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Portland's new AC Hotel Opts for Essential Amenities

Guests at the AC Hotel Portland Downtown have learned not to expect full-on room service, a five-star restaurant or vast meeting spaces. Rather, they dismiss the lavish add-ons, opting instead for contemporary comforts – and it's all by design.

Visitors to the hotel will encounter an ultramodern hotel resplendent with sleek amenities, craft cocktails and live music in the lounge and tidy meeting spaces with views of the Willamette River and Mt. Hood.

The 204-room hotel, a project from Colorado real estate developer McWhinney and Sage Hospitality and Mortenson, broke ground in June 2015. Its 13 stories occupy a prime location in the downtown area. The new hotel opened for business in early 2017 and, since then, occupancy has been an enviable, steady 92 percent.

In addition to its rooms, the AC Hotel Portland – a Marriott brand – features a ground-floor lounge with a cocktail bar, the AC Kitchen where guests enjoy continental breakfast and streamlined snacks, and the sensory comforts of an aroma-rich Portland's Water Avenue Coffee franchise.

Guests also enjoy revolving exhibits by local artists in common areas, plentiful meeting spaces, rooms with an "all-the-essentials" design, including one key essential: plentiful hot water on tap.

A Marriott Hotels directive

Long before breaking ground for the new hotel, facility managers smartly decided to install a digital thermostatic mixing station for the AC Hotel's domestic water system.

By now, most folks in the business of hotel management have learned about the challenge of providing hot water to hotel rooms, quickly and consistently.

Mechanical mixing stations, which typically incorporate the use of pressure reducing valves to help offset widely-varying pressures, and temperatures, within large domestic water systems, were once the standard. Those days are gone.

***"Facility managers were preparing to meet a new Marriott directive, a specification from the parent company's directors, stating that all Marriott hotel properties must be capable of delivering hot water to guest rooms within 10 seconds. For large hotels:* that's fast."**

Digital renaissance

The digital Renaissance in building systems – now in full swing, with no end in sight –has created a broad range of new technologies that provide for greater safety, performance, consistency, control and energy savings in high-performance buildings like the AC Hotel.

New digital mixing and recirculation systems, replacing decades-old mechanical devices, offer smart water delivery solutions to all points of use within a variety of commercial or municipal facilities, including hotels. They also mix domestic water in a hot water recirculation loop and can be integrated into a building automation system (BAS).

Today, most large plumbing systems are designed around the use of digital mixing and recirculation stations that allow for the integration of hot water delivery systems into automated program controls. These new mixing stations control the entire tempered water recirculation loop at safe temperatures using electronic mixing valves, fast response sensors, and high-speed actuation.

They can limit temperature regulation to exceed the requirements of the American Society of Inspectors of Plumbing and Sanitary Engineers, ASSE 1017 – typically reducing temperature swings to within +/-2 degrees F. This provides a measure of control, and energy savings, that cannot be achieved with mechanical systems.

The spec

Both PAE Engineering and TCM Engineering Services were tapped for design expertise. Initially, TCM specified a different digital thermostatic mixing system, but hotel managers resisted because the price seemed prohibitively high.

Several months later, and after ground was broken on the project, Watts Water Technologies expert, Dan Checri, and Luke Erickson, with Seattle-based Stone-Drew/Ashe & Jones (SDAJ), were invited in to introduce TCM design engineers to the IntelliStation (IS) system.

Shortly after the visit by Checri and Erickson, Eric Walczyk, technical associate, PAE Engineering, visited a nearby hotel's domestic water system retrofit that included an IntelliStation.

"Managers of a large hotel just a few blocks away had recently purchased the installation of an IntelliStation and were nice enough – as competitors – to give us a tour of the work they did there to improve domestic [hot] water consistency," said PAE's Walczyk. "They were very pleased with the system's performance, and I was also impressed with it."

Walczyk had prior experience with digital mixing for large domestic water systems, so his scrutiny of the Watts technology meant a lot to the others. He explained that, during system design, the "VE" (valve engineering) specifications called for digital mixing, and it set a high standard for the requirement. Yet, after close study of the technology and its capabilities, the IntelliStation passed easily.

After 20+ years of engineering building systems for large facilities, Walczyk says "I've seen my share of hotels where hot water delivery has been a problem. Yet, in the hospitality business, guest comfort is paramount. Running out of hot water is one of the seven deadly sins of operating a hotel.

So, with new technology comes the ability to end a problem before it manifests itself at a hotel. These days – as we've seen with the new Marriott Hotels directive – there's no tolerance of an inability to provide hot water to any and all points-of-use, whether it's on the first floor of a hotel, or on the highest.

Installer insights

"The PAE design was spot-on, with an accurate submittal that enabled us to make a smooth installation of the digital mixing station," said Aaron Marlia, the jobsite supervisor for TCM Corporation, the Portland-based plumbing and mechanical contractor chosen for the job.

"It was my first experience with a digital mixing system, so I was very happy that we had no issues piping up to it, and also a smooth start-up," added Marlia. "The installation was quick, and very much worth the cost in terms of guest comfort and value to the owner."

Digital – vs – hydropneumatic

The AC Hotel's chief engineer is Steve Morates. He says that, "The difference between hydropneumatic (mechanically-operated) thermostatic mixing for a hotel or large facility is that a digital mixing station is constantly adjusting by small measures. Mechanical valves require large swings in pressure or temperature to activate."

"We've really come to appreciate the fine-tuning and adjustments that the digital mixing station provides," added Morates. "The system has performed flawlessly and is essentially maintenance-free."

He added that – especially because of the hotel's high occupancy year-round – they've been attentive to system operation.

"Preemptively, we've checked the return water temperature sensor routinely," continued Morates. "After eight months of operation, we pulled it out to check it – and it looked brand new."

"We've become fully confident in digital mixing technology," concluded Morates. "Just as many building systems have seen improvement in the 'digital age,' our domestic water system here at AC Hotel – with digital mixing – performs exactly as designed."

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Eric Walczyk: technical associate, PAE Engineering: 503/542-0547 or 503/803-2617; **eric.walczyk@pae-engineers.com**

Steve Morates: Chief Engineer at AC Hotel: 503/575-4070

Luke Erickson, Stone-Drew/Ashe & Jones (SDAJ) – 503/999-1325 – cell; 360/823-0505 – office.

Aaron Marlia: Installer, TCM Corp., Portland. 503/312-5086; **aaron.marlia@tcmcorp.com**