Many fluids, chemicals, fuels, lubricants, semi-solids, and powders are seriously affected by moisture and other contaminants. Many of these materials which are affected are often stored in tanks or reservoirs which are either located in the open and vented to atmosphere or are located in the process area.

Fluid contaminants, such as moisture and dirt, will be ingress into the tank whenever material is drawn out of the tank by operational demand, thermal breathing, or barometric pressure changes. Moisture in the form of water vapor is the prime source of contamination. It will cause simple dilution of acids, an increase in the corrosivity of oils and other fluids, fungal or biological growths, or the lowering of electrical resistance of transformer oils and similar materials.

Many applications use vent pipes, filter caps, or turn down pipes to protect contaminants from entering their tank or reservoirs. These solutions will filter particulates but do not filter the #1 contaminant of fluids, water. To protect your storage tank or reservoir from water AND contaminants a tank vent dryer should be used.

Tank vent dryers serve as your first line of defense against moisture contamination. Tank vent dryers can be remotely floor mounted or wall mounted and are connected to the air vent on a tank or reservoir. Once connected to a tank, incoming air is drawn through the tank vent dryer where it flows through our high efficiency ZEOLITE desiccant and moisture is adsorbed down to less than 100 PPM moisture.

Once the tank becomes fully saturated, the visual sight window on our TVDs will give a visual color indication that it should be replaced. Once the desiccant is replaced the unit is ready to back into operation.

**QUICK FACT:**
500 PPM (Parts Per Million) = 0.05% = 50cc of water in 1,000 liters of fluid
Tank Vent Dryers

Common Tank Contents
- Sulfuric Acid
- Biodiesel
- Acetic Acid
- Transformer Oils
- Lube Oils
- Glycerol
- Polyalcohols
- Polyethers

Advantages
- Eliminate corrosion
- Eliminate fungal or biological activity
- Protect against high humidity and water condensation
- Protect against fluid contamination, dilution, and sedimentation
- Maintain ISO cleanliness codes
- Extend life of hydraulic, lubrication, and process fluids
- Extend MTBF and reduce O&M costs

Features & Performance

1. ZEOLITE adsorbent
   - ZEOLITE adsorbent provides up to 28% by weight adsorption and provides clean dry air less than 100 PPM. ZEOLITE also maintains performance in high temperature environments, unlike Silica Gel.

2. Valved Controlled Airflow
   - All tank vent dryers use a series of flapper valves to control the inflow and outflow of air. This maximizes the desiccant performance and prevents desiccant contamination during exhale from tanks or reservoirs.

3. Robust Stainless Steel Construction
   - All Tank Vent Dryers are made of 316 stainless steel to withstand the elements and environment for decades. Viton O-Rings are also used for very harsh applications.

4. Color Indication
   - When maximum adsorption is reached, the blue indicating ZEOLITE beads will turn from blue to beige, to indicate that a replacement is required.

5. Easy to install & use
   - Tank vent dryers are easy to install and can either be wall or floor mounted. Floor mounted models feature a desiccant tray or lever which allows for easy desiccant replacements in the field.

Technical Info:

<table>
<thead>
<tr>
<th>Model</th>
<th>710</th>
<th>715</th>
<th>730</th>
</tr>
</thead>
<tbody>
<tr>
<td>m³/hr</td>
<td>28.9</td>
<td>62.9</td>
<td>250</td>
</tr>
<tr>
<td>liter/min</td>
<td>480</td>
<td>1048</td>
<td>4163</td>
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<tr>
<td>c.f.m.</td>
<td>17</td>
<td>37</td>
<td>147</td>
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<tr>
<td>galls/min</td>
<td>206</td>
<td>230</td>
<td>916</td>
</tr>
<tr>
<td>m³</td>
<td>55</td>
<td>125</td>
<td>500</td>
</tr>
<tr>
<td>liters</td>
<td>55000</td>
<td>125000</td>
<td>500000</td>
</tr>
<tr>
<td>ft³</td>
<td>1975</td>
<td>4431</td>
<td>17658</td>
</tr>
<tr>
<td>gallons</td>
<td>12297</td>
<td>27593</td>
<td>109972</td>
</tr>
<tr>
<td>wt. of charge</td>
<td>10.75 kg</td>
<td>20 kg</td>
<td>67 kg</td>
</tr>
<tr>
<td>wt. of desiccant</td>
<td>5.6 kg</td>
<td>12.5 kg</td>
<td>50 kg</td>
</tr>
</tbody>
</table>
**Maintenance Procedure**

*Model 715 TVD - 1DT74600-V1-MS*

**STEP (1)**
Loosen 2 bolts on each side to lower container

**STEP (2)**
Remove container

**STEP (3)**
Remove glass sight window

**STEP (4)**
Refill the glass sight window

**Installation Procedure**

*Model 715 TVD - 1DT74600-V1-MS*

**Air intake**

**TVD vent**

**Exhale**

**Connect to vent of the tank.**

**1-1/2 NPT Pipe Size Coupling**

**Perforated metal filter**

**Glass sight window**

**Fill with supplied blue indicating**

**Bolt hole location**

10-13/16

7/16
BREATHERS & DRYERS: TANK VENT DRYERS

Dimensional Info - Model 715 Wall Mounted

**TOP VIEW**

- Dimensions:
  - Width: 12.38
  - Height: 16.91

**FRONT VIEW**

- Dimensions:
  - Width: 10.80
  - Height: 16.91

**SIDE VIEW**

- Dimensions:
  - Width: 11.79
  - Height: 14.90

- Notes:
  - 2 SLOTS .44 WIDE
  - 2.25
  - 3.25

- Features:
  - 316 STAINLESS STEEL THREADED PIPE FITING
  - LOW-PRESSURE, STRAIGHT CONNECTOR, 1-1/2 NPT FEMALE
  - CONDITION OF DESICCANT MAY BE VIEWED THROUGH THE GLASS SIGHT WINDOW
  - REMOVE SIDE COVER TO EMPTY THE SATURATED DESICCANT FROM CONTAINER. SEE MAINTENANCE INSTRUCTIONS.
How do they work?

**Inhale Cycle - Model 715 TVD - 1DT74200**

1a. During tank inhale (emptying), wet atmospheric air will enter through the base of the dryer thru a series of perforated holes and flow up the desiccant bed.

1b. At the same time, air will try to enter the top vent cap but will be stopped by an internal viton flapper valve. This prevents the air from bypassing the desiccant.

2a. As the air flows up through the desiccant the moisture is adsorbed.

2b. A glass sight window provides visual indication to the user when the desiccant needs to be replaced. The desiccant will change from blue to beige as it becomes saturated with water.

3a. The now DRY air will lift a viton flapper valve and flow out the tank vent pipe into the equipment being protected.

**Exhale Cycle - Model 715 TVD - 1DT74200**

3a. Lastly, the exhaust air will then lift the flapper valve under the vent cap, allowing the air to exit and vent to atmosphere.

1a. During tank exhale (filling), exhaust air will flow down the tank’s vent pipe.

2a. As the exhaust air enters the dryer, the air will hit a viton flapper valve, preventing the air from flowing back into the desiccant bed, thus preserving the life of the desiccant.
How do they work?

**Version 1 - Model 715 - PN: 1DT74600-V1-MS**

Inhale

Exhale

TVD vent exhale

TVD vent

Air intake

Inlet vent of tank

Tank Vent Dryer 715

Mounted on tank bracket

**Version 2 - Model 715 - PN: 1DT74600-V2-MS-CV1 (Inhale only w/ flapper, disabled TVD vent and both safety check AND relief valves)**

WARNING

To prevent catastrophic back pressure, system design MUST include safety check / relief valves.

Inhale

Outward relief

Vacuum relief

Safety check / relief valves

Air intake

Tank Vent Dryer 715

Part Number 1DT74600-V2-MS-CV1

( Inhale only with flapper, disabled TVD vent, check / relief valves )
BREATHERS & DRYERS: TANK VENT DRYERS

How do they work?

**Version 3 - Model 715 - PN: 1DT74600-V3-MS**

Tank Vent Dryer 715
Mounted on tank bracket

Inhale and Exhale with NO flapper, disabled TVD vent

**Version 4 - Model 715 - PN: 1DT74600-V4-AC**

Tank Vent Dryer 715 Odor Scrubber
Part Number 1DT74600-V4-AC

Exhale with no flapper, with check valve, disabled TVD vent

Customer MUST include means of tank inhale venting
Optional safety & check valves

WARNING - Safety check/relief valves MUST be installed in flow orientation shown

Tank Vent Dryer 730
Part Number 1DT74200-V2-MS-CV2
(Inhale only with flapper, disabled TVD vent, safety check / relief valves).

Tank Vent Dryer 715
Part Number 1DT74600-V2-MS-CV1
(Inhale only with flapper, disabled TVD vent, safety check / relief valves).
**Tank Vent Dryer Ordering - Part Number Selector**

### Tank Vent Dryer - Model 715

**Example Part Number: 1DT74200-V1-MS-CV**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Version</th>
<th>Media Selection</th>
<th>Check Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1DT74200</td>
<td>-V1</td>
<td>-MS</td>
<td>-CV</td>
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### Choose part number

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1DT74200</td>
<td>Model 730 Tank Vent Dryer, Floor Mounted, Refillable</td>
</tr>
<tr>
<td>1DT74600</td>
<td>Model 715 Tank Vent Dryer, Wall Mounted, Refillable</td>
</tr>
</tbody>
</table>

### Choose version number

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-V1</td>
<td>Inhale only w/ flapper, TVD vent cap open</td>
</tr>
<tr>
<td>-V1P</td>
<td>Inhale only w/ flapper, TVD vent cap open, w/ plumbing</td>
</tr>
<tr>
<td>-V2</td>
<td>Inhale only w/ flapper, disabled TVD vent</td>
</tr>
<tr>
<td>-V2P</td>
<td>Inhale only w/ flapper, disabled TVD vent, w/ plumbing</td>
</tr>
<tr>
<td>-V3</td>
<td>Inhale &amp; exhale only w/o flapper, disabled TVD vent, w/ plumbing</td>
</tr>
<tr>
<td>-V4</td>
<td>Exhale w/o flapper, w/ check valve, disabled TVD vent</td>
</tr>
<tr>
<td>-V4P</td>
<td>Exhale w/o flapper, w/ check valve, disabled TVD vent, w/ plumbing</td>
</tr>
</tbody>
</table>

### Choose media selection

<table>
<thead>
<tr>
<th>Media Selection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-MS</td>
<td>Molecular Sieve</td>
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<tr>
<td>-AC</td>
<td>Activated Carbon</td>
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### Choose valve selection

<table>
<thead>
<tr>
<th>Valve Selection</th>
<th>Description</th>
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<tbody>
<tr>
<td>-CV1</td>
<td>Check Valve</td>
</tr>
<tr>
<td>-CV2</td>
<td>Safety Check/Relief Valve (2 Required)</td>
</tr>
</tbody>
</table>

**WARNING**

-V2 only to be used in parallel system 1DT75500. In order to prevent catastrophic back pressure, system design MUST include safety check / relief valves.

**Tank Vent Dryer - Model 730**

**Part Number: 1DT74200-V1P-MS**

**WARNING**

-V2 and -V2P only to be used in parallel system 1DT75700 in order to prevent catastrophic back pressure, system design MUST include safety check/relief valves.

**Choose media selection**

- MS Molecular Sieve
- AC Activated Carbon

**Choose valve selection**

- CV1 Check Valve
- CV2 Safety Check/Relief Valve (2 Required)

**PART NUMBER EXAMPLE: 1DT74200-V2-MS-CV1-CV2**

**MODEL**

**MEDIA SELECTION**

**TANK VENT DRYER SELECTION**

**VALVE OPTION**