



## Under Carpet Floor Heater Kit Installation Manual

Scan for Installation Support



We are here to support you

Contact Us

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**WARNING:** Failure to read this guide prior to installing your COLDBUSTER heater(s) may result in installation problems that could void your heater warranty.

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## Introduction

To ensure a simple and hassle-free installation, *read this guide before commencing installation.*

Coldbuster does not accept responsibility for any loss or consequential damage suffered because of installations that in any way contravene the instructions detailed in this guide.

If you require further assistance, please contact Coldbuster.

## Installation Dos and Do Nots

### Do:

- Ensure all heaters are installed as per these instructions
- Start each heater cold tail on the floor below the thermostat point
- Plan installation layout before starting, especially when more than one heater is being installed
- Protect the heater with cardboard or hardboard if carpet installation is delayed
- Test heaters before installing carpet (ensure monitor is connected, turned on, and no siren sounding)
- Ensure the heater is connected to an RCD (safety switch) protected circuit
- Retain your invoice as proof of purchase for warranty purposes
- Complete the last page of this booklet for future reference

### Do Not:

- **Cut heating element EVER**
- Allow heating elements to touch or cross one another
- Place sharp or heavy objects on uncovered heaters
- Install heaters under any surface not suitable for that particular floor heating
- Commence installing the final floor cover before testing heaters
- Only run the heating after the adhesive & grout has cured for a week

## Product Information

Coldbuster Under Carpet Heater Kits Contain:

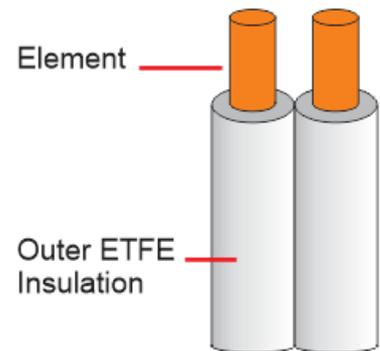
- Heater, consisting of:
  - Inner heating element
  - Outer aluminium foil mat cover
  - 3.0m cold tail
- Silver tape
- Installation Alarm Monitor
- Installation Manual



The heating element is sandwiched between 2 layers of 500mm wide aluminium foil, at a consistent spacing:

## Tools Required for Heater Installation

- Tape Measure
- Marker Pen
- Silver Tape
- Scissors
- Stanley Knife



## Electrical Information

### Electrical Preparation

The Coldbuster heater element has been classified as an electrical appliance. You must engage a licensed electrician for the heater installation if this is required by your state regulations.

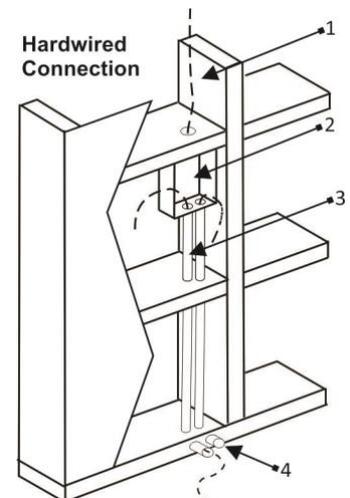
However, all electrical connections, including setting up the conduits (more detail below) and the connection of the thermostat must be undertaken by a licensed electrician in accordance with current electrical codes of practice, AS/NZS3000: 2007 and state codes.

### Residual Current Device (RCD)

1. The heater element must be connected to a circuit with RCD protection.
2. Consult with your electrician to ensure any existing cabling and RCD already installed are working and capable of handling the additional load.

### Hardwire Connection

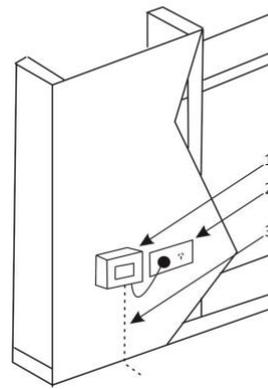
1. Power supply must be RCD protected
2. Standard flush box or C-bracket mounted horizontally or vertically, height between 1000mm - 1500mm above the floor
3. 20mm conduit for the heater leads
  - Number of leads per conduit depends on size of conduit
  - Maximum 2 heaters per conduit
4. 20mm conduit for floor sensor extended into the room (optional: most thermostats have a built-in sensor and can be set up for air sensor)



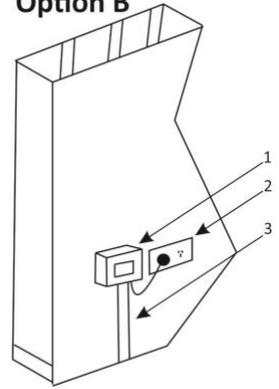
## Plug-In Connections

- Thermostat mounted between 300 - 600mm from the floor
- Power point must be RCD protected
- **Option A:** For cavity walls, fit heater lead and floor temperature sensor inside the cavity
- **Option B:** For brick walls, fit heater lead and floor temperature sensor inside PVC trunking and notch out the thermostat baseplate for cable access

Option A



Option B



**Floor Sensor Preparation** (typically provided with your thermostat)

- Install the floor sensor as shown in the electrical connection drawing, particularly if another form of heating such as air conditioning or a fireplace will also be used in the area
- Floor sensor is essential where the thermostat is mounted inside a cupboard or outside the area being heated
- After the heating is laid, the floor sensor should be secured at an even distance between 2 of the heater runs

## Underlay Preparation

- Ensure floor is clean before fitting the underlay
- After underlay has been fitted to the floor, vacuum it and remove any foreign objects (e.g. staples, nails or grit) that could possibly damage the carpet heater

**The underlay MUST NOT be stapled or nailed to the floor but can be butted together and taped at joints and edges if necessary**

# Planning Heater Layout

## Heater Choice

Ensure the heater(s) you have purchased is/are correct size for the area. Installing a heater too small may not produce enough heat to warm the area sufficiently, whereas too big a heater simply won't fit!

It is important to plan the position and layout shape of the heater(s) before starting the installation. The last thing you want to do is to have to pull up your installed heater(s) and restart because you ran out of room or otherwise placed the heater(s) incorrectly.

## Step 1: Mark Out Permanent Fixtures

Using the tape measure and marker pen:

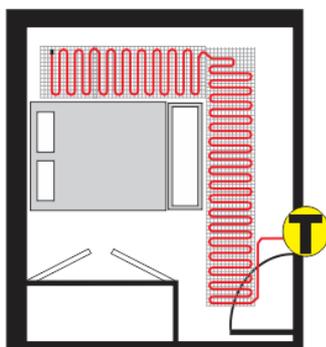
- Reference a floor plan for accurate dimensions and mark out permanent fixtures (e.g. closet)
  - If your permanent fixtures are wall hung, you have the option to heat underneath in order to ensure your feet keep warm when standing up against them
- Mark a 20cm distance from walls and any permanent fixtures

## Step 2: Plan Heater Layout

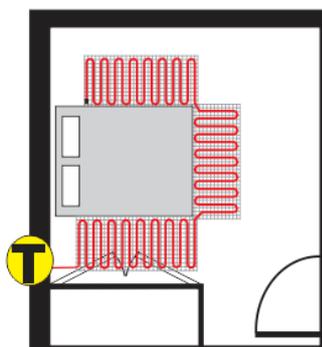
- When considering layout, keep in mind:
  - The heater will start on the floor below the thermostat position (for multiple heaters on one thermostat see page 10)
  - Maintain 20cm distance from walls and permanent fixtures so the teeth of the carpet kicker do not damage the heater(s) when fitting the carpet
  - Maintain a 30mm spacing between elements
  - The heater is 500mm wide
- Using the tape measure and marker pen, mark out the placement of your runs (e.g. a line at the beginning and the end of the run and an arrow to indicate the direction)

## Step 3: Check Layout with Heater Length

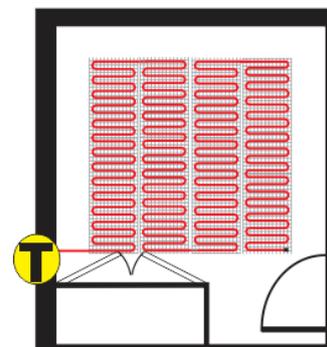
- Add up the various heater runs' lengths to confirm that they add up to the total heater length (found on the box end)
- If you have more than one heater, the total length of runs should add up to the total of the heater lengths



2 RUNS



3 RUNS

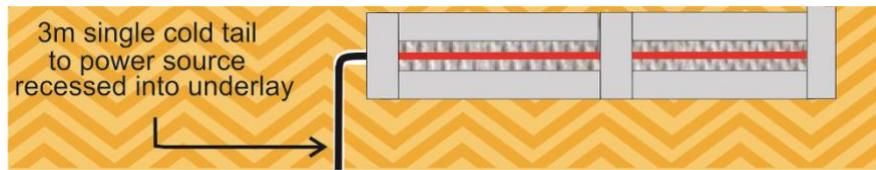


4 RUNS

# Pre-Heater Installation

## Step 1: Place Cold Tail

- Connect (e.g. using tape) the cold tail to the draw wire and pull it up through the pre-installed conduit or wall cavity to the thermostat position
- Based on your planned layout, cut a section of the underlay below the thermostat where the cold tail will be recessed
- Secure the connector joint(s)/cold tail into the cut section of the underlay using tape



## Step 2: Connect Monitor

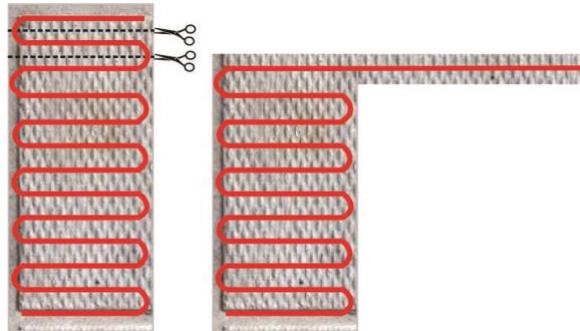
- The purpose of the monitor is to confirm that the heater is working and not been compromised.
- The monitor should remain connected until the floor has been installed and your electrician connects the thermostat.
- Test the monitor before connecting to heater: Switching the monitor on with no heater connection should sound the alarm and turn on the red light. If these things don't occur, check that the battery is connected properly or replace the battery.
- Ensure the heaters to be monitored are not connected to a power source
- Connect the various wires to the alligator clips and pull the rubber boots over the metal clips:
  - Green alligator clip – green wire
  - Red alligator clip – brown wire
  - Black alligator clip – blue wire
  - Recommendation: Each clip can be taped up with insulation tape to prevent the clips from touching and setting off the alarm
- Once connected, there should be a white light which indicates that the monitor is checking the heater for damage.
- Hang or place the monitor where it can be seen and heard during the installation
- Should the white light go out, batteries will need to be replaced
- The alarm sounding and a red light indicates that, either:
  - A lead wire has come loose from the terminals;
  - The red or black alligator clip is touching the green alligator clip; or
  - Damage has occurred to the heater.
- It is important to stop work and identify the cause of the alarm sounding immediately.
- In the event of damage to the heater, call Coldbuster on 1800 85 75 65 for assistance.



# Heater Installation

## Step 1: Cut Strips of Heater to Reach First Run

- The first run may not begin directly below the thermostat point. This will depend on the location of the thermostat, the layout of the room and the planned heater layout
- If this is the case, cut the aluminium foil cover between the elements, **WITHOUT CUTTING THE ELEMENT**, to separate the individual loops to place the heating element in one line



## Step 2: Begin Laying the Heater

- With the heater layout in mind, the overall process is to roll out the heater, cut the aluminium foil cover to change direction (if/when required) and secure the heater to the subfloor using the silver tape

## NEVER CUT THE HEATING ELEMENT

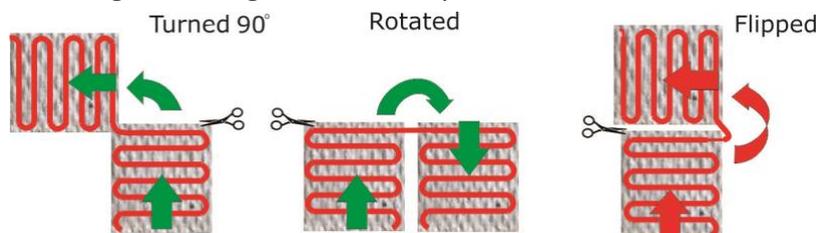
- Place the heater on the underlay with the side where loops are loose facing up, then roll the heater out in accordance with the planned heater layout – this is your first run
- Secure the heater to the underlay by taping the beginning of the run down using the silver tape
- Where the run ends, use the scissors to cut the aluminium foil cover **WITHOUT CUTTING THE HEATING ELEMENT**
- Use the silver tape to secure the end of the run

## Step 3: Changing Direction of the Heater (if/when required)

- Once you've reached the end of the run you will need to change direction
- Redirect the rest of the heater in the direction of your next run
- See diagram below for ways you can redirect

## HEATING ELEMENTS MUST NEVER TOUCH OR CROSS

- Things to keep in mind while setting up next run:
  - Ensure that your next run is consistent with the heater layout you planned
  - Where necessary, cut the aluminium foil cover (without cutting the heater element) to separate the element into a single line to get to another point

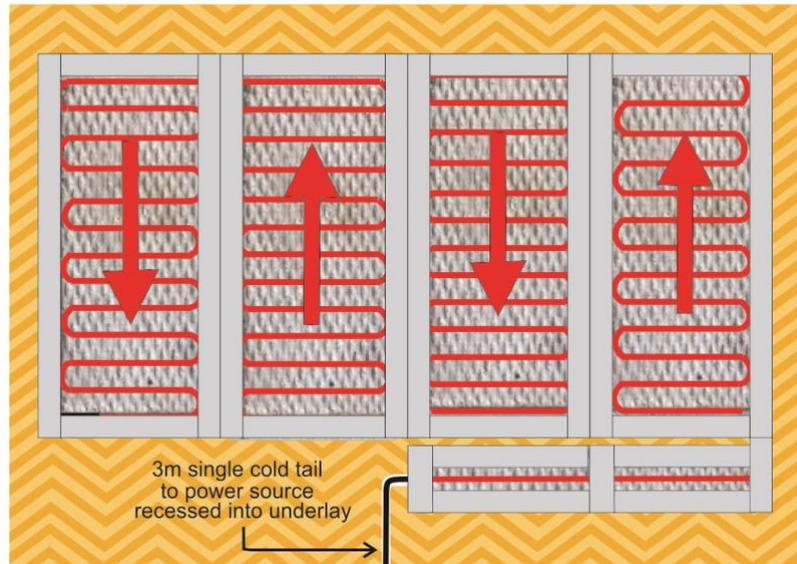


## Step 4: Finish Laying Heater

- Repeat above steps until the heated area is covered as per your heater layout
- If there is extra heater length left over
  - Cut the aluminium foil cover (without cutting the heater element) to separate the element into a single line and lay along the perimeter of the room, around where the heater is already laid
  - Ensure that the heating is at least 20cm away from walls and permanent fixtures (e.g. closets)

### Step 5: Silver Tape All Edges of the Heater

- Once each run is secured at beginnings and ends, use the silver tape to secure the carpet heater on the long edges of each run
- By completely covering spaces between each run and leaving no element exposed, you ensure earth continuity
- Do not substitute silver tape from other sources as not all tape is compatible
  - Coldbuster provides more than enough tape, however, should you run out additional rolls can be purchased separately
  - Using alternatively sourced tape will void warranty



### Step 6: Install Floor Sensor

- Floor sensors are optional but recommended by Coldbuster
- The floor sensor should be recessed into the underlay (similarly to how the cold tail was) and should be placed an even distance between 2 elements
  - To ensure proper placement of the floor sensor, it is ideal to lift the corner of the already laid carpet heater off the underlay and mark where the heating element will lay as in indicator of where your floor sensor should be placed
  - Then cut a slit in the underlay where the floor sensor will be recessed, from the conduit to where the end of the floor sensor will sit
- Feed the floor sensor through the conduit until it comes out at the bottom
- Tape it securely in the slit of the underlay





## Laying Floor Covering over Coldbuster Floor Heating:

- Additional care should always be taken when working over floor heaters
- It is recommended that a piece of cardboard or carpet is used to temporarily cover the heaters to avoid accidental damage to the heaters while laying floor covering in other areas
- Ensure that fitting of the carpet doesn't change the position of the heaters
- When stretching carpet, avoid putting the carpet stretcher or knee kicker on top of the heaters
- Do not cut or join the carpet on top of the heaters
  - If joining the carpet with the heat bond tape, a strip of cardboard must be moved under the heat bond tape below the join, along with the iron
- If the monitor sounds an alarm:
  - Stop work immediately and check monitor connections (see page 7)
  - If connections are secure but alarm still sounding, then check the heater element and insulation resistance
  - Test yourself if you have a multi-meter, otherwise contact Coldbuster or your electrician.
- Do not allow any heavy or sharp objects to fall, stand upon, run over or be dragged across exposed heating elements
  - Place buckets of tile glue on a piece of hardy sheet to protect the element from the weight of the bucket
  - Do not use an angle grinder to create expansion joints

**IMPORTANT: The monitor will detect damage to the element needing to be repaired immediately (if there are cuts to the element). Bruising damage will only manifest at 240V. An insulation (Megger) test by an electrician is recommended.**

## Thermostat Fit off & Connection to Mains Power

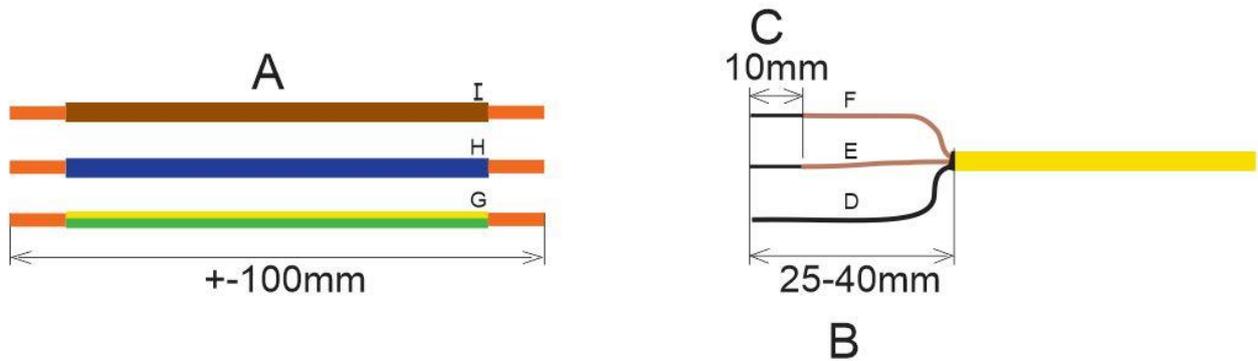
- **IMPORTANT: THESE STEPS MUST BE DONE BY A LICENSED ELECTRICIAN**
  - Check thermostat instructions for wiring details
  - All heaters must be connected to RCD protected supply circuit
- Disconnect monitor from heater before connecting heater and floor sensor to thermostat and thermostat to mains
- *Multiple* heaters must be connected in *parallel*
- Use of the floor sensor is optional but recommended
- The floor sensor is essential when the thermostat is mounted inside a cupboard/vanity or outside the area being heated (air sensor won't pick up correct temperature)
- Remember:
  - These are double insulated devices – there is no earth connection to the thermostat
  - The earth of the heater connects directly to the earth of the supply in a screw connector

## Damage and Repair

If the monitor sounds an alarm and the LED lights up red during installation, stop work immediately and remove the flooring and adhesive where the damage has occurred

If the damage is not clearly visible, use an insulation tester set at 1000V connected to the element and the earth screen. This should create a spark where the damage has occurred

The repair can be done in the following manner:



1. Strip back the outer insulation of the cold tail & cut off about 100mm of (non-resistive wire) brown, blue & earth wire (A).
2. On each of these lengths, strip off the insulation to expose about 10mm of copper at each end.
3. Using a blade, strip about 25-40mm of the outer Nylon coating off the heating element (B)
4. Separate the earth screen (D) from the insulated 2 inner cores (E&F) and twist the strands of the earth screen (D) together
5. Strip about 10mm of the Polymer coating of the 2 elements (E&F) by heating it with a lighter flame until it melts, then pull it off
6. One at a time (2 elements & earth wire), slip a crimp tube over the end
7. Insert respectively the non-resistive wire into the crimp tube. i.e. I&F, E&H and D&G. The green/yellow earth wire (G) is the only wire that must be connected to the outer earth screen braided wires (D) that were twisted together earlier  
The 10mm ends of the non-resistive wire & the element end should now be side by side with the crimp tube over it  
The crimp tube can now be crimp together with the correct crimping tool. If crimps are not available, the connection can be soldered
8. Before doing the other ends, slip a 2 x 25mm heat shrink tube over the crimp of each wire (H&I) of the heating element and shrink with heat – the earth wire (G) does not need a heat shrink tube over it
9. Recess the repair joins and cover with hot melt glue or non-conductive silicon



**Electrical connections and repairs must be undertaken by a licensed electrician  
Coldbuster sells repair kits**

## Safety & Operating Instructions

This is an electrical heating system and must be used strictly in accordance with the manufacturer's instructions:

- Heaters **must** be connected through an RCD (safety switch) circuit breaker
- Do not drill holes or drive sharp objects (i.e. nails or screws) into your floor without knowing with absolute certainty that you will not touch the heating elements
- Do not cover large areas of floor with dense, insulating objects as this will negatively influence the heater's effectiveness and may cause the heating element to burn out with prolonged misuse
  - E.g. waterbeds, thick rugs, beanbags or sleeping bags
  - Carpets may be damaged under these circumstances
- Do not cover the heated floor with an insulator such as a pillow or duvet for more than two hours
- Do not place on top of the heated floor furniture without legs that have solid bases
- Do not subject heaters to abnormal conditions such as under home exercise equipment or castor chairs without a carpet protector **or in an industrial environment**
- Turn off the power when steam cleaning carpets
  - Never use floor heating to dry out carpets
- In case of damage or the unlikely event of heater failure, the RCD switch will trip and cut off power to the heating
  - In this case, turn off the thermostat and contact Coldbuster
  - Do not attempt to repair the heater
- Inform them about the position of the heaters and pass these safety and operating instructions on to new owners or tenants

## Economy Tips

The ideal temperature of the floor depends on the heat required to maintain the desired room temperature. If it is very cold outside, the floor will have to be warmer to maintain the same room temperature than when it is moderately cold outside.

Ideal temperature also depends on size of area, ventilation, insulation, ceiling height, etc. Another important factor is whether you are intending to use the floor heating to heat just the floor or to be the primary heat source for the room area.

The lower the temperature you set on the thermostat, the less electricity the heating uses. We advise you to experiment to find the most comfortable setting. Start at a low temperature first, so if you find this desirable you know you're not using more electricity to maintain higher temperatures than needed.

A cold area will not heat up any faster by setting the thermostat to its maximum setting. Simply set the thermostat to your desired temperature and the heater will draw maximum power until the selected temperature is reached.

Reducing heat losses will make your heating system run more efficiently and economically.

Heat is lost through sub floor, windows, doors, ceiling and walls. Ways you can reduce heat loss:

- Install insulation in the floor, ceiling and walls
- Keep doors, windows and curtains closed

Other common sources of heat loss include:

- Open chimneys/fireplaces
- Stairwells
- A/C ceiling grilles

## Warranty

Every heater is thoroughly tested before shipping and is guaranteed to be in good working order on dispatch. Coldbuster guarantees its products subject to the following conditions:

1. The product is free of defects at the time it was supplied. The product will be deemed to be defect-free if no defect has been detected and reported to Coldbuster:
  - a) within 20 years (240 months) from date of purchase (for heaters); or
  - b) 3 years (36 months) from date of purchase (for thermostats).
2. The following are conditions of this guarantee:
  - a) a competent person installed the product;
  - b) the installation was carried out according to the directions as supplied by Coldbuster;
  - c) the installation was carried out in accordance with all applicable electrical regulations; and
  - d) the heater has been connected to RCD protected supply circuit.
3. Damage during installation by others is not covered by warranty.
4. Damage or repair to a product by any party voids this guarantee. Repairs done by Coldbuster to rectify any damage cannot be guaranteed and the client will be charged regardless of the result.
5. Claims under this guarantee must be lodged with Coldbuster in writing within the period prescribed. Full particulars must be given and a copy of the invoice as proof of purchase must be enclosed.
6. In settlement of its obligations under the guarantee set out above, Coldbuster shall, at its option, either:
  - a) repair or replace the defective part without charge; or
  - b) pay the purchaser a sum equal to the price paid for the defective part at the time of purchase.
7. Coldbuster's liability to the purchaser is limited to amounts referred to herein. The purchaser agrees that Coldbuster shall not be liable for any other or additional damages suffered by the purchaser caused by any defects in the product, the installation itself or any constituent part of it. Coldbuster shall not be liable to compensate the purchaser for any floor coverings or any other item damaged or destroyed as a result of any such defects.
8. This guarantee is subject to the purchaser adhering to all safety and operating instructions.
9. This warranty is non-transferable.

