

TOUCH-FREE

Public restroom technologies thrust into the spotlight

By Andrew Warnes

As one of the most frequented spaces in any building, the commercial restroom is on the frontlines of safeguarding visitors from the potential health risks caused by cross-contamination.





Commercial restrooms are shared by hundreds of people every day, and with the recent COVID-19 pandemic creating heightened sensitivity to proper hand sanitation around the world, it is now more important than ever to implement solutions that mitigate potential health risks in public environments.

“Surface areas in general are reservoirs for viruses, bacteria, and other germs, and when you sneeze into the environment, the respiratory particles can land on surfaces,” said Manish Trivedi, M.D., Director, Division of Infectious Diseases and Chairman of Infection Prevention and Control at the AtlantiCare Regional Medical Center.

The many surface areas visitors must touch make commercial restrooms susceptible to germ transmission. Simply put, the fewer products a user is required to touch in the restroom—from flushometers and faucets to soap dispensers, hand dryers, and more—the less opportunity there is for cross-contamination.

Even before COVID-19, there was a seismic shift to touch-free restroom products. Now that public health requirements are the top priority, that demand has rapidly accelerated, as healthcare, educational, public transit and other high-traffic facilities anticipate replacing their manual products with sensor-based fixtures. For example, the city of Fayetteville, N.C. is in the process of installing hands-free faucets and self-flushing toilets and urinals at all city facilities.

But touch-free technology is not a one-size-fits-all approach. Different commercial environments have different requirements for the architect and designer to consider.

Specifying Touch-Free Fixtures is Automatic

By now, we're all well-acquainted with the Centers for Disease Control and Prevention (CDC) handwashing guidelines to help prevent the spread of disease. Scrubbing all parts of your hands for 20 seconds (including under your nails and up to your wrists) before rinsing and drying is an essential step in ensuring your hands are germ-free. But turning off the faucet opens a potential window for re-contaminating the hands you just washed.

Automatic faucets eliminate this concern, but touch-free faucet technology must be tailored to the project's environment. Healthcare facilities, where professionals are on the frontlines of saving so many lives, are the most critical demographic for touch-free fixtures.

Gooseneck faucet spouts are a practical specification in healthcare environments, as they allow handwashing up to the elbows for medical professionals to make sure that more than just their hands are sterile. Faucets with higher flow rates help move contaminated fluids down the drain quickly to keep water from mixing with germ-filled air. Thus, faucets for this market cannot use aerated sprayheads. Rather they use "laminar" sprayheads that keep ambient air out of the water flow.

To avoid bacteria growth in stagnant pipes, the faucets used in healthcare environments also incorporate an automatic line flush feature that refreshes water in the supply lines on a regularly programmed schedule to maintain chlorine in the pipes and faucets.

Based on consistent requests from healthcare facilities, two years ago Sloan launched the Optima line of touch-free faucets that enable facility personnel to make adjustments with a smart phone app.

However, medical personnel's use of advanced touch-free technology doesn't always translate to effective handwashing up to par with CDC guidelines. Therefore, Sloan's LCD display screen options walk users through the CDC-compliant handwashing process. Sloan's BASYS Solar+LCD Healthcare Faucet guides the user through an initial rinse, a soap and scrub, and then another rinse, and provides a countdown for the duration of each step for the user.

Thanks to the Internet of Things (IoT), this information is also stored inside the faucet so the organization can remotely measure the number and percentage of CDC-compliant handwashes. With this information, healthcare facilities will be able to compare compliance statistics between buildings, floors, departments, and even individual duty stations to determine if users are following effective handwashing procedures.

These data diagnostics also indicate battery health and take the guesswork out of repairs. Furthermore, this type of technology will likely trickle down from healthcare into other applications like foodservice and high-tech manufacturing.

Ultra-high traffic areas, like public transit facilities, have a unique set of specification considerations. While the goal of these facilities is to funnel people in and out as quickly as possible, it is important to do so in a hygiene-friendly manner. That is why commercial restroom manufacturers like Sloan have developed integrated sink systems that concentrate every step of the handwashing process to within arm's reach. Sloan's AER-DEC Sink System combines a touch-free faucet, soap dispenser and hand dryer all within a single sink basin. This achieves hand hygiene goals and streamlines the handwashing process.

These low-to-mid-height sinks also prevent water from splashing onto the floor. This feature is beneficial for avoiding slip-and-fall liability, as well as for easing the burden on facility maintenance staffs. Maintenance crews often can shut off sensor faucets automatically by simply twisting the solenoid on many models.

The benefits of touch-free specifications pertain to more than just faucets in these high-traffic environments. Touch-free technology also plays an important role in a flushometer's ability to promote water conservation. The reduction of just a few decimal points of gallons per flush (gpf) adds up when considering the sheer number of visitors to public transit restrooms. In fact, in 2018, 83.4 million passengers went through the terminal at O'Hare International Airport. At Los Angeles Union Station, a public transit hub that serves as many as 100,000 passengers per day, Sloan ECOS® Flushometers are lowering flush volumes for liquid waste by up to 30 percent with their automatic dual-flush technology.





Great design facilitates great hygiene

Well-known for their hygienic benefits, touch-free commercial restroom products also offer supplementary perks that make them a great choice. Many touch-free faucets utilize solar energy harvesting, which uses ambient light to extend their battery life for up to 10 years. Additionally, turbine energy harvesting uses the energy of moving water which can also extend the life of batteries for up to 10 years.

Sloan faucets offer a variety of functional and aesthetic design options. Architects and designers can create a unified restroom experience by pairing similarly patterned faucets and soap dispensers and by customizing each product with a special finish.

San Francisco's Chase Center, the new home of the NBA's Golden State Warriors, recently specified a custom brushed nickel finish to create a unified aesthetic for its faucets and soap dispensers to leave a lasting impression on its users. For the ultimate in customization, Sloan also offers company and team logo engravings on its top-of-the-line BASYS faucets. The touch-free functionality of these products ensures that the finishes and logos look great for many years beyond initial installation.



What's Next?

The uptick in touch-free specification requests due to heightened awareness about hygiene is just the beginning. In an era where more people are cognizant of their sanitary habits, touch-free products may become the standard in restrooms.

The movement to a touch-free restroom extends far beyond handwashing. Sensor-activated doors and light switches that remove the need for physical touch are transforming the commercial restroom space into an almost completely touchless environment.

Sloan has been an industry pioneer ever since William Elvis Sloan ushered in the modern plumbing era with the Royal Flushometer in 1906. Sloan debuted the first hands-free sensor faucet in 1974 and continue striving to develop innovative products that deliver hygiene-friendly, water-saving, and aesthetic benefits to the commercial restroom.

Andrew Warnes is Sloan's Technical Training Manager and has been at the forefront of water technology standards for nearly 20 years. Warnes has previously lent his expertise to support the World Health Organization while also working as part of the negotiations for microbiological treatment standards between the U.S. and the European Union.



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