KC HEATCORE

In-Garment Heating System for Extreme Cold

When temperatures drop to around -40°C and below, warmth is no longer a comfort feature. It becomes essential for performance, safety, endurance, and protection.

6 Heating Zones

12V Graphene

Up to 9h Runtime

CE / FCC / RoHS

KUFNER & CINEL
WEARABLE TECHNOLOGIES

KC HEATCORE

What it is. Who it is for. Why it matters.

THE PROBLEM

At temperatures below -50°C, cold is no longer a discomfort. It becomes a physiological threat. Muscles lose strength. Hands lose dexterity. Concentration drops. Whether the wearer is working, skiing, climbing, exploring, training, or operating in extreme cold, thermal protection directly affects safety, performance, and endurance.

THE SOLUTION

KC Heatcore is a complete in-garment heating system that integrates directly into outerwear. Six graphene heating zones, front, back and arms, are powered by a compact 12V battery placed safely inside the jacket. It is engineered for extreme cold environments down to approximately -40°C, depending on garment insulation and environmental conditions.

BUILT FOR

Outdoor & Expedition

Mountaineering, polar travel, high-altitude and extreme cold applications

Skiwear & Performance Outerwear

Premium jackets, alpine apparel, snow sports and cold-weather collections

Professional Workwear

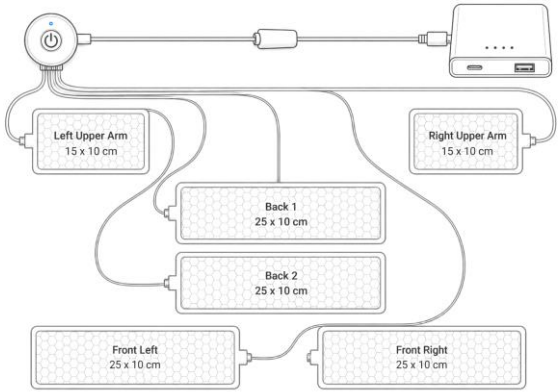
Construction, logistics, utilities, oil & gas, cold storage and field operations

Defence, Rescue & Uniforms

Military, law enforcement, emergency services and specialist cold-weather uniforms

WHERE THE HEAT GOES

6 ZONES



Front Left / Right Torso

25 × 10 cm × 2

Core warming — vital organs & chest

Back Core 1 / 2

25 × 10 cm × 2

Spinal heat retention — prevents heat drain

Left / Right Upper Arm

15 × 10 cm × 2

Upper-arm warmth, supports movement and comfort

Heat is placed where it matters most, front torso, back and upper arms, to deliver strong thermal support with efficient energy use.

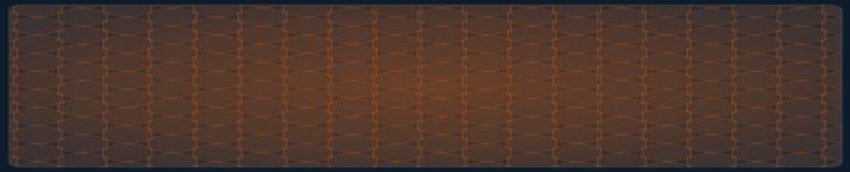
WHY GRAPHENE FEELS DIFFERENT

Large-area surface heating instead of narrow heating filaments

Traditional Carbon Fibre Heating

▪ Heat generated along narrow conductive filaments ▪ Hot lines with cooler gaps between them ▪ Uneven surface temperature across the panel

Graphene Surface Heating



▪ Entire panel surface generates heat ▪ Uniform temperature across full coverage area ▪ Balanced warmth, no concentrated hot lines

A DIFFERENT HEATING EXPERIENCE

Most heated garments generate heat through narrow conductive filaments. This creates alternating hot areas and cooler areas across the heating element.

Heatcore uses graphene heating panels that distribute heat across the complete surface of every panel. Rather than concentrating heat into narrow lines, warmth spreads evenly over a much larger area.

The result is a more balanced and natural heating experience that improves wearer comfort while reducing localised hot spots.

THE HEATCORE ADVANTAGE

- Uniform warmth across every heating panel
- No narrow hot-line effect
- Large-area thermal coverage
- Improved long-duration comfort
- Reduced thermal stress on the heating element
- Designed around safe operating temperatures

Technical note: Measured surface temperature approximately 58°C after 10 minutes on High setting at approximately 20°C ambient without insulation. Perceived warmth increases significantly inside an insulated garment.

TECHNICAL ADVANTAGES OF GRAPHENE

Durability, stability and engineering superiority at extreme temperatures

THE GRAPHENE ADVANTAGE

- Large-area surface heating rather than narrow heating filaments, providing more even warmth across the garment.
- Stable performance in extreme cold, where carbon-based systems can lose efficiency
- Graphene distributes heat across the complete surface of each panel, reducing localized hot spots while improving wearer comfort.
- Longer patch lifetime - less thermal stress on the material
- A technically advanced choice for serious cold-weather garments

12V Graphene Heating · 6 Large Heating Zones · Maximum Surface Temperature ≈58°C · Three Temperature Levels · CE / FCC / RoHS

POWER THAT LASTS

18,400 mAh

HIGH	MEDIUM	LOW
3–3.2h	**~4.5h**	**~8h**
Full thermal output	Balanced heat for extended use	Long-duration warmth

Spare battery packs can be supplied for extended use. A quick battery swap allows the garment to keep performing during long days outdoors, on the mountain, or in professional cold-weather environments.

BATTERY SPECIFICATIONS

Capacity	18,400 mAh (3.85V)
Dimensions	92 × 68.5 × 28 mm · 279 g
Output	5V/3A · 9V/2A · 12V/1.5A · Type-C
DC Output Connector:	DC4017 (6.0 mm OD × 4.0 mm ID)

FULL CONTROL

One touch. Three heat levels. Easy operation, even with winter gloves.

Blue · ~8h runtime

Orange · ~4.5h runtime

Red · 3-3.2h runtime

Works in Extreme Cold

Specially engineered to operate reliably at -40°C. Easy operability and no failure from frozen electronics.

Visible at a Glance

Three bright LED colours show the selected heat level instantly, without opening the jacket or checking a screen.

Your Brand, Your Garment

The button face can be customised with your logo or design. The system integrates cleanly into your identity

SAFETY IS NON-NEGOTIABLE

Controlled Surface Temperature

The graphene heating elements are engineered to operate within a carefully defined temperature range, providing effective warmth while supporting long-term wearer safety, comfort and product durability.

3-Level Heat Control

Three selectable heating levels allow the wearer to balance warmth, battery runtime and comfort according to changing weather conditions and activity levels.

Uniform Graphene Heating

Unlike filament-based heating technologies, graphene distributes heat across the complete surface of each heating panel. This reduces localised hot spots while creating a more balanced and comfortable heating experience.

Matched System Design

Battery, controller and graphene heating elements have been engineered as one complete system to deliver stable heating performance while maintaining safe operating temperatures during prolonged garment use.

Heatcore follows a safety-first engineering philosophy. The operating temperature of the graphene heating elements has been carefully selected to balance thermal performance, wearer comfort and long-term reliability inside insulated garments.

CERTIFICATIONS:

CE

RoHS COMPLIANT **RoHS**

UN38.3 **UN38.3**

SAFETY IS NON-NEGOTIABLE

Controlled 12V Voltage

Regulated architecture prevents surges. The system delivers consistent, controlled and evenly distributed heat - not spikes that could damage elements or create risk.

3-Level Heat Control

Wearers choose the right heat level for their activity and environment. This improves comfort, reduces energy waste, and supports longer runtime.

Temperature Sensor

Onboard sensor monitors surface temperature continuously. If limits are approached, power reduces automatically - no manual intervention needed.

Auto Shut-Off Circuit

A dedicated safety circuit cuts power if the system overheats. Designed for heated outerwear worn for extended periods in demanding cold-weather conditions.

CERTIFICATIONS:

CE

RoHS

UN38.3

HEATCORE IN SUMMARY

Six reasons this outperforms standard heated garments — and why it matters

6-Zone Coverage

Many heated jackets focus on only 2 or 3 small zones. Heatcore covers the front, back and upper arms for broader thermal support.

Uniform Graphene Heating

Graphene heating distributes warmth evenly across the complete panel surface, providing greater comfort, minimizing localized hot spots

Large-Area Heating

Unlike many systems that concentrate heat into a few small areas, Heatcore distributes warmth across six large graphene panels.

Field-Ready Battery

Compact 279g battery, small enough to sit inside the garment and protected from direct cold exposure. Swappable in around 60 seconds.

Externded Heating Duration

Up to 9 hours on low setting, giving wearers extended warmth during long days outdoors, on the mountain, or in professional cold-weather environments.

Made to Your Spec

Every element, patch layout, button branding, battery placement and integration method, can be configured for your garment, and your target user.

LET'S TALK

KC Wearable Technologies, Heating Systems Configured for Your Outerwear

KUFNER & CINEL
WEARABLE TECHNOLOGIES

Tell us about your garment, your target user, and your cold-weather application. We will configure the right Heatcore system for your brand, your product, and your performance requirements.

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