

BREEZE TO MEET YOU

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The mercury is rising for travellers as heatwaves loom in many parts of the world.

South-east Asian countries such as Thailand and Vietnam recorded temperatures exceeding 40 deg C during the pre-monsoon months of March to May. And in recent years, heatwaves during the European summer months of June to August have intensified, marked by drought conditions and wildfire warnings.

In response, more Singapore travellers are turning to portable cooling devices such as handheld fans.

"2025 was a peak year for handheld fans. Many brands, both big and small, started bringing in handheld fans to compete in this market," says Mr Tan Beng Kwee, co-founder and managing director of home-grown appliance brand NNIO Singapore.

He estimates there are now at least 100 brands offering such devices locally, reflecting how competitive the segment has become.

Premium players have also joined the fray. In April, technology company Dyson released its first handheld fan, priced at \$149. The device uses proprietary airflow technology and touts high fan speeds with relatively low noise levels.

The surge in demand comes as the region faces intensifying heat conditions.

In recent years, heatwaves have become both more intense and less predictable. The ASEAN Specialised Meteorological Centre has reported above-average temperatures across parts of the region since March, with elevated heat expected to persist through May.

Extreme heat carries both physical and cognitive risks. Prolonged

exposure can lead to heat-related illnesses such as heat cramps, exhaustion and, in severe cases, heatstroke. Dehydration can also impair concentration and decision-making.

Handheld fans help by increasing airflow across the skin, which accelerates the evaporation of perspiration and provides a cooling sensation. Their portability and affordability make them an accessible option for many.

However, their effectiveness has limits.

Research suggests that in very hot conditions – particularly when air temperatures exceed about 35 deg C – fans alone may not significantly reduce core body temperature, especially in humid environments.

In such cases, more robust measures such as air-conditioning, hydration and access to shaded or cooled spaces remain critical.

Still, for travellers seeking quick, on-the-go relief from the heat, handheld fans are a useful companion. Experts tell The Straits Times what to look out for when choosing one.

LOOK BEYOND SIZE TO ERGONOMICS

Instead of focusing solely on compactness, Ms Winnie Chen, public relations manager at Shenzhen-headquartered outdoor appliances company Aeecooly, says buyers should consider four key ergonomic factors: weight, weight distribution, grip design and material.

She adds that the fan should be light enough for extended use without causing fatigue and feature a "contoured, non-slip handle that reduces hand strain".

Aeecooly's R-shaped Aero Ultra fan (\$34.99), for instance, weighs around 170g and has a circular grip circumference of roughly 12cm. It has won international accolades such as the iF Design Award and Red Dot Design Award in 2025.

By comparison, JisuLife's Handheld Fan Life8 Plus (\$17.99) weighs 125g and NNIO Singapore's U-Mini High Speed Portable Handheld Fan



More Singapore travellers are turning to portable cooling devices such as handheld fans. ST PHOTO: LIM YAOHUI

(\$16.90) weighs 108g. For reference, a basic iPhone 17 model weighs 177g.

Fans weighing around or under 200g are generally comfortable to hold for longer periods. Grip design also matters as circular, well-proportioned handles tend to feel more natural when you are holding the fan, compared with irregular or bulky shapes.

Material choice is another differentiator. Ms Chen says aerospace-grade aluminium offers a good strength-to-weight ratio, allowing devices to remain structurally rigid without adding bulk.

"In practical terms, this means better scratch- and wear-resistance for everyday use, a more premium feel and material that naturally helps conduct and dissipate minor heat from the motor during extended operation," she says.

Stronger materials also help maintain consistent airflow, while lower-grade plastic blades may flex and reduce efficiency over time.

The Aero Ultra fan uses an aerospace-grade aluminium body, while specialist electronics manufacturer Nitecore engineers its NEF Nano fan (\$49) with aerospace-grade alloy fan blades.

Finally, Ms Chen says to consider the fan's weight distribution or "balance point" – where its centre of gravity rests naturally in the hand. Poorly balanced designs – for instance, where the fan head outweighs the handle – can strain the wrist during prolonged use.

A simple way to test this is to place the fan across the centre of your open palm. If it sits steadily without tipping, it is likely to offer better balance and comfort.

KEEP AN EYE ON SAFETY

Handheld fans today can cost as little as 50 cents on e-commerce platform Shopee, but low prices may come with trade-offs.

NNIO Singapore's Mr Tan cautions that ultra-cheap devices may reflect weaker quality control and poorer components, particularly when it comes to batteries.

"The battery may be low quality and not so safe for use. You shouldn't buy a fan based just on price because it could carry risks like being a fire hazard," he says.

Instead, he recommends buying from reputable brands or established electronics retailers, and being cautious about unfamiliar sellers on e-commerce platforms where product standards may be harder to verify.

Certifications can also offer a useful indication of product safety.

Common marks include the China Compulsory Certification, which covers baseline safety requirements for products sold in China, and Europe's Restriction of Hazardous Substances directive, which restricts the use of certain hazardous materials in electronics.

In Singapore, the Consumer Product Safety Office, a division of

the statutory board Enterprise Singapore, administers the Safety Mark, which certifies certain electrical products as safe for local use and distribution.

Handheld fans are not listed among its 33 categories of controlled goods that require assessment, but Aeecooly's Ms Chen says Singapore has a high level of recognition for European standards.

CONSIDER ADDITIONAL FEATURES CAREFULLY

Choose fans with additional features – like LED torches or misting sprays – selectively, as extra functions can add weight or affect portability.

Be especially careful about fans that integrate power banks. Handheld fans in the market are typically powered by lithium-ion batteries, which are efficient but come with safety considerations.

Airlines generally prohibit lithium-ion batteries in checked luggage due to fire risk and require such devices to be packed in carry-on bags instead. These rules are aligned with guidelines from the International Civil Aviation Organization (ICAO), which sets global standards, regulations and policies for air travel.

From April 15, travellers leaving Singapore can take only two power banks in their carry-on luggage. The restriction, imposed by the Civil Aviation Authority of Singapore (CAAS) based on ICAO rules, comes after a spate of cabin fire incidents from lithium batteries in power banks in 2025.

Passengers carrying excess power banks will be made to dispose of them before boarding.

Portable fans with in-built power banks during air travel, says Mr John Tan, lead professional officer teaching in the aviation management degree programme at the Singapore Institute of Technology.

He adds that while handheld fans are currently not being scrutinised like power banks, security checks

are getting more sophisticated and can identify lithium-ion batteries during scans, even if they are not declared.

This means passengers with handheld fans may risk being stopped and having their devices inspected or confiscated. While Mr Tan says this is an area to watch, he does not think rules governing handheld fans in air travel will be implemented in the near future.

"Aviation is not a very proactive industry. So, something likely needs to happen before the rules kick in," he says.

"Airlines or civilian authorities also don't want to be seen as user-unfriendly. So, they rely on international organisations like ICAO or the International Air Transport Association to come up with the rules and, generally, these organisations don't move that quickly."

Other features on handheld fans may be situationally useful.

LED torches can be handy during emergencies or outdoor travel, while niche features – such as fire starters found in some models from JisuLife – may appeal to campers or hikers.

However, these functions are powered by the same battery in the fan and can shorten overall runtime and reduce cooling performance.

Ms Chen says there is potential for fan technology to be improved.

"There is still a trade-off today as stronger airflow usually means more noise because moving air creates turbulence. That said, the balance is improving with better motors and airflow design," she adds.

"For handheld fans, the challenge is greater due to their size and power limitations. Reaching that level of being very quiet and offering strong cooling effects in a compact, portable form will likely take several more years as motor efficiency and airflow engineering continue to improve."

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