



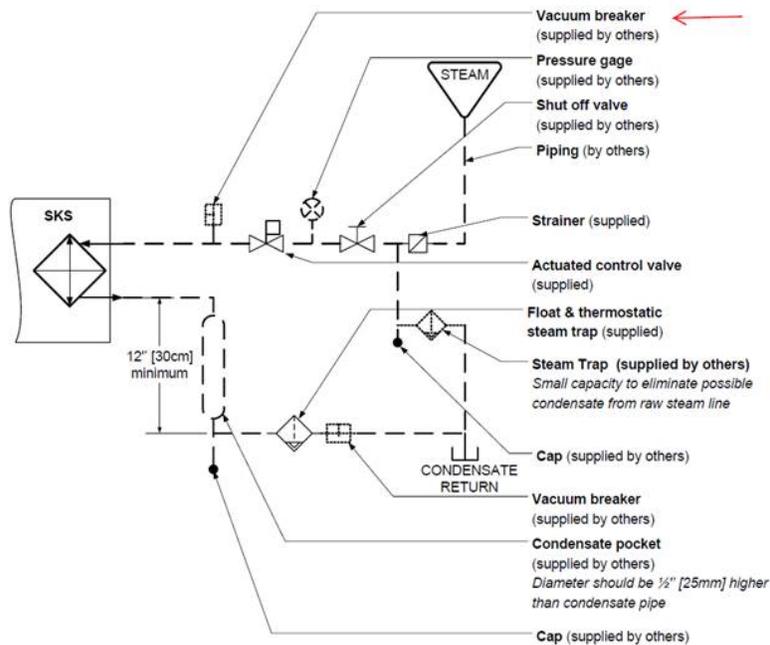
Read the Instructions! Installation Instructions: Are They Important?

Most installation manuals are long and boring to read, but they contain important information that must be followed during the installation of a humidifier to ensure a proper operation of the humidification system.

Here are some examples:

SKS humidifier: Pipework for the steam supply What is the function of the vacuum breaker and what can happen if it is not installed?

(Click here to enlarge)



The above illustration is taken from the steam-to-steam (SKS) humidifier manual; it describes the different components required for the steam supply and the condensate return lines.

A vacuum breaker is a simple, reliable device that allows air to enter a steam piping system when a vacuum is induced.

This device protects the SKS from vacuum damage, allows effective drainage of the condensate from the system and helps minimize water hammer.

Please follow this link to an interesting YouTube video made by Imagination Station OH about the consequence of a vacuum when steam condenses inside a sealed drum can.

https://www.youtube.com/watch?v=c5_ho2sc0fc

During this experiment, a small amount of water is poured inside the drum. When the water is boiled into steam, it will expand 1700 times the original volume during the change of phase

So when there is no more demand in an SKS humidifier, the steam control valve will close, the remaining steam inside the heat exchanger of the humidifier will start to condense and create a vacuum. If there is no air entering the heat exchanger, then it could get damaged in a similar way as the drum can.

SK humidifier: Length of flexible hose What maximum length of flexible hose can be used?

Consider the total steam line length between the humidifier and the steam distributor based on the steam material type:

- For flexible steam hose, the total steam line should not exceed 16 feet (5 meters). For longer distances, use insulated piping.
- For insulated hard piping, the total steam line is determined by the humidifier's capacity: one equivalent foot for each lb.

The above instruction applies to all our SK steam humidifiers; it describes the different length of steam line based on the material used.

The length of the flexible hose must be respected, and it must be installed properly. A flexible hose as the word describes it, is flexible; it does not have a reinforced wire, so it could sag or kink when it is not properly supported.

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Bad installations example:



Sag

Kink

SK humidifier: Multiple steam lines

Can I combine multiple steam outlets into one single steam line or cap a steam outlet?

DO:

Yes, it is possible to combine steam lines of a humidifier that have multiple steam outlets with a proper size steam connector.

The diameter of the combined steam lines must be a larger size than the diameter of the steam outlets of the humidifier.

DON'T:

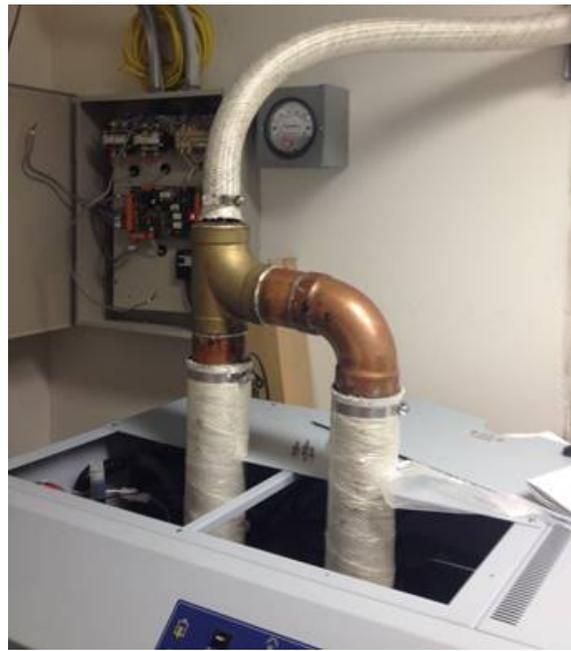
The diameter should not be smaller because it would create a restriction to the flow of steam, which could cause the humidifier to malfunction.

Never cap a steam outlet of a humidifier, all the steam outlets must be connected to individual steam lines or combined with a properly sized steam connector.

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Proper installation



Incorrect installation

Please consult the factory to determine the proper diameter for the combine steam line.

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