INTRODUCTION

The Model AP7BCF70-2 Blast Chiller/Shock Freezer is used to rapidly chill cooked foods to temperatures suitable for refrigerated or frozen storage. It has a capacity of up to (14) 12” x 20” x 2.5” pans, or (7) 18” x 26” pans, (pans not included) on the (7) provided stainless steel wire shelves. Model AP7BCF70-2, in chiller mode, is capable of lowering the core temperature of up to 70 lbs. of food from 160° F to 40° F within 90 minutes or 100 lbs of food from 160° F to 40° F within 120 minutes. In Shock Freeze mode it is capable of lowering the core temperature of up to 60 lbs. of food from 160° F to 0° F within 4 hours. Model AP7BCF70-2 can have as options UV sterilization, an integral temperature recording device (printer), a second heated probe or a total of three non heated probes. It employs a high velocity flow of cooled air to assure even cooling of the food product, and to quickly bring the food temperature through the danger zone in which bacteria multiply rapidly. This is done in accordance with HACCP, FDA and all state regulations.

CONTROLLER FEATURES

The electronic control system is solid state and is based on the latest microprocessor technology. The display is VFD Industrial Type. It displays (4) lines of 20 characters each and allows operator viewing from any angle. The display is programmed to show clear step-by-step instructions and operating data. It is capable of storing 250 sets of data and 150 recipes. The unit has built-in safety and self-diagnostic systems. The controller notifies the operator if various faults, as listed below, should occur:

- Power supply failure / Restoration of power
- Faulty air temperature probe
- Faulty food temperature probe
- High air temperature (above 140° F)
- Low air temperature (below -35° F)
- High food temperature (above 180° F)
- Low food temperature (below 35° F)
- Excessively high or low pressures.

As an option, the unit can be operated by a PC. The PC interface allows the operator to remotely program the unit, operate it, download the data and print the data.

OPERATING MODES

The operator can choose from the following modes:

AUTOMATIC MODE

This is the preferred mode, in which the food probe is active and takes part in controlling the chilling or freezing processes. The cycle will never proceed to its next step until the food probe has reached its set breaking temperature. The operator needs only to select the recipe number of the food to be processed (up to 150 recipes can be programmed), then insert the probe into the food. It is recommended that the operator remove the food when its temperature starts to flash and the display shows “Ready”. The unit will automatically switch into holding mode (cavity air temperature between 35° F and 42° F) when the food has reached the end cycle programmed temperature.

MANUAL MODE

Operating time is set manually, by the operator, for the meal that has been chosen. Air temperature is controlled by the air probe. If the food probe has been inserted into the food it will provide temperature readouts only. The unit will automatically switch into the holding mode at the end of the cycle.
OPERATING CYCLES

The operator can choose from the following 3 operating cycles:

<table>
<thead>
<tr>
<th>MODE</th>
<th>END FOOD TEMP</th>
<th>USES</th>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOFT CHILL</td>
<td>38°F TO 40°F</td>
<td>FOR LOW DENSITY FOODS</td>
<td>AIR TEMP. IS 28°F TO 35°F</td>
</tr>
<tr>
<td>HARD CHILL</td>
<td>38°F TO 40°F</td>
<td>FOR MEDIUM &amp; HIGH DENSITY FOODS</td>
<td>AIR TEMP. STARTS AT 0°F, RISES TO 28°F TO 35°F WHEN FOOD CORE TEMP. REACHES 60°F</td>
</tr>
<tr>
<td>SHOCK FREEZE</td>
<td>0°F</td>
<td>FREEZE FOR LONGER STORAGE</td>
<td>AIR TEMP. IS HELD AT -25°F</td>
</tr>
</tbody>
</table>

**NOTE:** All Chill & Freeze Cycles automatically go into HOLDING MODE when the selected food core temperature is reached and remain there until the operator stops the cycle.

ADDITIONAL CYCLES

<table>
<thead>
<tr>
<th>MODE</th>
<th>USES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEFROST</td>
<td>TO DEFROST THE EVAPORATOR, NOT THE FOOD</td>
<td>USE AFTER SHOCK FREEZING CYCLE</td>
</tr>
<tr>
<td>UV</td>
<td>TO STERILIZE THE CAVITY, NOT THE FOOD</td>
<td>USE WHEN DESIRED</td>
</tr>
<tr>
<td>HEAT PROBE</td>
<td>TO HEAT THE FOOD PROBE</td>
<td>ALLOWS EASIER EXTRACTION FROM THE FOOD</td>
</tr>
</tbody>
</table>

PRINTER (OPTIONAL)

An optional strip recorder provides a record of the unit’s operating parameters during the cycle and the following holding period. The information recorded includes date, time, cycle identification, product identification and product core temperature at prescribed intervals.

PC CONNECTION (OPTIONAL)

The unit can be programmed and operated from a remote PC via modem and software (Windows 95, 98, NT, XP). Maximum distance is 4000 ft. Full instructions are supplied on a computer disc, which is furnished when the computer connection is ordered.

INSTALLATION

WARNINGS

READ AND CAREFULLY FOLLOW ALL OF THE INSTRUCTIONS IN THIS MANUAL BEFORE YOU ATTEMPT TO INSTALL THIS EQUIPMENT.

NOTE: Any changes made to the equipment without authorization from the factory will void the warranty.

PREPARATION

- Check the integrity of the unit once it is unpacked.
- Check to make sure the floor is level.
- Check that the available power supply (Voltage, # of phases, Hz, Amps, max. fuse size) corresponds to the ratings on the nameplate and that correctly rated electrical protection is provided (VOLTAGE MUST BE WITHIN ± 5% FROM THE NAMEPLATE VALUE).
INSTALLATION

DIMENSIONS

Overall dimensions are 32 1/4" left to right, 36" front to back, 53" height. With the door open 90° the front to back distance is 66-1/8".

LOCATION

Ambient air temperature must be no greater than 90°F to ensure the rated performance.

Do NOT install the unit near a heat source, in an area exposed to direct sunlight, or in a closed area with high temperatures and insufficient air change.

Level the unit by rotating its adjustable feet, ensuring that the weight of the unit is off the legs when doing so.

Make certain that the unit is correctly leveled - correct functioning may be compromised if it is not.

Mount the rails for the drain pan, using the screws sent with the unit. The mounting inserts are already in place under the unit. Slide the drain pan on the rails.

Plug the power supply cord into a proper outlet in accordance with the chart below.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>VOLTAGE</th>
<th>Hz</th>
<th>HP</th>
<th>AMPS</th>
<th>NEMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP7BCF70-2</td>
<td>208, 1 PH</td>
<td>60</td>
<td>1.2</td>
<td>12</td>
<td>L6-20P</td>
</tr>
</tbody>
</table>

SPACES AROUND THE CABINET

- At least 1" clear space is required on the right side of the cabinet for air flow and service.
- At least 2.5" clear space is required on the left side of the cabinet for door opening and air flow.
- At least 3" clear space is required on the rear of the cabinet for optimum air flow.
- Enough space should be provided in front of the cabinet to fully open the door.
**USING THE HURRICHILL™ TECHNOLOGY**

**BLAST CHILLING**

All cooked food rapidly loses its quality and aroma if it is not served promptly. Natural bacteria growth, the main reason why food becomes stale, takes place at an exponential rate between 140°F and 40°F. However, lower temperatures have a hibernating effect that increases as the temperature drops, thereby gradually reducing bacterial activity until it stops altogether. Only fast reduction of the temperature at the product's core allows its initial characteristics to be maintained intact. The HurriChill™ blast chiller gets food through this high-risk temperature band rapidly, cooling the core of the product to 40°F within 90 minutes. This conserves food quality, color and aroma while increasing its storage life. After blast chilling, the food can be preserved at 38°F for up to 5 days.

**SHOCK FREEZING**

For storage over the medium-long term, food has to be shock frozen (to 0°F or below). Freezing means converting the water contained in food into crystals. Thanks to the high speed at which low temperature penetrates the food, the HurriChill™ shock freezer assures the formation of small crystals (micro-crystals) that do not damage the product in any way. Uncooked raw materials, semi-processed food and cooked food can be treated safely. When the food is thawed, no liquids, consistency, weight or aroma will be lost, and all its initial qualities will remain unchanged.

**SOFT CHILL CYCLE**

(160°F to 40°F)

This cycle is recommended for "delicate", light, thin products or small piece sizes, such as vegetables, creams, sweets, fish products and fried foods. Soft chilling lowers the food temperature quickly, but extremely delicately so as not to damage the outside of the food. This is the ideal cycle to chill any food quickly but delicately, even in haute cuisine.

**HARD CHILL CYCLE**

(160°F TO 40°F)

Hard chilling is suited for "dense" products and products with a high fat content, in large pieces or those products typically more difficult to chill. Careful chilling control ensures that the end temperature of 40°F is reached at the core of the product, with no danger of freezing and damaging the product, not even on its surface.

**SHOCK FREEZE CYCLE**

(160°F TO 0°F)

This cycle is recommended when you want to store food for several weeks or months, at temperatures below 0°F. Freezers are suited for storing ready frozen foods, but not for freezing them. During shock freezing, the liquids contained in the food are transformed into micro-crystals that do not harm the tissue structure. When the food is used and thawed, its quality will be excellent. It is especially suited for all semi-processed food and raw products.
CONTROL PANEL FOR MODEL AP7BCF70-2 BLAST CHILLER
KEYBOARD KEYS

<table>
<thead>
<tr>
<th>ON/OFF &amp; START/STOP</th>
<th>CYCLE KEYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>![ON/OFF icon]</td>
<td>![SOFT CYCLE icon]</td>
</tr>
<tr>
<td>![START/STOP icon]</td>
<td>![HARD CYCLE icon]</td>
</tr>
<tr>
<td>![SHOCK CYCLE icon]</td>
<td>![SHOCK CYCLE icon]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROGRAMMING KEYS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>![UP icon]</td>
<td>![AUTOMATIC CYCLE icon]</td>
</tr>
<tr>
<td>![DOWN icon]</td>
<td>![MANUAL CYCLE icon]</td>
</tr>
<tr>
<td>![SELECT icon]</td>
<td>![UV LIGHT CYCLE icon]</td>
</tr>
<tr>
<td>![ENTER icon]</td>
<td>![DEFROST CYCLE icon]</td>
</tr>
<tr>
<td></td>
<td>![PRINT icon]</td>
</tr>
<tr>
<td></td>
<td>![HEAT PROBE CYCLE icon]</td>
</tr>
</tbody>
</table>

KEY COMBINATIONS

- **Initial Programming state** – to initially set the device
  - With the display reading "OFF", press and hold ("START/STOP") for 5 seconds

- **Cycles programming state** – to initially set the cycles
  - With the display reading "OFF", press ("ENTER") for 1 second

- **Recipe name programming state** – to enter recipe names
  - With the display reading "OFF", press ("A") for 10 seconds

- **Load default values state** – to load the standard parameters
  - With the display reading "OFF", press ("UP") for 10 seconds

- **Clear events memory state** – to clear obsolete data
  - With the display reading "OFF", press ("UP"+"DOWN") for 10 seconds

- **Ready To Go state** – in order to start a cycle
  - If the controller is not "OFF", press ("ON/OFF" once.)
PROGRAMMING

1. INITIAL PROGRAMMING

NOTE: Initial programming is preset at the factory. Use this section only if changes are desired. If no changes are to be made, skip to Page 12 (2. Programming the cycles).

a. With the display reading "OFF", press ("START/STOP") for a few seconds.

b. To change the language, press ENTER or press.

    INITIAL PROGRAMMING
    SELECT LANGUAGE
    ENGLISH
    ENGLISH
    Blinks

c. Enter the default password by pressing, in order, the SOFT, HARD, SHOCK, and ENTER buttons.

    INITIAL PROGRAMMING
    ENTER PASSWORD:
    ***

d. If you do not wish to change the password, press.

    To change the default password, press ENTER or for "YES" then press.

    The password will always be a combination of three of the six available cycles:
    "SOFT", "HARD", "SHOCK", "DEF", "UV", "HEAT PROBE".

    Type the new password, then press.
    Be sure to remember the new password and keep a record of it in a safe place.

e. To change the year, press ENTER or then press.

    INITIAL PROGRAMMING
    SET YEAR
    2006
    2006(year)
    Blinks

f. To change the month, press ENTER or then press.

    INITIAL PROGRAMMING
    SET MONTH
    07
    07(month)
    Blinks

g. To set the day, press ENTER or then press.

    INITIAL PROGRAMMING
    SET DAY
    03
    03(day)
    Blinks
h. To set the hour, press \(\blacktriangleright\) or \(\blacktriangleleft\) (be sure to continue to press the buttons until the hour and "AM" or "PM" show correctly) then press \(\blacktriangleright\) .

i. To set the minutes, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .

The high air alarm temperature should be left at 140 °F. However, if a change is desired:

j. To change the temperature, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .

The low air alarm temperature should be left at -35 °F. However, if a change is desired:

k. To change the temperature, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .

l. To change the number of probes, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .

NOTE: Standard Configuration has only one food probe. However, a maximum of two heated probes or three non heated probes can be used with this model.

The high food alarm temperature should be left at 180 °F. However, to make a change:

m. To change the temperature, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .

The low food alarm temperature should be left at 35 °F. However, to make a change:

n. To change the temperature, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .

o. To change to YES or NO, press \(\blacktriangleright\) or \(\blacktriangleleft\) then press \(\blacktriangleright\) .
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>p.</strong> To change the temperature, press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>SHOCK FREEZE</strong>  <strong>LOW FOOD ALARM</strong> -5 °F</td>
<td>![3 Blinks]</td>
</tr>
<tr>
<td><strong>q.</strong> To change to <strong>YES</strong> or <strong>NO</strong>, press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>UV CYCLE?</strong>  <strong>NO</strong></td>
<td>![No Blinks]</td>
</tr>
<tr>
<td><strong>r.</strong> To change to <strong>YES</strong> or <strong>NO</strong>, press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>DEFROST CYCLE?</strong>  <strong>YES</strong></td>
<td>![Yes Blinks]</td>
</tr>
<tr>
<td><strong>s.</strong> To change to <strong>YES</strong> or <strong>NO</strong>, press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>PC CONNECTION?</strong>  <strong>NO</strong></td>
<td>![No Blinks]</td>
</tr>
<tr>
<td>For <strong>YES</strong>, the display will show:  <strong>The P.C. baud rate should be left at 38400.</strong>  However, to make a change:</td>
<td><img src="image" alt="Initial Programming" /> <strong>PC BAUDRATE</strong> 38400</td>
<td>![38400 Blinks]</td>
</tr>
<tr>
<td><strong>t.</strong> To change the baud rate, press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>CHILLER NETWORK ID</strong> # 01</td>
<td>![01 Blinks]</td>
</tr>
<tr>
<td><strong>u.</strong> To change the number (between 01 &amp; 32), press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>PRINTER CONNECTION?</strong> NO</td>
<td>![No Blinks]</td>
</tr>
<tr>
<td>For <strong>YES</strong>, the display will show:  <strong>The printer baud rate should be left at 1200.</strong>  However, to make a change:</td>
<td><img src="image" alt="Initial Programming" /> <strong>PRINTER BAUDRATE</strong> 1200</td>
<td>![1200 Blinks]</td>
</tr>
<tr>
<td><strong>v.</strong> To change to <strong>YES</strong> or <strong>NO</strong>, press ![Up Arrow] or ![Down Arrow] then press ![Enter].</td>
<td><img src="image" alt="Initial Programming" /> <strong>PRINT &amp; SAVE EVENTS</strong> EVERY 15 MIN</td>
<td>![15 Blinks]</td>
</tr>
</tbody>
</table>
y. To change to YES or NO, press \( \triangle \) or \( \triangledown \) then press \( \text{ENTER} \).

z. To change to YES or NO, press \( \triangle \) or \( \triangledown \) then press \( \text{ENTER} \).

aa. To change to YES or NO, press \( \triangle \) or \( \triangledown \) then press \( \text{ENTER} \).

The display will show: \( \text{INITIAL PROGRAMMING}\) COMPLETE

NOTE: During programming \( \text{SELECT} \) key can be used to return to the previous screen (except at the steps 1h, 1i and 3d, when it has different functions). \( \text{ENTER} \) key is used to confirm the settings and advance to the next screen.

2. PROGRAMMING THE CYCLES

a. With the display reading "OFF", press \( \text{SELECT} \).

b. Enter your password (see page 9), then press \( \text{ENTER} \).

AUTOMATIC SOFT CYCLE PARAMETERS PROGRAMMING

The LED for "A" will be "ON". The LED'S for cycles will be blinking.

c. Press \( \text{SOFT} \). The LED for "SOFT" will be "ON".

d. To change the temperature, press \( \triangle \) or \( \triangledown \) then press \( \text{ENTER} \).
e. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE HIGH AIR TEMPERATURE 35 °F 35 Blinks

f. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE FOOD TEMPERATURE 40 °F 40 Blinks

g. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE HOLDING LOW TEMP. 35 °F 35 Blinks

h. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE HOLDING HIGH TEMP. 42 °F 42 Blinks

The display will show:  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE PROGRAMMING COMPLETE

AUTOMATIC HARD CYCLE PARAMETERS PROGRAMMING

After about 2 seconds the display will automatically change to:

i. Press the HARD button. The LED for "HARD" will be "ON".  

PARAM. PROGRAMMING AUTOMATIC MODE CHOOSE PROGRAMMING CYCLE

j. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE LOW AIR TEMP PART 1 0 °F 0 Blinks

k. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE HIGH AIR TEMP PART 1 10 °F 10 Blinks

l. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE BREAKING TEMP 60 °F 60 Blinks

m. To change the temperature, press ▲ or ▼ then press ENTER.  

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE LOW AIR TEMP PART 2 28 °F 28 Blinks
n. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE
HIGH AIR TEMP PART 2
35 °F
35 Blinks

o. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE
HARD FOOD TEMP.
40 °F
40 Blinks

p. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE
HOLDING LOW TEMP.
35 °F
35 Blinks

q. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE
HOLDING HIGH TEMP.
42 °F
42 Blinks

The display will show:

PARAM. PROGRAMMING AUTOMATIC HARD CYCLE
PROGRAMMING COMPLETE

AUTOMATIC SHOCK CYCLE PARAMETERS PROGRAMMING

After about 2 seconds the display will automatically change to:

r. Press the \( \text{SHOCK} \) button. The LED for "SHOCK" will be "ON".

PARAM. PROGRAMMING AUTOMATIC MODE
CHOOSE PROGRAMMING CYCLE

s. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC SHOCK CYCLE
LOW AIR TEMPERATURE
-25 °F
25 Blinks

t. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC SHOCK CYCLE
HIGH AIR TEMPERATURE
-15 °F
15 Blinks

u. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC SHOCK CYCLE
FOOD TEMPERATURE
0 °F
0 Blinks

v. To change the temperature, press \( \uparrow \) or \( \downarrow \) then press \( \text{ENTER} \).

PARAM. PROGRAMMING AUTOMATIC SHOCK CYCLE
HOLDING LOW TEMP
-4 °F
4 Blinks
w. To change the temperature, press \[\triangle \] or \[\downarrow \] then press \[\text{ENTER} \].

The display will show:


**NOTE:** The defrost is done by running the evaporator fan for 5 minutes with the door open.
HEATED PROBE CYCLE PARAMETERS PROGRAMMING

After about 2 seconds the display will automatically change to:

bb. Press the button. The LED for "HEATED PROBE" will be "ON".

cc. To change the temperature, press or then press .

dd. To change the time, press or then press .

The display will show:

After about 2 seconds the display will automatically change to:

ee. Press to program the manual mode. The "M" LED will be steady "ON" and the 6 "CYCLE LED's" will all blink.

MANUAL SOFT CYCLE PARAMETERS PROGRAMMING

ff. Press . The LED for "SOFT" will be "ON".

gg. To change the temperature, press or then press .

hh. To change the temperature, press or then press .

ii. To change the time, press or then press .
jj. To change the temperature, press ▲ or ▼ then press ENTER.

The display will show:

PARAM. PROGRAMMING
MANUAL HARD CYCLE
LOW AIR TEMP PART 2
28 °F

PARAM. PROGRAMMING
MANUAL HARD CYCLE
TIME 1
H 01:00 MIN

kk. To change the temperature, press ▲ or ▼ then press ENTER.

The display will show:

PARAM. PROGRAMMING
MANUAL HARD CYCLE
HOLDING HIGH TEMP
42 °F

PARAM. PROGRAMMING
MANUAL SOFT CYCLE
PROGRAMMING COMPLETE

MANUAL HARD CYCLE PARAMETERS PROGRAMMING

After about 2 seconds the display will automatically change to:

ll. Press the HARD button. The LED for "HARD" will be "ON".

mm. To change the temperature, press ▲ or ▼ then press ENTER.

nn. To change the temperature, press ▲ or ▼ then press ENTER.

oo. To change the time, press ▲ or ▼ then press ENTER.

pp. To change the temperature, press ▲ or ▼ then press ENTER.

qq. To change the temperature, press ▲ or ▼ then press ENTER.

rr. To change the time, press ▲ or ▼ then press ENTER.
ss. To change the temperature, press ▲ or ▼ then press ENTER.

- 35 Blinks

PARAM. PROGRAMMING MANUAL HARD CYCLE HOLDING LOW TEMP.
35 °F

tt. To change the temperature, press ▲ or ▼ then press ENTER.

- 42 Blinks

PARAM. PROGRAMMING MANUAL HARD CYCLE HOLDING HIGH TEMP.
42 °F

The display will show:


MANUAL SHOCK CYCLE PARAMETERS PROGRAMMING

After about 2 seconds the display will automatically change to:

uu. Press the SHOCK button. The LED for "SHOCK" will be "ON".

vv. To change the temperature, press ▲ or ▼ then press ENTER.

- 25 Blinks

PARAM. PROGRAMMING MANUAL SHOCK CYCLE LOW AIR TEMPERATURE
-25 °F

ww. To change the temperature, press ▲ or ▼ then press ENTER.

- 15 Blinks

PARAM. PROGRAMMING MANUAL SHOCK CYCLE HIGH AIR TEMPERATURE
-15 °F

xx. To change the time, press ▲ or ▼ then press ENTER.

- 04:00 Blinks

PARAM. PROGRAMMING MANUAL SHOCK CYCLE TOTAL TIME
H 04:00 MIN

yy. To change the temperature, press ▲ or ▼ then press ENTER.

- 4 Blinks

PARAM. PROGRAMMING MANUAL SHOCK CYCLE HOLDING LOW TEMP.
-4 °F

zz. To change the temperature, press ▲ or ▼ then press ENTER.

- 3 Blinks

PARAM. PROGRAMMING MANUAL SHOCK CYCLE HOLDING HIGH TEMP.
3 °F

The display will show:

PROGRAMMING COMPLETE

PARAM. PROGRAMMING MANUAL HARD CYCLE

PROGRAMMING COMPLETE
After about 2 seconds the display will automatically change to:

NOTE: PROGRAMMING FOR "DEFROST", "UV" & "HEAT PROBE" WILL BE THE SAME IN MANUAL MODE AS IT IS IN AUTOMATIC MODE (see pages 15-16).

3. RECIPE NAME PROGRAMMING

a. With the display reading "OFF", press the button and hold it for 10 seconds.

b. Enter your password (see page 9), then press .

c. Press or to change to the desired recipe number (from 1 to 150), then press which will move you to the "NAME" line.

d. Using or type the letters or numbers required, then press . To confirm the recipe and go to the next one press .

If a mistake is made in writing a recipe, use to go to the desired location and correct it using or . There is a blank space after number 9. It can be used to add a space or delete a letter. Press when the recipe is corrected.

To finish the recipe name programming press ("ON/OFF").


**OPERATION**

1. **AUTOMATIC MODE - SOFT CHILL**

   a. With the display reading "OFF", press the ("ON/OFF") button.

   b. To select a cycle, press the appropriate button. The LED for "SOFT" will be "ON".

   c. The LED's for "AUTOMATIC" and "MANUAL" are now blinking. To select an "AUTOMATIC" cycle, press the button. The LED for "AUTOMATIC" will now be steady "ON".

   d. To choose your recipe, press or then press .

   e. Press the ("START/STOP") button to start the cycle.

This screen is shown only if the RECIPE parameter is set to “ON” in the INITIAL PROGRAMMING. The red food probe only will be active in the standard configuration. To enter additional recipe names, refer to Page 19 "RECIPE NAME PROGRAMMING".

The display will show:

   alternating with

   e. Press the ("START/STOP") button to start the cycle.

The display will show:

   alternating with

The **AUTOMATIC** mode uses both the food probe and air probe temperatures to control the cycle. When the food temperature has reached the final setting of 40° F, the unit will automatically go into holding mode and a beep will sound for 5 seconds. The elapsed time and food temperature readouts will blink.
The display will show:

alternating with

The operator can now end this cycle by pressing the "START/STOP" button.

The display will now show:

OPERATING MODE

CHOOSE OPERATING CYCLE

2. MANUAL MODE - SOFT CHILL

a. IF INSTEAD OF AUTOMATIC you wish to select a MANUAL cycle, perform steps 1.a, 1.b, 1.c and 1.d (above), except in step 1.c press button instead of button . The LED for "MANUAL" will then be steady "ON". The four readouts in those steps will be the same as before.

NOTE: Cycle time can be changed only in Cycle Programming mode. To change the programmed cycle time for any cycle see the instructions on Pages 12 to 19.

b. Press the "START/STOP" button to start the cycle.

The display will show:

The MANUAL mode uses time and the air probe temperature to control the cycle. The default total time for a soft cycle is 90 minutes. After the 90 minutes the unit will automatically go into holding mode.
The operator can now end this cycle by pressing "START/STOP".

The display will now show:

3. HARD CHILL CYCLE

To perform a hard chill cycle, follow steps 1 or 2 (above), EXCEPT in step 1.b (above) press instead of .

4. SHOCK FREEZE CYCLE

To perform a shock freeze cycle, follow steps 1 or 2 (above), EXCEPT in step 1.b (above) press instead of .

5. UV (STERILIZATION) CYCLE

a. To perform a UV cycle remove all food, then press the ("UV LIGHT") button.

b. Press the ("START/STOP") button to start the UV cycle.

The display will now show:

After 30 minutes the display will show: The controller will beep for a few seconds.

6. DEFROST CYCLE

The defrost cycle runs the evaporator fan for 5 minutes with the door open.

a. To perform a defrost cycle, press ("DEFROST") button.

b. Open the door.
c. Press the ("START/STOP") button to start the defrost cycle.

The display will now show:

After 5 minutes the display will show:
The controller will beep for a few seconds.

### 7. HEATED FOOD PROBE

a. To select the heated food probe, press ("HEATED PROBE").

If the food probe temperature is >30 °F, the display will show:

After a few seconds it will go back to reading:

If the food probe temperature is <30 °F, the display will show:

b. Open the door.

c. Press the ("START/STOP") button to start the cycle.

The display will now show:

After 5 seconds the display will show:

**NOTE:** To stop any cycle before it has finished, press ("START/STOP").
The controller will beep for a few seconds. If you still want to stop the cycle, press ("START/STOP") again. If you do NOT want to stop, do nothing and the cycle will continue.
8. PREPARING AND USING THE OPTIONAL PRINTER

a. With the display reading "OFF", press the ("PRINT") button.

   OFF

b. To start printing, press the ("START/STOP") button.

   PRINT EVENTS MEMORY
   READINGS LEFT       249

After a few seconds the display will show:
and the printer will be printing.

   PRINT EVENTS MEMORY
   PRINTING . . .

9. TO CLEAR DATA

a. To clear existing data that is no longer needed from the controller, from the "OFF" display, press

   OFF

   and together for about 10 seconds.

b. Press .

   CLEAR EVENTS MEMORY?
   NO
   NO Blinks

c. Press .

   CLEAR EVENTS MEMORY?
   YES
   YES Blinks

d. Enter your password, then press .

   CLEAR EVENTS MEMORY?
   ENTER PASSWORD
   ***

e. Wait about 40 seconds,

   CLEAR EVENTS MEMORY?
   PLEASE WAIT . . .

after which the display will show, for only 2 seconds:

   CLEAR EVENTS MEMORY?
   COMPLETE

The display will go back to "OFF" and all 440 reading spaces will be available.
NOTE: The optional printer is delivered fully installed

LOADING A ROLL OF PAPER

1. Remove the paper cover by pressing on the groove patterns to pop the front edge up. Lift off the cover.
2. Press the rocker switch to the left. The light will go off.
3. Unroll several inches of paper.
4. Cut a straight edge on the paper roll if it is jagged. This will facilitate the entry of the paper into the printer.
5. Slide the paper (with the roll above the paper) through the slot connecting the paper compartment and the printer compartment. It can be slid in about 1/4” before it stops.
6. While holding the paper in place, press the rocker switch to the Paper Feed position and hold it there. The printer will activate and a rubber roller will pull the paper into the printer compartment. Release the switch when an inch of paper has emerged from the top of the printer.
7. Slide the paper through the slot in the printer cover.
8. Push the back of the printer cover down and into place.
9. Press the front of the printer cover down to lock in place.
10. Put the paper spindle into the paper roll and place the roll with the spindle onto the snaps near the back of the printer. Turn the paper roll to take up any slack. Make sure the roll of paper turns freely. If it does not turn freely, the paper will jam and can possibly damage the printer mechanism.

REMOVING A ROLL OF PAPER

1. Using the Paper Feed Switch, advance the paper about one inch beyond the paper cutter.
2. Lift the paper roll away from the printer housing and cut the paper feeding to the printer with scissors. Try to make the cut as square as possible to help the next time you reload the paper.
3. Pull the remaining paper through the printer mechanism. Be sure to pull the paper from the top (paper cutter side).

WARNING: Pulling the paper out from the back of the printer will damage the print mechanism.

OPERATING THE PRINTER

The Paper Feed switch on the printer is a rocker type switch. Push the left side of the rocker switch to toggle the printer ON or OFF. A red light will go on when the printer switch is ON. Push the right side of the switch to advance the paper.

MAINTENANCE

When printing becomes difficult to see, replace the ribbon in your printer with an Epson HX-20 cartridge ribbon.
If your printer is used infrequently, the print impression may become weak because the ribbon dried out. In that case, advance the ribbon to a new section by holding down the Paper Feed switch for several seconds.
REPLACING THE RIBBON (NO PAPER IN THE PRINTER)

1. Turn the printer OFF.
2. Four small grooves are embossed on each side of the printer cover. Push down on one or both of these areas until the printer cover tilts up, then lift the cover completely off.
3. Push down on the right side of the ribbon cartridge where it is marked “PUSH”. Remove the cartridge.
4. Install the new cartridge. Be sure the cartridge is inserted firmly to prevent weak or irregular printing. The cartridge must be properly seated and aligned for best printing.
5. Turn the cartridge “knob” (marked by an arrow) clockwise to take up slack.
6. Replace the cover.
7. Replace the paper.

REPLACING THE RIBBON (WITH PAPER IN THE PRINTER)

1. It is possible to insert the ribbon cartridge if there is already paper in the printer.
2. Hold the cartridge at each end with thumb and forefinger and slide it over the paper and into the printer compartment.

Be sure the paper goes between the ribbon cartridge and the ink ribbon. If you get ribbon ink on the printer case, wipe it off immediately as once it dries it is difficult to remove.
MAINTENANCE AND CLEANING

CLEANING THE CONDENSER

For correct and efficient operation of the blast chiller, it is necessary that the condenser be kept clean so that air can circulate around it freely and come into contact with the whole of its surface.

This operation (to be performed every 30 days, max.) can be accomplished using a brush (non-metallic) to remove all the dust and dirt from the condenser fins. Remove the finned grid to gain access to the condenser.

CLEANING THE STORAGE COMPARTMENT

Clean the inside of the storage compartment daily to avoid altering the taste and aroma of the food. Clean the inside, the grid supports and the grids with a non-corrosive detergent and then rinse thoroughly. The storage compartment and its internal components have been designed to aid all cleaning operations. Clean the outside surfaces regularly with a detergent for stainless steel and dry using a soft cloth. Always defrost the unit (see manual). DO NOT USE ABRASIVES, SOLVENTS OR GLASS WOOL (Fig. 3).

Avoid using sharp implements and abrasives, especially when cleaning the evaporator (Fig. 2).

NOTE: If additional refrigerant should be needed, be certain to use the correct type and amount as shown on the nameplate.
POWER SUPPLY
208V, 60Hz, 1 PH. NEMA L6-20P

L1

L2

K1

K2

K4

L1

L2

EV

EV

M1

EV

EV

M2

M3

FTR

12V

24V

F12

F2

F4

F24

EV

EV

COMP. STARTER

COMP. MOTOR

COND. FAN MOTOR

EVAP. FAN MOTOR

ELECTRO VALVE

This drawing and information contained herein are the exclusive property of American Panel Corporation. It shall be returned to American Panel Corporation upon demand and shall not be reproduced in whole or part, disclosed to anyone else, or used without the written consent of American Panel Corporation.
CHILLER 1
(AP4/AP7/AP12)

CHILLER 2
(AP20/AP24/AP40/AP80/AP120)

CHILLER 3
(AP20/AP24/AP40/AP80/AP120)

Control panel

NOTE:
This connector is mounted on the back of the cabinet

Power supply
120V, 15A, NEMA PLUG #5-15P

Communication Box
(located near computer)

NOTE:
Use #18 AWG, two wires, to connect A & B between the electronic board and the communication box.

TO COMPUTER PORT - COM1
<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>990059</td>
<td>PRINTER</td>
</tr>
<tr>
<td>990060</td>
<td>RELAY 10 A FINDER (UV)</td>
</tr>
<tr>
<td>990074</td>
<td>TRANSFORMER 208V/24V/12V</td>
</tr>
<tr>
<td>990075</td>
<td>TRANSFORMER FOR PRINTER</td>
</tr>
<tr>
<td>990102</td>
<td>ELECTRONIC BOARD &quot;BLUE SYS&quot; (C)</td>
</tr>
<tr>
<td>990104</td>
<td>PC CONNECTION BOX</td>
</tr>
<tr>
<td>990105</td>
<td>CONNECTION CABLE, SERIAL</td>
</tr>
<tr>
<td>990108</td>
<td>AIR PROBE PT100</td>
</tr>
<tr>
<td>990119</td>
<td>COMPRESSOR ASPERA (R404A REFRIGERANT)</td>
</tr>
<tr>
<td>990136</td>
<td>EVAPORATOR FAN</td>
</tr>
<tr>
<td>990137</td>
<td>FOOD PROBE – NON HEATED</td>
</tr>
<tr>
<td>990145</td>
<td>FOOD PROBE – HEATED</td>
</tr>
<tr>
<td>990147</td>
<td>MAGNETIC DOOR SWITCH</td>
</tr>
<tr>
<td>990155</td>
<td>SOLENOID DANFOSS</td>
</tr>
<tr>
<td>990156</td>
<td>SOLENOID SOCKET</td>
</tr>
<tr>
<td>990159</td>
<td>UV LAMP, 6W</td>
</tr>
<tr>
<td>990161</td>
<td>PRINTER POWER CABLE</td>
</tr>
<tr>
<td>990173</td>
<td>COMPRESSOR STARTER KIT</td>
</tr>
<tr>
<td>990175</td>
<td>COND. FAN MOTOR</td>
</tr>
<tr>
<td>990178</td>
<td>AC ADAPTOR PC CONNECTION</td>
</tr>
<tr>
<td>990191</td>
<td>RELAY 30 A FINDER</td>
</tr>
<tr>
<td>991015</td>
<td>CONDENSER</td>
</tr>
<tr>
<td>991024</td>
<td>EVAPORATOR</td>
</tr>
<tr>
<td>991025</td>
<td>EXPANSION VALVE, TES2</td>
</tr>
<tr>
<td>991027</td>
<td>FILTER DRIER</td>
</tr>
<tr>
<td>991031</td>
<td>HIGH/LOW PRESSURE SWITCH</td>
</tr>
<tr>
<td>991034</td>
<td>LIQUID RECEIVER</td>
</tr>
<tr>
<td>991035</td>
<td>SIGHT GLASS</td>
</tr>
<tr>
<td>991037</td>
<td>ORIFICE 01</td>
</tr>
<tr>
<td>991039</td>
<td>SOLENOID VALVE EVR3</td>
</tr>
<tr>
<td>993022</td>
<td>DOOR GASKET 30-3/4&quot;X26-1/2&quot;</td>
</tr>
<tr>
<td>993028</td>
<td>DRIP PAN</td>
</tr>
</tbody>
</table>
AMERICAN PANEL CORP.
5800 S.E. 78th Street, Ocala, Florida 34472-3412

American Panel Corporation products are warranted to the original user installed within the United States and Puerto Rico to be free from defects in materials and workmanship under normal use and service for the applicable period shown in the chart below.

NOTE: This Warranty does not apply to altered or misused parts.

<table>
<thead>
<tr>
<th>WARRANTY COVERS</th>
<th>PARTS</th>
<th>LABOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete unit</td>
<td>1 year from date of shipment</td>
<td>1 year from date of shipment</td>
</tr>
<tr>
<td>COMPRESSOR ONLY</td>
<td>Additional 4 years</td>
<td>NONE</td>
</tr>
<tr>
<td>Food probes, UV and incandescent lamps</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

American Panel Corporation agrees to repair or replace at its option, FOB Factory, any part which proves to be defective due to defects in material or workmanship during the warranty period, providing the equipment has been properly installed, maintained and operated in accordance with the HurriChill™ User’s Manual. Refer to the above chart for details and exceptions for various equipment items. Labor covered by this warranty must be authorized by American Panel Corporation and performed by a factory-authorized service agency.

This warranty does not apply to remote or pre-assembled remote refrigeration systems requiring electrical inter-wiring or refrigerant piping provided by others. In no event shall American Panel Corporation be liable for the loss of use, revenue or profit or for any other indirect, incidental, special or consequential damages including, but not limited to, losses involving food spoilage or product loss. American Panel Corporation reserves the right to withdraw this warranty if it is determined that the equipment is not being operated properly. There are no other warranties expressed or implied.

During the warranty period, all requests for service MUST be made before any work is begun. Such requests must be directed to American Panel Corporation Service Department, which will issue written authorization when applicable. Without this authorization, the Warranty may be voided. The Service Department can be contacted by mail at American Panel Corp., 5800 S.E. 78th Street, Ocala, Florida 34472-3412; or by telephone at 1-800-327-3015; or by fax at (352) 245-0726.

Proper installation is the responsibility of the dealer, the owner-user, or the installing contractor. It is not covered by this Warranty.
ORDERING PRINTER SUPPLIES (RIBBON & PAPER)

Replacement paper and ribbons for the optional printer for your blast chiller can be ordered from a local distributor of Weigh-Tronix supplies.

To locate a distributor near you:

If you have access to the internet:

- Go to www.wtxweb.com
- Enter your zip code or city / state

If you do not have access to the internet:

- Call American Panel at 1-800-327-3015

Listing of Weigh-Tronix items and part numbers:

<table>
<thead>
<tr>
<th>Weigh-Tronix Item Description</th>
<th>Weigh-Tronix Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper (Roll)</td>
<td>22335-0018</td>
</tr>
<tr>
<td>Ribbon, Black</td>
<td>22332-0029</td>
</tr>
</tbody>
</table>