

Resilient Building Toolkit Adaptation Measures Factsheet

Name and description of measure: Water saving toilets & urinal controls

Toilets account for about 90% of water use for offices and public conveniences. As from January 2001, all new toilets installed in the UK had to have a maximum flush of 6 litres. Urinals can account for about 20% of office water use; many urinal controls can reduce water use by up to 75%.

In order to further reduce the amount of water used during flushing, measures such as delayed action inlet valves which save water by preventing the cistern refilling until the flush is finished or a duel flush feature which gives the user a choice as to the amount of flush required to empty the pan can be employed. Toilets equipped with pressure-assist technology are also an option. The pressure-assist system consists of a plastic pressure tank mounted inside the toilet tank, which compresses air as it fills with water.

The compressed air forces the water into the bowl when the toilet is flushed and the pressure-assist unit uses this force to push waste out, creating a vigorous flushing action which uses one gallon of water per flush.

Cistern displacement devices (CDDs) are often low cost (or free) and are easy and quick to install, they displace approximately one litre of water every time the toilet is flushed.

Urinal controls are used to control the flow of water through urinals. They use can use ultrasound or infrared sensors and/or timer controls with flush control valves to prevent unnecessary flushing when the urinal is not in use and minimal flushing when it is in use. Some systems are triggered by variations in water pressure or flow, caused by taps being used.

It is important to consult with the installer to procure the most appropriate system for your building, and to ensure that it is fitted correctly. Some measures, such as valves which shut off the supply when the urinals are not in use, only work effectively if staff hours are very predictable, others such as those which rely on motion sensors require batteries to be checked regularly.

Cost of measure (high, medium or low):

Low – Medium depending on the toilet/measure

Pros and cons:

Duel flush:

Pros: Saves water and allows options in terms of flushing. Can be retrofitted for as little as £15

Cons: If the valves become faulty, unless rectified, they may leak water continually down through the pan. Requires regular maintenance to check this. They also rely on users to use the low flush option appropriately. Need regular cleaning to ensure optimum performance.

Pressure assist toilets:

Pros: Saves water, stronger flush and higher water level left in the bowl reduces the risk of residue and odours.

Cons: More expensive than duel flush models (approx £150)

Cistern Displacement Devices:

Pros: Quick and easy to fit, often available free from water companies and saves a litre of water each flush.

Cons: Cannot be fitted in duel flush toilets

Urinal controls

Pros:

Substantial water and cost savings available
Relatively short payback period

Cons:

Need to ensure that there are monitoring processes in place to ensure that measure continues to be effective.

Also need to be aware of the lifespan of the product to ensure that it can be replaced in a timely fashion.

Effectiveness of measure (high, medium or low):

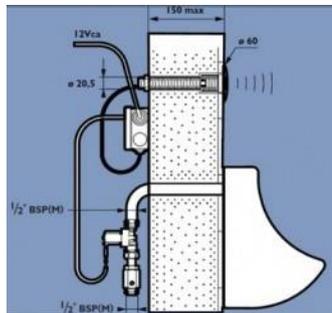
High

Photos:

Water saving toilet devices



Urinal controls



Product review site:

<http://www.which.co.uk/energy/creating-an-energy-saving-home/guides/how-to-use-less-water/water-saving-devices/>

<http://www.thegreenage.co.uk/tech/water-saving-toilet/>

Case study and contact:

Winchester City Council have installed water saving toilets, contact Paul Cooke, Energy Manager, Estates.