

# 2010 MANUFACTURERS SPOTLIGHT

## John Barba And Bill Riley Explain Some Simple Facts Of Life

The concept of variable-speed hydronic circulation remains a mystery for many installers. But that's why variable speed evangelists John Barba and Bill Riley ([www.rileyplumbing.com](http://www.rileyplumbing.com)) enjoy explaining when it's best to apply the technology and what the key benefits are.

Riley is president of Warwick, R.I.-based WJ Riley Plumbing and Heating, an admitted hydronics junkie. Barba is Taco's residential training manager.

Why variable?

The purpose of a variable-speed circulator is to automatically adjust its speed based on heating load demands. With variable-speed pumps, systems can be designed and installed to place precisely as many Btu into a building as needed.

One of the best things about Taco's approach to variable-speed circulation is that it's eager to offer installers a real understanding of how the technology works. "We're *not* into telling professionals, 'Just push a button and walk away from the pump; it'll set itself,'" Barba explains. "My 'students' tell me they really enjoy knowing how it works and how it relates to system performance."

"I can attest to that," Riley says. "My guys and I have all learned so much from John Barba."

Barba says he most enjoys seeing "light bulbs go on" when installers gain true understanding of the impact of variable-speed circulation and its



role in improving system efficiency and even boiler performance. "If boiler short-cycling is an issue, one of the solutions may be to replace one or more pumps with a variable-speed circulator," he says.

**The Perfect Hydronic Storm — Dropping Delta-Ts:** Another concern is pressure differential within the system. As zone valves close, a system curve intersects a pump curve at higher pressure differentials. This can cause higher flow velocities within the system, which may result in velocity noise.

One of the best, no-noise solutions is to use a mid-flow, low-head, flat-curve circulator like the Taco 007.

With such a pump, system pressure rises minimally, eliminating the need for a bypass valve. *But*, if the job has higher head requirements than the 007 can deliver, a better solution may be a variable-speed pump.

"If all of the zones in a system are calling for heat, we may find that the delta-T drops to 16 degrees, not the 20 typically designed for," Barba says. "Doesn't sound like much, right? But that equates to about a 20 percent difference. With only two zones calling, the delta-T drops to about 15 degrees — a 25 percent difference. And with only one zone calling, the delta-T drops to 12 degrees — a whopping 40 percent difference.

"Solve the dilemma of dropping delta-Ts by using a fixed delta-T, variable-speed circ," he adds. "You may never have to worry again about oversizing a circ."

Rather than searching for the point where the system curve intersects the pump curve, let the pump curve *self-adjust* every moment and every day of the heating season.

Variable-speed circulators are easy to set up. Simply dial-in the required delta-T.

"The simplicity of it — pump choice, installation and performance — is a huge asset for us," Riley concludes. "We know exactly what pumps to apply and how to finesse hydronic flow ... like dialing in comfort for our customers."

Circle XXX