

PLUMBING CONNECTION

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PASSING THE SKILLS BATON

Why the old guard must educate the new

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Rethinking design

I am an avid reader of *Plumbing Connection* magazine and find it filled with valuable information every time I pick up the latest issue. When perusing the June 2011 issue, however, I noticed a stark contrast that leaped out immediately. The article *What's my bathroom scene* (p.86) described the exciting evolution in the domestic bathroom with 'smart technologies'. However, when I came to the section in the article titled 'Technology in the toilet' and the new developments in that particular bathroom component, I contrasted it with what I read earlier in the piece titled 'New Standards for changing times' (p.30). What I discovered in this second piece was that the national Standard has now mandated that "...all toilets now installed should be dual flush with no greater than 6/3L flush volume as specified in ASA1172.2.10.3.2..." I recognise that dual-flush has been a major path to water use reduction in Australia for a very long time. But, as a professional engaged in water efficiency initiatives in North America, it seems to me that the requirement for dual flush no longer fits with the 'evolution' of the bathroom described in the other piece. In fact, mandating a specific design technology (other than for health and safety reasons) is design restrictive and can seriously thwart innovation. After all, the 6/3L mandate is intended to minimise water consumption at the toilet fixture, yet alternate designs exist that use less water and remove the user behavioural factor from the equation.

In North America, we have learned that the 6/3L fixture is flushed at a ratio of about 1:1. That is, one full flush for every reduced flush. (In fact, this is confirmed in Australia by the 2004 Yarra Valley Water Residential End Use Measurement Study, where similar ratios were measured.) Thus, a 6/3L fixture would experience a 4.5L effective flush volume in everyday use in a domestic application. Similarly, a 4.5/3L dual-flush fixture would experience a 3.75L effective flush volume. Yet, hundreds of different single-flush fixture models are now readily available in North America that use 3L to 3.8L. With our plumbing systems (which are not that much different from the Australian systems), these toilets function efficiently to remove and transport waste in domestic applications without relying upon user behaviour to choose a full or reduced flush. The question then becomes: why mandate a specific design that leaves product manufacturers without the opportunity to innovate? To achieve optimum water use efficiency, the philosophy should be to mandate an outcome (eg. maximum water consumption, bowl cleansing, etc.), not a particular design.

So, while other elements of the domestic bathroom are evolving, thanks to manufacturer innovation and creativity, the toilet remains 'locked' into a requirement that I believe forestalls such innovation. Maybe it's time for that to change. ■

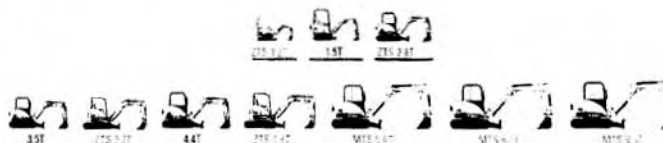
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