

ENTERPRISE

Electric Hand Dryer Takes Steps to Blast Paper Towels

Excel Readies a New Model That Will Drastically Shorten Drying Time

By RODNEY HO

Staff Reporter of THE WALL STREET JOURNAL

The electric hand dryer is the public restroom's version of the Yugo: slow, ineffective and easily mocked.

But one small manufacturer, Excel Dryer Corp. of East Longmeadow, Mass., is attempting to spiff up the much-vilified machine and make it purr like a Ferrari.

Paper towels take an average of 12 seconds to dry hands, studies show. But force people under a hand dryer, and the ritual can take an interminable 45 seconds to work. No surprise that most people don't bother sticking around that long, leaving their hands cold, clammy and still wet.

"I don't know that I've ever had a hand dryer actually dry my hands," says Newport Beach, Calif., product developer George Margolin, who has never waited 45 seconds. "Perhaps a finger or two, but a hand?"

Hand-dryer makers have the unenviable task of selling a product almost nobody likes. They acknowledge that nine out of 10 people opt for paper towels when given a choice. And when paper towels are absent, many seek alternatives such as toilet paper. Lain Ehmman, a Boston mother of two, grabs wads of napkins before entering washrooms at fast-food restaurants that she knows use hand dryers, such as the local McDonald's. (McDonald's Corp. says it gives its franchisees the option to use either paper towels or hand dryers.)

Excel, the No. 2 hand-dryer manufacturer, has found a way to shorten the drying process to a mere 10 to 15 seconds, giving it a fighting chance against the paper towel, which dominates about 95% of public washrooms. The company introduced its XLERator dryer at a recent trade show where representatives from Home Depot Inc., Walt Disney Co., Marriott International Inc. and other washroom operators asked to schedule special demonstrations. Even Randy Cordova, president of Excel's larger rival World Dryer Corp. of Berkeley, Ill., was impressed enough to jokingly tell Excel President Denis Gagnon: "If it works out, we might have to partner with you."

Excel's current customers are mainly places that care more about dollars and cents than the end user's comfort. Vandal-prone schools, prisons and fast-food places extol hand dryers because they save money on janitorial maintenance and paper-towel costs.

But paper-towel manufacturers are

unperturbed-and for good reason. "Hand dryers have a serious perception problem to overcome," says Andy Clement, a Kimberly-Clark Corp. spokesman.

Kimberly-Clark helped finance a 1998 study that shed a negative light on hand dryers. The study by the University of Westminster, London, found that older hand dryers that aren't well maintained can increase bacteria on hands. "Since the inlet is in the same room as the outlet, bugs from people's hair and skin get sucked in and blown back out onto people's hands," says Keith Redway, a British microbiologist, who doesn't recommend hot-air dryers in sensitive areas such as hospitals and food-preparation areas.

Mr. Gagnon, the Excel president, dismisses the study as full of hot air. Dryers, he says, are hot enough to kill off ambient bacteria and have fewer germs than the sink, citing an independent 1991 University of Ottawa study contradicting the Westminster report.

The prototype, which Excel plans to have in production by the end of the year, is larger than a typical hand dryer and is shaped, as Mr. Gagnon says, "like a horse's behind." With a circular nozzle coming out of the bottom, the machine pumps out air several times faster than a typical dryer.

At the Construction Specifications Institute trade show in Atlanta last month, Excel gave passersby a literal hands-on demonstration. Testers washed their hands and tried a regular hand dryer, then rewet their hands and used the XLERator. An Excel representative held a yellow stopwatch to prove that the new dryer is three times faster.

"It's like a rocket!" says Jerry Cicciari, a Commack, N.Y., architect, as he dries his hands in 15 seconds, compared with 50 seconds on the old one. He notes, however, that the machine is too loud, measuring in at a whining 90 decibels — about twice as loud as many current models.

Mr. Gagnon, a 50-year-old former toy marketing executive for Hasbro Inc. who bought Excel in 1992, grins and apologizes for the noise. He says the machine is being redesigned to be quieter.

The hand dryer, invented in 1948 by Chicagoan George Clemens, has gone through only minor improvements over the years, the most recent being the no-touch sensor. The industry sells no more than \$40 million a year in the U.S.

It took the prodding of Invent Resources

Drip vs. Dry

Average time people spend drying hands with a:

	HAND DRYER	PAPER TOWEL
Men	20 seconds	12 seconds
Women	25 seconds	9 seconds

Percentage of dryness achieved:

Men	55%	96%
Women	68%	93%

Average time to achieve 95% dryness:

Both Sexes	43 seconds	12 seconds
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Source: University of Westminster, London

Inc., a Lexington, Mass., research and development group, to get Excel into the faster hand-dryer game four years ago. Mr. Gagnon, who says his company generates about \$4 million a year in revenue and is profitable, said he would go for it if Invent Resources could create a maintenance-free, cost-effective product. So far, Excel hasn't pinpointed the final cost but hopes to sell the XLERator for no more than \$550, or about 25% higher than its priciest model currently.

To bolster the product, Invent Resources got a patent and produced a 10-page paper explaining the science behind the new machine. Its study says there are two types of water left on your hands after you wash: loose droplets and a "stagnation boundary layer" that adheres to the skin. That stagnation layer takes a long time to dry off using old dryer technology. The new dryer first blasts air to knock off the loose water within three seconds. Then as the heat rises to a hot-but-not-scorching 135 degrees, the combination of evaporation and the force of air breaks apart the second layer in 12 seconds or less.

The question of speed, however, matters little to some clean freaks. Rene Donlan, a self-described germaphobe working at the Luther College library in Decorah, Iowa, which has only hand dryers, says she prefers paper towels so she can also palm the germ-ridden doorknob, fearful that some people don't wash their hands at all. She ends up braving the naked doorknob, then hurrying to another sink near her desk. "I will wash my hands again there and use a paper towel to dry them," she says.