SLIM DESIGN

Development of Intelligent Products
Vacuum Cleaner

Washing Machine
The founder of SLIMDESIGN, Wouter Konings, was involved in the development of the third vacuum cleaner and the washing machine.

Dyson is technology-driven and approaches and employs an integral development method wherein one team of design engineers develops a product from start to finish.
After the success of DC01 (upright) and CD02 (cylinder) vacuum cleaners, James set out to create a slim model that could reach under furniture, beds and be stowed away by hanging in a closet. Together with a new cyclone system we developed a new clutch, filter system and valve.
The project started with feature analysis. How can we make a vacuum cleaner better? A lot of different ideas were generated but we were only able to implement a hand-full:

- Hanging on the wall to reduce storage room
- Detachable hose to ease unblocking
- Very long extend-able hose
- Detachable cyclone
Other innovations include:

- New bleed valve
- Easy tool storage
- New filter system
- New cyclone
- New clutch
- Better surface adjustment

Brush bar can be disconnected for better use on hard surfaces.
• Bleed valve development
• Cyclone development
• Engineering
The tooling management involved overseeing the tool production on site in Portugal. Checking all the tolerances of the plastic parts and make sure the functionality and visual aspects are according to specification. Because there were to sets of tools there is added complexity in the tolerance build-up.
James Dyson was determined to change the way we wash clothes. With traditional machines, folded jeans often come out still folded. To find a more thorough washing method we tested all possible techniques. The conclusion was that manipulating the fabric, similar to hand-washing, gives the best results. The counter rotation drums mimics this action.

In the end, the use of two motors was too costly, and the machine was withdrawn. But it was a successful feat of engineering, and well loved by those that owned it.

“Don’t be afraid to fail” (James)
With traditional machines, folded jeans often come out in the same way. We tested every washing method possible and came to the conclusion that a hand wash action gives the best result. The counter rotation drums mimic this action.

Clothes are manipulated so detergent can reach between the fabrics and folds.
As with all projects we analysed how we can make the product better. Different ideas were generated but we were only able to implement a handful.

- Visible coin trap
- Push-Push detergent tray
- Big door opening
- No dirty seal
- Double door
- Easy to manoeuvre
- Paddles to manipulate the cloths
Dirty water collects in folds and leaks out
Difficult to pull clothes over
Rubber can rot and perish
Clothes get trapped / damaged
Seal twisted out of shape

Large rubber bellows seal
Seal twisted out of shape
Clothes get trapped / damaged
Rubber can rot and perish
Difficult to pull clothes over
Dirty water collects in folds and leaks out

Big opening, smooth plastic lip

The biggest innovation is on the inside. Making loading the wash easier, reducing damage to cloths and making it possible to wash a large duvet.

- Big door opening
- Big drum (for large loads)
- Smooth plastic lip
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