

Foxy Design Solutions: Considering The Bigger Picture

I have some comments concerning Andy Pearson's column, "Be More Hippocratic," from the March 2025 edition of *ASHRAE Journal*. I always enjoy his column since I am also from the ammonia refrigeration industry.

"The Hedgehog and the Fox" that Andy mentioned is an intriguing story. May I add that in our industry some foxy ideas cannot be published because they are proprietary or because they cannot be duplicated by the general engineering community.

For example, in 1978, I designed the first mechanical indoor pool dehumidifier that I know of with the following capabilities: to extract moisture from air more efficiently than an air conditioner, to reject the latent heat recovered back into the pool water where it came from and to return the sensible heat selectively to an outdoor condenser and back into the dehumidified airstream to provide neutral reheat.

Furthermore, the collected condensate could be returned to the pool by discharging it into the skimmer. This way the condensate would be properly treated like the rest of the pool water. It was estimated that one complete fill of the pool per year could be recovered.

Since this water does not contain any minerals and has a neutral pH level, water treatment chemicals

are also saved, not to mention the energy savings compared with makeup air ventilation systems.

A simplified version of this invention finally found

its way into our handbooks because other manufacturers were unable to match all the features.

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PEARSON RESPONDS

Thank you for your comments, which are greatly appreciated. It's good to hear of your innovative approach to pool dehumidification.

It really underlines how a substantially better outcome can be achieved when people step back from the initial question they have been asked and consider the bigger picture,

which I suppose is the key characteristic of the fox.

The current opportunities for combined heating and cooling are another good example, although unfortunately it seems like many of the design solutions for this fall short of the benefit that could be achieved because the view was still too much hedgehog and not enough fox. Failing to consider the timing that heating is required compared to the need for cooling catches a lot of people out.

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Hwakong Cheng and Paul Raftery
discuss reducing gas consumption,
optimizing heating water systems
and strategies for efficient
morning start-up in existing large
commercial buildings.



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