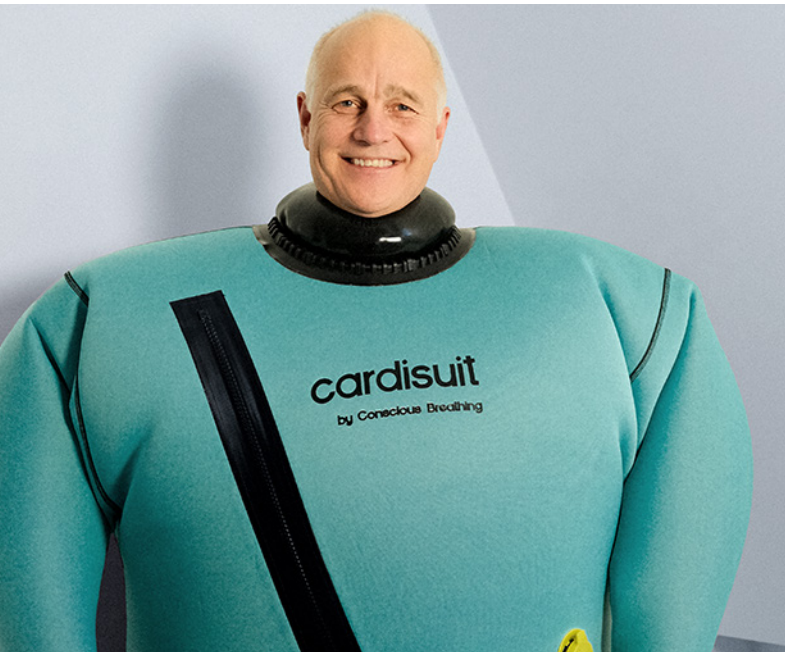
CARDISUIT™ USER MANUAL

Version 1/March 2026



Conscious Breathing

Manufacturer: Conscious Breathing Institute AB
Website: www.consciousbreathing.com
Support: cs@consciousbreathing.com

INTRODUCTION

Welcome to the Cardisuit — a new way to experience whole-body CO_2

Welcome to the Cardisuit, a whole-body approach to carbon dioxide (CO_2) exposure designed to support relaxation, circulation, and recovery through controlled exposure to CO_2 via the skin.

Most people associate breathing and gas exchange primarily with the lungs. Yet the body's interaction with CO_2 extends far beyond respiration alone. CO_2 plays an important role in several normal physiological processes, including circulation and oxygen transport. The Cardisuit is designed to provide a calm, contained environment in which this natural physiology can be supported without effort, technique, or active breathing control.

Unlike breathing-based devices, the Cardisuit does not require you to adjust levels, follow protocols, or actively regulate your session. Once the suit is prepared and filled, the experience is intentionally simple: you lie down, relax, and allow the session to unfold.

This manual will guide you through the safe setup, use, care, and understanding of the Cardisuit, as well as the scientific principles that underpin CO_2 tolerance training.

Why CO_2 Matters More Than You Think

CO_2 is often misunderstood as a waste gas that the body needs to eliminate. In reality, CO_2 is a central regulator of human physiology. Every cell in the body produces CO_2 continuously as a natural part of energy metabolism, and the body is highly adapted to sense, transport, and regulate it.

Healthy CO_2 levels are associated with smooth blood flow, balanced nervous system activity, and efficient oxygen delivery to tissues. When CO_2 levels fall too low, blood vessels constrict, oxygen is released less efficiently from haemoglobin, and the body may shift toward a more stress-dominant state. This can influence everything from muscle tension and circulation to mental calmness and recovery.

CO_2 tolerance training works by gently restoring conditions that the body already recognises and understands. Rather than forcing a response, it supports the body's own regulatory mechanisms.

Who the Cardisuit Is For

The Cardisuit is used by many kinds of individuals who wish to support relaxation, recovery, and overall physiological balance through passive CO_2 exposure.

It is commonly used by:

- Individuals seeking deep physical and mental relaxation
- People experiencing high stress or physical tension
- Athletes and physically active individuals supporting recovery
- Wellness practitioners offering supervised CO_2 tolerance training sessions

The Cardisuit is designed for adult users and may be used in both private and professional settings, provided that all safety guidance in this manual is followed.

What We Mean by CO_2 Tolerance Training

CO_2 tolerance training refers to the body's capacity to remain comfortable and regulated in the presence of naturally occurring carbon dioxide. Rather than aiming to change or correct the body, tolerance training focuses on creating conditions that support familiarity with normal physiological signals.

A Simple, Modern Way to Support Your Biology

The Cardisuit is designed to be simple and effortless to use. It does not require learning techniques, adjusting intensity levels, or following complex protocols. Once the suit is properly fitted and filled with CO_2, the user simply rests for the duration of the session.

This simplicity is a key part of the design. By removing decision-making and active control, the Cardisuit allows users to rest passively during the session. Many users describe the experience as deeply calming, grounding, or restorative, often accompanied by a sensation of warmth or relaxation throughout the body.

The Cardisuit does not diagnose, treat, or cure disease. It is intended to support well-being by working with natural physiological processes that are already present in the body.

TABLE OF CONTENTS

PRODUCT OVERVIEW

The Cardisuit is a whole-body CO_2 tolerance training system designed to create a sealed, controlled environment for passive CO_2 exposure through the skin. This section describes what is included with the Cardisuit, its main components, key functional elements, and compatible CO_2 sources.

Understanding the parts of the system and how they work together will help ensure safe setup, correct use, and long-term reliability.

What's in the Box

Your Cardisuit package includes the following components:

- **1 × Cardisuit (neoprene suit)**
  - Available in different sizes (M & L). The suit is designed to be airtight when properly sealed and zipped.
- **1 × Silicone neck seal**
  - Installed on the suit. Designed to create an airtight seal around the neck.
- **1 × Vacuum pump**
  - Used to remove air from the suit before CO_2 filling.
- **1 × CO_2 regulator with coiled tubing**
  - Attaches to a CO_2 tank and connects to the inflation gun (via tubing).
- **1 × Inflation gun**
  - Used to fill the suit with CO_2 after vacuuming.
- **1 × Cardisuit regulator wrench**
  - Used to securely attach the regulator to the CO_2 tank.
- **1 × Sleep mask**
  - Used during sessions to block light and support relaxation.
- **1 × Cardisuit storage bag**
  - For storing and transporting the suit separately.

- **1 × Carrying case**
  - For storage and transport of the Cardisuit parts.
- **1 × Cardisuit scarf**
  - For supporting entering the neck seal

Not included:

- **CO_2 cylinder** (Only food/beverage or medical grade CO_2 cylinders should be used with the Cardisuit).

Device Overview (Component Descriptions)

The Cardisuit system consists of the following key components, each with a specific role in creating a sealed environment for controlled CO_2 exposure.

Component	Description
Cardisuit (Neoprene Suit)	Encloses the body to create a sealed environment for CO_2 exposure when properly fitted and zipped. Designed to be flexible and comfortable while maintaining airtightness.
Silicone Neck Seal	Forms an airtight seal around the neck to prevent CO_2 leakage. The standard neck seal fits neck circumferences of approximately 28–43 cm and can be trimmed for larger sizes. A smaller neck seal is available separately for smaller neck sizes.
Front Zipper	Runs along the front of the suit and must be fully closed to maintain airtightness during a session.
Vacuum Valve	Allows air to be removed from the suit prior to CO_2 filling.
CO_2 Inflation Port	Used together with the inflation gun to fill the suit with CO_2 after vacuuming.
Vacuum Pump	External pump used to evacuate air from the suit before filling with CO_2. The vacuum pump is supplied with a regional power plug (US or EU). Users in other regions may require a suitable adapter.
CO_2 Regulator	Attaches to the CO_2 tank and controls gas flow to the inflation gun.
Inflation Gun	Delivers CO_2 from the regulator into the suit in a controlled manner.
Sleep Mask	Optional accessory used to block light and support relaxation during sessions.
Scarf	Fabric accessory used to protect hair and ease placement of the silicone neck seal during entry into the suit.

Sizes and Fit

The Cardisuit is available in two sizes:

- Medium – fits most people up to approximately 183 cm (6'0")
- Large – fits most people up to approximately 203 cm (6'8")

Weight, body proportions, and flexibility may also influence fit. If you are between sizes, choosing the larger size often provides greater comfort and mobility.

For environments where multiple people will use the suit (such as families or clinics), a large suit or a combination of both sizes may be appropriate. A smaller person can still use the Large suit, though it will require slightly more CO_2 per session.

As a general guideline, it is preferable to choose a size that is slightly larger rather than too small.

Functional components

From a functional perspective, the Cardisuit operates as a sealed environment during use:

- Air is removed from the suit using the vacuum pump
- The suit is then filled with CO_2
- The sealed environment is maintained for the duration of the session

The Cardisuit does not contain electronic components, sensors, or internal controls. All regulation occurs externally through the CO_2 supply equipment and the physical integrity of the suit and seals.

Technical Specifications Summary

Key specifications for the Cardisuit system are summarised below. Detailed specifications are provided in the section Technical Specifications

- Suit material: Neoprene
- Neck seal material: Silicone
- CO_2 concentration during use: 100% CO_2
- Session duration range: 20–60 minutes
- Suit weight:
  - Medium: approximately 2.4 kg
  - Large: approximately 3.0 kg

Expected lifespan: Approximately three years under normal use and proper care.

CO_2 Cylinder Compatibility

Compatible cylinders include:

- Food/beverage or medical grade CO_2 cylinders from recognised suppliers
- Cylinders fitted with a suitable regulator compatible with the inflation gun

Important:

Industrial or welding-grade CO_2 must not be used.

CO_2 cylinders are external components and are subject to local regulations regarding storage, transport, and use. Always follow the cylinder manufacturer's safety instructions and applicable regional regulations.

SETUP & INSTALLATION

This section guides you through preparing the Cardisuit system for use and setting it up correctly before a session. Please read this section fully before your first use to ensure safe and effective operation.

Before You Begin

Before starting a Cardisuit session, ensure that:

- You are in a quiet, well-ventilated room.
- If possible, you will not be disturbed for the duration of the session and have adequate space to lie down comfortably.
- You have a stable and comfortable surface to lie on, such as a bed, mattress, massage table, or padded exercise mat.
- Your CO_2 tank is securely positioned upright and will not tip over.
- You have close access to all required components supplied with the Cardisuit system.
- You use the bathroom before beginning a session, as you will not be able to do so while wearing the suit.
- Avoid applying oils to the skin immediately before a session. Oils reduce the ability for CO_2 to be absorbed through the skin.
- You remove jewelry such as earrings, sharp rings, or necklaces to prevent damage to the jewelry or the silicone neck seal when entering the suit.

Clothing and Comfort:

- Users are encouraged to wear light, soft, comfortable clothing under the Cardisuit, such as underwear, a T-shirt and shorts, or similarly thin garments. Wearing light clothing does not interfere with normal Cardisuit use.
- If desired, prepare relaxation aids in advance, such as a sleep mask or relaxing music with earphones, which may enhance the experience.

Environmental & Room Requirements

Cardisuit sessions must be conducted in an environment that allows for safe CO_2 handling.

- Use the Cardisuit only in a well-ventilated room
- Ensure fresh air can circulate freely in the space
- Do not use the Cardisuit in confined or unventilated areas

Connecting the CO_2 Cylinder

To prepare the CO_2 supply:

1. Connect the regulator to the CO_2 gas tank.
2. Use the regulator wrench to tighten the connection securely.
3. Check that the connection is firm to prevent CO_2 leakage.
4. Open the CO_2 tank valve slowly.
5. Set the regulator pressure to approximately 90 PSI (slightly above the green range on the pressure gauge).

Always follow the safety instructions provided by the CO_2 tank manufacturer.

Putting on the Cardisuit

The Cardisuit is typically easiest to put on while standing, but sitting may be better if balance is limited.

1. Start by inserting your legs into the suit.
2. Carefully pull the suit up and place your head through the neck opening.
3. Before pulling the neck seal over your head, ensure that any sharp jewelry (such as earrings or rings) has been removed to avoid damaging the jewelry or the silicone neck seal. If you have long hair, tie it in a loose braid or ponytail.
4. Pull the neck seal over your head so that it sits comfortably around your neck.
   a. Some users find it helpful to place a thin cloth or scarf over the head while pulling the silicone neck seal into position, particularly if they have longer hair. A Cardisuit scarf is included and may be used for this purpose.
   b. If the neck seal is too loose, apply some surgical tape to prevent leakage.
5. Close the zipper completely.
   a. Ensure it is closed all the way to the end to prevent leakage.

Vacuum Pump Operation

Before filling the suit with CO_2, air should be removed using the vacuum pump. This step helps ensure the suit contains mostly CO_2 rather than a mixture of air and gas. Minor amounts of remaining air are not a concern and will not affect normal use.

1. Sit where you intend to lay during the session.
2. Connect the vacuum pump to the grey vacuum valve on the suit.
3. Connect the vacuum pump tubing to the port opposite the red on/off button.
   a. *NOTE: Connecting the tubing to the other port will cause the pump to push air into the suit instead of removing it*.
4. Use the vacuum pump to remove all air from the suit.
   a. *NOTE: The vacuum will be a bit tight and that it could feel a little strange. It is like a full-body hug.*
5. When disconnecting the vacuum pump, remove the hose from the valve and close the valve promptly.
   a. *It may take a few attempts to become familiar with this movement. A small amount of air may enter the suit during disconnection — this is normal and does not affect the session.*

Filling the Suit with CO_2

Once the suit has been vacuumed:

1. Connect the inflation gun to the coiled tubing
   - At the base of the inflation gun is a quick-connect fitting. Slide the collar downward to open the connector, insert the end of the coiled CO_2 supply tubing, and then release the collar to lock the connection in place. Gently pull on the tubing to confirm that it is securely attached.
2. Connect the inflation gun to the CO_2 valve
   - Press the two parts of the handle together so that the front of the inflation gun opens. Position the opening around the CO_2 valve on the suit and allow the plastic ring to slide around the valve. Release the handle and ensure that the flat circular metal end of the inflation gun is placed directly over the valve.
3. Begin filling the suit
   - Slide the blue control on the inflation gun forward to allow CO_2 to flow into the suit.
4. Monitor the inflation
   - Continue filling until the suit feels comfortably inflated around the body. A helpful indicator is when the suit begins to lift slightly from the shoulders.

5. Stop the gas flow
   - Slide the blue control back to stop the flow of CO_2.
6. Turn the CO_2 tank valve off.
7. Remove the inflation gun from the suit valve.
8. Lie down comfortably and begin the session.

During the Session

Once the Cardisuit has been vacuumed and filled with CO_2, the session can begin.

Position and Comfort

- Remain lying down in a comfortable position.
- Arms may rest on the chest or alongside the body. There is no need to keep the arms inside the suit sleeves.
- A sleep mask may be used to block light and support relaxation.
- Relaxing music may be used if desired.

Movement During the Session

- Minor movement inside the suit is acceptable. You can, for example, move and lay on your side if that is more comfortable.
- Excessive movement should be avoided, as it may compromise the neck seal and allow CO_2 to escape.

What You May Notice

During the session, it is common to experience:

- A feeling of warmth or pressure around the body.
- Deep relaxation or drowsiness.
- Reduced awareness of time.

These sensations are expected during Cardisuit use.

General Guidance

- Remain calm and relaxed throughout the session.
- Do not attempt to adjust the suit, valves, or CO_2 supply during the session.
- If discomfort, dizziness, or shortness of breath occurs, the session should be stopped and the suit opened.

Ending the Session

The best way to remove the Cardisuit:

1. Place your arms back into the sleeves of the suit to help with balance.
2. Allow yourself a brief moment to transition before moving.
3. Open the zipper slowly to release the gas from the suit.
   a. *Avoid placing your face directly over the zipper while opening to prevent inhaling concentrated CO_2.*
4. Wait until the suit has loosened and pressure has fully equalised before continuing.
5. Remove your feet and legs from the suit and place them firmly on the floor.
6. Stand up carefully, ensuring you are not standing on the suit.
7. From behind the suit, gently lift the suit while using your hands on the outside to guide the neck seal upward and over your head.
8. Remove the neck seal slowly to avoid pulling on skin or hair.

If you feel light-headed or unsteady at any point, stop, sit down, and allow yourself time before continuing

After the session:

- Ensure the CO_2 tank is turned off.
- Hang the Cardisuit on a hanger to allow residual gas to dissipate.
- Allow the suit to air out fully before storage or cleaning.
- Drink a glass of water and rest briefly before resuming normal activity.
- Proper handling after each session supports both user safety and the longevity of the Cardisuit.
- Clean and disinfect the Cardisuit and accessories according to standard hygiene procedures outlined in the section titled Care, Cleaning & Maintenance.

SAFETY INFORMATION

This section outlines important safety information for the use of the Cardisuit CO_2 tolerance training system. Please read this section carefully before using the Cardisuit. Following these instructions helps ensure safe use and reduces the risk of discomfort, injury, or equipment damage.

General Safety Overview

The Cardisuit is designed to be used in a controlled environment using food/beverage or medical grade carbon dioxide (CO_2). When used as described in this manual, the Cardisuit provides a sealed environment for passive CO_2 exposure through the skin.

The Cardisuit must be used only as instructed. Do not modify the suit, valves, seals, or any associated components. Do not attempt to alter the CO_2 delivery method or introduce additional equipment not supplied with or specified for the Cardisuit system.

Who Should Not Use the Cardisuit

Use of the Cardisuit is not recommended for individuals who:

- Are pregnant
- Have severe or unstable low blood pressure
- Have severe cardiovascular conditions
- Have severe respiratory conditions
- Have a pacemaker
- Experience claustrophobia or discomfort in enclosed spaces

If there is any uncertainty about suitability, consultation with a healthcare professional may be appropriate.

Environmental Safety

The Cardisuit must only be used in a well-ventilated room.

- Ensure fresh air can circulate freely during and after the session.
- Do not use the Cardisuit in confined, enclosed, or unventilated spaces.
- After a session, allow residual CO_2 to dissipate before storing the suit.

Adequate ventilation helps prevent the accumulation of CO_2 in the surrounding environment.

CO_2 Safety

Only food/beverage or medical grade CO_2 may be used with the Cardisuit. **Industrial or welding-grade CO_2 must not be used.**

CO_2 cylinders must be handled according to the instructions provided by the cylinder manufacturer and applicable local regulations. Always ensure the cylinder is stable and cannot tip over.

Do not inhale CO_2 directly from the inflation system, tubing, or from inside the suit.

CO_2 Leaks

Maintaining an airtight seal is essential for safe and effective use.

- Ensure the zipper is fully closed before vacuuming or filling the suit.
- Ensure the neck seal sits correctly and securely around the neck.
- Excessive movement during the session may cause CO_2 to escape at the neck seal.

If the neck seal is too loose, leakage may occur. If the seal is too tight, discomfort may result. Adjust the seal as described in this manual before use.

If a significant leak is suspected during use, the session should be stopped and the suit opened.

Cylinder & Regulator Safety

- Ensure the regulator is securely attached to the CO_2 tank using the provided wrench.
- Check all connections before filling up the suit.
- Do not use damaged regulators, tubing, or connectors.
- Turn off the CO_2 tank after filling the suit.
- Do not attempt to repair regulators or modify gas connections.

Suit Integrity & Neck Seal Safety

Inspect the Cardisuit before each use.

- Do not use the suit if there are visible cracks, tears, or damage to seams.
- Do not use the suit if the zipper does not close fully.
- Inspect the neck seal for wear or damage.

Symptoms & Reactions: What's Normal and What's Not

Common or Expected Sensations	Stop the Session Immediately If You Experience
Feeling of pressure during vacuuming, often described as a "full-body hug"	Dizziness
Sensation of warmth in the body	Shortness of breath
Deep relaxation or drowsiness	Anxiety or panic
Mild, tolerable discomfort during vacuuming	Significant or worsening discomfort
Reduced awareness of time	Any distress that feels unusual or concerning
General feeling of calm or heaviness	Symptoms that persist after opening the suit

If any symptom listed in the right-hand column occurs, open the zipper immediately, exit the suit, and seek fresh air. If symptoms do not resolve, seek medical assistance.

Emergency Procedures

If a user experiences discomfort or distress during a session:

- Open the zipper immediately to release the gas
- Exit the suit
- Seek and breathe fresh air and sit or lie down
- Drink water

If symptoms do not resolve, seek medical attention.

Warnings & Disclaimers

Use of the Cardisuit outside the conditions described in this manual may result in injury or damage to the equipment.

- Do not leave a user unattended during a session if supervision is required.
- Do not use oils on the skin immediately before a session.
- Remove sharp jewelry before entering the suit.
- Do not expose the Cardisuit to high temperatures.
- Do not machine wash, machine dry, iron, or steam the suit.
- Do not use the Cardisuit near open flames or heat sources.

UNDERSTANDING CO_2

Breathing is something we do more than twenty thousand times a day without thinking, yet it is deeply tied to how we feel, move, sleep, focus, and perform. To understand why the Cardisuit works, it helps to revisit the role of a much-misunderstood molecule: carbon dioxide (CO_2).

Although often described as a "waste gas," CO_2 is one of the central regulators of human physiology. Every cell in the body produces it as a natural part of creating energy. It is not something the body is trying to eliminate — it is something the body is trying to *balance*. And that balance determines how smoothly your breathing works, how easily your blood delivers oxygen, how relaxed or reactive your nervous system feels, and how efficiently your muscles use energy.

Why CO_2 Matters More Than Most People Realize

In healthy physiology, CO_2 is constantly produced and constantly exhaled, but the level in your body at any given moment has a strong influence on many systems. When CO_2 is in a comfortable range, breathing becomes smoother and calmer, blood vessels relax, the brain receives steady oxygen delivery, and the nervous system tends to settle. When CO_2 drops too low, often through sedentary lifestyle and/or fast or habitual over-breathing, the opposite happens: breathing becomes more reactive, the chest and throat can feel tighter, thoughts speed up, and the body may shift subtly toward a stress-dominant state.

This is why a moment of emotional overwhelm is often accompanied by a quickened breath. It isn't simply a reaction to emotion; it is a shift in the delicate CO_2 balance that influences everything from your heart rate to your focus.

CO_2 Tolerance and Physiological Balance

The brain uses CO_2 levels as its primary signal for when to inhale next. The sensitivity of this system is known as **CO_2 tolerance**. People with a *lower* tolerance tend to feel "air hunger" sooner, breathe faster and open the mouth during mild activity, and may experience more fluctuations in calmness or endurance. Those with a *higher* tolerance usually breathe more steadily, lower, slower, rhythmically through the nose, feel calmer under pressure, and transition more easily between rest and activity.

Modern lifestyles often nudge CO_2 tolerance downward — long periods of sitting, constant stimulation, stress, and shallow breathing patterns can all encourage subtle over-breathing. The Cardisuit provides a controlled environment for whole-body CO_2 exposure while the user rests, supporting a calmer physiological state and allowing the body to experience CO_2 in a structured way.

A Short, Fascinating History

Interest in CO_2 is not new. Over a century ago, Danish physiologist **Christian Bohr** demonstrated something remarkable: CO_2 helps oxygen detach from hemoglobin so that it can actually be used by the body's tissues. This became known as the *Bohr Effect*, a foundational idea in respiratory science.

Around the same period, Scottish physiologist **John Scott Haldane** discovered that it is CO_2, not oxygen, that triggers our urge to breathe. This insight reshaped how scientists understood breathing regulation.

Another important but lesser-known researcher was South African physician **Frances M. Amos**, whose experiments in the mid-20th-century demonstrated how hyperventilation, which lowers CO_2, affects blood flow, muscle tone, and nervous system responses negatively. Her work supported the idea that balanced CO_2 levels contribute to physiological calmness and more efficient breathing.

Around the same time, **Prof. Konstantin Buteyko** explored the connection between chronic over-breathing, reduced CO_2 levels, and various breathing complaints, proposing that restoring normal CO_2 balance could improve comfort and calmness.

Today, free divers, endurance athletes, breathing coaches, and neuroscientists all work with the same basic principle: your ability to tolerate shifts in CO_2 strongly influences your physical and mental performance. The Cardisuit builds on this long scientific lineage — but with modern precision and simplicity.

CO_2, Stress, and the Nervous System

Breathing and the nervous system are inseparable partners. When CO_2 levels fall rapidly, the brain tends to interpret it as a signal to heighten alertness: muscles become slightly more tense, thoughts become sharper or more scattered, and the breath becomes faster. Conversely, when CO_2 rises gently, within a healthy range, the whole system often settles. Blood vessels widen, airflow feels smoother, and the mind becomes less reactive.

This is why practices like slow breathing, meditation, and certain yoga techniques emphasize slower breathing rhythm or longer exhales: they naturally elevate CO_2 slightly and help the nervous system shift toward calm. By influencing CO_2 levels, these mechanisms help explain why CO_2 exposure is often associated with shifts toward a calmer, more regulated nervous system state.

The Bohr Effect — Oxygen Delivery

One of the most striking scientific insights into breathing comes from the Bohr Effect. Instead of thinking "more oxygen equals more oxygen to tissues," the Bohr Effect shows that oxygen delivery depends on CO_2 being present in the right amount.

When CO_2 levels are too low, oxygen binds too tightly to haemoglobin and is not released efficiently — like a delivery truck that refuses to unload its cargo. When CO_2 rises into its natural, healthy range, haemoglobin releases oxygen more freely.

This means that balanced CO_2 levels can improve how effectively your body uses the oxygen you already have. No increased oxygen intake is required.

CO_2 in Athletic Performance & Recovery

Athletes have intuitively understood CO_2 training for decades. Free divers often spend more time improving CO_2 tolerance than oxygen capacity because the sensation that "I need to breathe" is triggered by rising CO_2, not falling oxygen.

Runners, cyclists, rowers, and swimmers with higher CO_2 tolerance often report subjective experiences such as smoother pacing or reduced breathlessness during effort, better endurance, and quicker recovery. They can stay calm under heavy workloads because their breathing system is less reactive to normal CO_2 shifts.

The Cardisuit offers a passive, whole-body CO_2 session that many users incorporate alongside recovery routines, allowing structured exposure without breath-holding drills or complex protocols.

Everyday Benefits of CO_2 Balance

Balanced CO_2 does not only matter for athletes. Many users notice everyday shifts: a more grounded feeling during moments of stress, smoother breathing when multitasking, an easier transition to relaxation in the evening, and a greater sense of clarity in the mind. This is simply the body responding to a healthier breathing rhythm — one that does not overreact to small stressors.

People often describe it as “breathing on a lower gear,” with less effort but more stability.

How the Cardisuit Relates to This Science

The physiological concepts described in the previous sections are well established in respiratory and circulatory science and help explain the broader role of carbon dioxide in the human body. These principles provide general context for understanding how CO_2 is involved in everyday physiological processes.

The Cardisuit is designed to create a sealed, whole-body environment filled with carbon dioxide gas. Before the session begins, air is removed from the suit and replaced with 100% CO_2, allowing the body to be immersed in a CO_2-rich environment while the user remains at rest.

This type of exposure is similar in form to historical CO_2 bathing practices, where the body is surrounded by carbon dioxide rather than actively inhaling it. During a Cardisuit session, the user lies down comfortably and remains passive, without performing breathing exercises or following active techniques.

Rather than aiming to produce specific physiological effects, the Cardisuit provides a stable and contained setting in which users can experience CO_2 tolerance training in a calm, non-interactive way. These principles provide background for understanding the experience of CO_2-based wellness practices.

Many users describe the experience as a clear reference point for deep relaxation, helping them notice a clear reference point for relaxation.

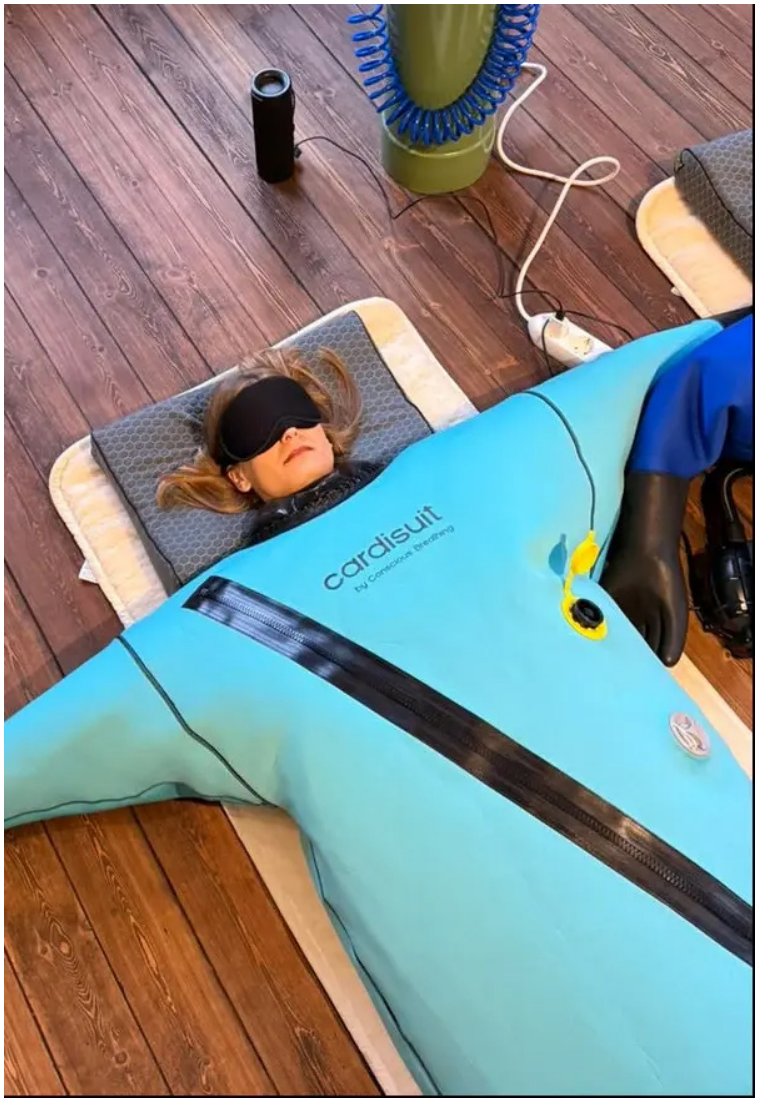
CO_2 in One Clean Picture

If you were to summarise CO_2 in a single idea, it would be this:

> CO_2 is not a waste product. It restores flow by reducing friction and resistance. It is a regulator. A door opener. A guide for how calmly and efficiently your body can breathe, move, and recover.

A healthy CO_2 balance is the foundation for smoother breathing, improves circulation, better oxygen use, a calmer nervous system, and a more stable sense of well-being.

The Cardisuit simply gives you a way to explore that foundation through a calm, whole-body CO_2 session.



USAGE GUIDANCE & SESSION STRUCTURE

The Cardisuit is designed to be used in a simple, consistent way. Unlike adjustable breathing devices, the Cardisuit does not require the user to select levels, follow progressive protocols, or make real-time decisions during use.

This section explains what a typical session looks like, outlines general guidance for session duration and frequency, and introduces optional before-and-after awareness tests for those who wish to observe changes over time.

How a Typical Cardisuit Session Works

A Cardisuit session follows a clear and repeatable sequence:

1. The suit is put on, sealed at the neck, vacuumed, and filled with CO_2 as described in the earlier section titled Setup & Installation
2. Lie down comfortably and remain at rest
3. The session continues for the chosen duration without adjustments or interaction.
4. At the end of the session, the suit is opened and removed as described in Setup & Installation

During the session, you do not need to perform breathing exercises, adjust settings, or actively regulate the experience. The system is designed to remain stable once it is filled.

Recommended Session Duration

Cardisuit sessions are typically performed within the following range:

- 20 to 60 minutes as a broad minimum to maximum range
- Most users choose session durations of approximately 30 to 50 minutes, which many find to be a comfortable and practical range.

Sessions should always remain within a duration that feels comfortable. Longer sessions do not imply greater benefit, and there is no requirement to extend session time beyond what feels appropriate.

Recommended Frequency

The Cardisuit may be used regularly, provided the user remains comfortable and follows all safety guidance in this manual.

- Some users incorporate Cardisuit sessions into a routine schedule
- Others use the Cardisuit intermittently, depending on personal preference or context

There is no required progression or minimum frequency. The Cardisuit does not rely on cumulative “training” in the way adjustable breathing tools do.

Before & After Tests

Some find it helpful to observe how they feel before and after Cardisuit sessions. The following simple tests are optional and are provided as awareness tools rather than performance targets.

Simple Awareness Checks

Nasal Ease Test

- Notice whether nasal airflow feels smoother or more open after the session.

Breathing Ease Check

- Observe whether your breathing feels calmer, slower, or lower.

Calmness Score (1–10)

- Rate your mental state before and after.

Tension Scan

- Check for changes in neck, jaw, or shoulder tension, or in other parts of the body.

Physical Before/After Tests

These tests can be used before and after using the Cardisuit to observe changes in your body and breathing. Ideally, choose three to four exercises and perform them in the exact same way each time. For example, if you test while sitting, the retest should also be done while sitting. Repeat each test a few times at the beginning to ensure consistent results.

More important than the actual numbers or performance is how the exercise *feels*.

Use these three guiding questions as your main "rating system" for all tests:

1. **How do you breathe during the exercise?**
2. **How do you feel — calm, neutral, or stressed?**
3. **Where do you notice tension — and how much?**

These questions help you notice changes in your experience that may not be captured by speed, strength, or flexibility alone. They offer a simple way to reflect on how the session feels to you.

1. **Neck and Shoulder Stress - Inner rotation and outer rotation.**

   The whole arm is lifted to 90 degrees to the side, with the forearm bent down 90 degrees. Rotate up and down.

   Passive: The client (a) sits upright. The coach (b) lifts the client's arm next to the body to 90 degrees and lightly supports the arm under the elbow. The forearm is bent, and the coach passively tests the internal rotation - meaning without any help from the client - to see how far the arm drops down. The same is done in the other direction (external rotation).

   - Pay attention to range of motion, tension patterns, and differences between right and left. How is the movement performed - calm, rushed, clean, stressed?

   Active: The client can perform the same test on their own but should make sure to keep the arm relaxed while letting it hang.

   Test → Use the Cardisuit → Repeat

2. **Range of Motion: Arm Rotation**

   Sitting or standing, lift both arms in front of the body at chest height. Then alternately rotate the right and left arm away from the center as far as possible. One arm stays extended forward while the other rotates. Try to avoid moving the spine.

- Pay attention to range of motion, tension patterns, and differences between right and left. How is the movement performed - calm, rushed, clean, stressed?

Test → Use the Cardisuit → Repeat

3. **Stretch: Hands to Floor**

   Try to reach the floor with your hands while keeping your legs straight.

   Stand upright; the knees can be slightly bent. Bend the upper body forward and try to touch the floor with your hands.

   - Pay attention to range of motion, tension patterns, and differences between right and left. How is the movement performed - calm, rushed, clean, stressed?

   Test → Use the Cardisuit → Repeat

4. **Coordination: Pistol To Peace**

   With one hand, show a peace sign away from your body. With the other hand, form a pistol shape pointing toward the peace sign. Then alternate the finger positions back and forth.

   - Pay attention to range of motion, tension, and differences between right and left. How is the movement performed - calm, rushed, clean, stressed?

   Test → Use the Cardisuit → Repeat

Notes on Interpreting Results

Sometimes Results May Worsen — This Can Be Normal

Before- and after-tests are meant to help you observe changes in calmness, flexibility, coordination, or CO_2 tolerance. However, it is normal that results do not always improve. Just like physical exercise, CO_2 training places a small demand on the body, and occasionally this may temporarily reduce performance or increase tension.

This does **not** mean something is wrong. It is simply a sign that you are exploring your current limits, just as in any other form of training.

The key is to find the right dose: If a session leaves you feeling slightly tired, unbalanced, or stiff, this can be part of the normal training response. If results consistently feel worse, reduce intensity, shorten duration, or take a rest day.

Before/after tests are not about achieving perfect numbers — they are about helping you understand how your body responds so you can train gently and sustainably.

TROUBLESHOOTING

Diagnostic Table

Issue	What to check/what to do
CO_2 smell or suspected leakage during filling or session	Confirm the zipper is fully closed. Confirm the neck seal sits correctly and is not too loose. If the neck seal is loose, apply tape around the neck to reduce leakage. Stop the session if a significant leak is suspected.
Neck seal feels too loose	Use a small neck seal if available, or apply tape around the neck to reduce leakage.
Neck seal feels too tight	The standard neck seal can be trimmed to fit a larger neck size. Trimming is not reversible.
Suit does not feel properly vacuumed	Confirm the vacuum pump is connected to the grey valve and the vacuum tube is oriented correctly on the pump (opposite side of the red on/off button). Check that the white center part of the valve is pressed into position.
CO_2 leakage at cylinder/ regulator connection suspected	Ensure the regulator nut is tightened using the wrench. Check for leaks at all connections.
User discomfort during session (dizziness, shortness of breath, discomfort)	Stop the session immediately, open the zipper to release gas, assist with exiting the suit if needed, provide fresh air and water. Seek medical assistance if symptoms persist.
Suit appears damaged or not airtight	Inspect seams, valves, and the neck seal area. If damage or leaks are detected, discontinue use and contact the supplier for inspection or repair. Do not expose the suit to high temperatures.

Issue	What to check/what to do
Slight deflation during the session	Minor leakage and CO_2 absorption can occur. This is normal if discomfort is not present. Check neck seal fit and limit movement.
Valve does not seal / air entering the suit	Check that the white center part of the valve is pressed into position. Ensure the hose is fully disconnected before closing the valve.
Inflation gun does not release CO_2	Confirm the CO_2 tank valve is open and the regulator is securely connected. Ensure the inflation gun is properly attached to the valve before sliding the blue collar.
Vacuum pump not removing air	Check that the vacuum pump tubing is connected to the correct port (opposite the red on/off button). If connected to the other port, the pump will push air into the suit instead of removing it.

Equipment & Setup Troubleshooting

CO_2 Tank Handling Checks

- Always turn the CO_2 tank off after filling the suit.
- Do not store CO_2 tanks in temperatures exceeding 52°C (125°F).

CARE, CLEANING & MAINTENANCE

Proper care and maintenance of the Cardisuit helps ensure proper hygiene, preserves airtightness, and extends the lifespan of the suit and its components. Follow the guidance below after each session and during regular cleaning.

General Handling & Storage

- Treat the Cardisuit as a precision therapeutic garment.
- Avoid sharp objects, rough surfaces, or unnecessary stretching of the material.
- Do not compress, or stack heavy items on top of the suit.
- Store the Cardisuit hanging in a clean, dry, and well-ventilated area.
- Keep valves and seals slightly open during storage to prevent trapped moisture or odor buildup.

After-Each-Session Care

After every session:

1. Hang the Cardisuit on a hanger to allow residual CO_2 to dissipate and the suit to air out fully.
2. Clean the neck seal using a disinfectant wet wipe or a soft cloth with mild disinfectant.
3. If the suit feels warm after use, additional airflow (such as a fan) may be used to speed drying.
   - Allow the suit to dry completely before storage or reuse.

Regular Cleaning (Monthly or as needed)

For deeper cleaning:

- Hand-wash the Cardisuit in room-temperature water using mild soap or standard laundry detergent.
  - A detergent with bio-enzymes and light fragrance may be used to aid in high odor buildup

- Gently squeeze out excess water with your hands.
- Do not twist, wring, or stretch the fabric.
- Air dry by hanging the suit in a well-ventilated area.
- Avoid direct sunlight, heaters, or heat sources.

Do not store or pack the Cardisuit until it is completely dry.

Neck Seal Care

- Inspect the neck seal regularly for cracks, tears, or wear.
- Clean the neck seal after each session as described above.
- If the neck seal becomes damaged or loses elasticity, it should be replaced.

Trimming of the standard neck seal for larger neck sizes is permanent and cannot be reversed.

Inspection & Long-Term Maintenance

Regular inspection helps maintain safety and performance.

Check the following areas routinely:

- Seams
- Valves
- Zipper
- Neck seal area

If any damage, leaks, or material degradation is observed, discontinue use until the affected part is repaired or replaced.

The expected lifespan of the Cardisuit is approximately **three years** with proper care and maintenance.

Temperature Precautions

The Cardisuit must not be exposed to high temperatures.

- The internal tape adhesive begins to soften at 60°C and melts completely at 80°C, which can permanently damage the suit.

Avoid:

- Machine washing or drying
- Ironing or steaming
- Placing the suit near radiators, heating lamps, or direct sunlight

Hygiene Notes

Wearing light, soft clothing (such as underwear, a T-shirt, and shorts) during sessions helps reduce direct skin contact with the suit and minimizes odor buildup.

- CO_2 gas easily penetrates fabric, so clothing does not reduce effectiveness.

Antibacterial Properties of CO_2

- Carbon dioxide environments have been studied for their ability to inhibit the growth of certain microorganisms.
- For example, studies have shown that the growth of staphylococci can be significantly reduced in environments containing high concentrations of CO_2 compared with normal air.
- Since the 1930s, CO_2 has also been used in Modified Atmosphere Packaging (MAP) to slow microbial growth in foods such as bread, cheese, poultry, and coffee.

These antibacterial effects contribute to maintaining hygiene within the Cardisuit environment.

Disposal

Dispose of the Cardisuit and any worn components in accordance with local regulations.

TECHNICAL SPECIFICATIONS

This section summarises the technical characteristics of the Cardisuit system. All specifications are provided for reference and do not require user adjustment during normal use.

Dimensions & Weight

Specification	Medium	Large
Recommended user height	Up to approx. 183 cm (6'0")	Up to approx. 203 cm (6'8")
Suit weight	Approx. 2.4 kg	Approx. 3.0 kg

Weight, flexibility, and body proportions may influence fit. When in doubt, choosing a slightly larger size is generally preferable.

A visual size chart with additional fit guidance is provided in the appendix.

Materials

Component	Material
Cardisuit body	Neoprene
Neck seal	Silicone
Internal sealing tape	Heat-sensitive adhesive
Valves	Integrated polymer components
Zipper	Industrial-grade zipper (non-metal contact surface)

CO_2 Delivery Method

Feature	Description
CO_2 type	Food, beverage, or medical grade CO_2
CO_2 concentration during use	100% CO_2
Delivery method	External CO_2 filling after vacuuming
Exposure type	Whole-body CO_2 environment
User interaction during session	None required after filling

Typical CO_2 consumption: A Cardisuit session may consume approximately **200–300 g of CO_2**, depending on suit size, user size, and filling level. Actual consumption may vary.

Operating Parameters

Parameter	Specification
Session duration range	20–60 minutes
Common session lengths	30–50 minutes (based on user comfort)
User position	Primarily lying down. Sitting may be acceptable in certain situations
Supervision	Required where appropriate for comfort and safety

The Cardisuit does not include adjustable levels, pressure settings, or electronic controls.

Environmental Conditions

Condition	Requirement
Operating environment	Well-ventilated indoor space
Storage environment	Dry, clean, ventilated
Maximum exposure temperature	Adhesive softens at 60 °C; melts at 80 °C
Heat exposure	Must be avoided

The Cardisuit must not be exposed to high temperatures, open flames, or heat sources.

Quality Control and Leak Testing

Each Cardisuit undergoes quality control checks prior to manufacturer release.

These checks include verification of seam integrity, valve function, zipper closure, and overall airtightness of the suit. As part of this process, the suit is tested for airtightness over an extended period under controlled conditions.

This testing is performed under defined factory conditions and is intended to verify manufacturing integrity at the time of shipment. Minor leakage or deflation can still occur during real-world use due to movement, fit variation, and normal gas behaviour.

Vacuum Pump Power Requirements

The vacuum pump operates using a standard electrical outlet.

Depending on the region of shipment, the vacuum pump may be supplied with either a **European (EU) or United States (US)** power plug.

Users in countries with different outlet types may require a suitable **plug adapter** to connect the pump to their local electrical outlet.

WARRANTY & SUPPORT

This section provides general information about warranty coverage and how to obtain support for the Cardisuit system.

Warranty and Returns

The Cardisuit is designed for repeated use when cared for according to the instructions in this manual. The Cardisuit is covered by a 1-year warranty from the date of purchase when used according to these instructions.

To submit a warranty claim, contact cs@consciousbreathing.com with a brief description and a photo or video of the issue.

The warranty does not cover damage resulting from:

- Improper use
- Failure to follow care and maintenance instructions
- Exposure to high temperatures
- Unauthorized modification or repair
- Normal wear and tear

Support, Replacement Parts & Additional Resources

For replacement parts, ordering assistance, instructional materials, or general support, please contact Conscious Breathing through the official support channels:

- Email: cs@consciousbreathing.com
- Website: www.consciousbreathing.com

Instructional setup videos and additional resources are available from Conscious Breathing upon request.

LEGAL & REGULATORY NOTICES

This section provides an overview of the legal and regulatory obligations applicable to the Cardisuit. The device is designed in accordance with requirements related to CO_2 handling, and general product safety and responsibility.

The Cardisuit is not a medical device. It is intended for general wellness and personal use.

CO_2 Handling Regulations

The Cardisuit uses external CO_2 cylinders (food/beverage or medical grade) which are subject to the laws and handling requirements of the region in which they are purchased.

Users must follow all local CO_2 cylinder regulations.

- UN 1013 (international)
- DOT / OSHA / CGA (United States)
- ADR (European Union)
- Additional national requirements applicable in Asia and other regions

Each cylinder manufacturer is responsible for meeting the appropriate regulatory standards for their product. The Cardisuit does not modify or affect cylinder certification.

Electrical Safety – Vacuum Pump

The vacuum pump supplied with the Cardisuit system is an external electrical device used solely to remove air from the suit before filling with CO_2. It is not a medical device and does not remain connected during the session.

The vacuum pump may be supplied with a **US or EU power plug depending on the region of shipment. A UK plug adapter is included for compatibility with UK outlets.** Ensure the plug or supplied adapter is compatible with the local electrical outlet before connecting the pump.

Always use the vacuum pump in accordance with the manufacturer's instructions provided with the device.

Electrical safety guidance:

- Do not use the pump near water or in damp environments.
- Do not operate the pump if the power cord or housing is damaged.
- Do not attempt to open, modify, or repair the pump.
- Unplug the pump from the power outlet when not in use.
- Keep the pump out of reach of children.

If the vacuum pump does not operate as expected, discontinue use and contact the pump manufacturer or the Cardisuit support team for guidance.

Consumer Safety Responsibilities

Users are responsible for:

- Handling and storage of CO_2 cylinders
- Keeping the cylinder valve closed when the device is not in use
- Ensuring the device is not used by children
- Ensuring use in a well-ventilated room
- Inspecting parts for wear or damage
- Not modifying the device or its components
- Not attempting internal repairs

Improper cylinder handling or connection may result in leaks. If a leak is suspected, discontinue use immediately and ventilate the room.

Disclaimer

The manufacturer is not responsible for injury or damage resulting from:

- misuse or modification of the device
- use of non-compatible CO_2 cylinders
- use outside the instructions provided
- attempts to repair or alter internal components
- use in unventilated spaces
- using the Cardisuit with non-original accessories or unauthorized attachments

Users must follow all instructions in the manual for safe operation.

Intellectual Property

APPENDIX

Component Overview (Images / Diagrams)

Note: Photos in this appendix are for reference only.

Exact packaging, layout, or included items may vary by region and order date.

Cardisuit with parts case and suit carry bag

Cardisuit Protective case to store & transport your Cardisuit parts

Vacuum Pump - Vacuums out air before filling with CO_2

Inflation gun – connects to the Cardisuit to inflate with CO_2 gas from the regulator

Regulator – Attaches to your CO_2 tank with coiled tubing to attach to your inflation gun

Cardisuit Regulator Wrench – to connect your regulator to the CO_2 tank

Sleep Mask

Sizing Charts

The following charts provide visual reference for Cardisuit sizing and neck seal options. For sizing recommendations and fit considerations, see Section 3.3 – Sizes and Fit.

Available Sizes

- Medium: up to 183 cm (6’0”)
- Large: up to 203 cm (6’8”)

Neck Seal Options

- Standard neck seal: 28–43 cm (11–17”)
- Small neck seal: 22–30 cm (8.5–12”)

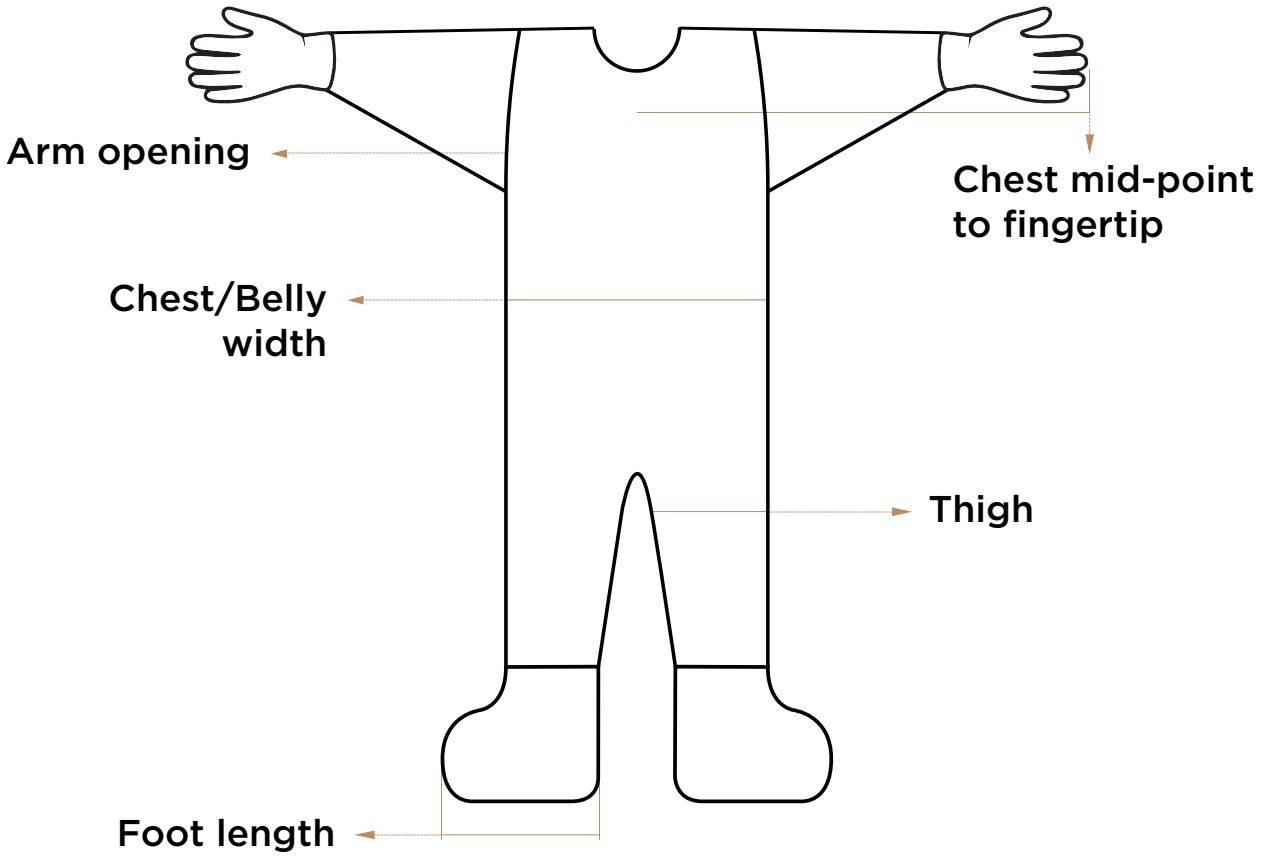
CARDISUIT SIZE GUIDE

The Cardisuit is available in two sizes, Medium and Large, designed to fit a wide range of body types comfortably and securely.

Which size is right for me?

- Medium fits up to approx. 183 cm / 6’0”
- Large fits up to approx. 203 cm / 6’8”

If you are between sizes or share the suit with others, we recommend choosing the Large for added comfort and flexibility.



Cardisuit size	Chest mid-point to fingertip	Arm opening	Chest/Belly width	Thigh	Foot length
Medium	102 cm / 40.2 in	44 cm / 17.3 in	72 cm / 28.3 in	37 cm / 14.6 in	38 cm / 15.0 in
Large	110 cm / 43.3 in	50 cm / 19.7 in	75 cm / 29.5 in	39 cm / 15.4 in	40 cm / 15.7 in

All measurements show the garment laid flat.