

# BREATHERS & DRYERS: TANK VENT DRYERS

## The first line of defense against lubricant contamination & fluid storage protection

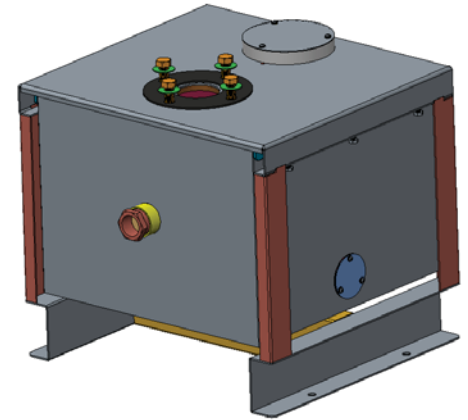
Many fluids, chemicals, fuels, lubricants, semi-solids, and powders are seriously affected by moisture and other contaminants. Many of these materials which are affected are often stored in tanks or reservoirs which are either located in the open and vented to atmosphere or are located in the process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

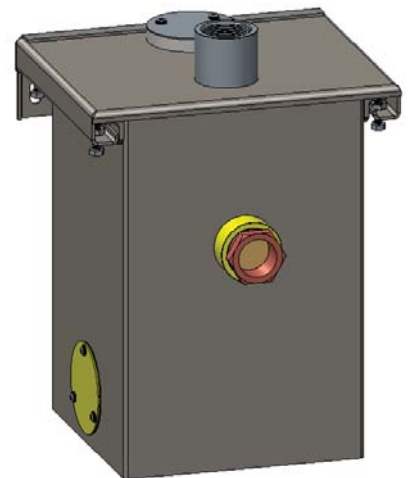
Many applications use vent pipes, filter caps, or turn down pipes to protect contaminants from entering their tank or reservoirs. These solutions will filter particulates but do not filter the #1 contaminant of fluids, water. To protect your storage tank or reservoir from water AND contaminants a tank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



Model 730 - Floor Mounted Style



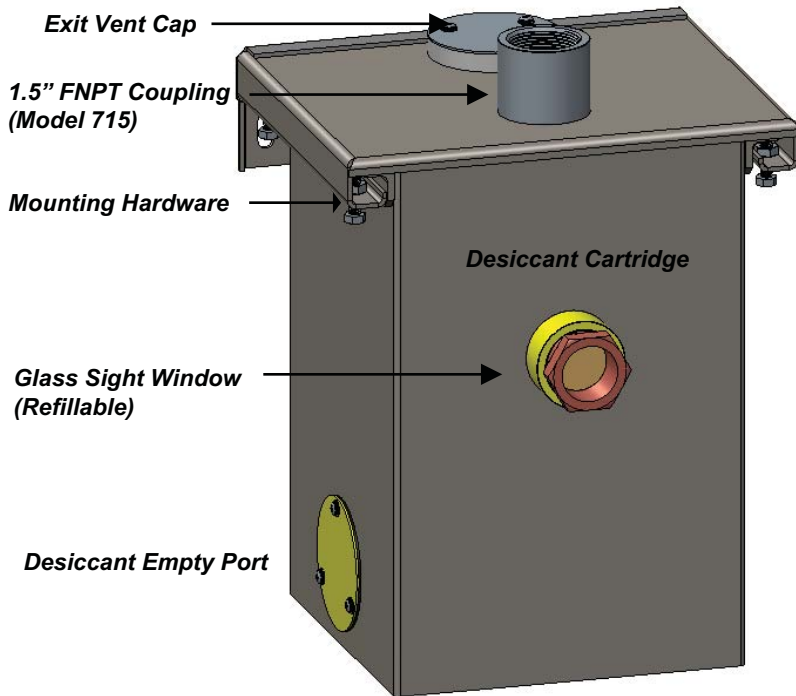
Model 715 - Wall Mounted Style

### **QUICK FACT:**

500 PPM (Parts Per Million) = 0.05% = 50cc of water in 1,000 liters of fluid

# BREATHERS & DRYERS: TANK VENT DRYERS

## Tank Vent Dryers



### Common Tank Contents

- Sulfuric Acid
- Acetic Acid
- Lube Oils
- Polyalcohols
- Biodiesel
- Transformer Oils
- Glycerol
- 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

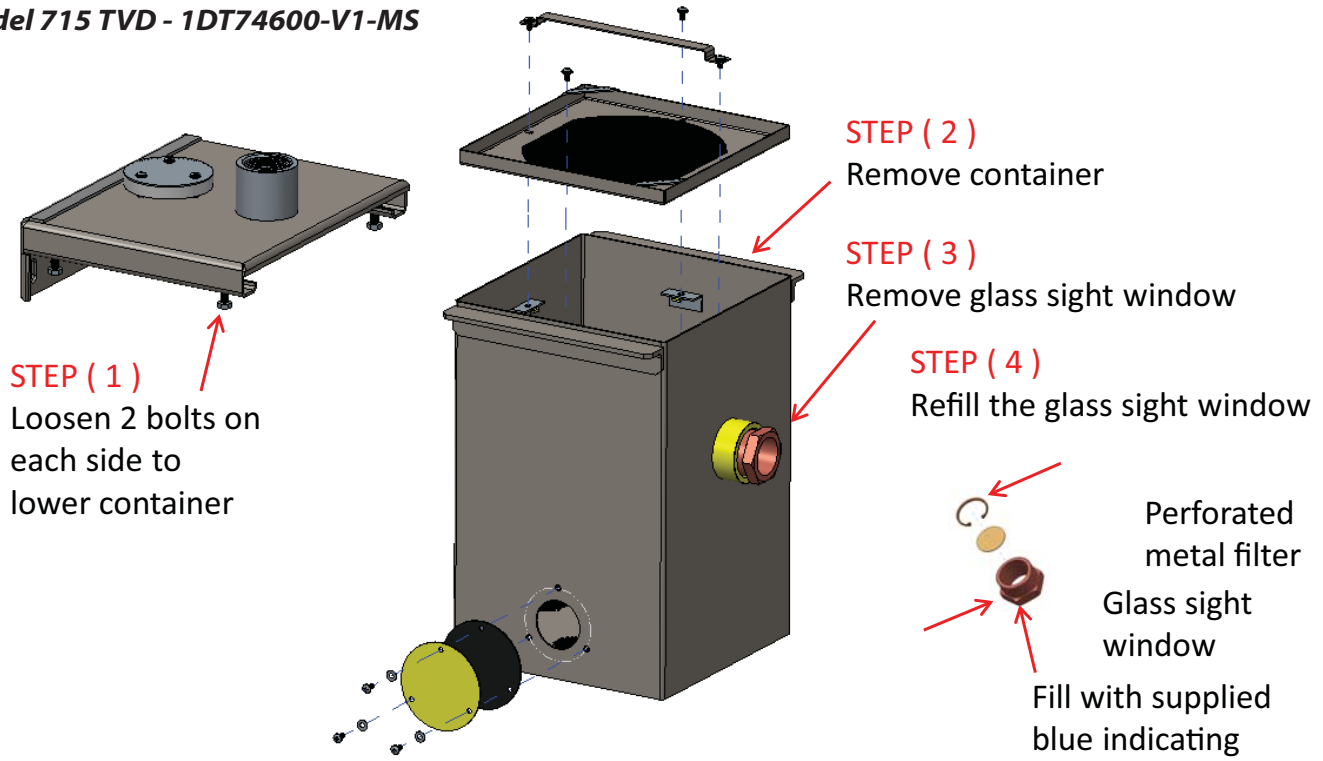
## Technical Info:

Model		710	715	730
Maximum filling or emptying rate	m <sup>3</sup> /hr	28.9	62.9	250
	liter/min	480	1048	4163
	c.f.m.	17	37	147
	galls/min	206	230	916
Maximum fluid capacity related to desiccant content	m <sup>3</sup>	55	125	500
	liters	55000	125000	500000
	ft <sup>3</sup>	1975	4431	17658
Replacement desiccant data	gallons	12297	27593	109972
	wt. of charge	10.75 kg	20 kg	67 kg
	wt. of desiccant	5.6 kg	12.5 kg	50 kg

# BREATHERS & DRYERS: TANK VENT DRYERS

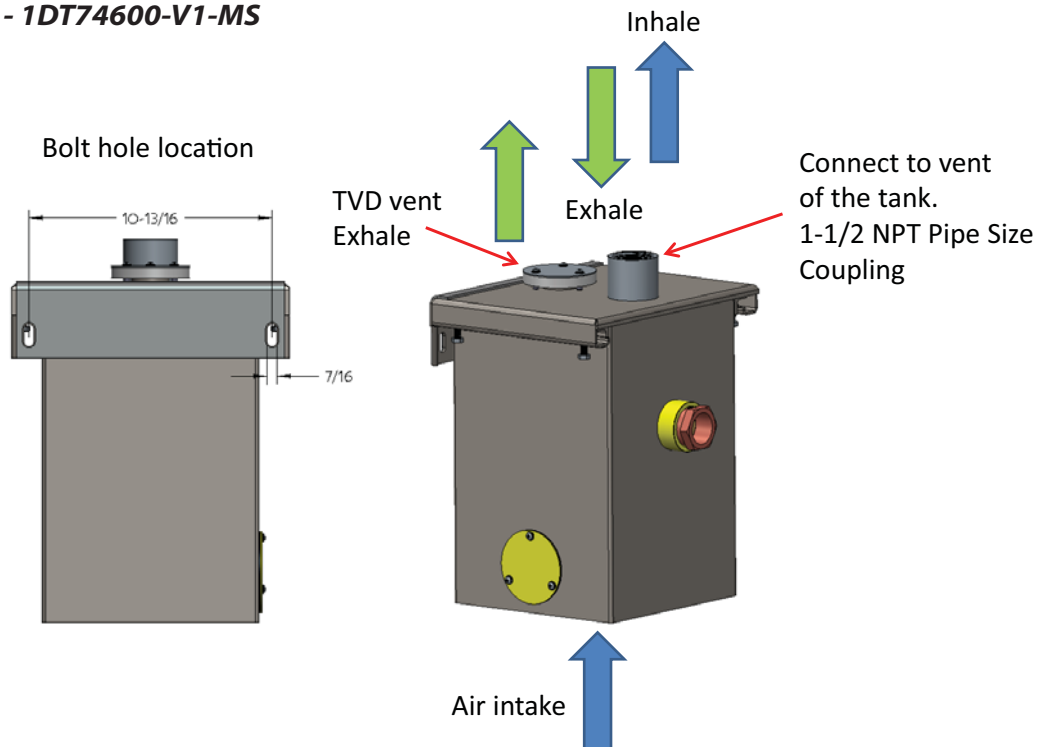
## Maintenance Procedure

Model 715 TVD - 1DT74600-V1-MS



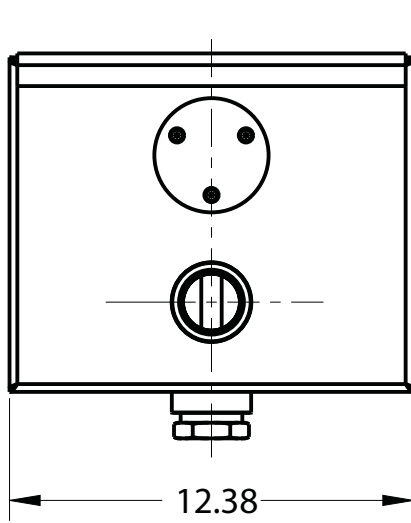
## Installation Procedure

Model 715 TVD - 1DT74600-V1-MS

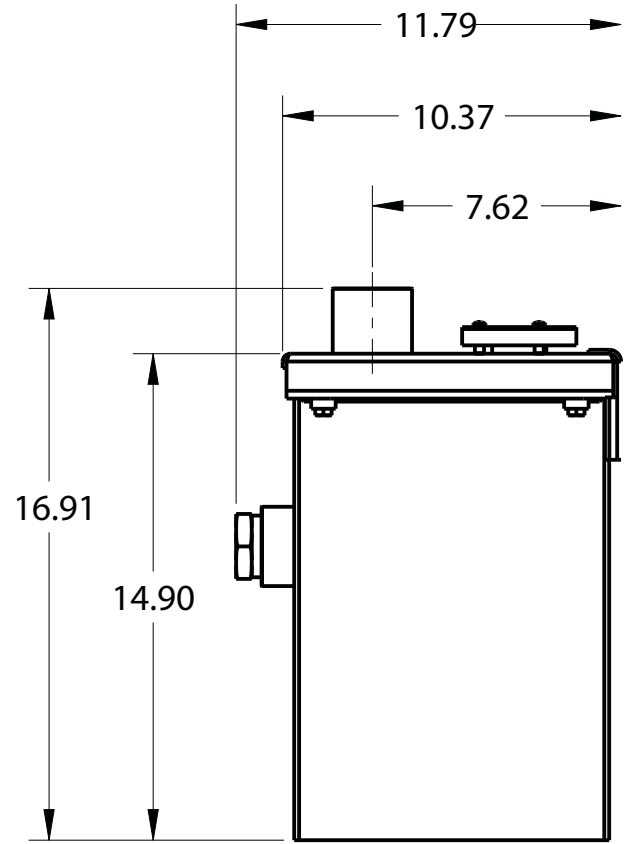


# BREATHERS & DRYERS: TANK VENT DRYERS

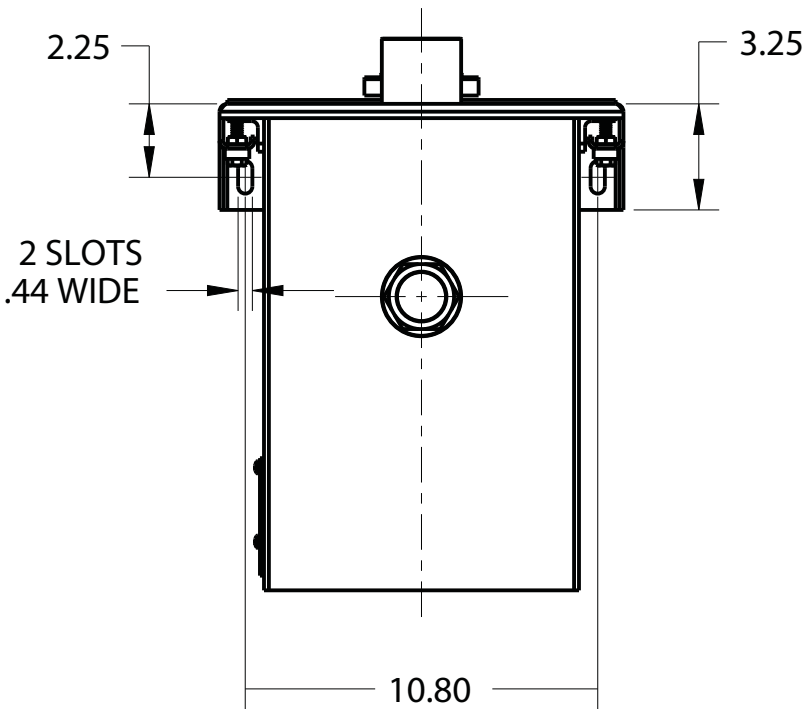
## Dimensional Info - Model 715 Wall Mounted



TOP VIEW

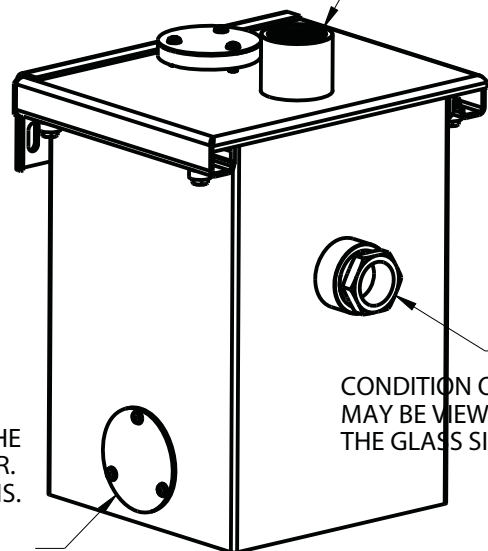


SIDE VIEW



FRONT VIEW

316 STAINLESS STEEL THREADED PIPE FITTING  
LOW-PRESSURE, STRAIGHT CONNECTOR,  
1-1/2 NPT FEMALE



CONDITION OF DESICCANT  
MAY BE VIEWED THROUGH  
THE GLASS SIGHT WINDOW

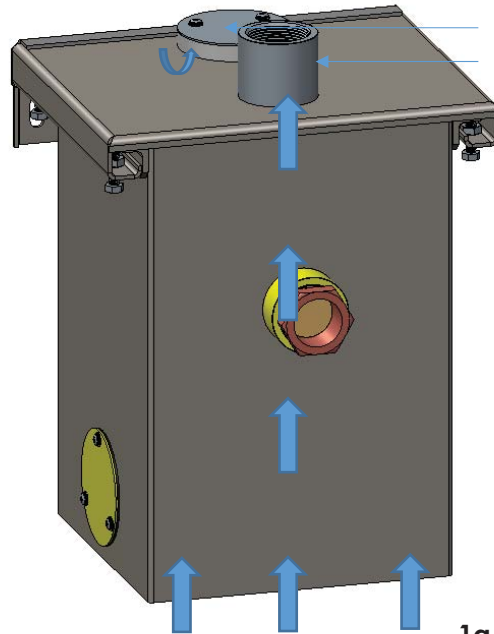
REMOVE SIDE COVER TO EMPTY THE  
SATURATED DESICCANT FROM CONTAINER.  
SEE MAINTENANCE INSTRUCTIONS.

# BREATHERS & DRYERS: TANK VENT DRYERS

## How do they work?

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

**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.



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

**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.

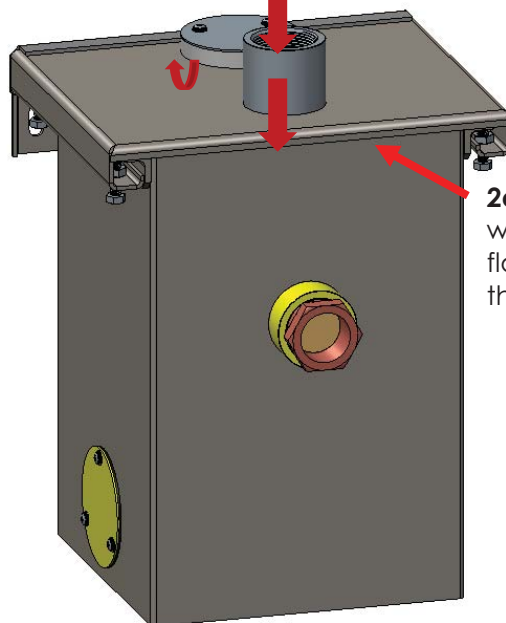
**2a.** As the air flows up through the desiccant the moisture is adsorbed.

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

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

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

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

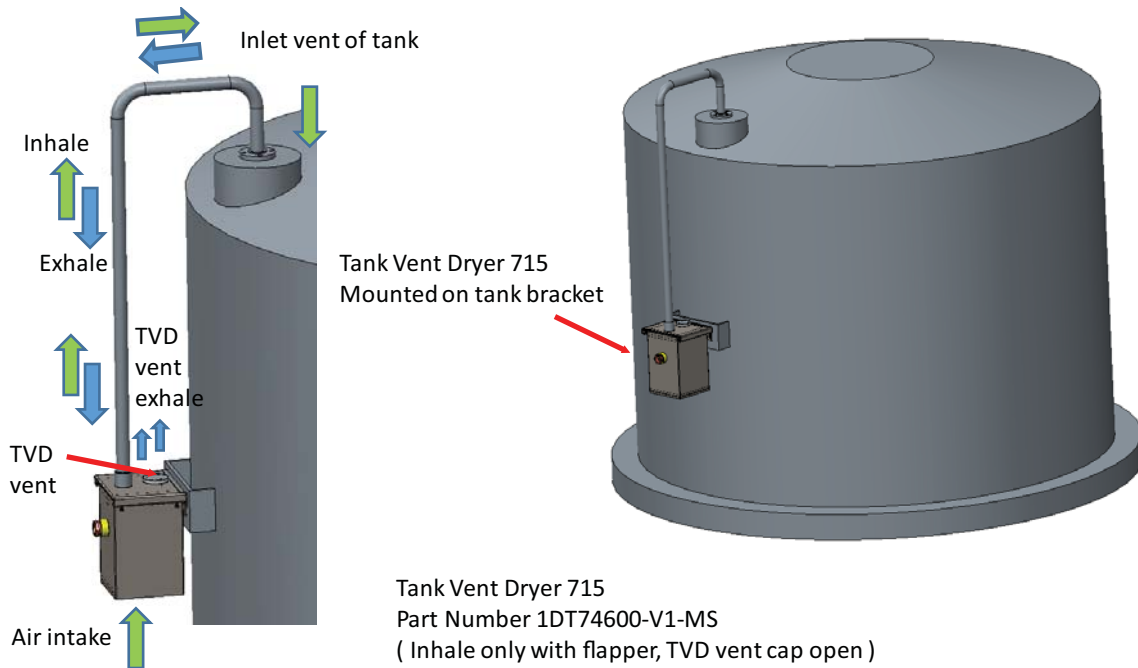


**2a.** As the exhaust air enters the dryer, the air will hit a viton flapper valve, preventing the air from flowing back into the desiccant bed, thus preserving the life of the desiccant.

# BREATHERS & DRYERS: TANK VENT DRYERS

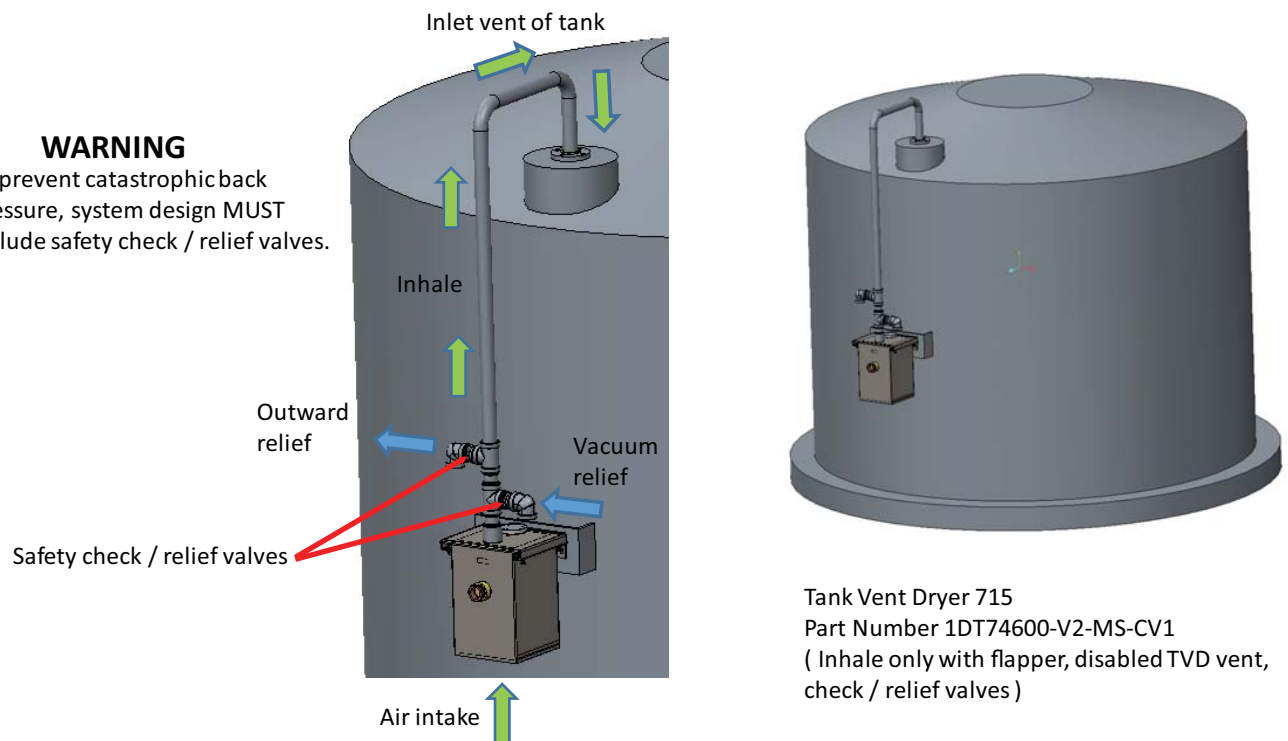
## How do they work?

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



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

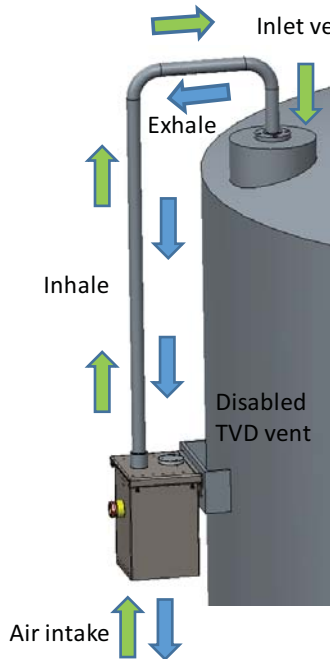
**WARNING**  
To prevent catastrophic back pressure, system design MUST include safety check / relief valves.



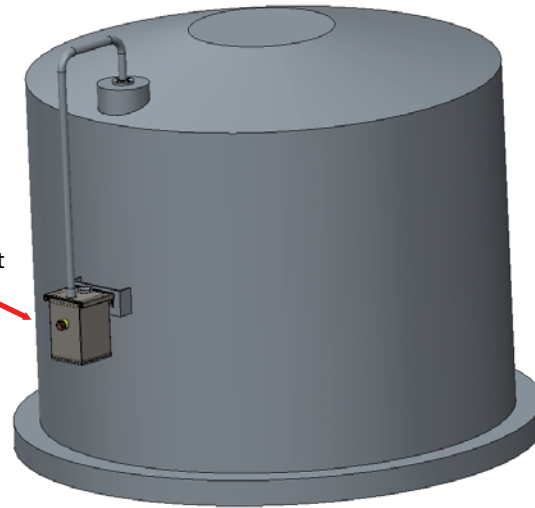
# BREATHERS & DRYERS: TANK VENT DRYERS

## How do they work?

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

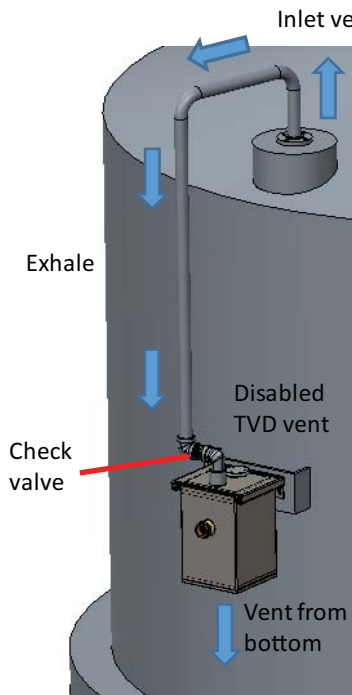


Tank Vent Dryer 715  
Mounted on tank bracket

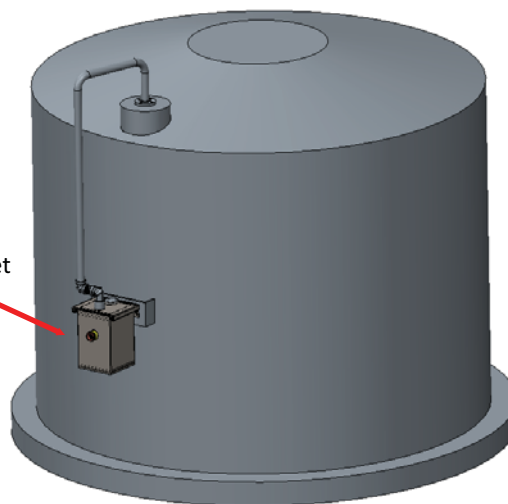


Tank Vent Dryer 715  
Part Number 1DT74600-V3-MS  
( Inhale and Exhale with NO flapper, disabled TVD vent )

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



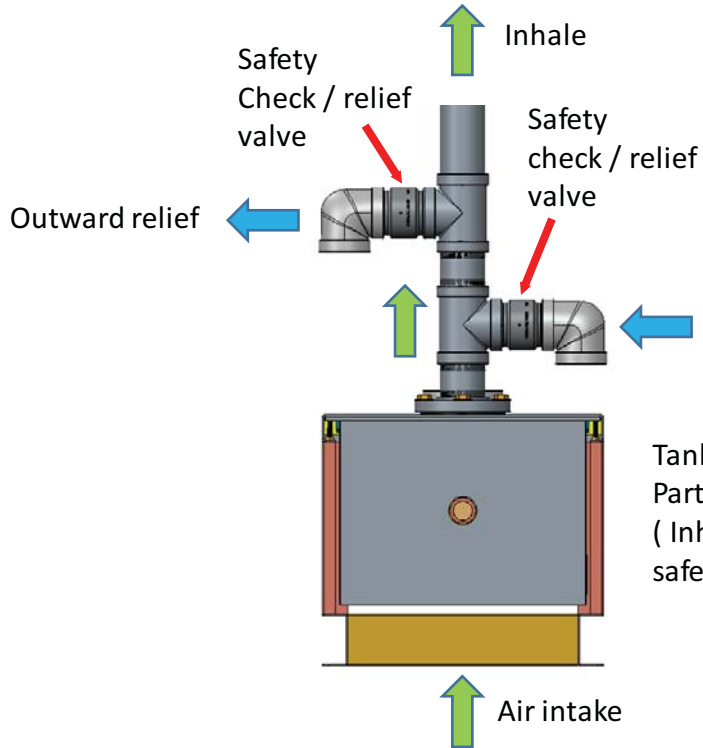
Tank Vent Dryer 715  
Mounted on tank bracket



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 )

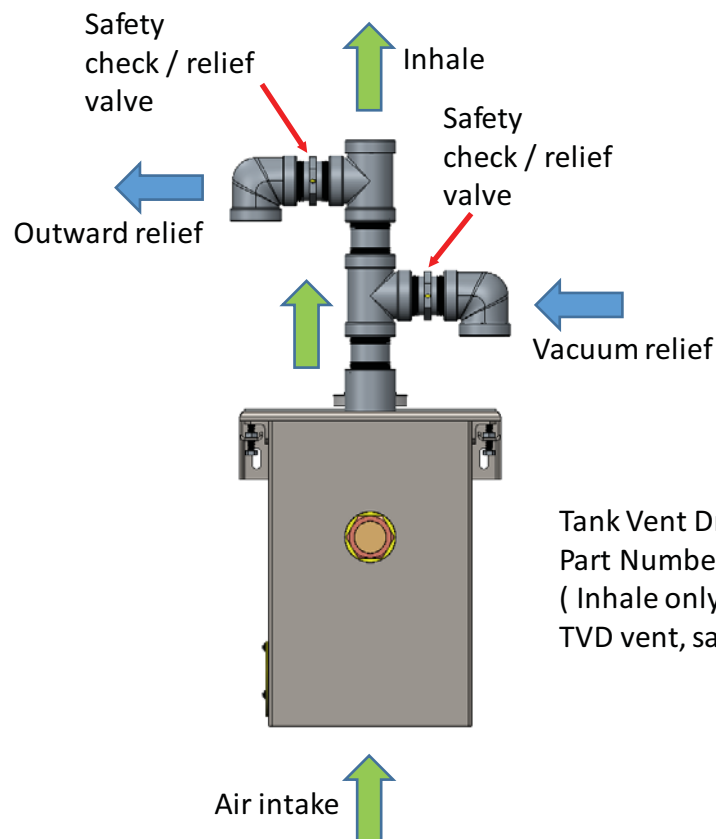
# BREATHERS & DRYERS: TANK VENT DRYERS

## 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 ).



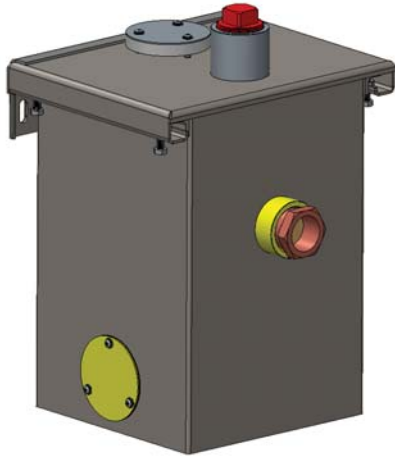
Tank Vent Dryer 715  
Part Number 1DT74600-V2-MS-CV1  
( Inhale only with flapper, disabled TVD vent, safety check / relief valves )



# BREATHERS & DRYERS: TANK VENT DRYERS

## Tank Vent Dryer Ordering - Part Number Selector

### Tank Vent Dryer - Model 715



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

Part Number	Version	Media Selection	Check Valve
1DT74200	-V1	-MS	-CV

#### Choose part number

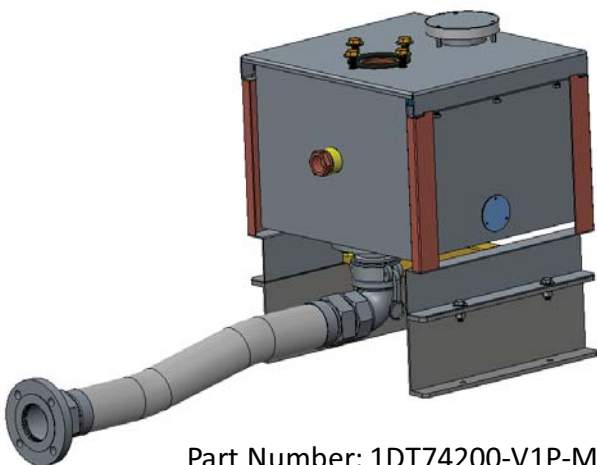
Part Number	Product Description
1DT74200	Model 730 Tank Vent Dryer, Floor Mounted, Refillable
1DT74600	Model 715 Tank Vent Dryer, Wall Mounted, Refillable

#### Choose version number

Version	Description
-V1	Inhale only w/ flapper, TVD vent cap open
-V1P	Inhale only w/ flapper, TVD vent cap open, w/ plumbing
-V2	Inhale only w/ flapper, disabled TVD vent
-V2P	Inhale only w/ flapper, disabled TVD vent, w/ plumbing
-V3	Inhale & exhale only w/o flapper, disabled TVD vent, w/ plumbing
-V4	Exhale w/o flapper, w/ check valve, disabled TVD vent
-V4P	Exhale w/o flapper, w/ check valve, disabled TVD vent, w/ plumbing

-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

Media Selection	
-MS	Molecular Sieve
-AC	Activated Carbon

#### Choose valve selection

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

