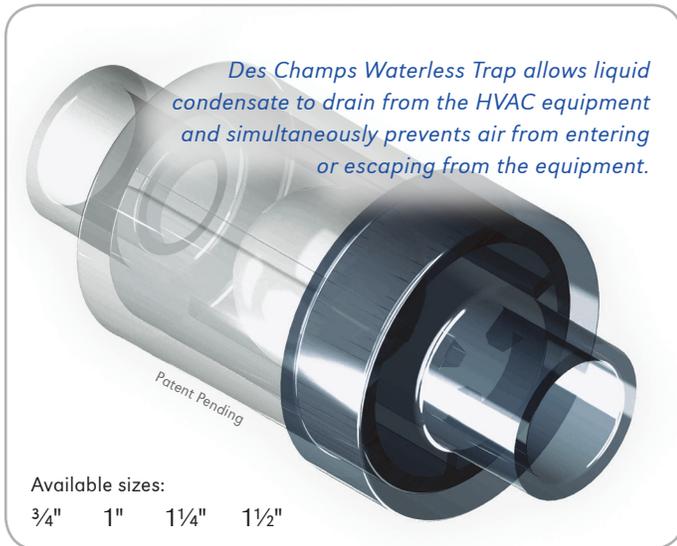


Negative Pressure Waterless Trap



Why a Waterless Trap?

Typically, HVAC equipment is fitted with “P” traps that require water, or another liquid, within a standpipe to prevent gas from entering or leaving the unit. As a result, the “P” traps are susceptible to freezing - expansion - bursting. At other times, the traps dry out allowing gas to escape or enter the HVAC equipment. The Des Champs trap never requires addition of water to prevent unwanted air leakage.

One of the advantages of the Des Champs “N-Series” waterless trap is that it operates in a horizontal position. Horizontal operation allows the center line distance between the unit drain connection and the trap to be the same or greater distance in inches as the negative pressure in inches of water column within the negative pressure plenum for which the AHU drain is connected.

Figure 1 shows that for a “P” Trap the vertical distance required between center lines of unit connection and the center line of the bottom of the trap is 4 inches when there is a 2-inch negative plenum pressure. Not for the N-Series, it is only 2 inches, not the 4 inches required with the standard “P” trap.

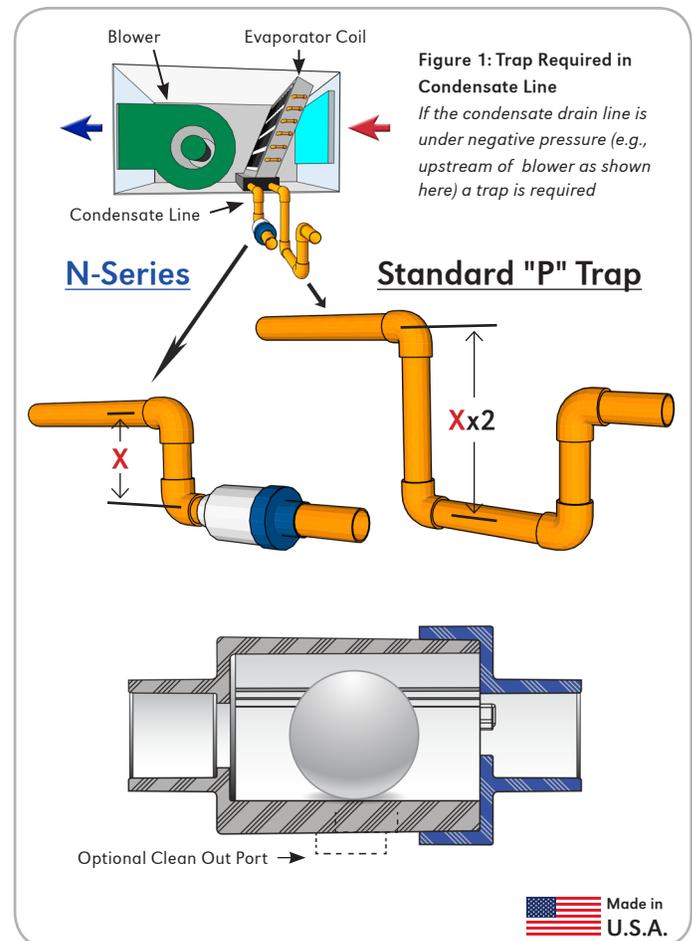
When there is no water to remove the negative pressure within the plenum draws the internal mechanism against the valve seat and essentially no air enters the AHU through the drainpipe.

When condensate forms then water builds up in the vertical pipe. When the water level equals the negative air pressure, in inches of water column, the force of the water head becomes equal or greater than the negative pressure, the internal valve moves to the left, rests against the valve seat and water flows.

When there is no longer a requirement to remove water then the negative pressure returns the ball to the valve seat and prevents airflow to the unit plenum. The internal rails aid in returning the ball to the seat in case the variable speed fan is operating at a low flow and low negative pressure.

Note: The attached drawings represent traps that operate under negative pressure. Never connect condensate drain directly to a sanitary drain line.

For detailed information and to see our N-Series Air-Trap during operation, please visit our YouTube videos: <https://youtu.be/8dhJ-R5rjDc> or Facebook: facebook.com/DesChampstech/



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