

Smart hand dryer's energy efficiency cuts cost of ownership

Facilities managers are a rare breed. Like most people they wash their hands several times a day; but, unlike most people, they are likely to think about the costs involved! Neil Butler of Mitsubishi Electric likes to help them by pointing out the modest energy consumption of his company's Jet Towel hand dryers.

Drying one pair of hands never uses a great deal of energy. But in public buildings where the washrooms are in regular use for perhaps eight, 12 or more hours each day, these small energy usages can add up to a very significant cost.

As a rule of thumb, in an office or other place of work, each person is likely to wash and dry their hands about every two hours, or four times during a typical working shift. At a visitor attraction, most visitors will use a hand dryer once or twice. In such places it is therefore fairly easy to estimate the total number of hand washes per month or per year – and therefore the energy requirement.

To reduce such energy costs (and the related environmental impact) Mitsubishi Electric has developed and constantly refined the Jet Towel range of hand dryers. The original version, Slim, was the world's first 'hand in' dryer; instead of using hot air to evaporate water from hands, it produces a high speed laminar air flow that wipes the water off.

This technique proved to dry hands in about one-third the time of conventional dryers, so produced an immediate and significant energy saving. Mitsubishi then applied its development philosophy of constant improvement and steadily optimised the air flow through the design of the nozzles and the introduction of a very efficient motor to drive the fan. The net result of this is that energy consumption is about one-tenth that of a hot air dryer.

Recently Mitsubishi Electric introduced a new version of Jet Towel, the Smart hands-under style, to complement the Slim hands-in. This offers similar energy and cost savings to facilities managers, so let us look at their potential compared to both traditional hand dryers and to paper towels.

Smart vs conventional dryer

Smart is available with heated and unheated air flow; here we will consider the heated version. Full data is tabulated below, but notably the power consumption of a Smart is 980W and drying time is 9 seconds, compared to 2400W and 30 seconds for a hot air dryer. If we assume an electricity charge of 10p/kWhr and 500 uses every day of the year, the operating costs of a Smart clock in at £45.54p, while a conventional dryer will cost £365.80p – over eight times as much.

If you factor in purchase price, life expectancy etc you can see from the graph below that a Jet Towel Smart will save its operators more than £2,000 over the course of its working life. Given that most public facilities will have multiple hand dryers, this is a very significant saving.

Smart vs paper towels

A similar comparison can be drawn with paper towels. We can take the same cost of electricity and same usage rate and compare this to towels, which cost about 0.4p each. Over a year, the Smart will again cost £45.54p, while the bill for paper towels will be £1,460 over 30 times as much (and four times as much as a hot air dryer). Over the life of a Mitsubishi Electric Smart hand dryer, this amounts to a saving of nearly £9,600.

Savings like these are almost the stuff of a facilities manager's dreams, but there are other benefits from opting for a Jet Towel solution too.

For instance the speed of drying encourages users to dry their hands completely rather than only partially. This reduces the spread of germs and likelihood of skin irritation and means Jet Towel is better able to cope with sudden rushes of users, as is almost inevitable in many locations.

Also Jet Towel maintenance and servicing requirements are low, requiring little more than a wipe down and emptying of the small drain tank at the bottom. In short, through Jet Towel Smart and Jet Towel Slim Mitsubishi Electric is offering a significant advance on the state of the art, while also cutting facilities costs considerably.

Image Captions:

Image 1:

Graph depicting the pay back times associated with a Jet Towel Smart hand dryer.

Image 2:

Graph depicting the pay back times associated with a Jet Towel Slim hand dryer.

The image(s) distributed with this press release may only be used to accompany this copy, and are subject to copyright. Please contact DMA Europa if you wish to license the image for further use.

About Mitsubishi Jet Towel

Mitsubishi Electric's first Jet Towel was launched in 1993 and the version now available in Europe is in the eighth generation of its development. It has proved a winner with installers for its high tech elegance, with operators for its low running cost and reliability, and with users for its convenience, speed, hygiene and innovative design. The Jet Towel has high environmental credentials, avoiding the use of paper towels or rolled cloth and lowering power consumption and noise levels to a fraction of alternative hot air dryers.

Further Information

Website: www.jettowel.co.uk

Email: jettowel@meuk.mee.com

Editor Contact

DMA Europa Ltd. : Carolin Heel

Tel: +44 (0)1562 751436

Web: www.dmaeuropa.com

Email: carolin@dmaeuropa.com

Company Contact

Mitsubishi Electric Europe B.V. Automation Systems Division : Neil Butler, Business Development Manager

Tel: +44 (0) 7860 400932

Web: www.jettowel.co.uk

Email: neil.butler@meuk.mee.com