



**Air System
Products**
Filtration Group®

Posi-Zorb

Installation & Operation Manual



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Model PZD-01
Oil / Water Separator System

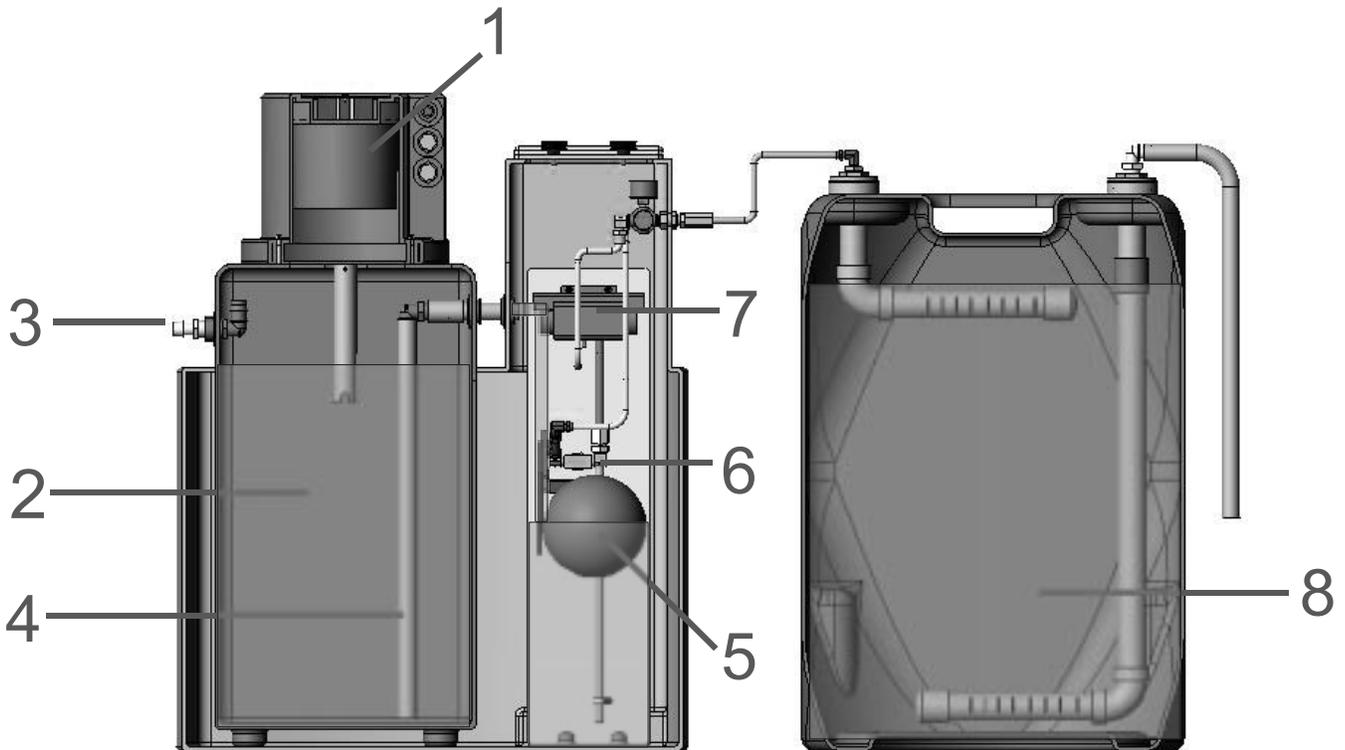
POSI ZORB Oil Water Separator

Traditional gravity type separators do very well in separating oils that have good separation characteristics. However, many compressor oils do not fully separate. These types of oils, known as emulsions, tend to foul-up the carbon filters as well as the pre-adsorption and coalescing medias that are commonly installed in front of the carbon filters. Those filters have to be replaced before their capacity is fully used.

The POSI ZORB was designed to effectively separate emulsified compressor condensate to levels of 20 PPM or less without premature element failure and backup spillages. To do this, the POSI ZORB uses two very unique features. **First**, the delivery system has a pneumatically operated pump that is used to feed the filter module. The use of pressure assures the filter will not clog. **Second**, the Filter Module contains a specially formulated zeolite adsorbent. The substrate is coated with a hydrophobic compound. This combination gives the media an ability to hold up to four times the amount of oil that standard activated carbon can hold.

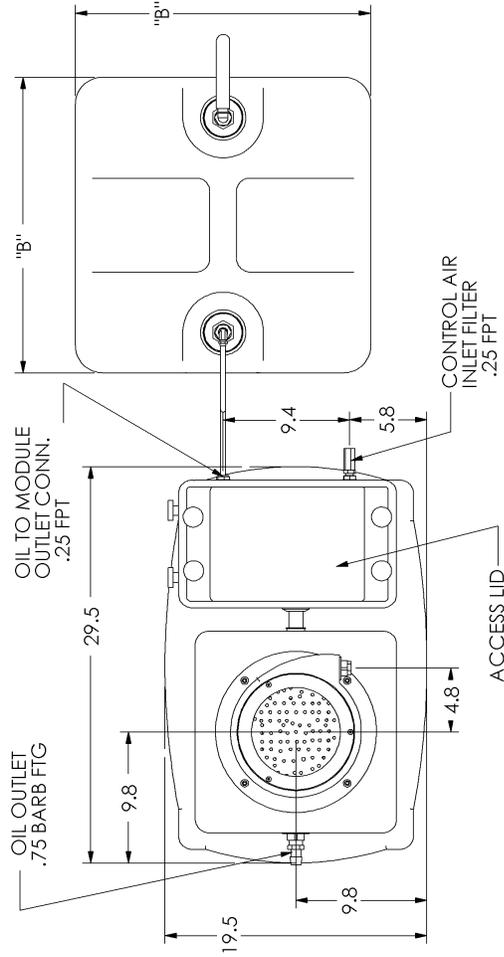
How It Works:

The condensate enters the (1) **Diffuser Chamber** where it is depressurized. The oily condensate then enters a (2) **Main Reservoir** where sedimentation occurs. Any oil that floats to the surface can be skimmed off through an adjustable (3) **Oil Weir**. The condensate then moves to a separate chamber through a (4) **Pick-Up Tube**. As the condensate accumulates in the next chamber, a (5) **Float** rises with the level of condensate. The float is connected to a (6) **Ball Valve** by a lever arm. The increased level of condensate causes the float to rise and open the ball valve. As the valve opens, the air-operated (7) **Pump** is allowed to push the condensate out to the (8) **Filter Module**. If the level of condensate continues to rise, the float also rises and further opening the ball valve. This results in additional condensate being pushed to the filter module. Thus, the system will self adjust to the quantity of condensate entering the system. This system assures maximum contact time for the filter module.

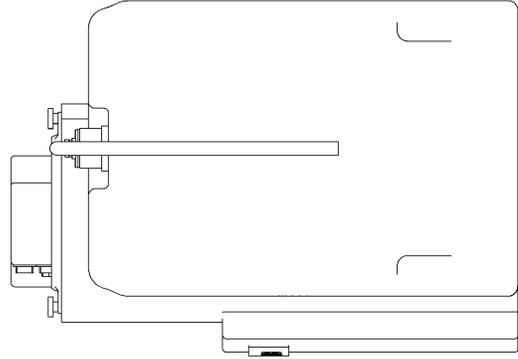
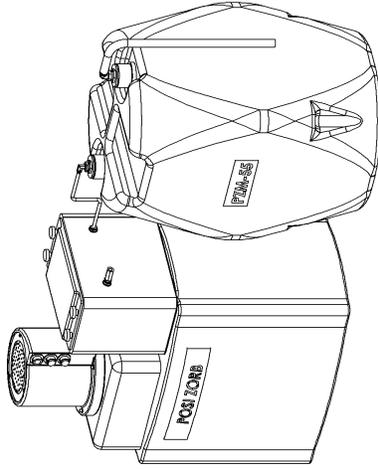
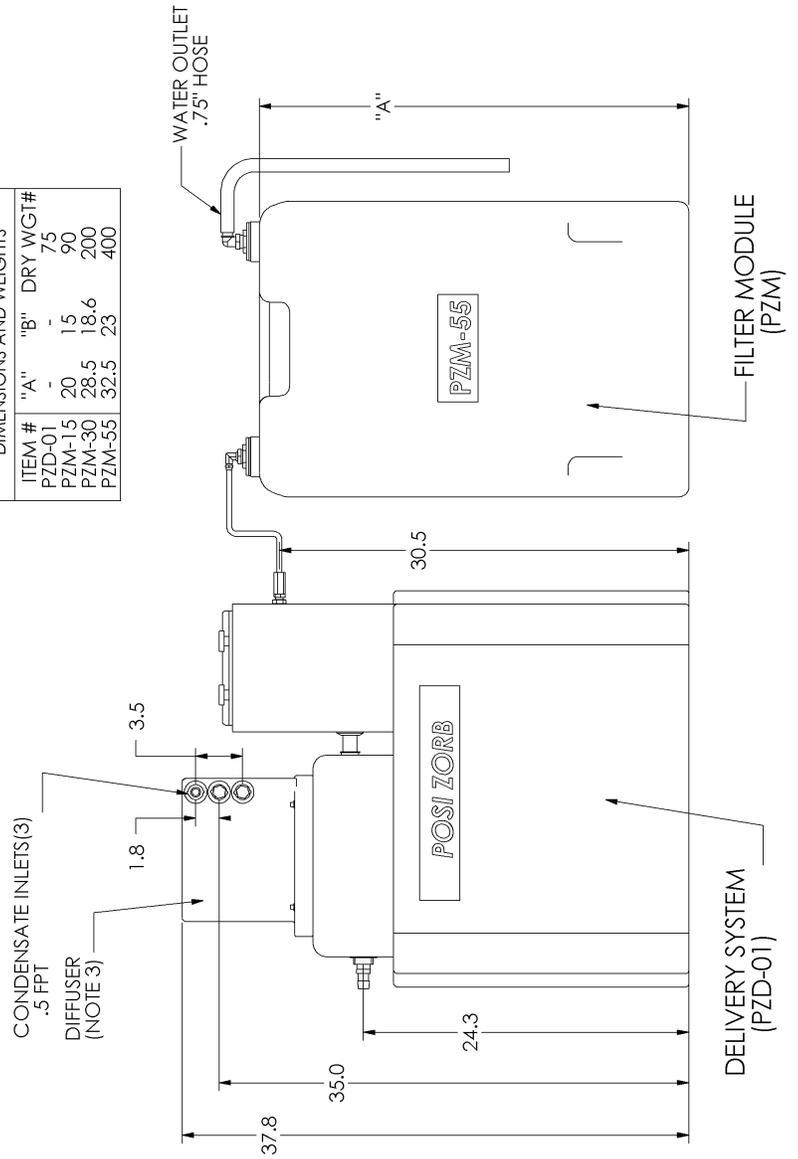


DRAWN BY	JLR	AIR SYSTEM PRODUCTS INC
DATE	10/03/01	51 BEACH AVE LANCASTER, NY 14086
TITLE	POSI ZORB DELIVERY SYSTEM AND MODULE OUTLINE	
DWG #	NEW PZD-PZM OUTLINE	REV

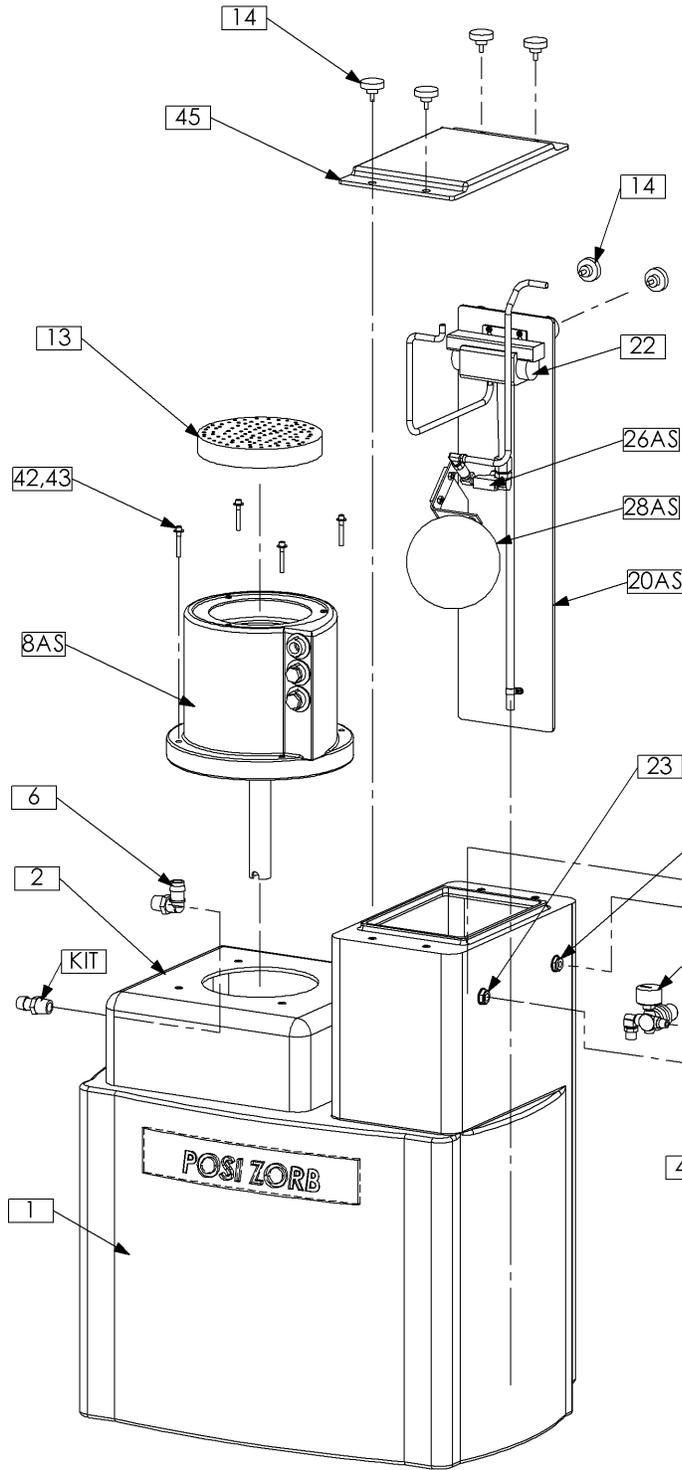
NOTES:
 NOTE 1: ALL DIMENSIONS ARE IN INCHES.
 NOTE 2: TOLERANCES: ALL DIMENSIONS ARE
 +/- .50 UNLESS OTHERWISE SHOWN.
 NOTE 3: DIFFUSER IS ROTATABL IN 90 DEGREE
 INCREMENTS.



DIMENSIONS AND WEIGHTS			
ITEM #	"A"	"B"	DRY WGT#
PZD-01	-	-	7.5
PZM-15	20	15	90
PZM-30	28.5	18.6	200
PZM-55	32.5	23	400

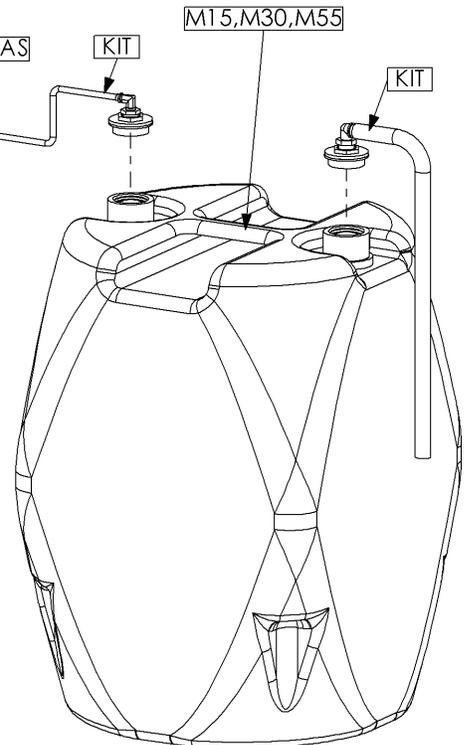


DRAWN BY JLR	AIR SYSTEM PRODUCTS
DATE 01/08/03	51 Beach Ave
	Lancaster, NY 14086
TITLE POSI ZORB WITH MODULES	
EXPLODED VIEW AND PARTS LIST	
DWG# NEW ZORB EXPL PL W MODS REV	



PC#	QTY	PART NO.	DESCRIPTION
1	1	PZP-CTR	CONTAINER NOTE 1
2	1	PZP-SET	SETTLING TANK NOTE 1
6	1	TR5-A	ELBOW 3/4x1
13	1	ASP-EC08	FILTER MEDIA
14	6	PZP-KNOB	KNOB WITH 1/4-20 STUD
19	1	PZP-BHF	BULKHEAD FTG 3/8
22	1	PZP-PUMP	PUMP
23	2	PZP-COUP	BULKHEAD 1/4
42	4	047-004-SS	BOLT ALLEN HD 1/4-20x1.75
43	4	053-001-SS	WASHER FLAT 1/4
45	1	PZP-LID	TANK LID
47	1	PZP-FILTER	AIR FILTER
8AS	1	TR4-8C ASY	DIFFUSER ASSY NOTE 2
15AS	1	PZP-REG-ASY	REGULATOR ASSY NOTE 3
20AS	1	PZP-MTGPL-ASY	MOUNT'G PLATE ASY NOTE 4
26AS	1	PZ-VALVE ASY	VALVE ASSEMBLY NOTE 6
28AS	1	PZP-FLOAT-ASY	FLOAT ASY NOTE 5
KIT	1	INSTALL KIT	INSTALLATION KIT NOTE 7
M15	1	PZP-15	15 GALLON MODULE
M30	1	PZP-30	30 GALLON MODULE
M55	1	PZP-55	55 GALLON MODULE

NOTES:
 NOTE 1: ZORB TANK AND SETTLING TANK ARE AVAILABLE AS A COMPLETE ASY ONLY.
 NOTE 2: DIFFUSER ASY INCLUDES FILTER AND FILTER RETAINER.
 NOTE 3: REGULATOR ASY INCLUDES ATTACHMENT FITTINGS.
 NOTE 4: MTG PLATE ASY INCLUDES PUMP, VALVE, AND FLOAT ASYS.
 NOTE 5: FLOAT ASY INCLUDES FLOAT, FLOAT STOP, BRKT, AND HARDWARE.
 NOTE 6: VALVE ASY INCLUDES ALL FTGS NECESSARY TO ATTACH TO MTG PLATE AND TO FLOAT ASY.
 NOTE 7: INSTALLATION KIT INCLUDES ALL PARTS REQUIRED FOR ATTACHMENT OF MODULES TO DELIVERY SYSTEM INCLUDING OIL OUTLET BARB FOR DELIVERY SYSTEM.



POSI ZORB Oil Water Separator Installation & Operation Procedures

PLACEMENT:

Position the POSI ZORB DELIVERY SYSTEM, FILTER MODULE and an Oil Collection Container (not supplied) in an easily accessible location near your Compressor Station.

The following Filter Module Backwash Procedure MUST be performed each time you install a new Filter Module. It will purge the Filter Module of air and clarify the water by removing the fine dust created during transportation.

FILTER MODULE BACKWASH PROCEDURE:

1. Remove the 2" NPT Plug from the Inlet Port on the Filter Module. Replace with the 2" NPT (m) x 3/4" NPT (f) Reducing Bushing and a 3/4" NPT(m) x 3/4" Hose Barb Elbow
2. Supply your required length of 3/4" Discharge Tubing (clear is recommended) (not supplied) and secure it with a Hose Clamp (not supplied) to the 3/4" Hose Barb connection. Route this Tubing to your Sanitary Sewer Floor Drain.
3. Remove the 3/4" NPT Plug from the Outlet Port on Filter Module #PZM-15 and replace it with the 3/4" NPT (m) x 3/4" Garden Hose Adapter.

Note: The Plug is 2" on MODULES #PZM-30 & PZM-55. Replace with a 2" NPT (m) x 3/4" NPT (f) Reducer Bushing. Then install the Garden Hose Adapter.

4. Connect one end of a Garden Hose to your Tap Water Valve Next, connect the opposite end to the Hose Adapter on the Filter Module. **Open the Tap Water Valve ONLY One-Quarter (1/4) Turn** to Purge the Air and Fill the Filter Module with Clean Water. Continue to Backwash the Filter Module Until the Water Exiting the Discharge Hose Runs Clear.
5. When Water runs clear, shut off the Tap Water Valve, disconnect the Garden Hose and, remove the Garden Hose Adapter Fitting from the Outlet Port. (Keep the Garden Hose Adapter Fitting for future use)

The Backwash Procedure is now complete. Prepare the Filter Module for Air Compressor Condensate Service as follows:

6. Remove the 3/4" NPT (m) x 3/4" Hose Barb Elbow and Discharge Hose from the Inlet Port and, reinstall them into the Outlet Port.
7. Install a 3/4" NPT (m) x 3/8" NPT (f) Reducer Bushing into the Inlet Port, then install a 3/8" NPT (m) x 3/8" Tubing Adapter Elbow. Next, fasten one end of the White 3/8" Condensate Delivery Tubing to the Tubing Adapter.

DELIVERY SYSTEM INSTALLATION:

1. Level the Delivery System.
2. Thread the 1/4" NPT (m) In-Line, Sintered Bronze, Particulate Control Air Filter into the Control Air Inlet Port. Connect a Clean, Dry, Oil-Free Compressed Air Line to the Filter.

NOTE: PROPER OPERATION OF THE DELIVERY SYSTEM REQUIRES THAT CLEAN, DRY, OIL-FREE 30-150 PSI COMPRESSED AIR BE PIPED TO THE CONTROL AIR FILTER. FAILURE TO DO SO MAY DAMAGE THE PUMP AND VOID THE WARRANTY. WE RECOMMEND INSTALLING A COALESCING FILTER IF OIL IS PRESENT IN YOUR CONTROL AIR.

1. Install the Clear 3/4" x 18" Hose into the Oil Outlet Port with the 3/4" NPT (m) x 3/4" Hose Barb S straight Fitting and, place the end of the hose into your Oil Collection Container (not supplied).
2. To connect the POSI ZORB Delivery System to the Filter Module, first, install a 3/8" NPT (m) x 3/8" Tubing Adapter into the 3/8" NPT Condensate Discharge Port. Then, fasten the White 3/8" Condensate Delivery Tube (that you connected to the Filter Module in step #7) to the Tubing Adapter. Be careful not to kink the tubing.

Service Preparation Procedure:

1. Remove the Lid from the top of the Delivery System. Carefully, set the Lid aside.
2. Check the Internal Pressure Gauge. It should read 40 PSI. DO NOT ADJUST ANY HIGHER.
3. Position the Oil Outlet Elbow, located within the Main Reservoir, so that it is pointing straight up.
4. Remove the Diffuser. Slowly, fill the Main Reservoir with Tap Water. (Water will automatically exit through the Pick-Up Tube and spill into the Delivery System Reservoir.)
5. The rising Water Level will open the Discharge Valve by lifting the Ball Float. This will cause the pump to start cycling and push the Water through the Filter Module.
6. Watch the Discharge Hose on the Filter Module to determine that water is being pumped through the system. If it is not, add about a half-a-gallon to the Reservoir and check again. The Pump will continue to run until the receding Water Level lowers the Ball Float enough to close the valve. This will stop the Pump.

SYSTEM COMMISSIONING:

1. Replace the Lid on the Delivery System.
2. Connect your Condensate Drain Lines to the ½" NPT (F) Inlet Connections on the Diffuser Chamber.

Note: The Diffuser Chamber can be rotated at 90-degree intervals to ease your piping restraints. Simply remove the four Socket Head Cap Screws, position as needed and, replace the screws.

3. **SAVE ALL PLUGS AND FITTINGS!!!**
4. The POSI ZORB is ready for Service.

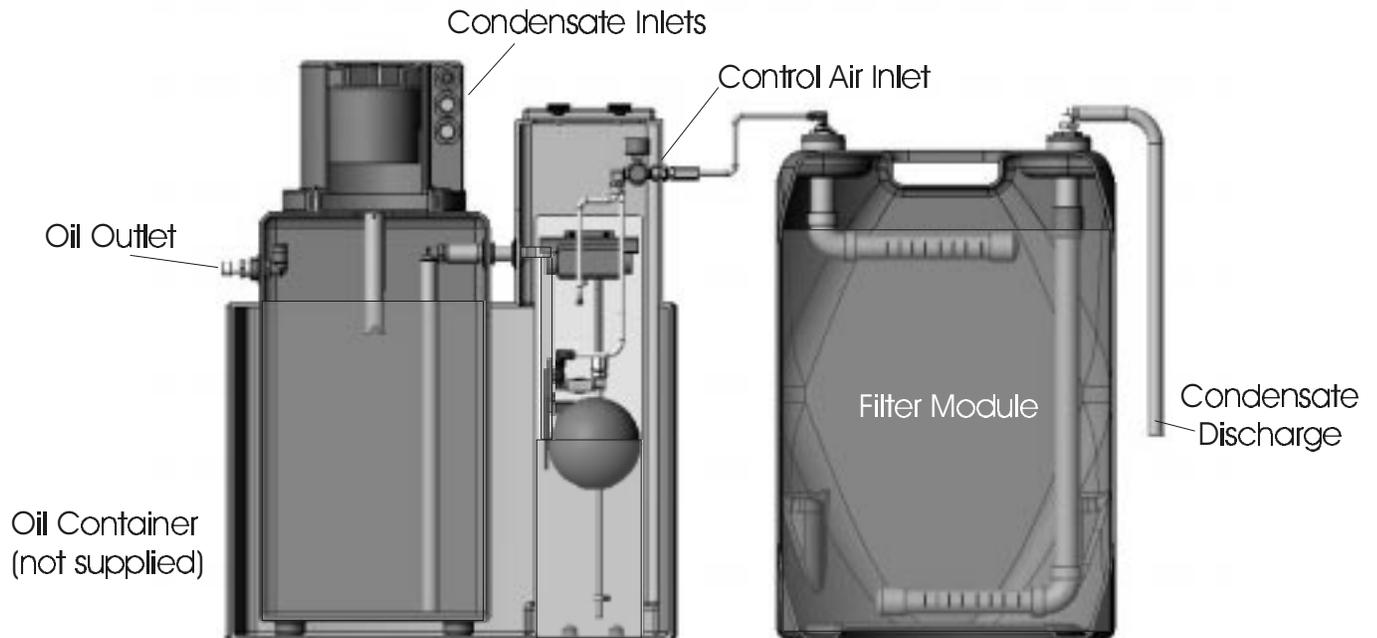
OPERATION:

- ✓ The POSI ZORB DELIVERY SYSTEM will automatically Start and Stop as required by the Condensate Load.
- ✓ Weekly, collect a sample of the Discharge Water in a clear glass vessel and, compare it to Tap Water checking for cloudiness.
- ✓ Replace the FILTER MODULE when cloudiness appears in the discharge water sample.

POSI ZORB

Installation Parts List

<u>P/N</u>	<u>Quantity</u>	<u>Description</u>
PZP-FILTER	1	Air Filter for Control Air
PZP5-2T	2	2" x 3/4" FNPT Tank Fitting
TR5-8	1	3/4" x 3/8" Reducer Bushing
PZP5-34H	1	Brass 3/4" MNPT x 3/4" Garden Hose Connector
TR9-7	1	3/4" MNPT x 3/4" Barb Street Elbow Fitting
TR9-1	1	3/4" x 3/4" Barb Street Straight Fitting
PZP5-38E	1	3/8" MNPT x 3/8" Tube Elbow Fitting
	18"	3/4" Clear PVC Tubing
	6'	3/8" Nylon Tubing



Limited One Year Warranty

The POSI ZORB is warranted to be free from defects in material and workmanship, under proper use, installation, application, and maintenance in accordance with the manufacturer's written recommendations and specification for a period of 15 months from the date of shipment from the factory or 12 months from the date of installation, whichever comes first. The manufacturer's obligation under this warranty is limited to, and the sole remedy for any such defect shall be, the repair or replacement (at manufacturer's option) of unaltered products returned to manufacturer within said period.

This is the only authorized Air System Products warranty and is in lieu of all other express or implied warranties or representation, including any implied warranties of merchantability or fitness, or of any other obligations on the part of the manufacturers. Condensate Inlets Filter Module Control Line Air Inlet Oil Outlet Oil Container

(Not Supplied) Condensate to Sewer Discharge Condensate Inlets Filter Module Control Line Air Inlet Oil Outlet Oil Container

(Not Supplied) Condensate to Sewer Discharge Condensate Inlets Filter Module Control Line Air Inlet Oil Outlet Oil Container

(Not Supplied) Condensate to Sewer Discharge

Warranty claims must be submitted and shall be processed in accordance with Air System Products, Inc. established warranty claim procedure. In no event, shall Air System Products, Inc be liable for business interruptions, loss of profits, personal injury, costs of delay or any other special, indirect, incidental, or consequential losses, cost, or damages.

NOTE - Routine maintenance and minor adjustments to the Air System Products, Inc POSI ZORB oil/water separators are not covered under this warranty. Prior to performing any possible warranty service or replacing a possible warranted part, please contact your local Air System Products, Inc Distributor. Failure to comply with this procedure will result in denial of warranty claim.

Please fill in the **Warranty Registration Form** within 30 days of installation and forward to:

Air System Products, LLC. 51 Beach Ave, Lancaster, New York 14086