



Instruction Manual

54 Elizabeth Street, Building #10
Red Hook NY 12571

Order Line: (866) 468-8473
Tech Line: (845) 758-0700
Fax: (845) 758-2057

Cautions and warnings

Although some CHR Heaters are designed for outdoor operation, as with all electrical devices there is a risk of electric shock which can result in injury or death. Be sure the plug connection is not in standing water.

DO NOT use the Heaters if there are any visible signs of damage.

CHR Heaters are built for a specific use. Heating items of a different size, or shape is not approved nor is another different heating task approved other than the intended purpose.

The heaters are built to be installed in a smooth/flat manner. Bunching, folding or over-lapping heated areas of the Heater will result in over-heating. This can result in damage to item being heated or the Heater itself. Read the section on “How to Install” for specific information.

ONLY use the proper sized item, the heated area should NOT over-lap.

Be sure to use the proper electrical voltage as your power supply and it matches the design of your product.

Avoid folding or creating a hard crease in the product and do not place heavy objects on top of the heaters. This can lead to heating element damage and will void any warranty.

- Heaters must only be used by qualified personnel.
- Installation must be carried out by qualified personnel.
- Heaters must be installed maintaining good contact to surface that is to be heated.
- Do not use in explosive or hazardous areas.
- Do not touch when heaters are energized.
- Do not exceed maximum operating temperatures.

How to Install – Removable Heaters

1. Fit the Heater around the item to be heated and draw snug to ensure the best contact with the surface to be heated. Attach via the Velcro closures or straps provided. Making direct and physical contact is best for heat transfer and proper operation of the heater.
2. Once properly installed energize the Heater by connecting it to the proper power supply. *Do NOT energize the heater before it is installed.*

How to Install – Adhesive Backed Silicone Heaters

Installation of adhesive backed silicone heaters will be most successful with the following procedure:

- Surface must be unified, dry and free of contaminants
- Firm pressure must be applied to maximize surface contact
- Time and temperature will increase the surface contact and adhesion values

Recommended surface temperature is 70°F to 100°F (21°C to 38°C). Temperatures below 50°F (10°C) is not recommended for installation.

Prepare the surface of the part by cleaning with an appropriate agent to clean grease, dust and other contaminants from the surface.

Carefully remove the peel sheet from the adhesive assuring as little contact with the adhesive surface as possible.

Place the heater and press firmly in place

Allow the adhesive to cure for 24 hours

Do not allow adhesive to experience sustained temperatures in excess of 230°F

RTV – Field Applied Adhesive

Clean area to be bonded. Allow to dry thoroughly.

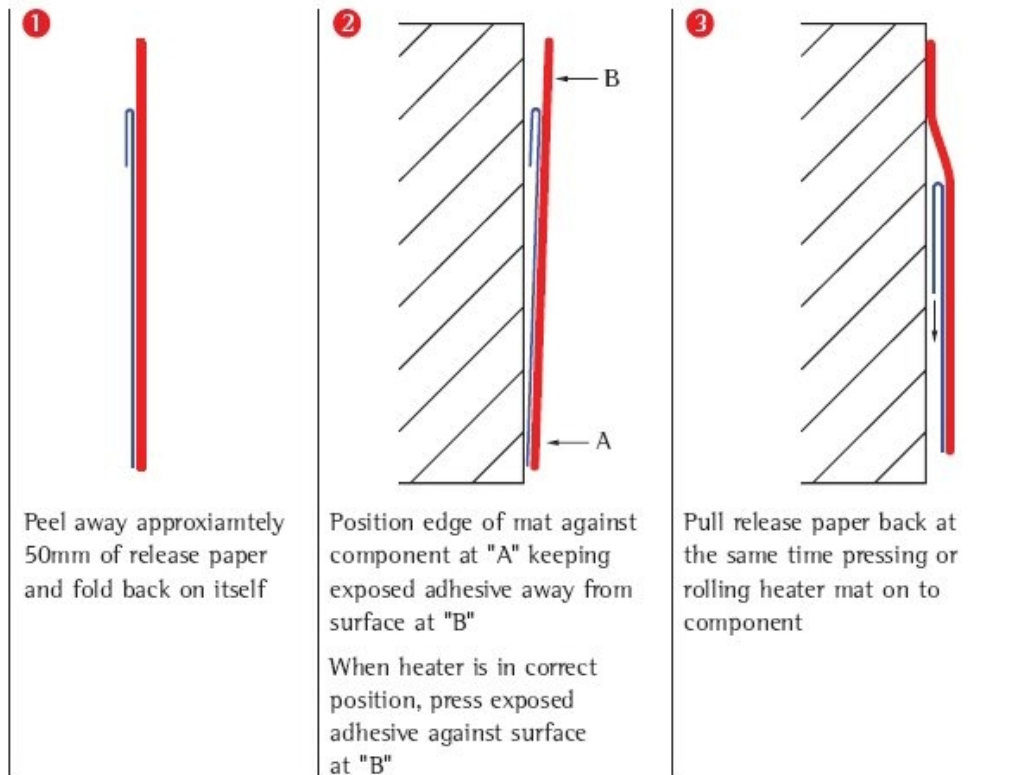
Squeeze proper amount from RTV tube onto the heater surface

Spread evenly on heater using spatula or putty knife (approx. 1/16" thick). Be sure to avoid air pockets. NOTE: RTV will begin to air cure within 10 to 15 minutes.

Apply adhesive side to part. Start at one end, gently but firmly rub heater onto part. Once again be sure to avoid air pockets.

Allow to cure for 24 hours

Factory vulcanization to the customer supplied part assures the best heat transfer and longest heater life.



SETTING THE DESIRED TEMPERATURE (SETPOINT)

On/Off Controller – DTC1 (grey plastic housing)



To view and adjust the set point, follow these steps:

1. Allow the controller to go through the start up procedure (about 10 seconds). Then press the MENU button and the display changes to flashing SP.
2. Press the MENU button again. The current set point is displayed.
3. Press the Up or Down button to adjust the set point temperature (max. 212 Fahrenheit or 100 Celsius).
4. Press the MENU button to save.

The display then returns to the sensor reading temperature (Process Value)

To convert to Celsius, press the Up and Down buttons simultaneously. Press them again simultaneously to return to Fahrenheit.

The enclosure of the Digital Controller has a NEMA 4X (water tight) high-impact plastic enclosure. It does not require any additional internal wiring, it is pre-wired.

High voltages may be present at AMP electrical terminals and other exposed internal metal surfaces. DO NOT open the Digital Controller for any reason, high voltage is present inside the case, no repairs will be possible outside the Factory. Should a malfunction occur, the entire unit needs to be returned to be evaluated/repared.

SETTING OTHER FUNCTIONS

**It is possible to Lock the Display so that no changes can be made to the Temperature Set Point or other settings. To obtain these instructions please contact our Tech Line at tech@customheatersandresearch.com or call 845-758-0700.

It is not recommended to change Factory Settings of other functions. This can cause significantly lesser accuracy of temperature control and be dangerous in the event of Temperature Sensor Failure.

These other functions are:

- Differential - displayed on the LCD as diF (factory setting "1")
- Anti-short Cycle Delay - displayed on the LCD as ASd (factory setting "0")
- Temperature Offset - displayed on the LCD as OFS (factory setting "0")
- Sensor Failure Operation- displayed on the LCD as SF (factory setting "0")

Press and hold the MENU button until the display changes to flashing SP. This will take about 2 seconds.

Press the Up or Down button repeatedly until the desired function is displayed. (SP,dIF,Asd,OFS,SF)

Press the MENU button to display the function's current value

Press Up or Down button until desired value is displayed.

Press the MENU button to save the new value. The display then returns to the sensor temperature

PID Logic Enabled Digital Controller –Model 32B



Setting the Self Tune Function- First Usage

1. Plug in the Digital Controller, wait until the Process value shows on the display
2. Press ENTER button; Display shows AT Off
3. Press UP button to change to AT ON
4. Press ENTER again to lock in your selection
5. Press ENTER again to return to the Process value screen

Should Auto Tune be running, the AT remains Flashing. Once the process is complete AT stops flashing. Allow the heater and chamber to cool off completely and the unit is ready for future use.

SETTING THE DESIRED TEMPERATURE (SETPOINT)

To view and adjust the set point, follow these steps:

Simply press the Up Arrow on the face of the Controller to the desired Set Point and press Enter to save the new setting.

All of the PID Controllers have had the parameters set by the CHR staff. These include the type of temperature sensor, maximum temperature allowable etc. (all others were left at their default settings):

EXAMPLE ONLY:

In the 'Configuration Mode':

Input-	Pt.C
Upper Limit-	100C
Lower Limit-	-20C
Alarm 1-	No Alarm
Alarm 2-	No Alarm

In the 'Setup Mode':

Auto Pre-tune-	Enabled
Setpoint Value-	0C

How to Store

CHR Heaters are built tough to handle life in the field, however if cared for they will last longer. We suggest the life expectancy of the product to be 5 years or more, but have seen many last much longer!

Store the Heaters flat or rolled up loosely, but try not to fold over and make hard crease.

Do NOT crush the Heaters placing something heavy on top of them

Troubleshooting

SIZING PROBLEMS

TOO SHORT Should the Heater not reach all the way around- remove completely and re-install making sure that the Drum Heater is flat and smooth.

TOO LONG Check to see if the heated areas overlap each other; if the heated areas overlap, it is not the proper size and you should call the CHR Tech Department.

Should the Heater be too long it should NOT be used.

ELECTRICAL / HEATING PROBLEMS

NOT HOT ENOUGH: If the Heater seems not to be getting hot enough, check it with an infrared temperature sensor. If it is determined to be operating low, try to ensure that the adequate Amps or Watts are available and that voltage is correct. If less than proper Voltage is (i.e.: 120 or 240 depending on model) the warmers will operate at less than their potential. Extra long extension cords should not be used, whereas voltage will drop over the length of the cord. A proper heavy duty extension cord should be used.

TOO HOT: If it is thought the Heater is too hot, check with infrared temperature sensor. If it is determined that it is actually running too hot send the Heater in to us for calibration or repair .

POWER CORD PULLED OUT: This should ONLY be done by a CHR technician. More damage is usually done by someone trying to make a "quick-fix".

MELTED THROUGH: If the Heater is melted, this is a sign of either improper installation or a malfunction with the Heater and should be taken seriously.

You should not use the Heater at all until it can be checked by a technician at CHR Inc.

Warranty Information

All CHR products come with one year warranty from date of purchase.

Warranty cards MUST be filled out and sent in to our physical address within 30 days of purchase.

CHR will, at their option, repair or replace defective products free of charge during the warranty period, including standard UPS shipping back to the customer (within the USA). This includes ANY flaw during the manufacturing process including normal heat-up, temperature accuracy or failure.

The warranty only excludes mis-use or abuse to the product, such as:

- Leaving the Heater plugged in or energized while NOT mounted on a drum.
- Bunching or folding the Heater over during operation.
- Using on the incorrect drum size, over-lapping the Heater.
- Stepping on, driving over or crushing the Heater.

REPAIRS AND WARRANTY CLAIMS

The physical address of CHR is:

54 Elizabeth Street, #10
Red Hook, NY 12571

Warmers should be sent via UPS or Federal Express and have the following information included in the box:

Name:

Date:

Mailing Address:

Day-time telephone:

Problem or symptom:

Date product is needed back (we will make best efforts):

Method of payment: Credit Card or COD

WARRANTY CARD:

Fill both out and return to our office,
54 Elizabeth Street, Building #10, Red Hook NY 12571

PRINT LEGIBLY OR TYPE

NAME: _____

DATE: _____

ADDRESS: _____

MODEL: _____

SERIAL NUMBER: _____ (located on power-cord)

PURCHASED FROM: _____