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USER'S MANUAL



(American Panel)



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INTRODUCTION

The Model AP3BCF30-1 Blast Chiller/Shock Freezer is used to rapidly chill cooked foods to temperatures suitable for refrigerated or frozen storage. It has a capacity of (3) 12" x 20" x 2-1/2" pans (not included). Model AP3BCF30-1, in Chiller mode, is capable of lowering the core temperature of up to 30 lbs. of food from 160° F to 40° F within 90 minutes. In Shock Freeze mode it is capable of lowering the core temperature of up to 18 lbs. of food from 160° F to 0° F within 4 hours. Model AP3BCF30-1 can have as an option stainless steel wire shelves.

A stainless steel stand (model APS-5) is also available (see page 6)

Model AP3BCF30-1 employs a high velocity flow of cooled air to assure even cooling of the entire load of food, 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 2 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. The unit has built-in safety and self-diagnostic systems. The controller notifies the operator if various faults, as listed below, should occur:

- 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 pressure.

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 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 2 operating cycles:

MODE	END FOOD TEMPERATURE	NOTES
AUTOMATIC	38° F TO 40° F	AIR TEMP. STARTS AT 0° F, RISES TO 28° F TO 35° F WHEN FOOD CORE TEMP. REACHES 60° F
MANUAL	38° F TO 40° F	FOR 1 HOUR AIR TEMPERATURE IS MAINTAINED BETWEEN 0° F AND 10° F AND FOR ANOTHER HOUR IS MAINTAINED BETWEEN 28° F AND 35° F

NOTE: All Chill 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

MODE	USES	NOTES
DEFROST	TO DEFROST THE EVAPORATOR, NOT THE FOOD	USE WHEN NECESSARY

INSTALLATION

WARNINGS

READ AND CAREFULLY FOLLOW ALL OF THE INSTRUCTIONS IN THIS MANUAL <u>BEFORE</u> 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 25 1/4" left to right, 25 7/8" front to back, 34" height. With the door open 90° the front to back, distance is 48 3/4".

LOCATION

Ambient air temperature should 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.

MODEL	VOLTAGE	Hz	HP	AMPS	NEMA
AP3BCF30-1	120, 1 PH	60	1	10	5-15P

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.



AP3BCF30-1 ON THE OPTIONAL APS-5 STAND



USING THE HURRICHILLTM 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 $140^{\circ}F$ and $40^{\circ}F$. 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 HurriChillTM blast chiller gets food through this high-risk temperature band rapidly, cooling the core of the product to $40^{\circ}F$ within 90 minutes. This conserves food quality, color and aroma while increasing its storage life. After blast chilling, the food can be preserved at $38^{\circ}F$ 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 AP3BCF30-1 BLAST CHILLER



KEYBOARD KEYS

ON/OFF

START/STOP

A – automatic cycle
 M – manual cycle
 UP, DOWN, SELECT, ENTER – programming keys

KEY COMBINATIONS

- Initial Programming state to initially set the device
 O Press and hold "START/STOP" for 5 seconds
- > Cycles programming state to initially set A and M cycles
 - Press "ENTER" for 1 second
- Load default values
 - Press "DOWN" for 10 seconds
- Ready To Go state in order to start a cycle
 - O Press "ON/OFF"
- > Defrost
 - \circ Press UP for 5 sec.

PROGRAMMING

1. INITIAL PROGRAMMING

NOTE: Initial programming is preset at the factory (the unit is configured as a blast chiller). Use this section only if changes are desired. If no changes are to be made, skip to Page 8 (2. Programming the cycles).

a.	With the display reading "OFF" , press O ("START/STOP") for 5 seconds.	OFF	
b.	When entering initial programming state, the display will show for 3 seconds:	INITIAL PROGRAMMING	
Aft sho	er 3 seconds – or if a key is pressed – the display will ow:	ENTER PASSWORD	
c.	Enter the default password by pressing, in order, the	ENTER PASSWORD ***	
d.	If you do not wish to change the password, press		
	ENTER	CHANGE PASSWORD? NO	
То	change the default password, press O or O		
for	"YES" then press		
Th	e password will always be a combination of three of the	four following keys: DWN",).	
Ту Ве	pe the new password, then press sure to remember the new password and keep a recor	d of it in a safe place.	
Th	e high air alarm temperature should be left at	·	
14	0 °F. However, if a change is desired:	HIGH AIR ALARM 140 °F	140 Blinks
e.	To change the temperature, press or vertice		
Th	e low air alarm temperature should be left at		
-35	°F. However, if a change is desired:		
f.	To change the temperature, press O or V	-30 F	-35 Blinks
	then press		



2. PROGRAMMING THE CYCLES

a. With the display reading "OFF" , press and hold	OFF	
b. Enter your password (see page 7), then press	ENTER PASSWORD ***	
When entering cycles programming state, the display will show:	PROGRAMMING MODE CHOOSE CYCLE	

AUTOMATIC CYCLE PARAMETERS PROGRAMMING (BLAST CHILLER MODE)



MANUAL CYCLE PARAMETERS PROGRAMMING (BLAST CHILLER MODE)



3. PROGRAMMING THE UNIT AS A SHOCK FREEZER

The unit is programmed at the factory as a blast chiller. However it can be reprogrammed as a shock freezer.

To accomplish this, go to INITIAL PROGRAMMING on page 8, see step **h** and set the low food alarm temperature at -5 °F (all other parameters in the INITIAL PROGRAMMING will stay the same in shock freezer mode as in blast chiller mode). Then start CYCLE PROGRAMMING (steps a and b) as shown on page 8. The rest of CYCLE PROGRAMMING should be done as follows:

AUTOMATIC CYCLE PARAMETERS PROGRAMMING (SHOCK FREEZER MODE)



k. Set the temperature at 3°F by pressing

ENTER

HOLDING HIGH TEMP.	
3 °F	3 Blinl

κs

The display will show:

then press

PROGRAMMING MODE CHOOSE CYCLE

MANUAL CYCLE PARAMETERS PROGRAMMING (SHOCK FREEZER MODE)





OPERATION

1. AUTOMATIC CYCLE



Press the

("ON/OFF") key to enter OFF state.

2. MANUAL CYCLE

a. With the display reading "OFF" , press the (ON/OFF ") key.	OFF	
Then the display will show:	CHOOSE CYCLE AUTOMATIC	AUTOMATIC Blinks
b. Press key to select MANUAL cycle. Then the display will show:	CHOOSE CYCLE MANUAL	MANUAL Blinks

Cycle time can be changed only in Programming mode. To change the programmed cycle time for any cycle see the instructions on pages 8 to 13.

c. Press the O("START cycle.	(STOP'') key to start the	AIR FOOD	75°F 140°F	
The display will show:	alternating with	MANUAL CYCI REMAINING TIME	_E 01:59	01:59 Will count down
The MANUAL mode uses tin The default total time for a ha automatically go into holding	ne and the air probe temperat ard cycle is 120 minutes. Afte mode.	ture to control the c er the 120 minutes t	ycle. the unit v	will
The display will now show:		HOLDING CYCL REMAINING TIME	E M 00:00	HOLDING CYCLE M Blinks
alternating with		AIR FOOD	34°F 40°F	40°F Blinks
The operator can now end th	his cycle by pressing O ("S	START/ STOP").		
The display will show now:		CHOOSE CYCI MANUAL	E	
Press the ("ON/OFF") key to enter OFF state.			

3. DEFROST CYCLE

The defrost cycle runs the evaporator fan for 5 minutes with the door open. a. To perform a defrost cycle, from OFF state press and hold (" UP ") key for 5 seconds.	OFF	
If the door is not opened the display will show: b. Open the door.	DEFROST CYCLE OPEN THE DOOR!	

If the door is open the display will show:	DEFROST CYCLE PRESS START	
c. Press the ("START/STOP") key to start the defrost cycle.		
The display will now show:	DEFROST CYCLE REMAINING TIME 04:59	04:59 Will count down to 00:00
After 5 minutes the display will show: The controller will beep for a few seconds.	DEFROST CYCLE REMAINING TIME 00:00	00:00 Blinks
NOTE: To stop any cycle before it has finished, press	, O ("START/STOP").	
The controller will beep for a few seconds. If you still		
want to stop the cycle, press O("START/STOP")	UNIT IN PROCESS ! DO YOU WANT TO STOP?	
again. If you do NOT want to stop, do nothing and the		
cycle will continue.		
At any time during programming or operation, if ("(DN/OFF ") key is pressed the	e unit will

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 mild 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).





Fig. 3

NOTE: If additional refrigerant should be needed, be certain to use the correct type and amount as shown on the nameplate.



Fig.2





AP3BCF30-1 Manual



PARTS LIST

PART #	DESCRIPTION
990100	ELECTRONIC BOARD AP3 (A)
990108	AIR PROBE PT 100
990176	COMPRESSOR ASPERA (R404A REFRIGERANT)
990124	COND. FAN MOTOR
990133	EVAPORATOR FAN
990137	FOOD PROBE (NOT HEATED)
990147	MAGNETIC DOOR SWITCH
990150	RELAY 10 A FINDER
990153	SOLENOID
990158	TRANSFORMER
990191	RELAY 30 A FINDER
991018	CONDENSER
991022	EVAPORATOR
991026	EXPANSION VALVE
991028	FILTER DRIER
991030	HIGH PRESSURE SWITCH
991032	LIQUID RECEIVER
991036	ORIFICE 00
991038	SIGHT GLASS
991041	SOLENOID VALVE EVR3
992087	WIRE SHELF AP3/AP5/AP10
993020	DOOR GASKET 23-3/4"X14-1/2"
993028	DRIP PAN
993052	STAND APS-5

STANDARD WARRANTY

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.

BLAST CHILLERS / SHOCK FREEZERS (ONLY)

WARRANTY COVERS	PARTS	LABOR
Complete unit	1 year from date of shipment	1 year from date of shipment
COMPRESSOR ONLY	Additional 4 years	NONE
Food probes, UV and incandescent lamps	NONE	NONE

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.