

H2Omit Condensation Solution System



FREQUENTLY ASKED QUESTIONS

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Question	Answer
Where does condensation come from?	<p>Condensation comes from many sources, including:</p> <ul style="list-style-type: none">• Opening and closing a door in a humid or wet environment• Non-rated or non-gasketed components mounted through the body or door of the enclosure• Improperly installed gasketed components or leaking components• Improperly sealed conduit entries• High pressure washdown with cleaning agents that act as lubricants• Extreme ambient temperature swings
Why is condensation bad?	<p>Condensation creates many issues, mostly related to corrosion, that affect component and enclosure performance.</p> <ul style="list-style-type: none">• Condensation causes corrosion on connections that increases resistance and generates heat• Condensation can create possible short circuits and reduces overall component life• Condensation accelerates rusting of the enclosure resulting in costly replacements
How do customers currently deal with condensation?	<p>Feedback from customers include:</p> <ul style="list-style-type: none">• "We drill a small hole and tilt the enclosure to drain."• "We occasionally use a light bulb to provide heat."• "We install commercially available non-UL certified drains in larger enclosures."• "Maintaining enclosure standards are important. We wipe out enclosures with a towel."• "Heat and cold causes condensation that drips on our PLC and servo drives. We use corrosion inhibitors, desiccants and heaters. The issues are maintenance and different current for international applications."
How do customers currently deal with condensation? (continued ...)	<ul style="list-style-type: none">• "Industry standards are important; we use air purge solutions to keep components dry."• "For outdoor applications we use heaters, fans, and drains; we rarely use air conditioners."• "Our applications involve a room cleaning defrost cycle. We can't use fans, but we use heaters. Because of the humidity and condensation from defrost we still need to wipe out enclosures."
Will I get condensation in a Type 3R enclosure?	<p>Yes. Although Type 3R enclosures have drainage provisions to drain the water, draining does not eliminate the issues of condensation on the internal components.</p>
Can I use just any drain or breather and maintain my enclosure agency rating?	<p>No, to maintain the enclosure agency rating (UL or CSA for example) the hole or cutout needs to be filled with an appropriately rated device. This means the device needs to be certified to the same, or higher, environmental enclosure rating and standard.</p>
Why should I use nVent HOFFMAN's H2Omit Vent Drains?	<p>HOFFMAN's drain is certified to meet UL508A standards for enclosures, therefore maintaining the enclosure's Type rating when properly installed. A drain or breather, such as a hazardous location breather, does not maintain a UL508A rating.</p>
How do I install HOFFMAN's H2Omit Vent Drain?	<p>HOFFMAN's H2Omit Vent Drain can be installed in a 7/8-inch hole drilled in the bottom of the enclosure with the provided nut. (Note: A 7/8-inch hole is the same size as a 1/2-inch conduit knockout.)</p> <p>The vent drain can also be installed into a 1/2-inch NPT/NPS threaded conduit hub.</p>

Question	Answer
What does HOFFMAN's H2Omit Thermoelectric Dehumidifier do?	This device, powered by 24 volts, condenses water out of the air inside a sealed enclosure. By directing it to HOFFMAN's H2Omit Vent Drain, the water can be removed from inside the enclosure. This device even has the capability to remove small amounts of standing water from inside the enclosure and drain the liquid.
How many Thermoelectric Dehumidifiers do I need for my enclosure?	The Thermoelectric Dehumidifier removes approximately 8 oz. of water in 24 hours, regardless of the enclosure size. The number of dehumidifiers required will depend on how much moisture the customer needs to pull from the enclosure.
Does the Thermoelectric Dehumidifier run continuously?	The Thermoelectric Dehumidifier runs with continual operation above 32 degrees F. It is thermally protected to shut off below 32 degrees F to prevent freeze up of the evaporator. If continual operation is not needed, Hoffman offers a Mechanical Hygrostat accessory (catalog number AMHUM) that can be wired to the Thermoelectric Humidifier. The Hygrostat can be set to turn on the Thermoelectric Dehumidifier at the desired relative humidity.
Does the Thermoelectric Dehumidifier cause a temperature rise in an enclosure?	The Thermoelectric Dehumidifier does cause a moderate temperature rise in an enclosure. <ul style="list-style-type: none"> • Hoffman lab testing showed a 10.5-degree temperature rise over a 3-hour period in a 24x24x12-inch enclosure • Hoffman lab testing showed a 7-degree temperature rise over a 7-hour period in a 60x36x12-inch enclosure
Do the Thermoelectric Dehumidifier and Vent Drain need to be used together?	The Thermoelectric Dehumidifier can be used without a vent drain in 3R applications <ul style="list-style-type: none"> • Water can run out of a hole in bottom of 3R enclosures Vent drains can be used by themselves for a lower cost solution to drain water and equalize pressure <ul style="list-style-type: none"> • The vent drain should be considered as a stand-alone solution if condensation on internal controls is not a problem
When would I use an air conditioner versus the Thermoelectric Dehumidifier?	Use both items together for a complete solution <ul style="list-style-type: none"> • Drains water while maintaining Type 4/4X ratings (Vent Drain) • Protects internal devices from condensation (Thermoelectric Dehumidifier)
When would I use an air conditioner versus the Thermoelectric Dehumidifier?	An air conditioner will help control heat and moisture in an enclosure. However, if there is a lot of moisture present, an air conditioner or Vortex cooler will drop the temperature rapidly – possibly to the dew point or below before switching off – allowing condensation to occur on internal components. If this is a concern, we would recommend using both an air conditioner and Thermoelectric Dehumidifier. If a customer is only concerned with moisture, we recommend using the Thermoelectric Dehumidifier versus an air conditioner. An air conditioner would be more space and cost prohibitive in this situation.

FOR MORE INFORMATION PLEASE CALL:

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