



WheelAir

The first temperature control system designed specifically for, and to fit all wheelchairs



Cool, Comfortable, in Control

Our vision is to create a world where every wheelchair user feels comfortable and in control of their temperature.

With years of product design experience, clinical partnerships, and input from wheelchair users informing them, the WheelAir team understands how to tackle problems caused by overheating and over-sweating.

We've set out to design long-lasting and life-changing products for wheelchair users, which provide almost instant temperature relief and microclimate control.

WheelAir is the first temperature control system designed specifically for, and to fit all wheelchairs. By dispersing air evenly across your back using the patented channel technology, it helps avoid issues caused by overheating and over-sweating while keeping skin dry and clean. The unique design lets you stay cool and in control throughout the day.



Overheating

Take control of your body temperature.

Whether as a result of medication, autonomous nervous system dysregulation, or a worsening of neurological symptoms, cooling yourself down when you are unable to sweat sufficiently can be a challenge.

Once the overheating process has started, it will take much longer to cool back down, which is why we focus on preventing it altogether.

Problem:

- Increased risk of developing heat fatigue or heatstroke
- Muscle spasms, heat-induced seizures, and nausea

Solution:

- Constant flow of air takes away excess heat through convection and conduction heat loss
- Reduced back and body temperature aids prevention of symptoms

Over-Sweating

Help your sweat evaporate quicker.

Sweating too much can be mentally distressing and have an impact on the skin tissue with symptoms such as red marks on the skin, rashes, and the possibility of developing moisture associated skin damage.

Problem:

- A need to change clothing multiple times per day
- Skin macerates and becomes vulnerable: risk of moisture lesions and skin ulcers
- Difficulty finding the right seating solution

Solution:

- Active airflow takes away excess heat and moisture, reducing the risks of skin damage associated with humidity and temperature, and improving comfort for the user.

Microclimate

Keep your skin dry and clean.

For individuals struggling with overheating or over-sweating, managing skin microclimate can be a challenge. Research indicates that the ideal skin temperature is 32°C; however, when sitting against a standard backrest, the skin temperature rises 2.2°C on average within 30 minutes.

Problem:

- Temperature and moisture are factors known to affect the physiological resilience of skin and underlying tissue

Solution:

- Airflow reduces the temperature of the back 2.5°C in 3 minutes and 8°C in 30 minutes
- Airflow lowers relative humidity. Lower humidity and temperature improves the skin's microclimate to keep skin dry and clean to help reduce the likelihood of moisture lesions and pressure sores.

Research

Don't take our word for it, analyse our research.

Experiments conducted by the team at WheelAir and their partners clarify the performance of the airflow generated by the WheelAir when fitted to an active rigid wheelchair.

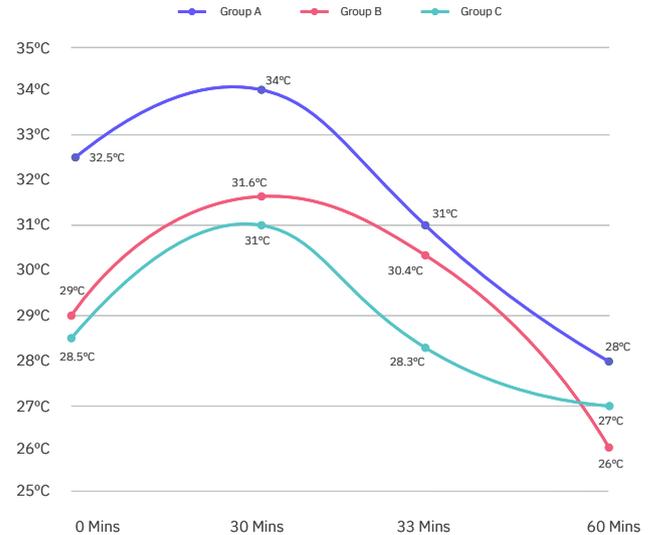
Our clinical indications show that the WheelAir can cool up to 8°C within 30 minutes.

The study was further strengthened by published clinical research on microclimate, temperature control, and overheating for wheelchair users.

The below graph demonstrates the average temperature differences for three different test groups. These results were obtained by using WheelAir at the highest setting 4*. Over a prolonged period of time, back temperature was observed to reduce with the ambient environment temperature. These results indicate that with the use of the WheelAir there is reduced heat build-up over time, which subsequently also reduces the risk of moisture developing.

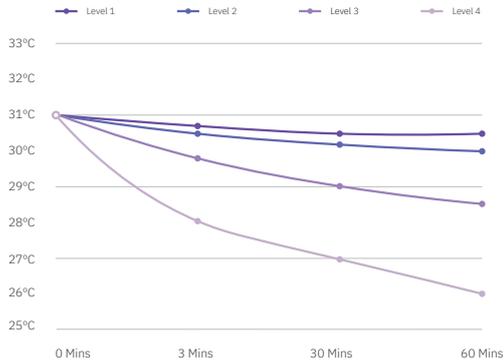
*Please note that this research is based on WheelAir V1. The new V2 product has 5 settings and a 6th boost option.

Isothermal Airflow Temperature Results (WheelAir Introduced at 30 Mins)

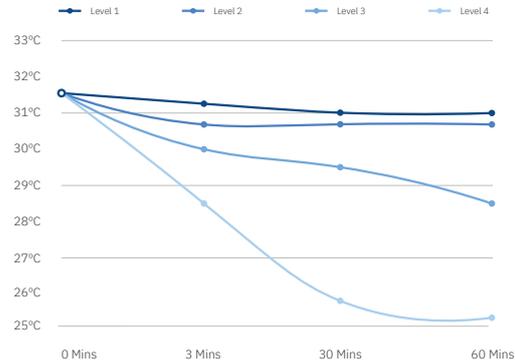


Cooling Down in Any Situation

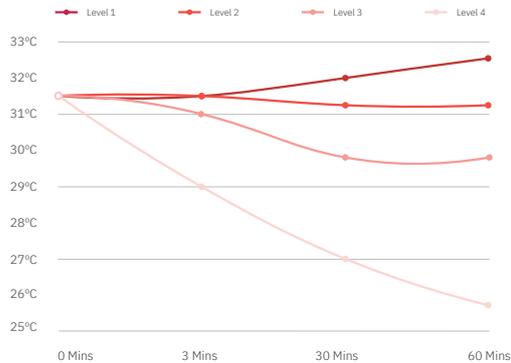
Isothermal Airflow Intensity WheelAir (10-16°C)



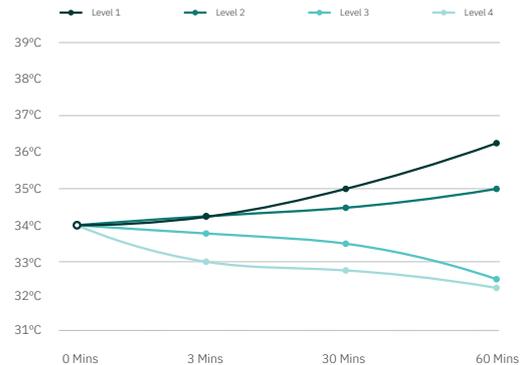
Isothermal Airflow Intensity WheelAir (17-23°C)



Isothermal Airflow Intensity WheelAir (24-30°C)



Isothermal Airflow Intensity WheelAir (31-37 °C)



The WheelAir System

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

Patent pending technology designed to increase convective and evaporative heat loss, helping you regulate your core body temperature.

- Five levels of intensity, with a 6th super-boost setting
- Instead of blasting air straight onto the back, air is guided through two channels and evenly dispersed on the back
- Integratable into powerchair, rigid back, and custom moulded seating through selected partners



The WheelAir Backrest

Designed for tension adjustable straps with carefully selected fabrics and technical foams to enhance back support, instantly improving posture and comfort.

- Compression recovery
- Optimal airflow
- Antibacterial finish
- Flexible channels
- Pressure distributing foams
- Sustainable materials
- Available in 6 widths
- Replaces standard canvas backrest



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

Jamie Hamblin’s Carer, Choice Care Group

Case Study 1

Jamie Hamblin lives in a care home for adults with complex needs. He has learning disabilities, paralysis of the right leg, epilepsy, and severe eczema. 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.

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

Michael Kerr, Paralympic Wheelchair Rugby Player, C6/7 Spinal Cord Injury



Case Study 2

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 downtime 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 and are a risk to his skin. By using the WheelAir before and after matches, his 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 pre-cooling for games with his WheelAir 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.



Technical Information

Available Widths	290mm, 330mm, 360mm, 400mm, 420mm, 440mm
Height	730mm
Height When Fitted	300mm - 450mm
Weight WheelAir System	751g
Fanbox Size	265mm/105mm/39mm
Packaging Dimensions	430 x 425 x 90mm
Max User Weight	130KG
User Care	Textile Covers Machine Washable (See Care Label)
Battery	3.7V 8000mAh Lithium-Ion
Battery Life	27 hours (lowest setting)
Charger	18W USB-C PD
Charge Time	2 Hours to 80%
Airflow	10 CFM to 32 CFM
Fan Lifespan	70,000 hours
Safety	Transit Approved and tested to IEC60601
Certification	CE Marked
Aftercare	Each Part can be Replaced Individually
Warranty	Two Year Warranty



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Please note, all information is subject to change without notification. Please consult WheelAir if you have any questions. This document can be viewed and downloaded at wheelair.co.uk.



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