use appropriate thread sealant at all connections

Step 4a



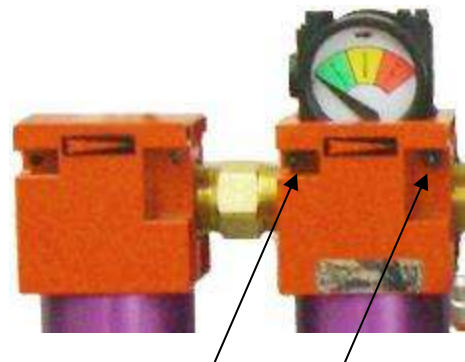
Assemble the bushing, elbow and barbed nipple before attaching to filtration package

Step 4b



Securely mount the mounting bracket using proper mounting bolts

Step 4c



Attach pre-filter package to the mounting bracket using supplied mounting bolts

Note mounting location

Step 5 Assemble the nipple, elbow and barbed fitting then install on the inlet port of the SFD Dryer

Assemble the nipple and union then install on the outlet port of the SFD Dryer



Step 6

Slide the flexible hose over the barbed nipples and tighten hose clamps securely



Step 7



Connect the drain lines from the Moisture Minder® piston drains to the side of the strainer at the bottom of the water separator and oil coalescing filter using the supplied 1/4" black tubing

Note: Make sure ball valve on strainer is closed

Step 8

Install mufflers as shown.
Do not over-tighten, hand tight is OK



!! Important !!

Use anti-seizing compound when installing mufflers as shown



Step 9

If towers are not pre-assembled, lubricate the o-ring on the can mounts as well as the ring on the canister using supplied lubricant. Apply a small amount to the threads.



!! IMPORTANT !!
DO NOT OVER TIGHTEN THE CANISTERS.

ONCE THE RING MAKES CONTACT WITH THE BASE, TIGHTEN 1/8 TO 1/4 TURN MAX.

Step 10 If labels are not already on towers, place labels on the canisters as shown

It is very important to place warning labels on the units



INLET AIR

For optimal performance:
We recommend 3/4" pipe, as a minimum, for inlet piping from main air line.

Note: Ball valves at the bottom of the strainers should be closed during normal operation.

Open ball valves periodically to blow out trapped debris.



OUTLET AIR

INSTALL WITH NIPPLE AND UNION COUPLING

For optimal performance:
We recommend 3/4" pipe, as a minimum, for outlet piping to main air line.

When used near point-of-use, try to use 3/4" pipe as close to work area as is possible

SUPPLY PROPER POWER SOURCE TO OPERATE SOLENOID AND TIMER

110/120v standard

(12v / 24v / 230v optional)

Dryer Accessories

An optional automatic tank drain can also be installed (P/N 21999-0083). This option will efficiently drain your compressor tank automatically each time the dryer cycles

Kit includes: Piston Drain, strainer and necessary mounting accessories

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Maintenance Guide for Your SFD Dryer System

6 month Maintenance: **(Mandatory)**

- Replace the oil coalescing element

(Or replace if DPI gauge on top of filter is reading in the yellow prior to the six month period)



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



3-5 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

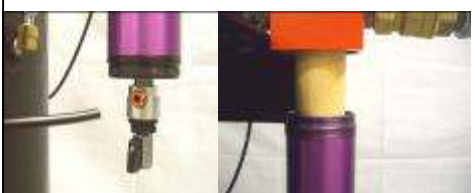
P/N 619960-00
Major Service Kit



****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



Step 2: Remove the bottom nut and replace element



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



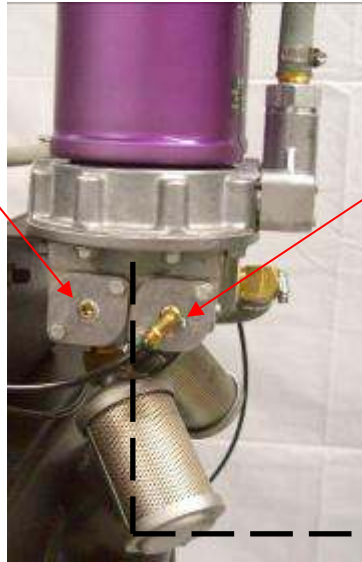
Maintenance Guide for Your SFD Dryer System

****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.

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.



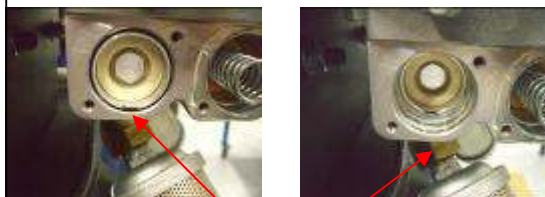
NOTE:
This may require a needle
nose pliers to grab the
bolt head of the valve

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



Step 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
1-800-782-5752

Suburban Manufacturing, Inc. warrants this unit to be free from manufacturing defects for a period of one year 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.