



SOLUTIONS



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Focused on The Engineered Environment

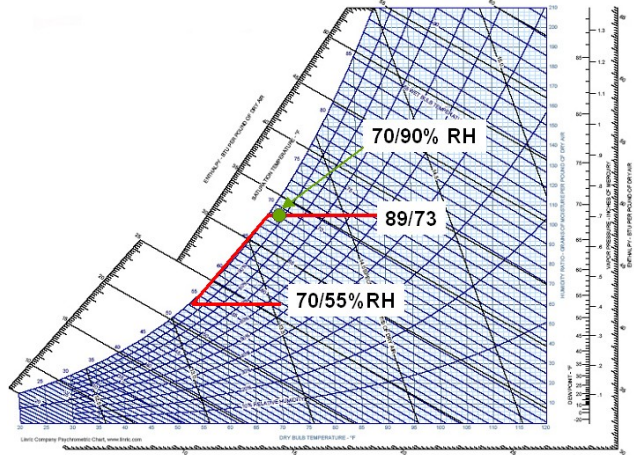
May 2009

Welcome to SOLUTIONS, a monthly newsletter provided by Jacco & Associates. Jacco's focus on system knowledge provides you with the engineering support and product solutions for your applications.

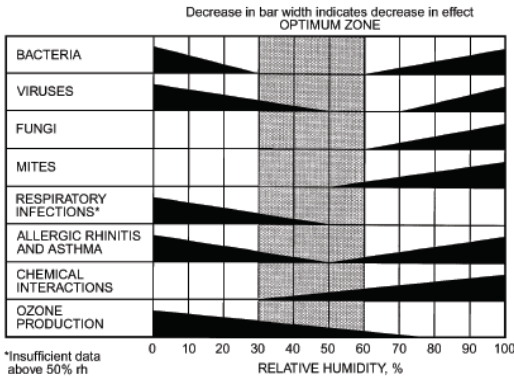
May Feature:

Neutral Air Units

Neutral air units are becoming more common due to the popularity of systems such as Variable Refrigerant Flow, Chilled Beams and Geothermal Heat Pumps. These units provide exactly what the title describes, air that is neutral in both temperature and humidity, typically 70°F and 55% RH. What this provides is comfortable air that can be delivered directly into the space or distributed through the terminal devices. The terminal devices then control the sensible load in the space. If the OA is cooled to only 70°F without dehumidification you will be delivering air that is 90% RH and cannot be dehumidified by the terminal devices. This in turn creates extra condensation that must be removed from the occupied spaces and creates potential for leaks within the finished space. Since terminal devices are sized for sensible loads you also increase the potential of mold, bacteria and viruses. If you cool the air to 53°F and do not reheat you will be either dumping cold air onto the occupants making them feel cold or you are asking the



terminal devices to perform extra work to reheat the air to the required space conditions. Neutral air units eliminate both of these problems by dehumidifying the OA to a proper RH level and then reheating it to a comfortable temperature. At the same time the condensation from dehumidification will be limited to one location which is typically either outside or in a mechanical room. The terminal devices will then handle each zone temperature individually, providing optimum comfort. The reheat portion can be accomplished through energy efficient means such as wheel, pipe or plate heat exchangers, desiccant wheels, modulating hot gas reheat, or a combination of these components. Since every building and application is different, these systems can be customized to meet your needs. Be sure to contact your Jacco representative for more information on Neutral Air Units.



May Question & Answer:

Question: Which of the following is not a good choice for reheat in a neutral air unit?

- a.) Plate Heat Exchanger b.) Heat Pipe c.) Sensible Wheel d.) Total Wheel

Prize: \$100 Gift Card to Cedar Point!

Respond by May 29th with the correct answer to be entered in the raffle for this month's prize!

Last Month's Question & Answer Winner!

Question: Class 2 air can be redesignated as Class 1 in the process of energy recovery when diluted with OA. What is the maximum allowable percentage of Class 2 air in the resulting airstream?

Answer: C-10. Congratulations to Joe Vargo for winning a Coleman Roadtrip Gas Grill!

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