



Before and after I-CON System's Momentum Flush Valve installation that seals with minimum water pressure, preventing potential flooding scenarios.

have to be put outside to decontaminate." The ability to control one cell became as important as controlling the facility.

To deal with flooding scenarios, I-CON Systems, Inc., of Oviedo, Florida, considers several key factors. According to president and CEO Shawn Bush, "The challenges begin at the toilet fixture when facility staff is limited in its ability to prevent abuse by a manual flush valve with little to no control over how often an inmate can flush." In addition to the debris, "they will also often abuse a typical system by flushing repeatedly to lower the water pressure which will not allow a manual flush valve to seal and eventually floods the cell."

I-CON's solution: Design a control system that locks out and an electronic flush valve that will seal with minimal water pressure, preventing inmate induced and other potential flooding scenarios. "With our electronic flush valve system you can control run-times and lockouts as well as the amount of water used during each flush. The key is reducing the amount of water that is used for every flush: this is where 90 percent of the actual savings comes from," Bush says. "For example, our system can take a

3.5 gallon fixture's flush down to 1.6 gallons and a 1.6 fixture down to 0.9 gallons and still pass all plumbing tests and comply with plumbing codes." He adds, "We typically see a 65 to 80 percent savings in water. We've installed our products at over 400 facilities throughout the U.S. and Canada to help them save and control water, ranging from FBOP facilities, to state prisons and county jails."

As for the security and water-saving features of the fixtures themselves, Metcraft Industries relies on its expertise. Says Paul Ryan, president of the company in Lee's Summit, Missouri: "Stainless steel plumbing fixtures for the correctional facilities are designed to be vandal resistant so that no parts can be removed by the inmate and used as a weapon. It is desirable not to have any fasteners exposed on the cell side and any protrusions from the fixtures are kept to a minimum because of suicide concerns."

In addition to the abuse of fixtures, the misuse of water has to be addressed in fixtures, according to Ryan. "Water conservation in correctional facilities is becoming more important as water in many parts of the United States is becoming

scarce. Several years of drought in certain areas of the country have necessitated the need for better plumbing fixtures that use less water." He notes manufacturers have developed 1.28gpf toilets, .5gpf urinals, and 1.2gpm shower systems. "In addition, several manufacturers have developed electronic valving to control the amount of water being used from these fixtures." He adds, "Because this problem will continue as water becomes more scarce, demand for better plumbing fixtures using less water will be with us for many years to come." ❖

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