Vortec also does not have any exposed fan blades, making it safe to touch even when spinning | Photo source NTU Singapore

BLADELESS CEILING FAN USES LESS ENERGY AND KILLS MICROORGANISMS

SUSTAINABILITY

A new fan is capable of cooling a small room at twice the speed of a conventional fan, whilst only using half the energy

Spotted: Researchers at the Nanyang Technological University, Singapore (NTU Singapore) have developed a ceiling fan capable of cooling a small room at twice the speed of a conventional fan (about 100 cubic meters per minute), whilst using just over half the energy (42 watts compared to 75 watts).

Named Vortec, the fan works by sucking cool air from below the fan, diverging the heat and moisture from those sitting underneath. The fan is shaped like a UFO, which allows air to be showered outwards from the top of the spinning vortex, creating an air curtain that falls and cools people around it. Conventional fans only blow air downwards, and people who are at the peripheries of its range don't receive as much coolness as those directly underneath it. Vortec also does not have any exposed fan blades, making it safe to touch even when spinning and able to be mounted lower on the ceiling than a conventional fan.

In addition, an LED lamp in the centre of the fan provides light in different temperatures of white. An ultraviolet (UV) light source also helps to kill microorganisms such as bacteria and viruses, to reduce the spread of diseases through the air in confined spaces. During the lab test, the UV LED lamps produced by Seoul Viosys achieved an impressive 99.9 per cent disinfection of COVID-19.

The Vortec fans are now available to purchase on various e-commerce platforms such as Shopee, where buyers can opt for self-installation or a scheduled installation.

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Takeaway:

Conventional ceiling fans contribute significantly to residential electricity consumption. During one month of trialling Vortec at the Co-Op Café at the NTU Innovation Centre, which is the size of a four-room apartment (90 sqm), utility costs were reduced by an estimated 50 per cent. Ahead of their time when first proposed, Vortec is a clear example of how one sci-fi author's imaginings can inspire the next generation's real-life technology, and even contribute to slowing a global pandemic.