

WHEELAIR[®]

COOLING BACKREST





COOL, COMFORTABLE AND IN CONTROL

wheelAIR is the first cooling backrest cushion designed for manual wheelchairs, offering both cooling and extra support.

Patent pending technology based on increasing **convective and evaporative heat loss** allows you to help regulate your **core body temperature** through a combination of **moisture wicking fabrics** and **guided airflow**.

Non-intrusive, adjustable and silent airflow guides the heat and moisture away from your body, leaving you **cool and refreshed**.

Carefully selected **fabrics with an antibacterial finish and foams** enhance your back support, instantly improving posture and comfort.

WHO NEEDS WHEELAIR?

Many wheelchair users who have lost ability to control their thermoregulatory feedback mechanisms struggle with receiving the signs for impending skin damage due to hyper-humidity and hyperthermia. Some wheelchair users are at higher risk of thermal management issues than others, often because of medication, autonomic nervous system dysregulation or a worsening of neurological symptoms.

There is clearly a need for cushions and backrests to have good thermal properties, meaning heat absorption and dissipation, not only for comfort reasons, but also to reduce the possibility of skin ulcer formation. Research shows that both cushion and backrest heat up 7% (2.2°C) within 30 minutes, rising further as time progresses.

At wheelAIR we want to highlight the importance of thermal comfort, and we started by identifying our **three core user groups**: those with **general discomfort**, those with **over-sweating** and those with **over-heating**. All three groups benefit from wheelAIR's long lasting and controllable isothermal airflow as well as enhanced back support.



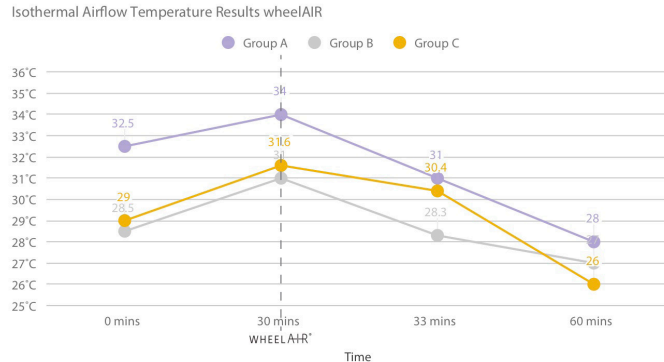
THE WHEELAIR EFFECT

7%

Decrease in back temperature in 3 minutes

16%

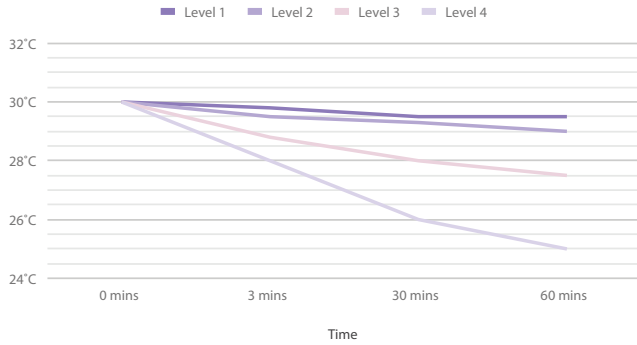
Decrease in back temperature in 30 minutes



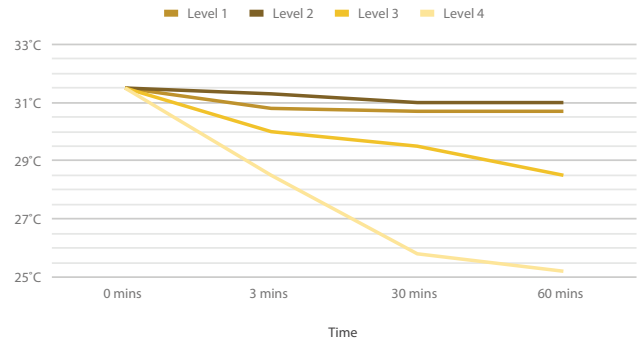
The graph indicates the average temperature differences for the three different test groups. These results were obtained by using wheelAIR at the highest setting 4. Over a prolonged period of time, the back temperature seems to stabilise with the ambient environment temperature. This indicates that there would be no build-up of heat and moisture.

COOLING DOWN IN ANY SITUATION

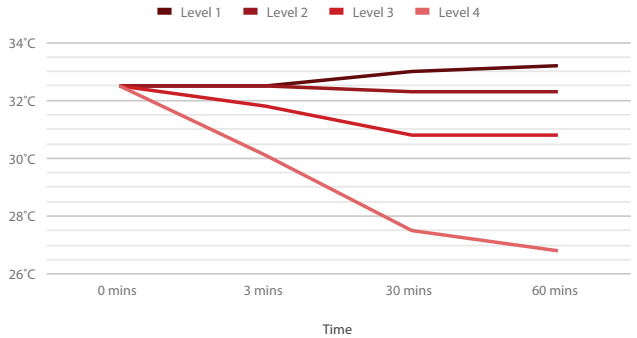
Isothermal Airflow Intensity wheelAIR (10-16°C Environment)



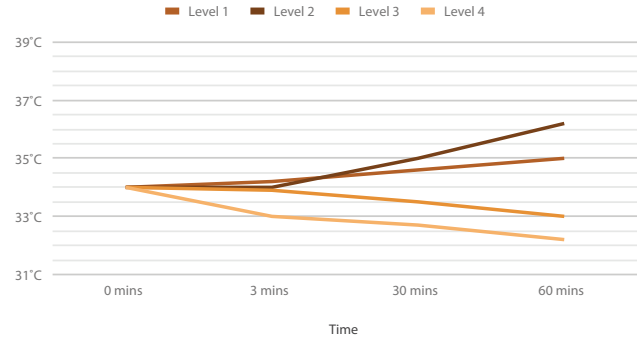
Isothermal Airflow Intensity wheelAIR (17-23°C Environment)



Isothermal Airflow Intensity wheelAIR (24-30°C Environment)



Isothermal Airflow Intensity wheelAIR (31-37°C Environment)



THE TECHNOLOGY

Designed specifically for wheelchair users.

Our radial fan technology can be set to **four levels of intensity** to suit your needs. Radial means that instead of blasting air straight onto the back, **isothermal air** is guided from our meticulously designed **fan box** through **channels** and evenly dispersed on your back through unique **3-D spacetec® fabric**.

The **channels** are made to ensure body weight cannot compress the airflow and positioned where the back becomes the warmest.

3-Dimensional spacetec® is a high performance multifunctional spacer textile solution with built-in airflow, moisture transfer and compression recovery. The fabric also has an **antibacterial finish** which is more hygienic.

The lower end of the backrest is covered by a sustainable **Faux Leather** specifically designed for the healthcare market. Its positioning reduces direct airflow on the sensitive lower back.





ENHANCED LATERAL SUPPORT

A carefully selected **blend of washable and breathable memory foams** make the wheelAIR backrest far more **comfortable and supportive** than a standard canvas backrest cushion.

The foam reacts to body temperature, moulding exactly around the shape of your back while sparking an immediate change in posture. This leaves you feeling more supported in your chair without the need for an intrusive structure.

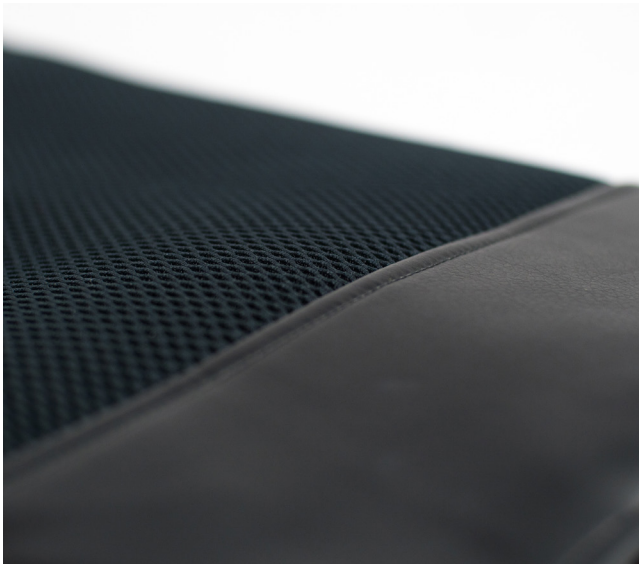
The wheelAIR is retrofitted and is designed to easily replace the backrest of any lightweight (rigid or foldable) wheelchair with a canvas back.

Readily available in **six sizes**, wheelAIR is made to assist most users with a manual wheelchair or a foldable electric wheelchair. Additional sizes can be made to measure, both smaller and larger, as well as in different shapes to fit other back systems.

SUSTAINABILITY

All materials used for the wheelAIR have been carefully and **ethically sourced** as well as **thoroughly tested**. This is to make sure you have the most effective product possible.

Through the wheelAIR's modular build, all items can be **replaced and recycled** individually. This way we minimise waste and extend its lifespan.



QUALITY

The **long-lasting battery** has been selected to optimise your independence, lasting up to 20 hours.

Equally, the battery is **easily recharged** at any power source using a **USB charger**.



USER REVIEWS



Can't recommend this product enough, I love it, I love it, I love it!



It's a breath of fresh air - pun totally intended - wish I could rate it more than 5 stars.



Totally transformed my holiday.



Such an innovative product and definitely one I am telling everyone about.



This is the first time in 20 years I have been able to sit in the sun without overheating.



OVER-HEATING

Michael Kerr

- Paralympic wheelchair rugby player
- 35 y/o
- C6/7 Spinal Cord Injury

“The wheelAIR ultimately makes me feel more in control.”

Our brand ambassador Michael Kerr loves playing wheelchair rugby. Having competed in both the Rio and London Paralympics, he knows how to push his body to perform at its peak. However, due to an inability to sweat below his lesion his body sometimes isn't as ready to play as he is. Not being able to regulate his body temperature means he can become dangerously hot.

Overheating during a game is extremely uncomfortable for Michael and it can take up to an hour for him to return to a normal temperature. So, on game days, his body temperature is constantly changing – like a seesaw. There is no down time between games. He told us: “This is very, very tiring on my body.”

Before the wheelAIR, Michael used water sprays and

ice packs to cool down between games. These solutions made him feel better, but weren't always practical or efficient. The wheelAIR is proving a far more effective tool to keep Michael cool.

He explained: “The wheelAIR shortens cooling times – preserving energy that I need for playing rugby. It has certainly improved my athletic performance.” Michael can now start subtly pre-cooling for games far before reaching the court. And it isn't just on the court that the wheelAIR has Michael's back, but every day for any moment.



OVER-SWEATING

Jamie Hamblin

- Cared for in Choice Care Group
- Learning disability, paralysis of right leg, epilepsy and severe eczema

“Jamie has been on two day trips which would have been almost impossible in the absence of his wheelAIR.”

Jamie lives in a care-home for adults with complex needs. Since he can't bear any of his own weight, he has a wheelchair specially made for him, cushioned to prevent pressure sores.

He gets hot and clammy in his wheelchair. This overheating can trigger Jamie's seizures. He has medication to prevent this, but too much of this can result in hospitalisation. Itching, scratching and flare-up from getting too hot lead to open wounds. Infection from these wounds, and exhaustion from overheating, mean he misses vital physiotherapy sessions. Not only this, when it is warm, he can't go on day trips to the seaside or the park.

This has completely changed since his carer, Millie,

installed his bespoke wheelAIR. He has experienced reduced heat rash symptoms and has much more energy.

Millie told us: “He has not had to cancel any of his activities because of a heat induced seizure. Also, he no longer has to take antibiotics to manage his skin care!”

Simply elongating and widening the wheelAIR allowed us to easily fit on Jamie's custom-made chair and improve his life quality dramatically. The care-home team then followed our simple steps for a quick instalment and instant cooling.



GENERAL DISCOMFORT

Samanta Bullock

- Model, athlete, public speaker
- 40 y/o
- T12-L1 paraplegic

“It will change the game for wheelchair users.”

Samanta has a full-on lifestyle. As a model, an ambassador for Parallel London and Fashion Inclusive as well as a public speaker – she has plenty to juggle. She is a style icon and has modelled at London Fashion week on the runway with Models of Diversity.

When she first heard about wheelAIR, Samanta was interested, but uncertain about how much it would help her. She often gets too cold rather than too hot. However, once putting it on her wheelchair during the summer, she was pleasantly surprised by how useful it was on multiple occasions.

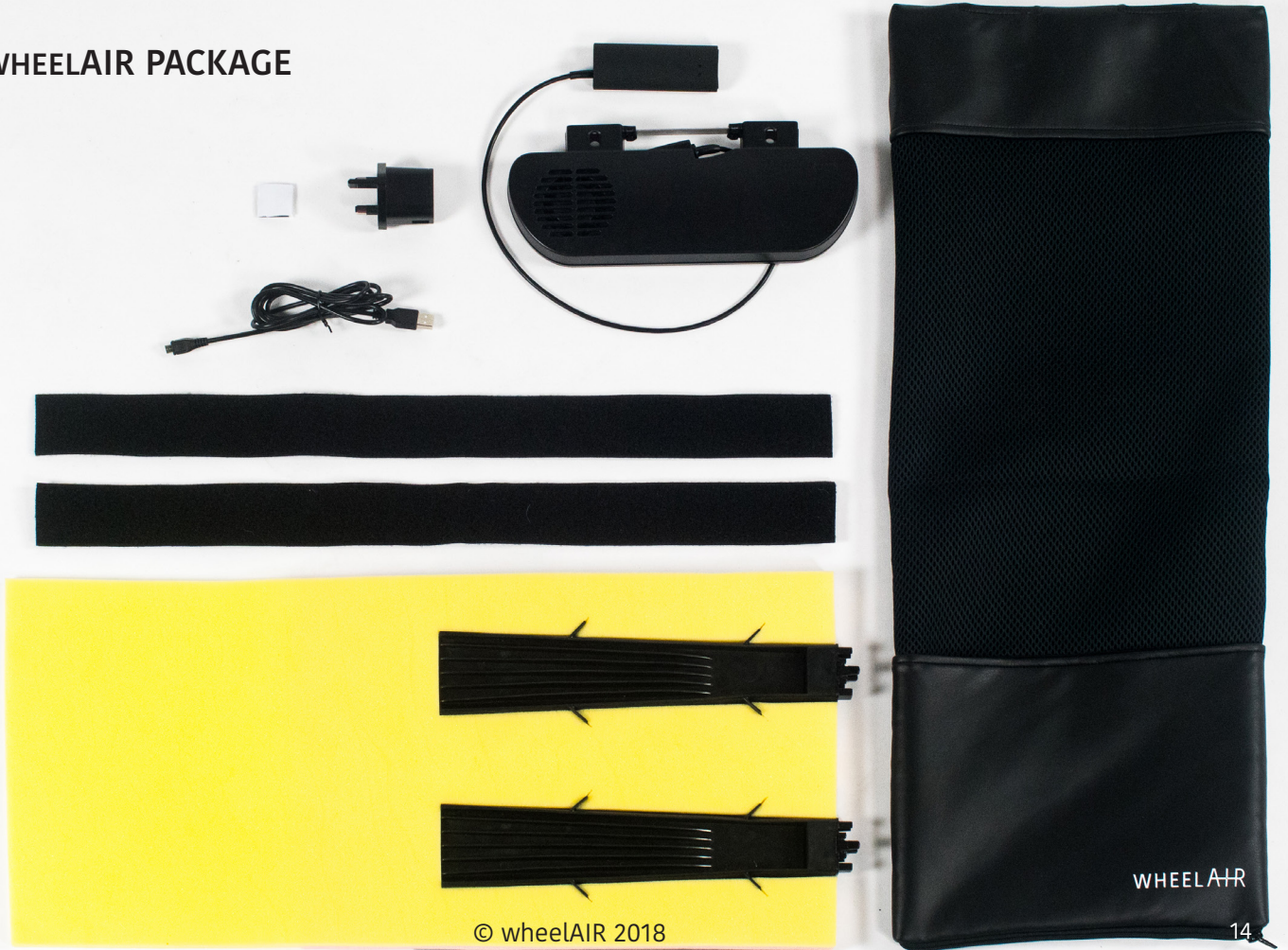
In one instance Samanta was in London on a very hot day (28°C) for a meeting. The broken air conditioning system was causing her much discomfort, but with the press of a button she was cool and back in control. Second, she was at the gym working out at an insanity

session (more like sweat-sanity session!). Using the wheelAIR made such a difference to her comfort during it! Last, whilst at a photoshoot she said the wheelAIR was a “lifesaver”, shooting in the hot summer sun.

It amazed Samanta how much more she used the wheelAIR than she thought she would. She told us, “I believe it will improve the lives of so many wheelchair users.”



THE WHEELAIR PACKAGE





TECHNICAL INFORMATION

Available widths	290mm, 330mm, 360mm, 400mm, 420mm, 440mm (+ custom sizes) 11inch, 13inch, 14inch, 16inch, 16.5inch, 17inch (+ custom sizes)
Height	740mm
Height when fitted	300mm - 450mm
Weight	1200g – 1310g depending on size
Box dimensions	430 x 425 x 90 mm
Max user weight	130kg
User care	Machine washable, see care label
Battery	Lithium-ion battery
Battery life	7 - 20 hours depending on setting
Charging	Micro USB - provided with purchase
Charging time	17 hours from dead to full (overnight charge)
Safety	Transit approved / Battery heat safety mechanism
Certification	CE marked
After care	Each part can be replaced individually
Warranty	One year warranty

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