

Sorry New York, your paper towels aren't as hygienic as you may think...



Grabbing a paper towel in a public washroom may leave you with more on your hands than you bargained for. New research commissioned by Dyson shows that paper towels can harbor bacteria, which can be transferred to your hands, mouth and face. In analyzing paper towel samples from around the world, the study found the dirtiest paper towels in Paris, with 99% of unused paper towels containing bacteria. Close behind was New York with 88%, Chicago with 70%, and Shanghai with 45%.

Toby Saville, Dyson microbiologist: "Hand washing is an important part of hand hygiene. But drying your hands is equally as important. Paper towels can contain bacteria, which are rubbed straight onto your hands. If a hand dryer with a HEPA filter is used, such as the Dyson Airblade™ hand dryer, clean air is directed onto hands, leaving them clean and dry without the need of touching anything."

Research in the US was carried out by the Accugen Laboratory Chicago and SGS laboratory New York. Paper towels were taken from restaurants, retail stores, luxury hotels and hospitals in each city.

But it's not all about the environment in which these paper towels are held. A study in The American Journal of Infection Control shows that paper towels can actually pick up bacteria during the manufacturing process¹. The findings also concluded that the bleaching process for recycled paper does not significantly reduce the concentration of bacteria. In fact, the numbers of microorganisms in recycled paper were up to 1,000 times higher than in virgin paper towels.

Hands are a major vector for harmful microorganisms, with 80% of infectious diseases being transmitted by touch². Damp hands can spread 1000 times more bacteria than dry hands. Therefore drying your hands becomes increasingly important. Dyson Airblade™ hand dryers dry hands quickly, effectively and hygienically using:

¹ Lifting the lid on toilet plume aerosol: A literature review with suggestions for future research. David Johnson, Kenneth Mead, Robert Lynch, Deborah Hirst, 2013.

² <http://www.infectioncontroltoday.com/news/2012/09/infographic-tells-the-story-of-us-hand-hygiene-practices.aspx>

Airblade™ technology: sheets of high velocity unheated air travel through tiny apertures at 420mph quickly scraping water from hands like a windscreen wiper, leaving them dry.

HEPA filters: The Dyson Airblade™ hand dryer passes washroom air through a HEPA filter to remove 99.97% of particles as small as 0.3 microns from washroom air before it's blown onto hands.

The Dyson digital motor V4: a power dense brushless DC motor, utilizing a bonded magnet encased in a carbon fiber sleeve. It is one of the world's smallest and fully integrated 1600W motors. Using digital pulse technology, it accelerates from 0-90,000rpm in less than 0.7 seconds.

Notes to Editors

Research, Design and Development

Dyson's Airblade hand-dryer range is the result of nearly 3 years' intensive R&D by a team of 125 Dyson engineers and an investment of \$56m. Dyson has over 100 engineers in its in-house motors team and continues to invest \$14m a year into motor R&D. The latest Dyson digital motor cost \$38m to develop. In its lifetime the digital motor inside a Dyson Airblade™ hand dryer can move around 162,000 m³ of air – enough to fill 26 million balloons³.

Airblade Technology

Sheets of high velocity unheated air travel through 0.8mm apertures at 430mph quickly scraping water from hands, leaving them fully dry.

HEPA filters

The Dyson Airblade hand dryer passes washroom air through a HEPA filter to capture 99.97% of particles the size of bacteria, as small as 0.3 microns before it's blown onto hands.

Hygiene

Warm air hand dryers use 60 year old technology that relies on evaporation to dry hands. Washroom air, which can contain germs, is heated up and blown onto people's shoes, clothes and freshly washed hands.

Testing

Dyson engineers created over 3,300 prototypes across the Dyson Airblade range and every component was subjected to hundreds of tests. Dyson's unforgiving test team was tasked with finding faults and weakness and paying attention to detail – they simulated washing hands 213 million times.

Video

www.dyson.com/hand-dryers/paper-hygiene.aspx

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³ Based on standard nine inch party balloons.

