

THE FOLLOWING USER MANUAL APPLIES TO TSUNAMI PURE SERIES TANK MOUNTED REGENERATIVE DRYERS



21999-0945
21999-0945-PP
21999-0945-PP-MM



21999-0955
21999-0955-220
21999-0955-PP

WARNING

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami Regenerative 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 Regenerative Drying 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 regenerative dryer where molecular sieve desiccant captures water vapor. Approximately every 2 minutes (90 seconds for 12v timers using the pneumatic powered generator) the timer sends out a signal causing an internal piston to shift. The shift in the piston redirects air flow through the opposite dryer canister(s); dryers are available with alternative voltage options. The Tsunami Regenerative Drying System can provide dew points down to -80°F and relative humidity down to .01% RH. All dryers come standard with automatic drains to assure proper discharge of all contaminants captured in the water separator and oil coalescing filter.

Tsunami Pure Series Tank Mounted Dryers come standard with a 110v timer/coil assembly to operate the air valve actuation controlling tower cycling. Other voltages are available, including 220 VAC as well as self powered units equipped a pneumatic generator. The Pneumo-Generator has the ultimate solution for self-contained installations, or mobility, as the generator provides power to the 24 VDC timer/coil assembly.

DRYER SPECIFICATIONS

Maximum Inlet Air Temperature: 150°F Maximum Pressure: 175 psi

Dryer	Max Flow	Inlet Port	Outlet Port	Weight
Pure-10 Tank Mounted	40 CFM	1/2" NPT	1/2" NPT	42 lbs
ROVE Mobile Dryer	40 CFM	1/2" NPT	1/2" NPT	42 lbs

Regeneration Orifice	# of Towers	# of Towers Drying	# of Towers Regenerating
.030	2	1	1

Pneumatic Generator Models
Pneumo-Generator Specifications:
Suggested Inlet Pressure: 45-50 PSI
Minimum Inlet Pressure: 44 PSI
Maximum Inlet Pressure: 101 PSI
Maximum Inlet Air Temperature: 122°F
Maximum Air Consumption at 101 PSI: 2.6 CFM

INSTALLATION & SERVICE REQUIREMENTS

IMPORTANT: Tsunami Regenerative Dryers are configurable in multiple variations. Before beginning installation it is important to determine the direction of air flow which best meets your installation application requirements. Failure to follow required maintenance schedule will void warranty.

Dryer Installation – ROVE Mobile Dryer pg. 2

Dryer Installation – Pure-10 Tank Mounted pg. 3

6 Month Service, Every 6 Months pg. 4

- Replace Oil Coalescing Filter Element
- Inspect and lubricate pistons and piston bores

3 Year Service pg. 5

- Replacement of desiccant towers
- Replacement pistons

Parts Breakdown – Service Parts pg. 5

Troubleshooting Guide pg. 5



**Installation Instructions:
Tsunami Rove**



WARNING

Your safety is important. System pressure must be released prior to any installation or service. Failure to follow maintenance instructions could result in operating failure or product damage. Use only appropriate thread sealant on all connection fittings unless otherwise specified. Do not alter the filtration system from its original design as this may cause failure in its operation parameters.

DESCRIPTION

Simply plug your air connection into the ball valve inlet located on the Tsunami pre-filters and you're ready to go! The Rove provides your shop with ultimate versatility by having the cleanest, driest compressed air available whenever and wherever needed.

The system incorporates industry leading Tsunami drying technology packaged as a complete system. The system includes a water separator, oil coalescing filter and automatic float drains to assure proper draining of water, oil and other contaminants. The system is mounted on a 30 gallon receiver tank to provide mobility and storage of clean, dry air.

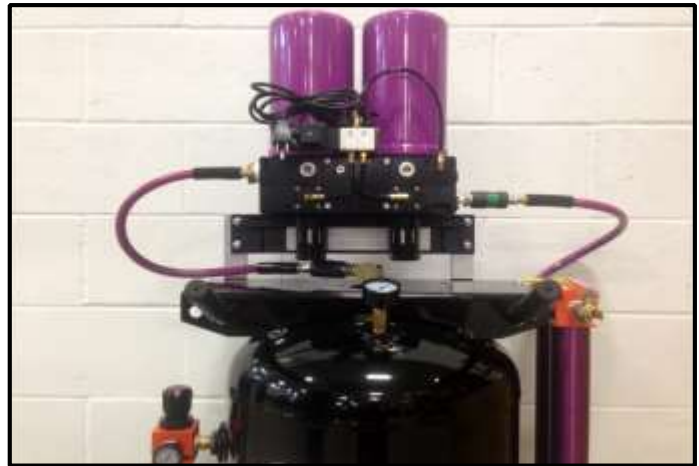
The Tsunami ROVE comes standard with a 110v timer/coil assembly to operate the air valve actuation controlling tower cycling. Units equipped with the Pneumo-Generator have the ultimate mobility solution as the generator provides power to the 24 VDC timer/coil assembly.

DRYER SPECIFICATIONS

Maximum Pressure: 175 psi
 Maximum Flow: 40 CFM
 Maximum Inlet Air Temperature: 150°F
 Inlet Port: 1/2" NPT
 Outlet Port: 1/2" NPT

Pneumatic Generator Models
 Pneumo-Generator Specifications:
 Suggested Inlet Pressure: 45-50 PSI
 Minimum Inlet Pressure: 44 PSI
 Maximum Inlet Pressure: 101 PSI
 Maximum Inlet Air Temperature: 122°F
 Maximum Air Consumption at 101 PSI: 2.6 CFM

DRYER INSTALLATION



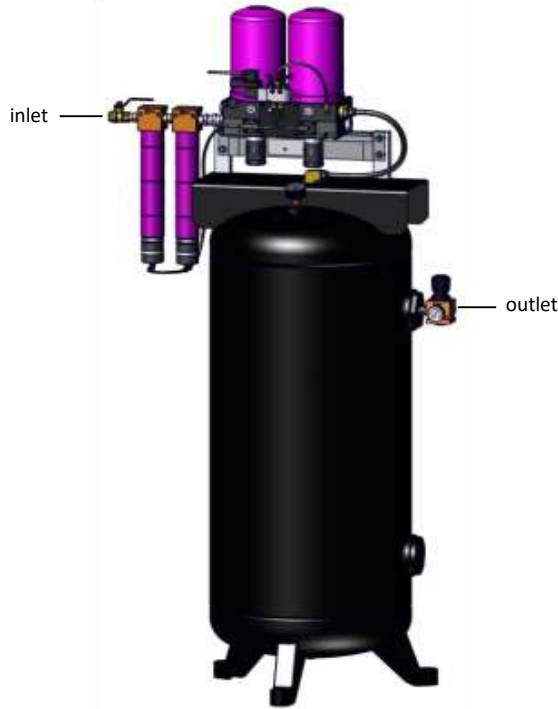
1. Remove dryer from box.
2. Slide the dryer base plate into mounting bracket located on top of the storage tank.
3. Install the quick-disconnect safety coupler into brass fitting located on the dryer inlet (initial installation only). Coupler comes with thread sealant pre-applied.
4. Install brass fitting with Ultra-flo hose line on the dryer outlet (initial installation only). Fitting comes with thread sealant pre-applied
5. Connect pre-filter line to quick-disconnect located on dry inlet.
6. Connect storage line to quick-disconnect located on tank inlet
7. Connect shop air to the ball valve inlet. Slowly turn ball valve to the ON position. *NOTE: If the dryer is pressurized too quickly the float drains can falsely open and discharge air. If this happens, close the inlet ball valve and then slowly re-pressurize unit again*
8. Do not transport unit offsite with stored air under pressure!

DRYER REMOVAL INSTRUCTIONS

This unit is designed to discharge air in the dryer and pre-filters by closing the inlet ball valve and simply disconnecting safety couplers. If transporting to an off-site location purge all stored air in tank.

1. Turn inlet ball valve to the OFF position.
2. Disconnect safety coupler on dryer outlet.
3. Disconnect safety coupler located on dryer inlet.
4. Lift dryer off mounting bracket and store.
5. If transporting off-site, use outlet regulator or tank drain located on bottom of tank to release all stored air from tank.

THE FOLLOWING USER MANUAL APPLIES TO TSUNAMI PART NUMBERS SHOWN BELOW



WARNING

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami Regenerative 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 filtration system from its original design as this may cause failure in its operation parameters.

DESCRIPTION

Congratulations on the purchase of your Tsunami Regenerative Drying 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 passes through an inlet ball valve before entering 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 regenerative dryer where molecular sieve desiccant captures water vapor. Approximately every 90 seconds, the timer sends out a signal causing an internal piston to shift. The shift in the piston redirects air flow through the opposite dryer canister. The pretreated air is then stored in a 60 gallon storage tank. This Tsunami Regenerative Drying System can provide dew points down to -80°F and relative humidity down to .01% RH. The Pure-10T comes standard with Moisture Minder® pneumatic drains to assume proper disposal of all contaminates captured in the water separator and oil coalescing filter.

Tsunami Pure Series Tank Mounted Dryers come standard with a 110v timer/coil assembly to operate the air valve actuation controlling tower cycling. Other voltages are available, including 220 VAC as well as self powered units equipped a pneumatic generator. The Pneumo-Generator has the ultimate solution for self-contained installations, or mobility, as the generator provides power to the 24 VDC timer/coil assembly.

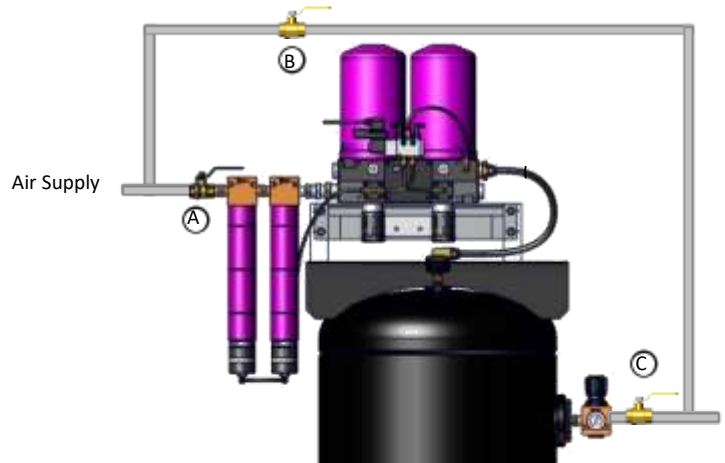
DRYER SPECIFICATIONS

Maximum Inlet Air Temperature: 150°F
 Maximum Pressure: 175 psi
 Maximum Flow: 40 CFM
 Inlet Port: 1/2" NPT
 Outlet Port: 1/2" NPT

INSTALLATION INSTRUCTIONS

For ease of service, it is highly recommended to install a bypass circuit around the regenerative dryer. 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



For 110v dryers, plug unit into wall.

For 220v dryers, install a 220/230/240 single phase plug on flying leads and plug into appropriate outlet or hard wire into electrical box. Make sure all local electrical codes are followed and that work is performed by a qualified representative.

Using the dryer: Open the inlet and outlet ball valves and close the bypass valve to direct air flow through the regenerative dryer. This will provide clean, dry air downstream.

Bypassing the dryer: Close the inlet and outlet ball valves and open the bypass valve to direct airflow around the dryer. This allows service or maintenance to be performed without shutting down the air system.

CAUTION: A ball valve is located on the bottom of the tank for manual draining purposes. It is recommended to leave the ball valve open any time the system is being serviced.

MAINTENANCE INSTRUCTIONS - COALESCING ELEMENT

Mandatory every 6 months

- Oil Coalescing Filter Element Replacement (P/N: 21999-0202)

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami Regenerative 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 1

1. Unplug unit from power source.
2. Release all system pressure.
3. Disconnect the pilot line located at the bottom of the oil coalescing filter. For ROVE mobile dryers, close inlet ball valve and disconnect the air line to release pressure inside housings.
4. Remove filter tube from filter head by holding filter head and rotating tube counter-clockwise.
5. Remove bottom baffle, filter element, top adaptor, and O-ring. *Figure 2*

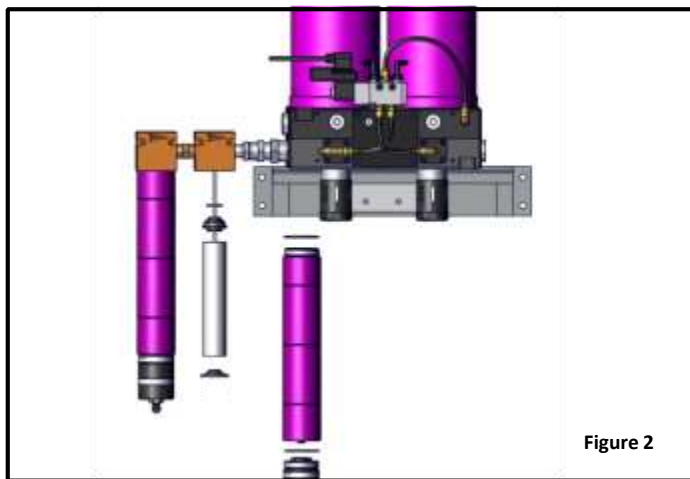


Figure 2

6. Replace filter element and hardware in reverse order from previous steps. Tighten baffle nut until filter element can no longer spin freely. **DO NOT OVER TIGHTEN NUT!**
7. Reinstall outer tube by rotating clockwise onto filter head.
8. Reconnect pilot tubing and plug unit back into wall. For ROVE mobile dryers, reconnect air line to dryer.
9. Slowly pressurize the unit.

MAINTENANCE INSTRUCTIONS - PISTON LUBRICATION

Recommended every 6 months

- Lubrication of piston spool and piston bore

Recommended annually

- Piston Replacement Kit (21999-0707)

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami Regenerative 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.

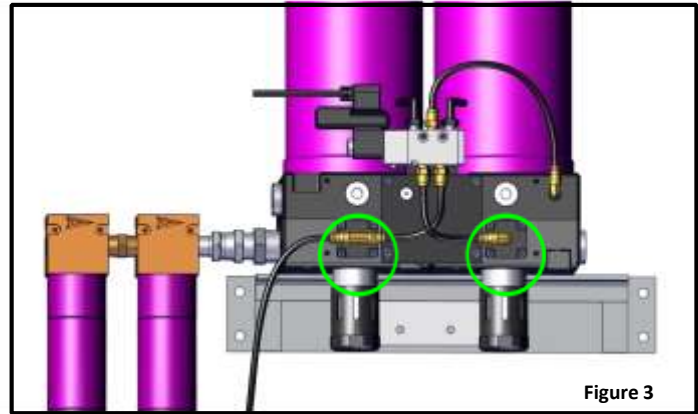


Figure 3

Note: Each canister contains one piston.

1. Unplug unit from power source.
2. Release all system pressure.
3. Disconnect tubing from quick-connect fitting located on piston cover. Push in on brass ring. While holding ring in, pull out tubing. *Figure 3*
4. Using a 4mm hex key wrench, remove the four socket head cap screws holding the piston cover in place. *Figure 4*
5. Remove piston cover for access to piston.
6. Using a finger or a 1/2-13 bolt, remove the piston from the piston bore. Be sure to remove the piston spring. *Figure 4*
7. Using dielectric grease, lubricate the piston bore. Grease thoroughly.
8. Lubricate the top three O-rings located on the piston.

Note: It is unnecessary to grease bottom O-ring (small diameter).



Figure 4

9. Place spring back onto piston.
10. Carefully insert piston back into piston bore. Press until piston is fully seated.
11. Replace piston cover for access to piston.
12. Using a 4mm hex key wrench, replace the four socket head cap screws holding the piston cover in place. Tighten until snug, then add 1/4 turn. *Figure 4*
13. Reconnect tubing to quick-connect fitting located on piston cover. *Figure 3*
14. Slowly pressurize the unit.

SERVICE INSTRUCTIONS - DRYER CANISTER REPLACEMENT

Recommended 3 Year Service

- Replacement of dryer canisters (P/N: 21999-0349)

Your safety is very important. Read all instructions before beginning any service or installation on your Tsunami Regenerative 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.

1. Unplug unit from power source.
2. Release all system pressure.
3. Using a strap wrench (if necessary), unscrew each canister from the top of the dryer housing. Discard.
4. Remove and discard small O-ring from dryer mounting stud.
5. Remove and discard large gasket from canister housing.
6. Clean top surface of dryer housing and mounting stud.
7. Using the supplied grease, apply light coating to the new O-ring. Install O-ring onto mounting stud. *Figure 5*
8. Apply a light amount of the supplied grease to the new canister gasket. *Figure 5*

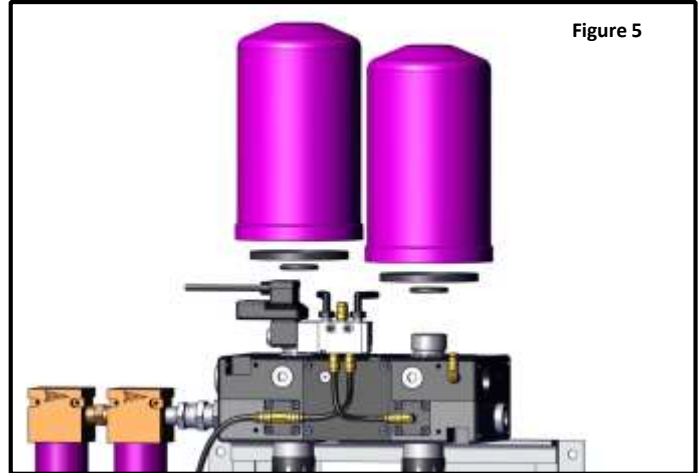
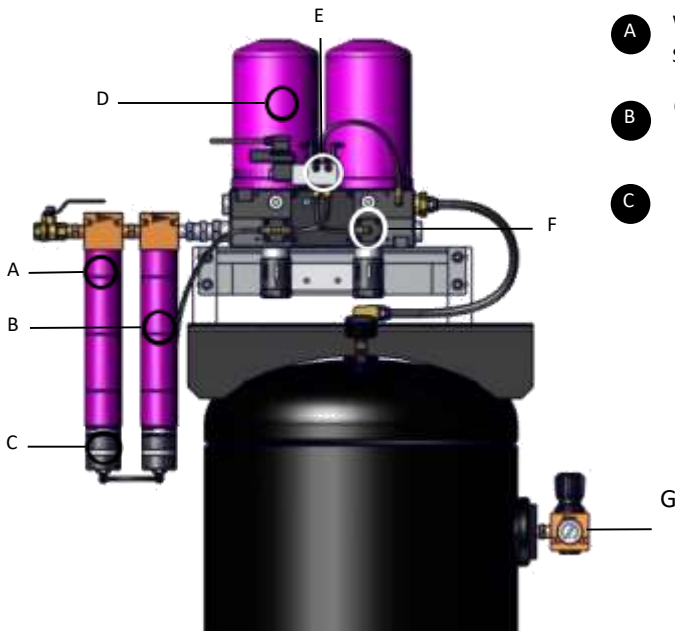


Figure 5

9. Thread new canister onto the mounting stud. Once gasket contacts adaptor plate, tighten canister ¼ - ½ turn. DO NOT OVERTIGHTEN.

TSUNAMI REGENERATIVE DRYER PARTS BREAKDOWN – SERVICE PARTS



- A** Water Separator
Service Kit PN: 21999-0227
- B** Oil Coalescing Element
Replacement PN: 21999-0202
- C** Pure-10 T models:
Moisture Minder® Filter Drains
Replacement PN: 21999-0795

ROVE Mobile Dryer models:
Float Drains
Replacement PN: 21999-0868
- D** Dryer Desiccant Canister
Replacement PN: 21999-0349
- E** Solenoid Timer Valve
110v : P/N 21999-0941 (timer, coil, valve assembly)
220v : P/N 21999-0797 (valve assembly)
P/N 610934-01 (220v timer/coil assembly)
- F** Piston
Replacement PN: 21999-0707
- G** Regulator
Replacement PN: 21999-0871

TROUBLESHOOTING GUIDE – PURE SERIES TANK MOUNTED DRYERS

PROBLEM	PROBABLE CAUSE	CORRECTION
Water / Oil Carryover	A. Water Separator not properly draining B. Moisture Minder® Drain not working C. Coalescing filter element cracked or saturated D. Desiccant tower saturated or oil carryover has gotten on the media E. Over flowing dryer F. Dryer not sized properly	a. Remove and verify automatic drains are functioning. b. Check to see if Moisture Minder® is dispersing water. If not, replace. c. Replace coalescing filter element. See Maintenance Instructions Page 4. d. Replace desiccant canister. See Service Instructions Page 3. e. Reduce the SCFM being used downstream of dryer. Contact Distributor. f. Contact your distributor for more info.
Excess Air Purging Out Muffler	A. Piston stuck	a. Grease or replace piston. See Maintenance Instructions Page 4.
Dryer Not Cycling	A. Power cord damaged B. Solenoid Timer Valve not properly working	a. Replace power cord. Contact your distributor for more information. b. Replace solenoid timer valve.