

# Here's a urinal flush with promise

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The urinal, like the toilet or the sink, is a humble fixture of an inglorious realm. You visit it when you must, some of us never, and contemplate its workings rarely: when you flush, if at all.

Unless, perhaps, you have a background in civil engineering and there is a severe water shortage.

Ditmar Gorges, for instance, remembers moving to Los Angeles in 1987: "I was quite shocked to hear the mayor asking people not to flush. I'd never heard of such a thing. So I started thinking of a device to conserve water; what I was looking at, after three or four years, was a urinal that could actually work without water."

Thus began one man's quest.

It is far from finished, but hundreds of Falcon Water-Free urinals are installed throughout South Florida.

A group of men visited the lower-level restrooms at Pro Player Stadium recently where nine 228 F-3000 Falcons were installed two years ago. Since then, crowds 76,000-strong have drunk copious quantities of beer and soda during baseball and football seasons.

The place was clean and lemony; the F-3000's threw off a soft moony glow.

The fans seem to have embraced them, after a fashion.

"I'd have to say that nobody really noticed they were here," said Frank Everton, the stadium's chief engineer. "The guys just did what they had to do. Nature calls, you know?"

Other places have jumped on the waterless bandwagon: Miami Dade College, Miami-Dade and Monroe county school boards, and in Palm Beach County Schools. A pilot program with Broward County schools is to begin soon.

There are 20 million urinals in the United States now, the vast majority of them the traditional flush variety. Each pull of the knob opens a flush valve in the urinal's piping, sending between one and three gallons of water down the urinal wall.



CHECK: Ramon Carabeo of Falcon walks by its water-free urinals at Pro Player Stadium. C.W. GRIFFIN/HERALD STAFF

The water dilutes the urine and pushes out through a trap, an "S" shaped waterway that leads to sewage pipes, never to return -- which would be just as well, except the average urinal flushes 75 times a day, 27,375 per year, consuming almost 40,000 gallons of water every year.

Gorges' epiphany was that most of that water needn't be flushed.

"I found out the reason they flush out all that water is not to clean the surface -- it's just to pump the urine through the trap," he said by phone from China, where he's been peddling water-free urinals to city governments for the last several months. ``Urine is almost totally sterile. You're using water to pump water!"

Alone, urine has virtually no odor; the ever-familiar restroom stench comes when urine combines with water and sits stagnant, providing a medium for bacteria.

The Falcon doesn't flush at all. Instead, urine is funneled down through an oily liquid sealant that rests on top of the Falcon's trap.

The light sealant breaks when the heavier urine streams down, sinking down the sewage pipes. The sealant then closes, almost immediately.

The prototype for Gorges' urinal met with skepticism -- plumbers being, on the whole, a conservative bunch -- and industry insiders consider it unlikely that the Falcon will dominate the urinal market anytime soon.

"Our readers tend to be very traditional-minded people who are going to take awhile before they openly accept this," Steve Smith, a writer for Plumbing and Mechanical Magazine, said in a phone interview.

"Because, basically, if there are problems, they're the ones that have to go out and fix it," he said. ``They tend to stick with what they know. But there could be a tipping point out there."



DEMONSTRATION: Ramon Carabeo of Falcon explains how the waterless flush system works in its urinals.  
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