Inside: Water infrastructure, a 2019 NSF Special Section

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Circulator Trends What you need to know for your specifications.

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John Siegenthaler on geothermal

Julius Ballanco on water pathogens



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Circulator trends

Migration to variable speed and continued growth of connected functionality popular in this space.



OUR COVER THIS MONTH

pme's October cover story spotlights the latest trends in commercial circulators, focusing on such hot-button topics as connectivity, variable speed and the desire for simplicity in a technology-fueled marketplace. On the cover is a Alamosa, Colorado-based Husmann Plumbing pipefitter sets a Taco OOe VR20 variablespeed pump while working on a hydronic system retrofit for Sierra Grande, a Fort Garland, Colorado, K-12 school. **Photo by Taco Comfort Solutions**.

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Circulator trends

Migration to variable speed and continued growth of connected functionality popular in this space.

 ike with any PHCP-PVF product category, the landscape for circulators continues to evolve.

"The trends we see in circulators during the last several months and moving into the future is the continued migration to variable speed, increasing demand for fractional-size pumps and further growth in capabilities for connected circulators," notes **Ryan Coppola**, marketing specialist, circulators, valves and hydronics at Armstrong Fluid Technology.

Taco Vice President of Governmental Relations and Sustainability **Mark Chaffee** says mechanical system designers, installers and building owners are pushing for a transformation in the commercial pump market.

"All of them seek improved efficiency, greater operational transparency and comfort," he explains. "Of course, the federal government and local utilities are riding shotgun in this movement. They have a role in it, too.

"Over the past year, demand for improved system and energy efficiency has continued to move apace throughout the industry, especially for large commercial HVAC system pumps," Chaffee continues. "The ECM motor, which now is commonly available up to 30 HP, has changed the game in the pump market. Today's ECM-based products consume up to 85% electricity, but they also can enhance overall system efficiency and performance, with the right controls attached."

Chaffee adds these controls that are now evolving at an everquickening pace are having a bigger impact on system operation and efficiency.

"You now have the ability to look inside the pipe and see what's happening in the system, directly from phone apps developed to the task," he says.

Chaffee's last point falls into the connectivity category, which Armstrong's Coppola alluded to earlier.

"Connectivity is the hot-button topic that will become the standard in circulators in the near future," Coppola says. "Specifically, capabilities for wireless/Bluetooth connection to phone apps and building management system connection to site management system protocols. This will significantly expand the possibilities for management, maintenance and optimization with the availability of alarms, notifications and data."

Chaffee adds there is a desire for combining advanced technology with simplicity of operation.

"Although a lot of information about the latest developments in the pumps industry is available in the palm of your hand, installers and specifiers alike also have conveyed the need for simple efficiency, not efficiency that requires a lot of programming, charts or control specialists," he says.



The circulator product and technology space continues to evolve with greater empasis being placed on connectivity, operational simplicity and variable-speed capabilities.

Coopola says the topic of variable-speed circulators now is front and center.

"Since variable speed is now a requirement for all circulator manufacturers, horsepower and Hz options will no longer be a concern as variable speed motors auto-adjust within a larger range and are flexible on Hz," he explains. "Together with the need for more connectivity, circulators will become a much more valuable component within HVAC systems of various sizes."

Coppola is seeing fractional horsepower/variable speed being specified more and more in engineering designs of all sizes of buildings and applications.

"This reflects among building owners for high efficiency, not just for large pumps, but for small circulators as well," he says.

Chaffee points out another development of note is the introduction of the Hydraulic Institute Energy Rating labels for circulators. "Similar to those introduced last year for commercial and industrial pumps, this is a collective effort of all the major circulator manufacturers to implement a transparent labeling program in the wake of the DOE's lack of action to complete the circulator efficiency rulemaking," he explains.

"The current administration's effort to reduce new regulations and to cut red tape may be a noble effort, but when it comes to energy savings and the implementation of new technology, the industry has stepped up to do the right thing," he continues. "Like with the commercial label, it will more easily allow utility companies to offer incentives for the installation of these high-efficient ECM circulators. Their range of controls meets the desires of installers, and the efficiency, operational and comfort needs of the system." **pme**