

5 taps



Around 20 per cent of domestic water flows through sink and basin taps. A good deal of this (usually hot) water goes down the plug hole without performing any useful purpose. With long, un-insulated pipe runs a lot of tepid water can be wasted whilst waiting for the tap to run hot (or cold).

Spray taps can save about 80 per cent of the water and energy used for hand washing but they can restrict the flow too much to fill the basin quickly. A clever invention that aims to address this problem is the Tapmagic insert, which can be fitted to most taps with a round outlet hole or standard metric thread. At low flows, the device delivers a spray pattern suitable for washing hands or rinsing toothbrushes. As the flow is increased, the device opens up to allow full flow to fill the basin.

Another innovation is a water-saving cartridge for single-lever mixer taps. As the lever is lifted, resistance is felt. If a higher flow is needed, the lever can be pushed past this step. Some designs make sure that only cold water comes out when the lever is in the middle position.

Where water is supplied at mains pressure, an aerator or laminar flow device can eliminate splashing. These devices can incorporate flow regulators and provide the illusion of more water than is actually flowing. Available flow rates for basin taps include eight, six and five litres per minute. All provide plenty of flow for using directly or filling a small basin.

Other considerations

- In hard-water areas, sprays may need de-scaling regularly to make sure that they do not become blocked.
- To avoid long delays while water runs hot, pipes to spray taps should be close to the source of hot water or pumped loop.
- Because of the low flow rate, smaller bore pipes can be used, further reducing the dead-leg.

Commercial washrooms

About a third of the water used in every office comes through the tap. Installing taps with high quality flow regulated sprays can reduce this amount by up to 80 per cent. Taps with a standard M22 or M24 outlet thread can easily be fitted with sprays, and round outlets can be adapted. When installing new taps, specify models with metric outlets, as this allows the flexibility to add a range of outlet devices such as sprays and aerators.

Sensor taps and timed turn-off push taps prevent wastage and flooding where taps may be left running. They also offer improved hygiene, as the tap does not have to be touched after hands have been washed. To make sure savings are achieved and the user is satisfied, the fitting must suit the water pressure and allow for correct adjustment.

Legionella

Concern has been raised that spray fittings and aerators might introduce a risk of Legionella by creating aerosols that could be inhaled. In practice, well-designed and regulated spray fittings provide a very gentle flow with little or no splashing. Laminar flow fittings are an alternative to aerators for high-risk applications such as care homes.

The temperature of the water is an important factor in the occurrence of Legionella outbreaks. Sufficiently hot water will kill off the Legionella. Also, regular de-scaling and regulating the flow of water to taps will reduce the amount of aerosol droplets produced, which is how Legionella usually enters the body.

Water sitting in warm pipes for long periods is another concern that could be made worse by reduced flows. However, good water and energy efficient design aims to reduce dead legs and these issues should be considered on a case-by-case basis.

The Building Services Research and Information Association (BSRIA) has produced guidelines for temperature with respect to outbreaks of Legionella (see further information, below). For low-usage applications, sprays are not recommended and would offer minimal savings.

Further information

Guide to Legionellosis – Temperature Measurements for Hot and Cold Water Services, BSRIA Application Guide 4/94

Health & Safety Executive, Legionnaires' disease
www.hse.gov.uk/legionnaires