

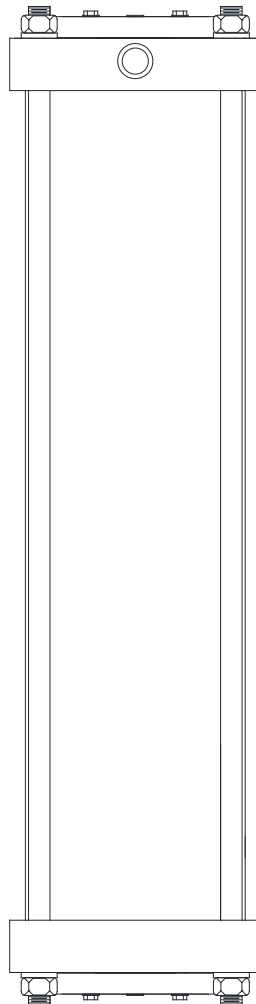


# MOISTURE BLOCK

## Compressed Air Dryer

This manual contains information that is important to your safety and preventing damage to your compressed air system.

**Before installing your MOISTURE BLOCK air dryer, carefully read this entire manual.**



### SAFETY

- Warning** Indicates that a condition may exist which could cause harm to the operator
- Caution** Indicates that a condition may exist which could damage the air system



## WARNING

Do not operate the Moisture Block compressed air dryer above 200 psig.  
Do not introduce compressed air above 100° F.

**A pressure relief valve should be installed in the compressed air system.**

Never remove, repair, or replace any parts on the Moisture Block while it is pressurized. Verify the dryer is completely depressurized before performing maintenance. Failure to follow this safety rule may result in serious injury.

Damage to the Moisture Block can make it unsafe. Inspect the exterior regularly for dents, cracks, excessive corrosion, air leaks or signs of damage. If any damage is identified, take the dryer out of service immediately for repairs or replacement.

**Do not tighten or remove the top fill port, bottom port, or tie rod nuts unless the dryer is verified to be at zero pressure.**

## CAUTION

Do not operate the Moisture Block using desiccants other than Van Air Systems.

Connect the dryer to a drop leg (see FIGURE 2) taken from the top of the air piping to prevent liquid backflow.

Never drain the dryer into a non-vented container.

## INTRODUCTION

The Moisture Block is designed to eliminate problems associated with contaminated compressed air. It dries the air stream using adsorbent desiccant and then filters it to remove particulate.

The Moisture Block is for small intermittent use compressed air systems up to 10 hp. Use the Moisture Block to protect paint spraying equipment, abrasive media blasters, plasma cutters and other air tools sensitive to contamination.

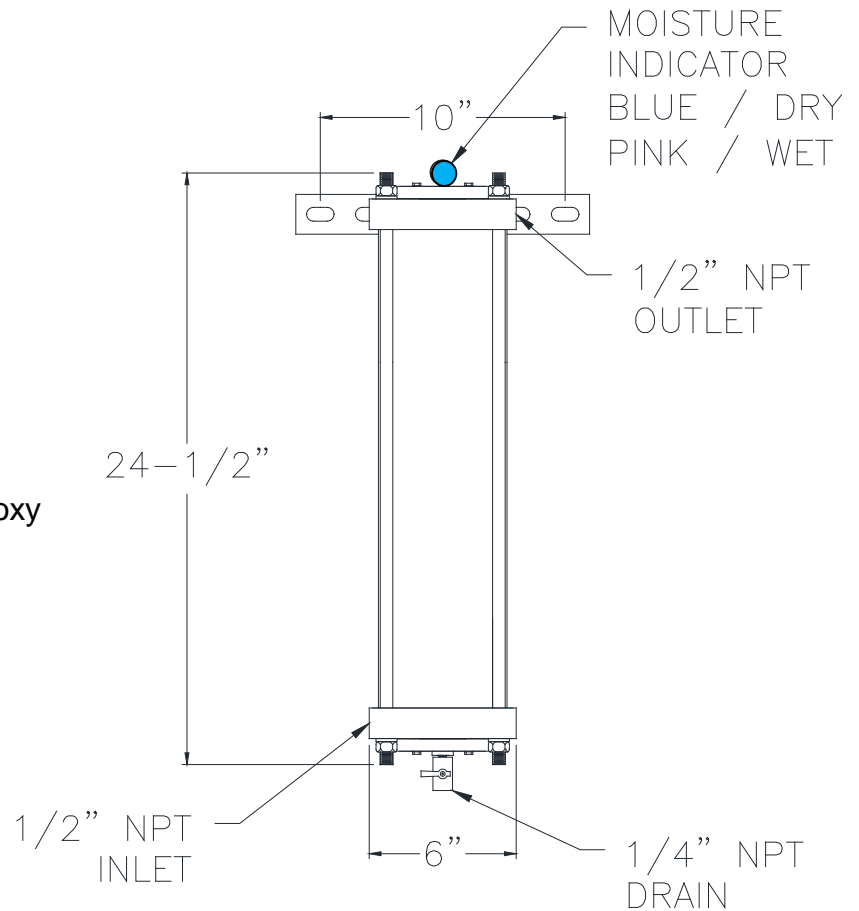
The dryer operates automatically. There are no moving parts, and no external source of power is required. Wet air enters the lower side connection. Liquid water and solid particles are separated by gravity and fall to the bottom of the vessel where they can be drained away.

The compressed air moves upward through the desiccant, which adsorbs water vapor. The air exits the dryer after passing through a filter that captures remaining particulates.

The desiccant eventually becomes saturated while adsorbing moisture. The color change indicator will turn from blue to pink indicating it is time to replace the desiccant.

## FIGURE 1 SPECIFICATIONS

Maximum Flow: 30 SCFM  
Maximum Pressure: 200 PSIG  
Maximum Temperature: 100°F  
Materials of Construction:  
Heads: Anodized Aluminum  
Tube: Filament wound glass/epoxy  
Tie rods: Galvanized steel  
Gaskets: Buna-N  
Desiccant: 1/8" Activated Alumina  
Desiccant Capacity: 9 Lbs.  
Weight with desiccant: 35 LBS



## INSTALLATION

### 1.0 IN THE BOX

The Moisture Block ships with the desiccant and internal after-filter installed. A 1/4" NPT drain valve, moisture indicator, and a one foot long aluminum bracket with hardware [(2) 3/8" bolts and (4) flat washers] are supplied for customer installation.

### 1.1 LOCATION

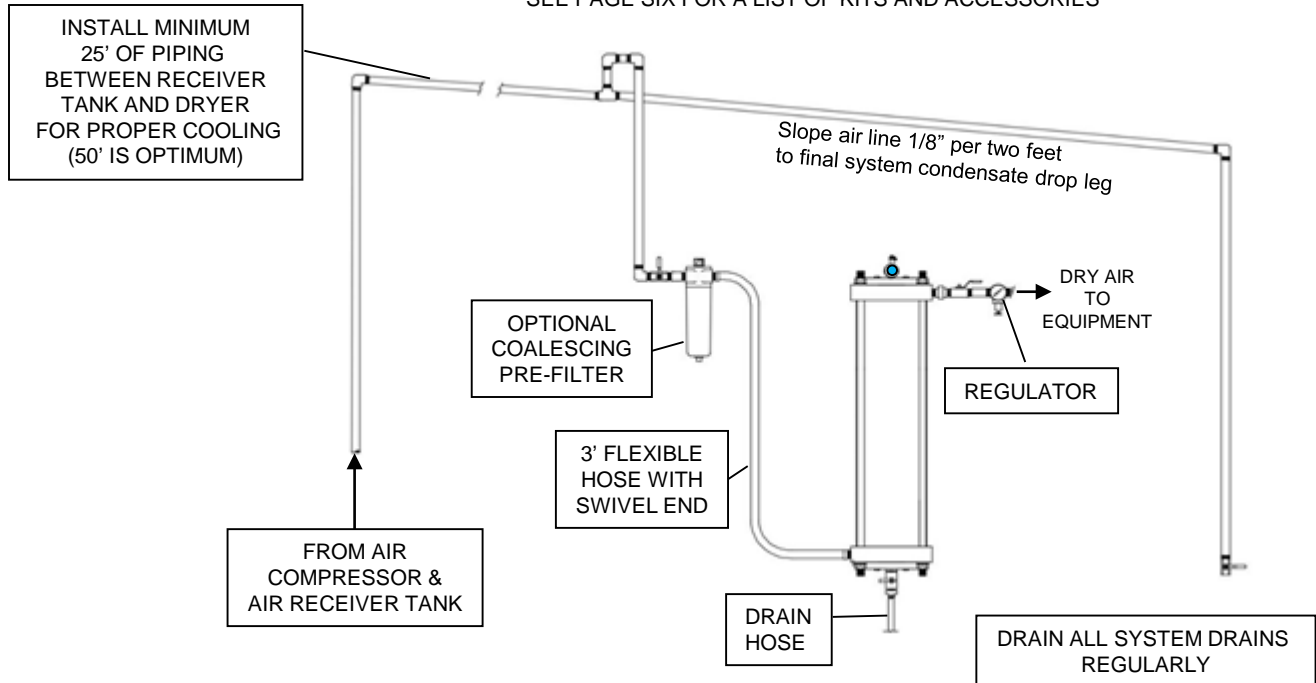
Moisture Block performance depends on proper location in the air system. Air temperature and pressure are critical. Locate the dryer as far from the air compressor as practical to allow for maximum cooling; a minimum of 25 feet of piping is recommended. The air temperature into the dryer must not exceed 100° F. Install a compressor after-cooler to achieve proper cooling if necessary.

Attach the dryer to a drop leg. To prevent condensate backflow, the inlet pipe or hose must come from above the dryer as seen in FIGURE 2. Corrosion resistant materials are recommended.

If a pressure reducing regulator is required, install it downstream of the dryer.

**FIGURE 2 INSTALLATION**

**NOTE:** ILLUSTRATED ACCESSORIES ARE NOT INCLUDED WITH THE DRYER. SEE PAGE SIX FOR A LIST OF KITS AND ACCESSORIES



## 1.2 INSTALLATION

1. Attach the aluminum bracket to the Moisture Block using the two 3/8" bolts and four flat washers provided.
2. Attach the Moisture Block with bracket to the wall so the dryer is in the vertical position. Use anchors and fasteners that are suitable for the wall's construction type, capable of supporting 35 lbs.
3. Orient compressed air pipes / hoses as shown in FIGURE 2. Be sure to take the drop leg for the dryer from the top of the overhead pipe. An Installation Kit can be purchased separately (P/N 80-1549) see page six for details.

**Attach inlet and outlet air lines using a brush-on thread sealant, such as Loctite® 565™. Do not use tape type thread sealants as galling and / or leaks can occur.**

For air systems with steel/iron pipe or heavy compressor lubricant carry-over, consider installing a coalescing (oil-removing) filter and a corrosion resistant connection to the dryer inlet. See page six for details. This will prevent contamination of the desiccant and premature filter failure. This normally applies to systems with older reciprocating air compressors.

4. Attach the 1/4" color change moisture indicator to the top head and the 1/4" ball valve to the drain port in the bottom head of the dryer. **Use thread sealant per above.**
5. Attach a flexible drain hose to the 1/4" ball valve using a 1/4" NPT male x 3/8" barb fitting. Route the hose to a vented container for collecting liquid. Installation Kit (P/N 80-1549) sold separately. See page six for details.
6. If a pressure reducing regulator is required, install it down-stream of the dryer.
7. Slowly pressurize the dryer. Check for leaks in fittings and connections. Depressurize the system and repair leaks as necessary.
8. The Moisture Block is now ready for operation.

# OPERATION & MAINTENANCE

## 2.0 OPERATION

1. Inspect the Moisture Block for damage before each use. Repair or replace as necessary.
2. Check the moisture indicator before and after each use. Blue is dry and pink is wet. Pink indicates it is time to replace the desiccant.
3. **Drain liquid** before and after each use. More frequent draining is recommended if it is hot / humid or when air is consumed for continuous periods of several hours.
4. Do not exceed the flow rates shown in FIGURE 3.

## 2.1 MAINTENANCE

**⚠ WARNING:** Always fully depressurize the dryer before servicing by isolating dryer and opening the drain valve.

### Replace desiccant when the Moisture Indicator turns pink

1. Fully depressurize the Moisture Block dryer.
2. Remove the lid from the top head by slowly loosening the (4) bolts incrementally in a counter clockwise pattern using a 3/8", six point socket. See pictures below. Remove the bolts. The lid may stick to the gasket and require bumping with a wood dowel and hammer or soft mallet for removal.
3. Remove the gasket and clean the gasket surfaces.
4. Remove the filter by lifting it straight out of unit. Remove the O-ring from the dryer if it is not attached to the filter. Inspect the O-ring for tears and replace as necessary. Replace the outlet filter in the top head every 3-4 months. Clear all desiccant dust and dirt from the top head filter section with compressed air and damp cloth.
5. Place masking tape over outlet hole in top head to avoid having desiccant get into outlet pipe.
6. Vacuum desiccant out with suitable clean vacuum or drain by removing bottom lid and filter assembly.
7. Use a funnel to pour desiccant into dryer. Fill to just below bottom edge of top head.
8. Remove masking tape installed in step 5.
9. Install a new filter with the included O-ring. (**Tip:** the O-ring can be coated with soapy solution to aid installation.) Make sure the filter is installed squarely and is nearly flush with the top before re-installing the top gasket and lid assembly.
10. Clean the bottom of the lid with a damp cloth and replace the lid. Finger tighten the bolts. Finally tighten the bolts incrementally with a socket wrench in an X pattern. Torque each bolt to 12 foot lbs.
11. Close the drain valve on the bottom of the Moisture Block.
12. The Moisture Block is now ready for use.



**FIGURE 3 MAXIMUM FLOWS**

MAXIMUM FLOW (SCFM)	MINIMUM PRESSURE (PSIG)
20	90
25	105
30	125
35	150

When the Moisture Block is operated as described above, fresh desiccant will provide dry air for an estimated operating life of **22 hrs** at 80°F inlet, **15 hrs** at 90°F inlet and **11 hrs** at 100°F inlet. These times assume the air is saturated with water.

## PARTS AND ACCESSORIES

Part Number	Description
80-1549	<b>Installation Kit</b> , includes (2) 1/4" NPT barbed drain hose fittings, (1) 3' x 1/4" translucent drain hose, (2) drain hose clamps, (1) 3' x 1/2" inlet flex hose with male connections, one is swivel.
80-1578	<b>Service Kit</b> , includes (2) lid-to-head gaskets, (8) lid hex bolts, (2) inlet filters with O-rings, (1) 1/4" replacement ball valve.
80-1554	<b>Relief Valve Kit</b> , includes (1) 1/4" NPT galvanized nipple, (1) 1/4" NPT galvanized tee (1) 200 psi pressure gauge, (1) safety relief valve – 200 psi set pressure.
80-1577	<b>Filter elements</b> , (4) replacement outlet filters with O-rings
33-0417	<b>Activated Alumina desiccant</b> , 10 lb pail
46-3783	<b>Replacement Moisture Indicator</b> (1/4" NPT)
84-23253	<b>Coalescing Filter</b> F200-55-1/2-C-MD-PD6

## WARRANTY

Per Van Air Terms and Conditions.