

# dyson



## THE MARKET

For nearly 80 years, vacuum cleaners lost suction. Since their inception, traditional bagged vacuums would clog and lose the power that gave them their function . . . until 1978, that is. Frustrated with a so-called top-of-the-line vacuum cleaner that clogged and lost suction, James Dyson ripped apart its vacuum cleaner bag and began the first of 5,127 prototypes. Fifteen years later, after doggedly working to develop and perfect his cyclone technology, James Dyson launched in 1993 the DCO1, the first vacuum that never loses suction.

Instead of relying on bags and filters that clog with dust, James Dyson's vacuum cleaners use patented cyclonic technology and centrifugal force to separate dirt, dust, and debris from the air. Within two years of going on sale, DCO1 was the best-selling vacuum cleaner in the United Kingdom, its success fueled by word-of-mouth recommendations. Dyson vacuum cleaners can now be found in one in three U.K. homes.

Fast forward to 2002: Dyson launched in the United States with DC07. By December 2004, Americans made Dyson vacuums the market leader in floor care. As of 2006, Dyson is still number one by dollar volume, capturing over 21 percent of the U.S. upright vacuum cleaner market (*NPD Houseworld 2005*). Dyson vacuum cleaners are now available in more than 40 countries. They are best-sellers in the United States,

Europe, Japan, and Australia. Most recently, Dyson launched in Canada.

## ACHIEVEMENTS

Dyson shook up the vacuum cleaner industry by introducing a vacuum that relies on cyclone technology to separate dirt from the air rather than storing it in bags and filters. Dyson has over 1,100 patents on its technological achievements and patent applications for more than 150 inventions.

In the past 13 years, Dyson and his inventions have received numerous awards including Philanthropist of the Year in 1997, *Design Week's* Designer of the Decade in 1999 and 2000, the Japan Industrial Designers Association award in 2002, the Giant of Design award from House Beautiful Awards in 2004, and the Bottom Line Design Award from Business 2.0 in 2005.

Dyson vacuums are exhibited in museums around the world, including the New York Museum of Modern Art, the San Francisco Museum of Modern Art, the Science Museum in London, Paris's Centre Georges Pompidou, and the Danish Design Centre in Copenhagen.

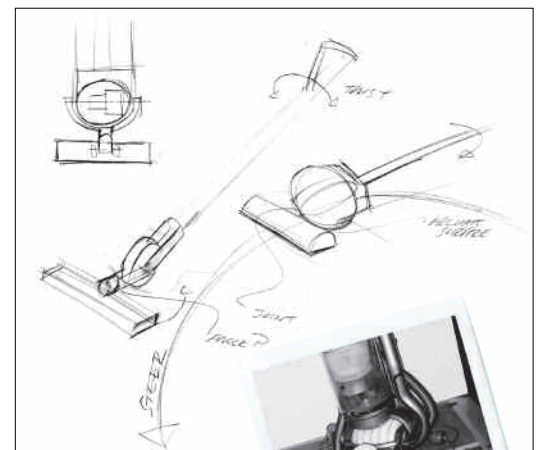
The James Dyson Foundation was established to support design and technology-related education, as well as scientific and medical research. The foundation raised a total of \$3.2 million for

Breakthrough Breast Cancer while supporting Sir Ranulph Fiennes's Antarctica Solo expedition, and brought in nearly \$3.7 million for the Meningitis Research Foundation. Between 2003 and 2005, Dyson raised almost \$1 million for the charity CLIC (Cancer and Leukemia in Childhood).

Every year Dyson engineers worldwide go into schools and universities to hold workshops on design engineering. More than 800 young people are given hands-on experience as design engineers every year.

## HISTORY

James Dyson has always focused on developing technology to make products work better. In 1969, while studying at the Royal College of Art, James

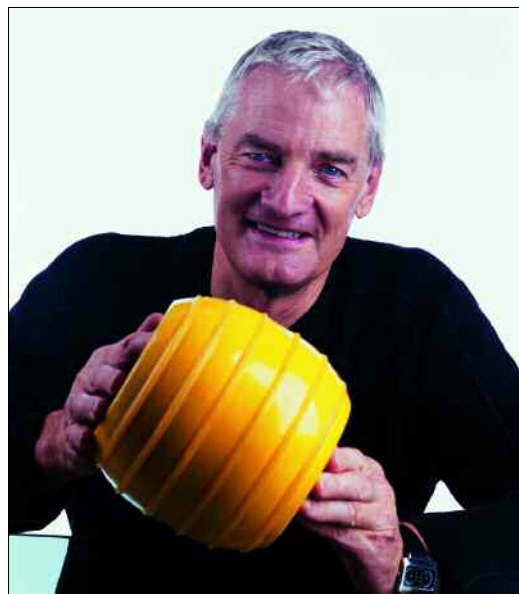


Dyson helped design the Rotork Sea Truck, a flat-hulled, high-speed landing craft. Jeremy Fry, Rotork's founder, taught James about experimentation and step-by-step development.

James Dyson invented the Ballbarrow in 1974. The Ballbarrow had a ball instead of a wheel, preventing it from sinking into soft ground, as well as big feet (giving it stability) and a tough plastic bin that didn't rust.

In 1978, when renovating a new home, James became frustrated with his new vacuum cleaner. It clogged and lost suction, not to mention letting out a dusty smell and making a mess. But James turned this frustration into a quest to finally develop the first vacuum cleaner that did not lose suction.

After five years of frustration, obsession, and creation, he perfected his cyclone technology. James met with the major vacuum cleaner manufacturers, who each dismissed his invention, realizing perhaps that such technology could void the revenue stream created from the perpetual purchase of replacement vacuum cleaner bags that traditional vacuum cleaners required.





biggest step forward since DCO1. Traditional uprights are rigid, cumbersome, and tiring to use. With The Ball, Dyson engineers have placed the body of the machine, which houses the motor, its center of gravity, on top of a ball. This design gives the machine great maneuverability; cleaning is more efficient as The Ball quickly zig-zags around furniture.

#### PROMOTION

Dyson sales are based on word of mouth and store staff recommendations. Marketing at Dyson is about exploring technology and showing people why the machines are different.

In the words of founder and designer James Dyson:

*For me the best designs are the result of someone questioning everything around them — looking at the same things as everyone else but thinking something different. Good design is about how something works, not just how it looks. You can easily fall out of love with something if it doesn't work properly, but you stay in love with something that performs and works properly.*

A Japanese company finally saw James's invention for the technological revolution it really was. Licensed in 1986 under the name of G-Force, the pink and lavender machines that James designed originally sold for \$2,000 each.

In 1993, using G-Force royalties, James was finally able to set up his own factory in the United Kingdom and start manufacturing his machine under his own name. The first DCO1 rolled off the production line in May 1993 and became an instant success.

James Dyson faced many battles protecting his technology. One major vacuum cleaner manufacturer denounced Dyson's work, saying it wished the company had purchased his concept and put it on a shelf. Then they tried to copy Dyson's technological breakthrough, and Dyson was forced into a long court battle over patent infringement. The major manufacturer was eventually found to have infringed Dyson's design and was ordered to withdraw the offending product from the market and pay compensation of \$7 million.

#### THE PRODUCT

Dyson believes in making things work properly. Dyson's cyclones have evolved into Root<sup>8</sup>Cyclone™ technology, giving even greater cyclone efficiency. Dust and air flow into the main outer cyclone, where the larger particles and fibers are removed. The air then passes through the shroud, which acts as a dust and fluff separator, and then passes into the inner chamber. The air splits into

each inner cyclone where it is spun, creating high G-forces that remove very fine dust. The fine dust is expelled into the center section of the bin. Clean air passes into the top chamber and exits out through the exhaust.

Rigorous testing is fundamental to Dyson. Engineers conduct 30,000 hours of testing every month and use 150 different mechanical test rigs to replicate and exaggerate the home usage of vacuum cleaners. An acoustics team spends all day, every day, analyzing noise and vibration levels in a semi-anechoic chamber. Dyson even has its own replica house.

Dyson also makes machines that are better at preventing and destroying allergens in the home and which are approved for allergy sufferers by the British Allergy Foundation. The in-house microbiology lab has one of the few pure house dust mite cultures in the United Kingdom.

#### RECENT DEVELOPMENTS

DC12 is Dyson's smallest vacuum cleaner. Designed for the Japanese market, it is powered by the Dyson Digital Motor (DDM), a switch reluctance motor that spins at over 100,000 rpm — seven times faster than a Formula 1 car engine. Incorporating aerospace materials, DDM took over six years to develop and, unlike conventional vacuum cleaner motors, has no fixed magnets, no carbon-emitting brushes, and no commutator.

DC15 The Ball™ is Dyson's latest vacuum cleaner and marks the



everyone who joins Dyson has the opportunity to build his or her own machine in their first week. Whether they work in finance, graphics, or engineering, everybody at Dyson understands how their machine works and what makes it different.

#### BRAND VALUES

Dyson's success is attributed to both the tenacity and innovation of James Dyson and the company's commitment to research, development, and design (RDD), which is the core of the brand.

Over one-third of Dyson's employees are engineers and scientists dedicated to developing new and better technology as well as challenging and improving existing technology. In 2005 alone, Dyson invested \$80 million into research and development.



#### THINGS YOU DIDN'T KNOW ABOUT DYSON

- Dyson spent years developing a diesel exhaust that dramatically lowered emission. The cleaner and greener project was cancelled as patent protection would have been problematic against automotive giants.
- The air emitted from a Dyson vacuum cleaner has up to 150 times less bacteria and mold than the air people regularly breathe.
- Dyson engineers have built more than 20,000 prototypes to date.
- Dirt in a Dyson's inner cyclone is subjected to 100,000 G Forces — 43,000 times those experienced by a Formula 1 racing driver.