

Saving Water, Saving Money: Toilets and Urinals

Water series

Water is a precious natural resource and the cost of water will inevitably continue to rise, considering increasing energy costs and the effects of climate change. Cutting down on water consumed in your business saves you money, especially if you are on a water meter, while also reducing associated environmental impacts. Toilet and urinal flushing can use quite a lot of water, especially in a business with a significant number of toilets, like accommodation providers or large visitor attractions.



Water efficient toilets

Most toilets manufactured since 1991 should be using no more than 6 litres per flush, but some older cisterns can use up to 13 litres per flush. Check your cisterns to see how much water they use.

Best practice would be a full flush of no more than 4.5 litres and building regulations dictate a single flush toilet should be no more than 6 litres.

You can reduce the amount of water used for each flush with volume adjusters or flush mechanisms.

Volume adjusters

To reduce the amount of water used for a flush, you can fit a volume adjuster. Cistern volume adjusters, like 'Hippos', 'Save-a-flush', or even a filled plastic bottle, can be put into the cistern to off-set 1 litre of water per flush or more. Make sure they are placed properly and do not interfere with the flush mechanism.

Alternatively, a cistern dam can be used to block off a larger proportion of the cistern, again reducing water per flush. This is recommended for use in larger cisterns.

Flush mechanisms

Flush mechanisms like dual flush gives users the choice of two flush volumes – usually 6 and 4 litres, or even less. Ensure there is clear labelling to avoid confusion and misuse. Some dual flush mechanisms can be retrofitted relatively easily.

Top tip:

If you are installing new toilets (and urinals) as part of a refurbishing program, make sure you get the most efficient ones possible. For information on the range of **water saving technology** and related enhanced capital allowances available, please see the Water Technology List <http://wtl.defra.gov.uk>

Water efficient urinals

If you have urinals in your business it is well worth reviewing the flush controls in place. Urinals are often set to flush regardless of use. This wastes a lot of water – especially out of hours. Typically, uncontrolled urinals will flush around three times per hour, every day of the year. For example, a urinal with a 7.5 litre cistern will be using 197m³ water/year, costing £417 on average in water charges; for larger cisterns this would be even more.

A number of devices can be used to control flush frequency, many which can be retrofitted, and can reduce water use by 75% or more.

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Passive infrared (PIR) sensor

A passive infrared (PIR) sensor can be installed in the washroom to detect when the urinal is used. The sensor controls a solenoid valve that allows a pre-set amount of water into the cistern per use. When the cistern is full the urinal flushes. This allows you to set it to flush after each use or even a certain number of uses. During periods of non-use (i.e. out of hours), the device can be set to deliver a hygiene flush. A PIR sensor costs about £120 and is generally easy to retrofit to existing systems. The PIR sensor can be operated by battery (lifetime of 3 to 4 years) or mains electricity.

A passive infrared (PIR) sensor can save up to 75% of water for the urinal flush.

Hydraulic valve

A hydraulic valve can be fitted to the inlet pipework of the urinal system. When the inlet water pressure decreases temporarily through water being used elsewhere in the washroom (e.g. WC flushing or hand washing), the diaphragm-operated valve opens, allowing a pre-set amount of water to pass to the urinal cistern. When the cistern is full, the auto-siphon will discharge and flush the urinal. When the washroom is not being used, the pressure remains constant so the valve remains closed.

Waterless urinals

Waterless urinals can be stylish, effective and odour free, if installed correctly, and can achieve the most significant water savings. There are different systems available to make a urinal waterless, some which can be retrofitted. Waterless urinals can require a specialised cleaning regime, but often require less maintenance overall. They may not be a suitable option in every situation, but well worth considering, as water savings of 90% or more can be achieved.



Further Advice

For more information on water saving opportunities see:

Resource Efficient Scotland – How to make quick water savings www.resourceefficientscotland.com/content/key-task/make-quick-water-savings

Zero Waste Scotland – Implementing a water minimisation programme guide www.zerowastescotland.org.uk/content/implementing-water-minimisation-programme-0

For further advice contact Resource Efficient Scotland, www.resourceefficientscotland.com or call 0808 808 2268.

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