



## Read all Instructions before beginning!!!!

Caution – EXTREME DANGER – Caution

Do not use or mix any other manufacturer's products with any Nitrous Express products.  
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**THESE INSTRUCTIONS APPLY TO NITROUS EXPRESS PRODUCTS ONLY!**

**FOR SANCTIONED RACE USE ONLY - NOT FOR SALE OR USE IN CALIFORNIA**

### NITROUS EXPRESS HOT WATER BOTTLE BATH INSTRUCTIONS

**IMPORTANT!!! NEVER PLUG IN OR TURN ON HEATER WITHOUT WATER COVERING THE HEATING ELEMENT...IMMEDIATE DAMAGE WILL OCCUR**

- ❖ The Nitrous Express Water Bath could come with one of two controller options depending on controller availability at the time of purchase.

If you have the bottle bath with the "Ink Bird" labelled controller use instructions below –Otherwise skip to page 3.



# Instructions for “Ink Bird” controller

## Key Instructions:

1. Check Parameter:  
In normal working status “**up arrow**” key once, it will display “setting temperature” value; press “**down arrow**” key once, it will display the “difference” value;
2. Parameter Setting:  
In normal working status, keep pressing “**S**” for more than 3s to enter set mode, set indicator lamp is on, screen displays the first menu code “**TS**”.  
Press “**up arrow**” key or “**down arrow**” key to move up or down the menu item and display the menu code.  
Press “**S**” key to enter the parameter setting of current menu, the parameter value starts to flash.  
Press “**up arrow**” key or “**down arrow**” key to adjust the parameter value of current menu.  
After the set, press “**S**” key to exit the parameter setting of current menu, the parameter value stops to flash. User can set the other functions as above steps.  
In any status, press “**power**” key to save the parameter modified value, and return to the normal temperature value.  
If no operation within 10s, it will exit the menu automatically and return to normal temperature display status, and does not save the parameter of this modification.

## Operating Instructions

In normal working status, press and hold “**power**” key for more than 3s to turn off the controller; in Power-off-status, press and hold “**power**” key for more than 1s to turn on the controller. In normal working status, screen displays the current measuring value, the controller switch modes between heating and cooling automatically.

## Menu Instructions

1. When the temperature is degrees Celsius (FC – C)

Code	Function	Setting Range	Default
TS	Temperature Set Value	-50 ~ 99.9°C	10.0°C
DS	Difference Set Value	0.3 ~ 15°C	1.0°C
PT	Compressor Delay	0 ~ 10 minutes	3 minutes
CA	Temperature Calibration Value	-15°C ~ 15°C	0°C
CF	Fahrenheit or Celsius Setting		C

2. When the set temperature is degrees Fahrenheit (FC – F)

Code	Function	Setting Range	Default
TS	Temperature Set Value	-50 ~ 210°F	50F
DS	Difference Set Value	1 ~ 30°F	3°F
PT	Compressor Delay	0 ~ 10 minutes	3 minutes
CA	Temperature Calibration Value	-15 ~ 15°F	0°F
CF	Fahrenheit or Celsius Setting		F

## Note:

When CF value change, all the set value restore to default value.

If you have the bottle bath without the “Ink Bird” label on the controller use instructions below



## Instructions for Non -“Ink Bird” controller

### Key Instructions:

1. RST Button: (On/Off switch)
  - A. If the unit does not turn on when plugged in, press the RST key once to turn the unit on.
  - B. To Power off the unit simply unplug from the power source.
2. SET Button:
  - A. Press the SET key once to enter the temperature control setting, press up or down button to adjust the desired water temperature then press the SET key again to exit setting mode.
  - B. Press and hold SET key for three seconds to enter the system menu settings, press the up or down key to select the adjustment menu, press set key once to enter the appropriate parameter settings, press up or down to adjust parameters needed to be modified, once adjusted, press the RST key to exit.

### Operating instructions

#### LED Status Description:

The HEAT light at the left side of the screen are used as the working indicator light, flashing is to indicate the delay of heating, if the LED is on solid it indicates it is on the status of heating.

#### Possible Codes and the settings:

Code	Definition	Setting Range	Default	Unit
HC	Heating / Cooling	H, C, or HC	C	N/A
CP	Temp Hysteresis	1-30 Deg F	2	Fahrenheit
LA	Lower temp limit	-58 Deg F	-58 Deg F	Fahrenheit
HA	Upper temp limit	194 Deg F	194 Deg F	Fahrenheit
PU	Delayed start	0-10 minutes	2 minutes	Minutes
CA	Temp calibration	-10 to +10	0	Fahrenheit

### Heating function:

#### Heating Mode:

When the water temperature is higher than or equal to the set value, the unit will not heat; when the measured temperature below the set value- hysteresis, the heating element will start to heat the water.

Example: If it is set to heating mode, and temperature is set to 85 degrees, hysteresis is set to 5, when the measured temperature is higher than or equal to 85 degrees, the heater is off. When the temperature drops below 80 degrees, it will then begin to heat the water again.

**Hysteresis Function:**

Hysteresis setting limits the maximum interval between the heating and stopping, the minimum interval between the opening and stopping is 1\* F, the maximum is 30\* F.

**Hysteresis Settings:**

Press SET key and hold more than 3 seconds to enter the menu display. With the Up or Down key adjust the screen to where the "CP" is showing on the screen. Press the SET key to display the hysteresis set value, press Up or Down key to adjust parameters, once you have the parameters where you want, press the set key again to save.

<b>Bottle Temp vs. Bottle Pressure</b>	
<b>Degrees (F)</b>	<b>Bottle Pressure (Psi)</b>
-30	167
-20	203
-10	240
0	283
10	335
20	387
32	460
40	520
50	590
60	675
70	760
80	865
85	950
97	1070
109	1150