



INSTALLATION & MAINTENANCE INSTRUCTIONS FOR AGM TANK VENT DRYERS

Introduction

Moisture and other contaminants seriously affect many fluids, semi-solids and powders.

Most of the materials that are affected are stored in tanks, which are either located in the open and vented to atmosphere, or are located in the process area and affected by other materials used in the same area.

The level of damage varies from rendering the material useless to the lowering of efficiency and consequently the value. The ingress of these contaminants occurs whenever material is drawn into the tank, or by diurnal barometric pressure and thermal breathing caused by changes in the ambient temperature.



Moisture, in the form of water vapor, is the prime source of contamination.

This will cause the simple dilution of acids, an increase in corrosivity of oils and other fluids, fungal or biological activity in materials, such as glycerol, or the lowering of electrical resistance of transformer oils and similar materials.

Installation

Tank Vent Dryers should be positioned out of direct sunlight and on the coolest side of the tank. This is necessary because higher temperatures cause a loss of adsorption capacity, thus reducing the efficiency of the silica gel desiccant.

Floor-mounted models should be positioned so that the atmosphere air intake under the dryer cannot be blocked with debris of any kind.

There are certain circumstances where a dryer is fitted to a tank that contains harmful vapors. In such a case, it will be necessary to pipe the exhaust from the dryer through a contaminant removal filter before allowing the gas to vent to atmosphere.

To install a standard Tank Vent Dryer where there are no harmful vapors:

1. Depending upon the size, mount the unit either on a wall adjacent to the tank or on the ground nearby.
2. Remove the sealing plug from the threaded connector on the top of the dryer and the self-adhesive metal foil barrier from the base.

CAUTION: It is particularly important that the metal foil self-adhesive barrier is removed from the base of the unit before putting the unit into operation.

3. Connect the unit to the inlet vent of the tank using flexible water vapor proof tubing or steel piping.

CAUTION: Should the replenishment rate of the storage vessel exceed the Tank Vent Dryer capacity, an outward only pressure relief valve can be obtained from AGM.

With the set up now operational, the system will operate for many years, providing the maintenance instructions detailed in the overleaf are followed.

To install a Tank Vent Dryer on a system where harmful vapors or contaminants could be released during the exhaust cycle, the following additional operations are necessary:

1. Remove the exhaust vent cover from the Tank Vent Dryer and fit a suitable sized vapor proof tube over the outlet port to carry the harmful vapors or contaminants away.
2. **IMPORTANT:** Ensure that the rubber flap valve, or another suitable check valve, is free to close the port when the tank is emptying.
3. Fit three sealing screws in the tapped holes that will become exposed when the exhaust vent cover is removed.

Contact AGM for guidance if a contaminant removal filter is required in the outlet.

Maintenance

The only routine maintenance activity required to keep a Tank Vent Dryer in full operating condition is to check the desiccant or contaminant removal charge and change when necessary.

Several design changes were incorporated during 1993 to improve the performance and ease the maintenance requirement on Tank Vent Dryers.

The desiccant now used is self-indicating, beaded silica gel. The change from granular to beaded desiccant ensures that the flow rate/pressure drop characteristics remain constant both during use and when the container is recharged.

The indicating silica gel changes from blue to pink as it becomes saturated with water vapor.

The condition of the desiccant may be viewed through the shatterproof, polycarbonate plastic sight window.

When the bottom two thirds of the silica gel desiccant has changed to pink, the complete charge assembly (desiccant container) should be removed as follows:

1. Loosen the clamping screws or bolts, located under the turned-in lip of the main frame at the top of the unit, until the desiccant container rests on the support guides.
2. Withdraw the complete desiccant container from the guide rails.

3. Either replace the complete sub-assembly with a new unit or empty the saturated charge from the container and dispose the spent desiccant. An emptying and filling point is provided on the desiccant container.
4. Refill the container with fresh, active desiccant, replace the sealing gasket, refit it in the guide rails and tighten the clamping screws or bolts.

Replacement blue silica gel is available from AGM.

Reactivation

Provided that only water vapor has been adsorbed, the spent silica gel desiccant can be reactivated. Any other contaminants, which have been adsorbed, may be dangerous when released during reactivation and it is recommended that the spent desiccant be replaced if there is **any** possibility of contamination.

If reactivation is carried out, great care should be taken to ensure that the complete desiccant charge is heated throughout. The temperature of the reactivation air should be a maximum of **221°F** and all of the desiccant heated to this temperature for at least 4 hours.

When the desiccant charge has been completely heated to the required temperature for the specified period, it should be removed from the heat source and placed in a suitable, sealable container to cool. The reactivated desiccant should be kept in a sealed airtight container until required for re-use.

Unless there is a regular demand, the cost of reactivation of the spent desiccant will be high compared with that of new desiccant, and it is therefore recommended that a new desiccant charge be used.

Molecular sieve desiccant, if used, cannot be reactivated under the same conditions and should always be replaced.

REPLACEMENT DESICCANT CHARGE DATA

MODEL	WEIGHT OF DESICCANT
705	3.1 lbs.
710	12.3 lbs.
715	27.6 lbs.
720	49.4 lbs.
730	110.2 lbs.