

SOMETHING IN THE AIR

Too hot? Too cold? Always coming down with a something? **Rachel Calton** investigates personalised ventilation (PV)

When trends like workstation personalisation dovetail with green office initiatives, you just know it's a zeitgeist moment. So when personalised ventilation systems were mentioned – midway through a Sustainability in the Workplace briefing by Christine Taylor, head of research at Building Zones (part of the Cordless Group) – our spirits, flagging in the mid-summer heat, picked up.

Personalised ventilation (PV) is an initiative from Danish air-con specialists Exhausto, and according to them, the first product of its kind on the market.

The system works to achieve individually regulated, personal work climates, whereby you receive fresh outdoor air directly to your workplace, through a desk-based, air distribution device.

"Each one is connected to a central ventilation system, so you can install the system in new or existing builds," explains Troels Gert Nielsen, Exhausto's PV systems director. "It's a way of bringing fresh outdoor air directly to the individual workplace."

Usually before air reaches you it has been polluted by all sorts of contaminants. This is not just the airborne germs exhaled by your colleagues – IT equipment and electronics also emit particles into the air we breathe.

But PV is not just a product born from a group of designers with a hypochondriac tendency. Exhausto has developed PV in cooperation with the Danish Technology University (DTU), and in particular the International Centre for Indoor Environment and Energy (ICIEE).

"Research into the benefits of locally ventilating a workplace has been underway for almost ten years at the centre," Nielsen explains. "Two years ago we came up with a product that turned the research into a tangible solution."

The company, which has over 50 years' experience in ventilation and chimney draft technology, already produces a product portfolio of fans, air-handling units, chimney fans and automatic control devices, with a turnover of €45 million. **8**



1 As well as saving on energy costs, personalised ventilation is better for employee health, leading to fewer days lost through illness

2 A simple, desk-based device can deliver cool air directly targeted to the individual

3 Personalised ventilation systems fit unobtrusively into the modern office

4 PV works equally well in large spaces such as trading-floors and in smaller, private offices



Its interest in PV stemmed from research that showed that in more than half of all newly built office blocks the employees complain about bad indoor climate; while open office environments improve connectivity, they can have undesired effects of bad air quality and heat problems.

“The air supply is often far away from the employee and in these environments there is limited control for the individual, and many other people breathing in the air before you do,” Nielsen explains.

Exhausto has just completed the installation of personalised ventilation for 250 people at the Saxo Bank HQ in Copenhagen, and is hoping to do the same for its London offices. “It is a product very much suited to trading floors,” says Nielsen.

Two further installations, on the other hand, one in its own HQ and one in Copenhagen-based company Magnus Informatik, both cater for just 30 employees.

The challenge with Magnus Informatik was that it was an old building, with a lot of IT equipment and a bad indoor climate, Nielsen explains: “Hot in the summer and stuffy in winter, compacted by a low floor-to-ceiling height. Personalised ventilation, although still in its early stages, has given employees a much better indoor working climate.”

The UK and Germany are the two key markets Nielsen is targeting next. The added advantage, and the reason why PV has been picked up here by consultants, is its potential energy savings.

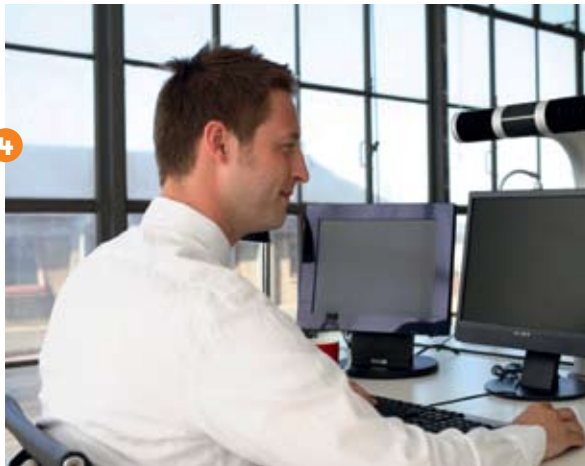
“When you walk outside and there is a breeze, the moving air makes you feel that the air temperature is around five degrees cooler than it is. It’s called the ‘chill factor,’” says Nielsen. “The same effect is achieved with PV. With air moving towards your face you feel the air temperature is colder than it is. This means you can leave the temperature of the rest of the room and the corridors at a few degrees higher, reducing the general cooling required.”

The return on investment comes firstly through energy savings, and secondly from a decrease in illness and sick days. Research carried out by the DTU shows that PV can potentially save 17 to 48 per cent of the energy used in the cooling of buildings.

Nielsen explains that instead of a whole building needing to be kept at 23° C for everyone to feel happy, if individuals are kept cool in their work area, then hallways, for example, can be kept at 25° C or 26° C, thereby reducing energy use.

The ducts themselves – organically shaped anodised aluminium with soft plastic coating – are designed to be as unobtrusive to the desk area as possible.

With the promise of a fresh air supply delivered directly to the desk, soon we may all be breathing a little more easily. **5**



TOP 5 PV FACTS

- 1** Workspaces should be kept at 23° C to keep everyone happy and healthy
- 2** Non-work areas, eg hallways, can be kept at 25-26° C, thereby saving on energy use
- 3** Personalised ventilation can save 17-48 per cent of the energy used in cooling office buildings
- 4** Most office air is polluted with airborne germs and particles emitted by IT equipment by the time it reaches your desk
- 5** As well as cost savings, PV provides cleaner air, so it also reduces days lost due to illness