Thermo-Kool®

OWNER'S MANUAL

BLAST CHILLERS AND SHOCK FREEZERS

ROLL-IN MODEL

TK10-2

TK20-2

THERMO-KOOL/MID-SOUTH INDUSTRIES, INC.

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Version: TK003120214

INTRODUCTION

Thank you for purchasing a **Thermo-Kool® Blast Chiller/Shock Freezer**. This unit has been crafted to provide you with exceptional and reliable service for many years.

The **TK10-2** and the **TK20-2 Thermo-Kool® Blast Chiller/Shock Freezer** models have been uniquely designed with the refrigeration system and its controller located above the cabinet in a no spill/splash zone which makes for a user friendly, easily serviceable product. These models come standard with adjustable heavy duty stainless steel adjustable legs.

The **TK26**, **TK30**, **TK47**, **TK94,** and **TK140** roll-in cabinet models are equipped with a patented uniframe modular chiller system and a full featured electronic control system that are ready for final electrical connections which allow for a quick installation and easy operation.

All of us on the **Thermo-Kool®** team sincerely appreciate your choosing us, and we are confident that your Blast Chiller/Shock Freezer will exceed your expectations in food preparation and preservation.

This manual will guide you through the operation and programming of the following models:
TK10-2, TK20-2, TK26, TK30, TK47, TK94, and TK140.

Model **TK10-2** is designed for:

5 - Sheet Pans (18” x 26” x 1”)

10 - GN 1/1 Food Pans (12” x 20” x 2”)

10 - Full Size Food Pans (12” x 20” x 2.5”)

12 - 4L Gelato/Ice Cream Containers

12 - 5L Gelato/Ice Cream Containers

6 - 12L Gelato/Ice Cream Containers

Model **TK20-2** is designed for:

10 - Sheet Pans (18” x 26” x 1”)

20 - GN 1/1 Food Pans (12” x 20” x 2”)

20 - Full Size Food Pans (12” x 20” x 2.5”)

30 - 4L Gelato/Ice Cream Containers

20 - 5L Gelato/Ice Cream Containers

10 - 12L Gelato/Ice Cream Containers

Model **TK26** is designed for:	13 – Sheet Pans (18” x 26” x 1”)
	26 – GN 1/1 Food Pans (12” x 20” x 2”)
	26 – Full Size Food Pans (12” x 20” x 2.5”)
	1 – Roll-in Rack up to 27” x 29” x 74”
Model **TK30** is designed for:	20 – Sheet Pans (18” x 26” x 1”)
	40 – GN 1/1 Food Pans (12” x 20” x 2”)
	40 – Full Size Food Pans (12” x 20” x 2.5”)
	1 – Roll-in Rack up to 35” x 38” x 75”
Model **TK47** is designed for:	20 – Sheet Pans (18” x 26” x 1”)
	40 – GN 1/1 Food Pans (12” x 20” x 2”)
	40 – Full Size Food Pans (12” x 20” x 2.5”)
	1 – Roll-in Rack up to 35” x 38” x 75”
Model **TK94** is designed for:	40 – Sheet Pans (18” x 26” x 1”)
	80 – GN 1/1 Food Pans (12” x 20” x 2”)
	80 – Full Size Food Pans (12” x 20” x 2.5”)
	2 – Roll-in Racks up to 35” x 38” x 75”
Model **TK140** is designed for:	60 – Sheet Pans (18” x 26” x 1”)
	120 – GN 1/1 Food Pans (12” x 20” x 2”)
	120 – Full Size Food Pans (12” x 20” x 2.5”)
	3 – Roll-in Racks up to 35” x 38” x 75”

All models meet or exceed HACCP, FDA and all state regulations.

IMPORTANT PRODUCT DATA INFORMATION FOR MODEL PURCHASED

For future reference, please record on this page the applicable data found on the unit's data labels.
It is recommended that this page is preserved during the life of the product.

Reach-ins: Data label is located on the right side of the cabinet in the upper left corner.

Roll-in Cabinets: Data label is located on the right side of the control panel at the bottom.

Thermo-Kool® Commercial Blast Chiller and/or Shock Freezer

Model No. _____ Serial No. _____ Date Purchased: _____

Refrigerant: 404A Design Pressure: (Low): 174 PSIG (High): 375 PSIG

Charge in oz: _____

Compressor: HP _____ FLA: _____

Fans: HP _____ FLA: _____

Volts: _____ PH: _____ Hz: 60 Amps: _____

Min. Circuit Amps: _____ Max. Fuse Size (Amps): _____

Condensing unit: If the Roll-in model's condensing unit has been purchased from **Thermo-Kool®** the data label is located on the outside of the unit's hood.

Product: **Condensing Unit**

Model No. _____ Serial No. _____ Date Purchased: _____

Outdoor: _____ Indoor: _____

Refrigerant: 404A Design Pressure: (Low): _____ (High): _____

Charge in oz: _____

Compressor: HP _____ FLA: _____

Condenser Fans: HP _____ FLA: _____

Volts: _____ PH: _____ Hz: 60 Amps: _____

Min. Circuit Amps: _____ Max. Fuse Size (Amps): _____

TABLE OF CONTENTS:

INSTALLATION REQUIREMENTS

Both of these models have an electrical cord and plug as standard:

TK10-2: 208VAC, 1PH, 60Hz, 15Amps, NEMA 6-15P

TK20-2: 208VAC, 1PH, 60Hz, 20Amps, NEMA 6-20P

IMPORTANT! These models must be connected to a power outlet for two hours prior to initial operation.

A minimum of four inches is recommended for proper clearance around the unit.

Roll-in Models: Please refer to supplemental Installation Manual supplied with your specific model.

BLAST CHILLER AND SHOCK FREEZER TECHNOLOGY

These are appliances which rapidly reduce the core temperature of raw or cooked foods to safe cold storage temperature levels.

Blast chilling must attain within two hours a product core temperature of 37 ^{0}F - 40 ^{0}F and shock freezing must reach a product core temperature of 0 ^{0}F within four hours.

The interval between 140 ^{0}F and 40 ^{0}F, commonly referred to as the “Danger Zone,” is considered the ideal temperature zone for bacteria proliferation in most food products.

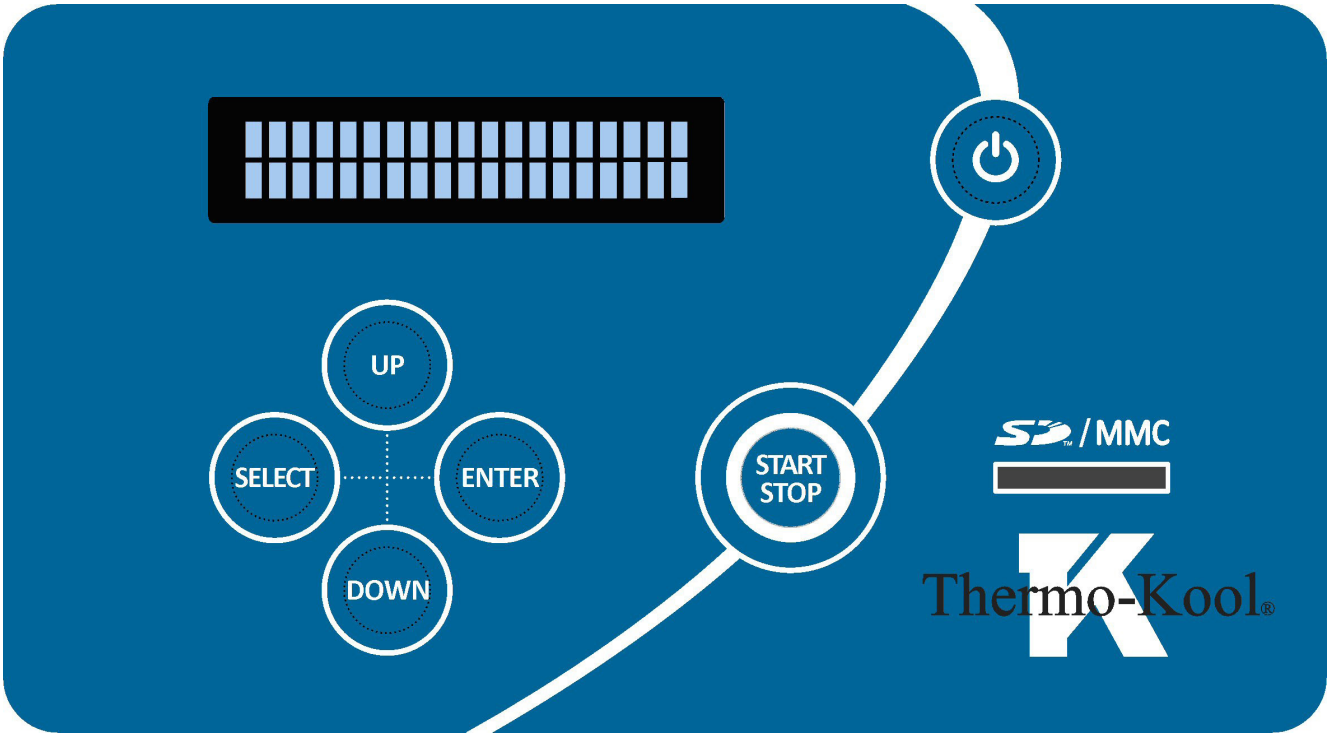
The methods of blast chilling and shock freezing help avoid food deterioration by retarding or even stopping bacteria proliferation.

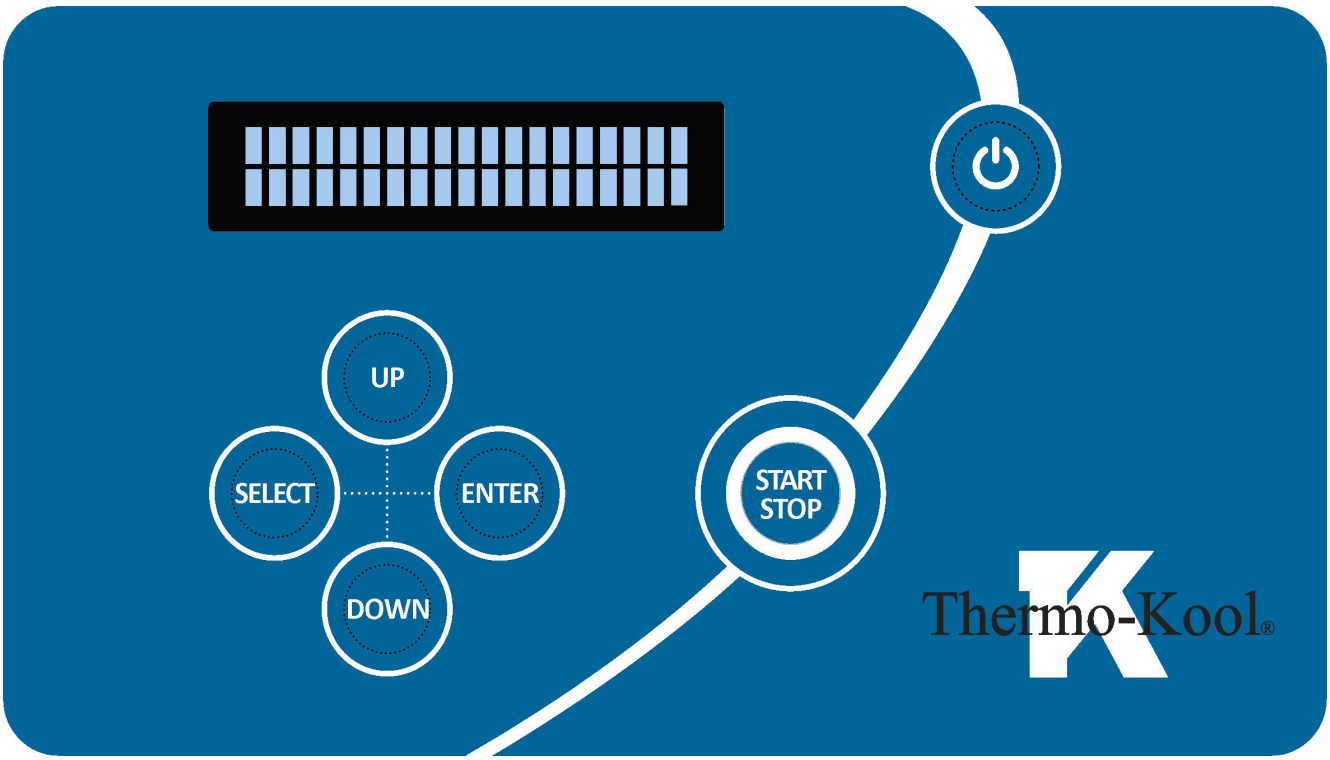
After blast chilling, food can be preserved at temperatures of 37 ^{0}F - 40 ^{0}F for as long as five days before it is served. Shock freezing will allow food to be safely preserved in a frozen state for several months.

THAWING TECHNOLOGY (OPTIONAL)

Thermo-Kool® Blast Chillers and Shock Freezers are designed with an optional thaw function that operates at variable air temperatures, safely raising the frozen food’s temperature to 38 ^{0}F. Once this process is complete the unit will maintain the food’s temperature below 40 ^{0}F until it is removed from the cabinet.

CONTROL PANEL





OPERATION

With the display reading **OFF** press (ON/OFF).

The display will show:

SELECT CYCLE AUTO SOFT

(Flashing)

From this screen you can select one of the following cycles by pressing UP or DOWN, then ENTER.

- AUTOMATIC SOFT **(AUTO SOFT)**
- AUTOMATIC HARD **(AUTO HARD)**
- AUTOMATIC FREEZE **(AUTO FREEZE)**
- AUTOMATIC THAW **(AUTO THAW)**
- MANUAL SOFT **(MAN SOFT)**
- MANUAL HARD **(MAN HARD)**
- MANUAL FREEZE **(MAN FREEZE)**
- MANUAL THAW **(MAN THAW)**
- ULTRAVIOLET **(UV)**
- DEFROST **(DF)**
- HEATED PROBE **(HEATED PROBE)**

******Important! The AUTOMATIC MODES use both the air and food temperatures to control the cycles.******

1. AUTOMATIC MODE – AUTO SOFT CYCLE (AS)

Note: Food probe(s) must be used with this cycle!

With the display reading **OFF**, press (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE.**

SELECT CYCLE AUTO SOFT

(Flashing)

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

R/PROBE RECIPE 1 BEEF

(Flashing)

To select a **RECIPE**

press UP or DOWN then press ENTER.

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

AUTO SOFT PRESS START

(Flashing)

Press START STOP to start the cycle.

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts up in minutes

10.01.2015 AS 10:15 AM 00:01

Air probe temperature

AIR1 AS 85°F

Food probe temperature

R/BEEF 170°F

When the food temperature has reached the target temperature set in **CYCLES PROGRAMMING** (default 40 °F), the unit will automatically switch to holding mode and a beep will sound for five seconds.
The display will show alternating screens:

R/BEEF READY

R/BEEF 40°F

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

2. AUTOMATIC MODE – AUTO HARD CYCLE (AH)

Note: Food probe(s) must be used with this cycle!

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE AUTO HARD

(Flashing)

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

To select a **RECIPE**
press UP or DOWN, then press ENTER.

R/PROBE RECIPE 1 BEEF

(Flashing)

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

AUTO HARD PRESS START

(Flashing)

Press START STOP to start the cycle.

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts up in minutes

10.01.2015 AH 10:15 AM 00:01

Air probe temperature

AIR1 AH 85°F

Food probe temperature

R/BEEF 170°F

When the food temperature has reached the target temperature set in **CYCLES PROGRAMMING** (default 40 °F), the unit will automatically switch to holding mode and a beep will sound for five seconds.
The display will show alternating screens:

R/BEEF READY

R/BEEF 40°F

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

3. AUTOMATIC MODE – AUTO FREEZE CYCLE (AF)

Note: Food probe(s) must be used with this cycle!

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE AUTO FREEZE

(Flashing)

If **SHOCK FREEZE** was set to **NO** in **INITIAL PROGRAMMMING**, the display will show:

AUTO FREEZE NOT AVAILABLE

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

R/PROBE RECIPE 1 BEEF

(Flashing)

To select a **RECIPE** press UP or DOWN, then press ENTER.

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

AUTO FREEZE PRESS START

(Flashing)

Press START STOP to start the cycle.

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts up in minutes

10.01.2015 AF 10:15 AM 00:01

Air probe temperature

AIR1 AF 85^{0}F

Food probe temperature

R/BEEF 170^{0}F

When the food temperature has reached the target temperature set in **CYCLES PROGRAMMING** (default 0 ^{0}F), the unit will automatically switch to holding mode and a beep will sound for five seconds.
The display will show alternating screens:

R/BEEF READY

R/BEEF 0^{0}F

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

4. AUTOMATIC MODE – AUTO THAW CYCLE (AT)

Note: Thaw probe must be used with this cycle!

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle, then press ENTER.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE AUTO THAW

If **THAW CYCLE** was set to **NO** in **INITIAL PROGRAMMING**, the display will show:

AUTO THAW NOT AVAILABLE

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

T/PROBE RECIPE 1 BEEF

(Flashing)

To select a **RECIPE** press UP or DOWN, then press ENTER.

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

AUTO THAW PRESS START

(Flashing)

Press START STOP to start the cycle.

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts up in minutes

10.01.2015 AT 10:15 AM 00:01

Air probe temperature
Thaw probe temperature

AIR1 85^{0}F AT T/BEEF 0^{0}F

When the food temperature has reached the target temperature set in **CYCLES PROGRAMMING** (default 38 ^{0}F), the unit will automatically switch to holding mode and a beep will sound for five seconds.
The display will show alternating screens:

AIR1 36^{0}F AT T/BEEF READY

AIR1 36^{0}F AT T/BEEF 38^{0}F

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

******Important! The MANUAL MODES use ONLY time and air probe temperatures to control the cycles.******

5. MANUAL MODE - MANUAL SOFT CYCLE (MS)

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE MAN SOFT

(Flashing)

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

R/PROBE RECIPE 1 BEEF

(Flashing)

To select a **RECIPE**
press UP or DOWN, then press ENTER.

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

MAN SOFT CYCLE TIME H 02:00 M

(Flashing)

To change the **CYCLE TIME**
press UP or DOWN, then press ENTER.

Press START STOP to start the cycle.

MAN SOFT PRESS START

(Flashing)

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts down in minutes

10.01.2015 MS 1:15 PM 01:59

Air probe temperature

AIR1 MS 85°F

Food probe temperature

R/BEEF 170°F

When the set time is reached, the unit will automatically switch to holding mode and a beep will sound for five seconds. The display will show:

10.01.2015 MS 3:15 PM 00:00

(Flashing)

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

6. MANUAL MODE - MANUAL HARD CYCLE (MH)

With the display reading **OFF**, press (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

(Flashing)

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

To select a **RECIPE** press UP or DOWN, then press ENTER.

(Flashing)

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

To change the **CYCLE TIME** press UP or DOWN, then press ENTER.

(Flashing)

Press START STOP to start the cycle.

(Flashing)

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts down in minutes

Air probe temperature

Food probe temperature

When the set time is reached, the unit will automatically switch to holding mode and a beep will sound for five seconds. The display will show:

(Flashing)

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

7. MANUAL MODE - MANUAL FREEZE CYCLE (MF)

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE MAN FREEZE

(Flashing)

If **SHOCK FREEZE** was set to **NO** in **INITIAL PROGRAMMMING**, the display will show:

MAN FREEZE NOT AVAILABLE

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

R/PROBE RECIPE 1 BEEF

(Flashing)

To select a **RECIPE**, press UP or DOWN, then press ENTER.

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

MAN FREEZE CYCLE TIME H 04:00 M

(Flashing)

To change the **CYCLE TIME**, press UP or DOWN, then press ENTER.

Press START STOP to start the cycle.

MAN FREEZE PRESS START

(Flashing)

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts down in minutes

10.01.2015 MF 12:40 PM 03:59

Air probe temperature

AIR1 MF 85°F

Food probe temperature

R/BEEF 170°F

When the set time is reached, the unit will automatically switch to holding mode and a beep will sound for five seconds. The display will show:

10.01.2015	MF
4:40 PM	00:00

(Flashing)

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

8. MANUAL MODE - MANUAL THAW CYCLE (MT)

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE
MAN THAW

(Flashing)

If **THAW CYCLE** was set to **NO** in **INITIAL PROGRAMMMING**, the display will show:

MAN THAW
NOT AVAILABLE

If **RECIPES** was set to **YES** in **INITIAL PROGRAMMING**, the display will show:

T/PROBE RECIPE	1
BEEF	

(Flashing)

To select a **RECIPE** press UP or DOWN, then press ENTER.

If **RECIPES** was set to **NO** in **INITIAL PROGRAMMING**, or after a recipe is selected the display will show:

MAN THAW	
CYCLE TIME	H 06:00 M

(Flashing)

To change the **CYCLE TIME** press UP or DOWN, then press ENTER.

Press START STOP to start the cycle.

MAN THAW
PRESS START

(Flashing)

The display will show alternating screens monitoring:

Date, time, and cycle time, which counts down in minutes

10.01.2015	MT
12:15 PM	05:59

Air probe temperature
Thaw probe temperature

AIR1	42°F	MT
T/BEEF		42°F

When the set time is reached, the unit will automatically switch to holding mode and a beep will sound for five seconds. The display will show:

10.01.2015	MT
6:15 PM	00:00

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

9. UV

Note: It is recommended the interior of the cabinet and the coil are cleaned prior to UV operation. Please see page 45 for proper cleaning instructions.

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

If **UV** was set to **NO** in **INITIAL PROGRAMMING** the display will show:

UV
NOT AVAILABLE

If **UV** was set to **YES** in **INITIAL PROGRAMMING** the display will show:

SELECT CYCLE
UV

(Flashing)

Press ENTER to **SELECT CYCLE**.

Press START STOP to start the cycle.

UV
PRESS START

(Flashing)

The display will show:

Date, time, and cycle time, which counts down in minutes

10.01.2015	UV
10:45 AM	30:00

When the cycle is complete, the display will show:

10.01.2015	UV
11:15 AM	COMPLETE

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

10. MANUAL DEFROST (DF)

With the display reading **OFF**, press ⏻ (ON/OFF) once, then press UP or DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE DEFROST

(Flashing)

Press START STOP to start the cycle.

DEFROST PRESS START

(Flashing)

The display will show:

Date, time, and cycle time, which counts down in minutes

10.01.2015	DF
10:20 AM	15:00

When the cycle is complete, the display will show:

10.01.2015	DF
10:35 AM	COMPLETE

Press START STOP when the cycle is complete to return to the **SELECT CYCLE** screen.

NOTE: If **AUTOMATIC DEFROST** was selected in **CYCLES PROGRAMMING**, once the unit operates for the set time, the defrost cycle will start automatically. The display will show:

10.01.2015	DF
10:20 AM	40:00

After the cycle reaches the set time the unit returns to the **OFF** position.

11. HEATED PROBE (HP)

When an automatic or manual freeze cycle using the heated food probe(s) is complete, press START STOP twice, then press DOWN to access the appropriate cycle.

Press ENTER to **SELECT CYCLE**.

SELECT CYCLE HEATED PROBE

(Flashing)

If **HEATED PROBE** was set to **NO** in **INITIAL PROGRAMMING** the display will show:

HEATED PROBE NOT AVAILABLE

If **HEATED PROBE** was set to **YES** in **INITIAL PROGRAMMING** the display will show:

HEATED PROBE PRESS START

(Flashing)

Press START STOP to start the cycle.

If the food probe temperature is >30 ^{0}F, the display will show:

HP NOT NEEDED

After a few seconds, the display will show:

SELECT CYCLE HEATED PROBE

If the food probe temperature is <30 ^{0}F, the display will show:

HP OPEN DOOR!

And after five seconds:

HP HEATING!

When the display shows complete, remove the food probe.

HP COMPLETE

To stop any cycle before it is complete

Press the 

button.

The controller will beep for a few seconds.

The display will show:

UNIT IN PROCESS!
DO YOU WANT TO STOP?

If you still want to stop the cycle, press 

again. If you do **NOT** wish to stop the cycle do nothing and the cycle will continue after a few seconds.

LIST OF COMMANDS

With the display reading **OFF**, press and hold 

for ten seconds to access:

- **LOAD DEFAULT VALUES:** This command will allow the operator to reset the unit to its original settings and most importantly to its original password.

With the display reading **OFF**, press and hold 

until beep sounds. Use the 

or 

to access any of the following:

- **INITIAL PROGRAMMING:** The default parameters in initial programming are preset at the factory but may also be accessed by the operator for changes in order to meet the operator's specific needs.

- **CYCLES PROGRAMMING:** The default parameters in cycles programming are preset at the factory but may also be accessed by the operator for changes in order to meet the operator's specific needs.

- **RECIPES PROGRAMMING:** These may be entered by the operator as a reference to specific foods for documentation purposes.

- **CLEAR EVENTS MEMORY:** This command will clear the controller memory of all data collected during a cycle event(s).

- **TECHNICIAN MENU:** The default parameters in the technician menu are preset at the factory and are recommended to be accessed only by a qualified service technician.

With the display reading **OFF**, press  (ON/OFF) once and use 

or 

to access various operational cycles. See page 3 for complete **OPERATION** instructions.

LOAD DEFAULT VALUES

This command will allow the operator to reset the unit to its original settings and most importantly to its original password.

With the display reading **OFF**, press and hold UP for ten seconds. The display will show:

LOAD DEFAULT VALUES YES

(Flashing)

To change to **YES** or **NO**, press UP or DOWN, then press ENTER.

LOAD DEFAULT VALUES PLEASE WAIT

(Flashing)

If **YES** is selected, the display will show:

LOAD DEFAULT VALUES COMPLETE

(Flashing)

After the operation is performed the display will return to read **OFF**.

INITIAL PROGRAMMING

NOTE: The default parameters in initial programming are preset at the factory. If no changes are desired please turn to page 3 for **OPERATION** instructions.
In order to access the programming features of this controller, the display must be in the **OFF** mode.

PR – Programming Mode **IP** – Initial Programming

With the display reading **OFF**, press START STOP for a few seconds until a beep sounds.

OFF

From UP or DOWN select **ENGLISH**, **FRENCH** or **SPANISH**, then press ENTER.

PR LANGUAGE ENGLISH

(Flashing)

Enter the default password by pressing (in order) SELECT, UP and DOWN, then press ENTER.

PR PASSWORD xxxx

The display will show:

PR CHANGE PASSWORD?

(Flashing)

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

To change the password, press UP or DOWN for **YES**, then press ENTER.

The display will show:

PR NEW PASSWORD

The password can be a three key combination of any: SELECT, UP, DOWN and START STOP buttons.

Enter the new password then press ENTER.

PR RETYPE PASSWORD

Re-enter the password and then press ENTER.

PASSWORD CHANGED

If an incorrect password is entered, the display will show:

WRONG PASSWORD
TRY AGAIN

Enter the correct password and press ENTER.

When the correct password is entered, the display will show:

PR
INITIAL PROGRAMMING

(Flashing)

Press ENTER to select the **INITIAL PROGRAMMING**.

To change the **YEAR**, press UP or DOWN, then press ENTER.

PR SET YEAR IP
2015

(Flashing)

To change the **MONTH** of the year, press UP or DOWN, then press ENTER.

PR SET MONTH IP
12

(Flashing)

To change the **DAY** of the month, press UP or DOWN, then press ENTER.

PR SET DAY IP
27

(Flashing)

To set the **HOUR**,
press UP or DOWN,
(continue to press the buttons until the hour and **AM** or **PM** show correctly)
then press ENTER.

PR	SET TIME	IP
	11:15 AM	

(Flashing)

To set the **MINUTES**,
press UP or DOWN, then press ENTER.

PR	SET TIME	IP
	11:15 AM	

(Flashing)

The default setting for the **TEMPERATURE** scale is **^{0}F** for **Fahrenheit**. To change to **^{0}C** for **Celsius**, press UP or DOWN,
then press ENTER.

PR	TEMPERATURE	IP
	^{0} F	

(Flashing)

The default setting for the number of **AIR PROBES** is **1**. To change to **2** or **3**,
press UP or DOWN, then press ENTER.

PR	AIR PROBES	IP
	1	

(Flashing)

The default setting for the number of **FOOD PROBES** is **1**. To change to **2**, **3**, or **4**,
press UP or DOWN, then press ENTER.

PR	FOOD PROBES	IP
	1	

(Flashing)

NOTE: Standard configuration has only one food probe. However, up to four food probes can be used with these models. Food probes: First is **Red (R)**, second is **Yellow (Y)**, third is **Blue (B)**, fourth is **Green (G)**.
Please see **RECIPE PROGRAMMING** on Page 25 for additional information on food probes.

The default setting for the **HIGH AIR ALARM** temperature is **140 ^{0}F**.

To change the temperature,
press UP or DOWN, then press ENTER.

PR	ALARM	IP
HIGH AIR		140 ^{0}F

(Flashing)

This is the temperature at which an alarm will sound if the air cavity temperature rises above its setting.

The default setting for the **LOW AIR ALARM** temperature **-35 ^{0}F**.

To change the temperature,
press UP or DOWN, then press ENTER.

PR	ALARM	IP
LOW AIR		-35 ^{0}F

(Flashing)

This is the temperature at which an alarm will sound if the air cavity temperature falls below its setting.

The default setting for the **HIGH FOOD ALARM** temperature is **180 ^{0}F**.

To change the temperature,
press UP or DOWN, then press ENTER.

PR	ALARM	IP
HIGH FOOD		180 ^{0}F

(Flashing)

This is the temperature at which an alarm will sound if the food temperature, as measured by the food probe, rises above its setting.

The default setting for the **LOW FOOD ALARM** temperature is **35 ^{0}F**.

To change the temperature,
press UP or DOWN, then press ENTER.

PR	ALARM	IP
LOW FOOD		35 ^{0}F

(Flashing)

This is the temperature at which an alarm will sound if the food temperature, as measured by the food probe, falls below its setting.

The default setting for **THAW CYCLE** is **NO**.

To change **YES**,
press UP or DOWN, then press ENTER.

PR	THAW CYCLE	IP
	NO	

(Flashing)

This setting indicates if the unit has thawing capabilities.

The default setting for **SHOCK FREEZE** is **YES.**

To change to **NO**,
press UP or DOWN, then press ENTER.

PR	SHOCK FREEZE	IP
	YES	

(Flashing)

This setting indicates if the unit has shock freeze capabilities.

The default setting for **GELATO** is **NO**.

To change to **YES**,
press UP or DOWN, then press ENTER.

PR	GELATO	IP
	NO	

(Flashing)

This function will allow the unit to continue operating if the door is opened during a freeze cycle.

The default setting for **HEATED PROBE** is **YES**.

To change to **NO**,

press UP or DOWN, then press ENTER.

PR	HEATED PROBE	IP
	YES	

(Flashing)

The default setting for **UV**, or **ULTRAVIOLET**, is **NO**.

To change to **YES**,

press UP or DOWN, then press ENTER.

PR	UV	IP
	NO	

(Flashing)

UV aids in the sanitization of the unit.

The default setting for **PC** is **YES**.

To change to **NO**,

press UP or DOWN, then press ENTER.

PR	PC	IP
	YES	

(Flashing)

This setting indicates if the optional PC connection was purchased and installed.

The default setting for the **PC BAUD RATE** is **38400**.

To change the rate,

press UP or DOWN, then press ENTER.

PR	PC	IP
BAUDRATE		38400

(Flashing)

To change the **NETWORK ID NUMBER** from **01** to **32**,

press UP or DOWN, then press ENTER.

PR	NETWORK ID#	IP
	01	

(Flashing)

This is the unique ID for the unit when muliple units are connected using the optional PC connection.

The default setting for **PRINTER** is **YES**.

To change to **NO**,

press UP or DOWN, then press ENTER.

PR	PRINTER	IP
	YES	

(Flashing)

This setting indicates if an optional printer was purchased and installed.

The default setting for **PRINTER TYPE** is **STANDARD**.

To change the **PRINTER TYPE**,

press UP or DOWN, then press ENTER.

PR	PRINTER TYPE	IP
	STANDARD	

(Flashing)

The default setting for the **PRINTER BAUD RATE** is **9600**.

To change the rate,
press UP or DOWN, then press ENTER.

PR PRINTER BAUDRATE	IP 9600

(Flashing)

The default setting for **PRINT & SAVE TIMING** is **15 minutes**.

To change the time,
press UP or DOWN, then press ENTER.

PR PRINT & SAVE 15 MIN	IP

(Flashing)

This setting refers to the time interval in which the controller records HACCP data during an operational cycle.

The default setting for **PRINT DURING CYCLE** is **NO**.

To change to **YES**,
press UP or DOWN, then press ENTER.

PR PRINT DURING CYCLE	IP NO

(Flashing)

This setting determines if the recorded HACCP data is printed during an operational cycle.

The default setting for **RECIPES** is **NO**.

To change to **YES**,
press UP or DOWN then press ENTER.

PR RECIPES? NO	IP

(Flashing)

This setting determines if specific foods can be entered for documentation purposes.

The default setting for **NAFEM** is **NO**.

To change to **YES**,
press UP or DOWN then press ENTER.

PR NAFEM NO	IP

(Flashing)

This setting is for future use with NAFEM protocol.

To end the **INITIAL PROGRAMMING** press (ON/OFF) button.

PROGRAMMING

With the display reading **OFF**, press START STOP for a few seconds until a beep sounds.

OFF

From UP or DOWN select **ENGLISH**, **FRENCH** or **SPANISH**, then press ENTER.

PR LANGUAGE ENGLISH

(Flashing)

Enter the password and press ENTER.

PR PASSWORD xxx

The display will show:

PR CHANGE PASSWORD?

(Flashing)

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

To change the password, press UP or DOWN for **YES** then press ENTER.

The display will show:

PR NEW PASSWORD

OR

From the **INITIAL PROGRAMMING** display

Press UP and DOWN to scroll to:

PR
TECHNICIAN MENU

PR
CLEAR EVENTS MEMORY

PR
RECIPES PROGRAMMING

PR
CYCLES PROGRAMMING

Note: *Once* ***CYCLES PROGRAMMING*** *is selected by pressing* ENTER *from the menu, press* UP *or* DOWN *to select the cycle you wish to program.* ***CYCLES PROGRAMMING*** *begins on page 26.*

TECHNICIAN MENU

The parameters in this menu are preset at the factory and recommended to be accessed only by a qualified service technician.

CLEAR EVENTS MEMORY

This command will clear the controller memory of all data recorded during cycle events.

To make the selection press ENTER.

PR
CLEAR EVENTS MEMORY
(Flashing)

To change the **CLEAR EVENTS MEMORY** to **YES** or **NO**, press UP or DOWN, then press ENTER.

CLEAR EVENTS MEMORY
YES
(Flashing)

If your selection is **YES** the display will show:

CLEAR EVENTS MEMORY
PLEASE WAIT

When the process is complete the display will show:

CLEAR EVENTS MEMORY
COMPLETE

RECIPES PROGRAMMING (RP)

These may be entered by the operator as a reference to specific foods for documentation purposes. Recipes may be assigned to optional multiple food probes (R, Y, B, G) when utilized during operation.

To make the selection, press ENTER.

PR
RECIPES PROGRAMMING

(Flashing)

If **NO** was selected for **RECIPES** in the **INITIAL PROGRAMMING** the display will show:

RECIPES PROGRAMMING
NOT AVAILABLE

If **YES** was selected for **RECIPES** in the **INITIAL PROGRAMMING** the display will prompt you to enter the password.

Enter the password, then press ENTER.

PR PASSWORD RP

To select a **RECIPE NUMBER**, press UP or DOWN, then press ENTER to go to the second line for entry of the **RECIPE NAME**. Up to 150 recipes can be entered.

PR RECIPE # 1 RP
_____

(Flashing)

Using UP or DOWN select the letters or numbers in the **RECIPE NAME**. Press SELECT after each letter or number entry, then press ENTER.

PR RECIPE # 1 RP
_____

The display will move to the next **RECIPE NUMBER**. Repeat the previous step.

To end the **RECIPES** programming press (ON/OFF).

PR RECIPE # 2 RP
_____

(Flashing)

CYCLES PROGRAMMING (CP)

The default parameters in Cycles Programming are preset at the factory, but may also be accessed by the operator for changes in order to meet the operator's specific needs.

1. AUTO SOFT CYCLE PARAMETERS PROGRAMMING

Note: *If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
AUTO SOFT	

(Flashing)

The default setting for the **LOW AIR TEMPERATURE** is **28 °F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO SOFT	CP
LOW AIR		28°F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** is **35 °F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO SOFT	CP
HIGH AIR		35°F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during the chilling process.

The default setting for the **TARGET FOOD TEMPERATURE** is **40 °F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO SOFT	CP
TARGET FOOD		40°F

(Flashing)

This is the desired food temperature, as measured by the food probe, at which the unit automatically ends the chilling process and transitions into holding mode.

The default setting for the **HOLD LOW TEMPERATURE** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO SOFT	CP
HOLD LOW		35^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD HIGH TEMPERATURE** is **42 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO SOFT	CP
HOLD HIGH		42^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

PR		CP
	AUTO SOFT	

(Flashing)

To move to the next cycle press UP or DOWN, or

to end programming press (ON/OFF) .

2. AUTO HARD CYCLE PARAMETERS PROGRAMMING

Note: *If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR		CP
	AUTO HARD	

(Flashing)

The default setting for the **LOW AIR TEMPERATURE** for **Zone 1** is **0 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
ZONE1	LOW AIR	0^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during Zone 1 of the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** for **Zone 1** is **10 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
ZONE1	HIGH AIR	10^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during Zone 1 of the chilling process.

The default setting for the **BREAK TEMPERATURE** (food probe temp) is **60 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
BREAK TEMP		60^{0}F

(Flashing)

This is the temperature of the food, as measured by the food probe, at which the unit transitions from Zone 1 to Zone 2.

The default setting for the **LOW AIR TEMPERATURE** for **Zone 2** is **28 ^{0}F.**

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
ZONE2	LOW AIR	28^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during Zone 2 of the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** for **Zone 2** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
ZONE2	HIGH AIR	35^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during Zone 2 of the chilling process.

The default setting for the **TARGET FOOD TEMPERATURE** is **40 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
TARGET FOOD		40^{0}F

(Flashing)

This is the desired food temperature, as measured by the food probe, at which the unit automatically ends the chilling process and transitions into the holding mode.

The default setting for the **HOLD LOW TEMPERATURE** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
HOLD LOW		35^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD HIGH TEMPERATURE** is **42 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO HARD	CP
HOLD HIGH		42^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

To move to the next cycle press UP or DOWN,

or to end programming press (ON/OFF).

PR	CP
AUTO HARD	

(Flashing)

3. AUTO FREEZE CYCLE PARAMETERS PROGRAMMING

Note: *If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
AUTO FREEZE	

(Flashing)

If **NO** was selected for **SHOCK FREEZE** in the **INITIAL PROGRAMMING** the display will show:

PR	AUTO FREEZE	CP
NOT AVAILABLE		

If **YES** was selected for **SHOCK FREEZE** in the **INITIAL PROGRAMMING**:

The default setting for the **LOW AIR TEMPERATURE** is **-25 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO FREEZE	CP
LOW AIR		-25^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during the freezing process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** is **-15 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO FREEZE	CP
HIGH AIR		-15^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during the freezing process.

The default setting for the **TARGET FOOD TEMPERATURE** is **0 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO FREEZE	CP
TARGET FOOD		0^{0}F

(Flashing)

This is the desired food temperature, as measured by the food probe, at which the unit automatically ends the freezing process and transitions into holding mode.

The default setting for the **HOLD LOW TEMPERATURE** is **-4 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO FREEZE	CP
HOLD LOW		-4^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD HIGH TEMPERATURE** is **3 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO FREEZE	CP
HOLD HIGH		3^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

PR		CP
	AUTO FREEZE	

(Flashing)

To move to the next cycle press UP or DOWN, or

to end programming press (ON/OFF).

4. AUTO THAW CYCLE PARAMETERS PROGRAMMING

Note: *If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
AUTO THAW	

(Flashing)

If **NO** was selected for **THAW CYCLE** in the **INITIAL PROGRAMMING** the display will show:

PR	AUTO THAW	CP
	NOT AVAILABLE	

If **YES** was selected for **THAW CYCLE** in the **INITIAL PROGRAMMING:**

The default setting for the **TARGET FOOD TEMPERATURE** is **38 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO THAW	CP
TARGET FOOD		38^{0}F

(Flashing)

This is the desired food temperature, as measured by the food probe, at which the unit automatically ends the thawing process and transitions into holding mode.

The default setting for the **MAXIMUM AIR TEMPERATURE** is **50 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO THAW	CP
MAX AIR		50^{0}F

(Flashing)

This is the maximum air temperature at which the unit operates during the thawing process.

NOTE: There should always be a minimum of seven degrees difference between the maximum and minimum air settings. The default settings have a difference of eight degrees.

The default setting for the **MINIMUM AIR TEMPERATURE** is **42 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	AUTO THAW	CP
MIN AIR		42^{0}F

(Flashing)

This is the minimum air temperature at which the unit operates during the thawing process.

The default setting for the **HOLD HIGH TEMPERATURE** is **42 °F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR AUTO THAW CP
HOLD HIGH 42°F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold high and hold low temperature settings.

The default setting for the **HOLD LOW TEMPERATURE** is **35 °F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR AUTO THAW CP
HOLD LOW 35°F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

PR CP
AUTO THAW

(Flashing)

To move to the next cycle press UP or DOWN, or

to end programming press (ON/OFF) .

5. MANUAL SOFT CYCLE PARAMETERS PROGRAMMING

***Note**: If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR CP
MAN SOFT

(Flashing)

The default setting for the **LOW AIR TEMPERATURE** is **28 °F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR MAN SOFT CP
LOW AIR 28°F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN SOFT	CP
HIGH AIR		35^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during the chilling process.

The default setting for the **CYCLE TIME** is **H 02:00 M**.

To change the time, press UP or DOWN, then press ENTER.

PR	MAN SOFT	CP
CYCLE TIME		H 2:00 M

(Flashing)

The default setting for the **HOLD LOW TEMPERATURE** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN SOFT	CP
HOLD LOW		35^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD HIGH TEMPERATURE** is **42 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN SOFT	CP
HOLD HIGH		42^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

PR		CP
	MAN SOFT	

(Flashing)

To move to the next cycle press UP or DOWN, or

to end programming press ⏻ (ON/OFF).

6. MANUAL HARD CYCLE PARAMETERS PROGRAMMING

Note: *If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
MAN HARD	

(Flashing)

The default setting for the **LOW AIR TEMPERATURE** for **Zone 1** is **0 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
ZONE1	LOW AIR	0^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during Zone 1 of the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** for **Zone 1** is **10 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
ZONE1	HIGH AIR	10^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during Zone 1 of the chilling process.

The default setting for the **LOW AIR TEMPERATURE** for **Zone 2** is **28 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
ZONE2	LOW AIR	28^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during Zone 2 of the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** for **Zone 2** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
ZONE2	HIGH AIR	35^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during Zone 2 of the chilling process.

The default setting for the **CYCLE TIME** is **H 02:00 M**.

To change the time, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
CYCLE TIME		H 2:00 M

(Flashing)

The default setting for **TIME** (percentage of total cycle time) for **Zone 1** is **75%**.

To change the time (percentage), press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
ZONE1	TIME	75%

(Flashing)

This setting indicates the percentage of the total cycle time the unit will operate in Zone 1 before transitioning to Zone 2.

The default setting for the **HOLD LOW TEMPERATURE** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
HOLD LOW		35^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD HIGH TEMPERATURE** is **42 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN HARD	CP
HOLD HIGH		42^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

To move to the next cycle press UP or DOWN, or to end programming press (ON/OFF).

PR		CP
	MAN HARD	

(Flashing)

7. MANUAL FREEZE CYCLE PARAMETERS PROGRAMMING

***Note**: If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR		CP
	MAN FREEZE	

(Flashing)

If **NO** was selected for **SHOCK FREEZE** in the **INITIAL PROGRAMMING** the display will show:

PR	MAN FREEZE	CP
	NOT AVAILABLE	

If **YES** was selected for the **SHOCK FREEZE** in the **INITIAL PROGRAMMING**:

The default setting for the **LOW AIR TEMPERATURE** is **-25 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN FREEZE	CP
LOW AIR		-25^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during the chilling process.

NOTE: There should always be a minimum of seven degrees difference between the low and high air temperature settings.

The default setting for the **HIGH AIR TEMPERATURE** is **-15 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN FREEZE	CP
HIGH AIR		-15^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during the chilling process.

The default setting for the **CYCLE TIME** is **H 04:00 M**.

To change the time, press UP or DOWN, then press ENTER.

PR	MAN FREEZE	CP
CYCLE TIME		H 04:00 M

(Flashing)

The default setting for the **HOLD LOW TEMPERATURE** is **-4 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN FREEZE	CP
HOLD LOW		-4^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD HIGH TEMPERATURE** is **3 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN FREEZE	CP
HOLD HIGH		3^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

PR	CP
MAN FREEZE	

(Flashing)

To move to the next cycle press UP or DOWN, or

to end programming press (ON/OFF).

8. MANUAL THAW CYCLE PARAMETERS PROGRAMMING

***Note**: If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
MAN THAW	

(Flashing)

If **NO** was selected for **THAW CYCLE** in the **INITIAL PROGRAMMING** the display will show:

PR	MAN THAW	CP
	NOT AVAILABLE	

If **YES** was selected for the **THAW CYCLE** in the **INITIAL PROGRAMMING**:

The default setting for the **MAXIMUM AIR TEMPERATURE** is **50 ^{0}F**.

To change the temperature,

press UP or DOWN, then press ENTER.

PR	MAN THAW	CP
MAX AIR		50^{0}F

(Flashing)

This is the maximum air temperature at which the unit operates during the thawing process.

NOTE: There should always be a minimum of seven degrees difference between the maximum and minimum air settings. The default settings have a difference of eight degrees.

The default setting for the **MINIMUM AIR TEMPERATURE** is **42 ^{0}F**.

To change the temperature,

press UP or DOWN, then press ENTER.

PR	MAN THAW	CP
MIN AIR		42^{0}F

(Flashing)

This is the minimum air temperature at which the unit operates during the thawing process.

The default setting for the **CYCLE TIME** is **H 06:00 M**.

To change the time,

press UP or DOWN, then press ENTER.

PR	MAN THAW	CP
CYCLE TIME		H 06:00 M

(Flashing)

The default setting for the **HOLD HIGH TEMPERATURE** is **42 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN THAW	CP
HOLD HIGH		42^{0}F

(Flashing)

This is the maximum air cavity temperature at which the unit operates during holding mode.

NOTE: There should always be a minimum of seven degrees difference between the hold low and hold high temperature settings.

The default setting for the **HOLD LOW TEMPERATURE** is **35 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR	MAN THAW	CP
HOLD LOW		35^{0}F

(Flashing)

This is the minimum air cavity temperature at which the unit operates during holding mode.

After all the selections are made for the cycle, the display will show:

To move to the next cycle press UP or DOWN to end programming press (ON/OFF).

PR	CP
MAN THAW	

(Flashing)

9. UV LIGHT PARAMETERS PROGRAMMING

***Note**: If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
UV	

(Flashing)

If **NO** was selected for **UV** in the **INITIAL PROGRAMMING** the display will show:

PR	UV	CP
NOT AVAILABLE		

If **YES** was selected for the **UV** in the **INITIAL PROGRAMMING**:

The default setting for **CYCLE TIME** is **H 00:30 M**.

To change the time, press UP or DOWN, then press ENTER.

PR	UV	CP
CYCLE TIME		H 00:30 M

(Flashing)

After all the selections are made for the cycle, the display will show:

PR	CP
UV	

(Flashing)

To move to the next cycle press UP or DOWN, or

to end programming press (ON/OFF).

10. DEFROST CYCLE PARAMETERS PROGRAMMING

***Note**: If the unit is **OFF**, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selection, press ENTER.

PR	CP
DEFROST	

(Flashing)

The default setting for the **DEFROST TYPE** is **AIR FLOW** for **TK10-2** and **TK20-2** models.

PR	DEFROST	CP
TYPE		AIR FLOW

(TK10-2 & TK20-2)

OR

The default setting for the **DEFROST TYPE** is **ELECTRIC** for all **ROLL-IN** models.

PR	DEFROST	CP
TYPE		ELECTRIC

(All Roll-in Models)

To change the type,

press UP or DOWN, then press ENTER.

The default setting for the **MANUAL TIME** is **15 MIN**.

PR	DEFROST	CP
MAN TIME		15 MIN

(Flashing)

To change the time,

press UP or DOWN, then press ENTER.

The default setting for the **AUTOMATIC DEFROST** is **NO**.

PR	DEFROST	CP
AUTOMATIC		NO

(Flashing)

To change to **YES**,

press UP or DOWN, then press ENTER.

If **YES** was selected for the **AUTOMATIC DEFROST**, the display will show:

The default setting for the **OPERATING TIME** is **06 HRS**.

To change the time, press UP or DOWN, then press ENTER.

PR DEFROST CP
OPERATING TIME 06HRS

(Flashing)

NOTE: 06HRS/(6 hours) *indicates the minimum accumulated run time the unit must operate over multiple cycles before the defrost cycle will start.*

The default setting for the **AUTOMATIC TIME** is **40 MIN**.
To change the time, press UP or DOWN, then press ENTER.

PR DEFROST CP
AUTO TIME 40 MIN

(Flashing)

After all the selections are made for the cycle, the display will show:

To move to the next cycle press UP or DOWN, or to end programming press (ON/OFF).

PR CP
DEFROST

(Flashing)

11. HEATED PROBE PARAMETERS PROGRAMMING

Note*: If the unit is* ***OFF****, first follow the initial start-up instructions at the beginning of the PROGRAMMING section on page 23.*

To make the selections, press ENTER.

PR CP
HEATED PROBE

(Flashing)

If **NO** was selected for **HEATED PROBE** in the **INITIAL PROGRAMMING**, then the display will show:

PR HEATED PROBE CP
NOT AVAILABLE

If **YES** was selected for **HEATED PROBE** in the **INITIAL PROGRAMMING**:

The default setting for the **HEATING TEMPERATURE** is **30 ^{0}F**.

To change the temperature, press UP or DOWN, then press ENTER.

PR HEATED PROBE CP
HEATING TEMP 30^{0}F

(Flashing)

The default setting for the **HEATING TIME** is **05 SEC**.

To change the time, press UP or DOWN, then press ENTER.

(Flashing)

After all the selections are made for the cycle, the display will show:

To move to the next cycle press UP or DOWN, or

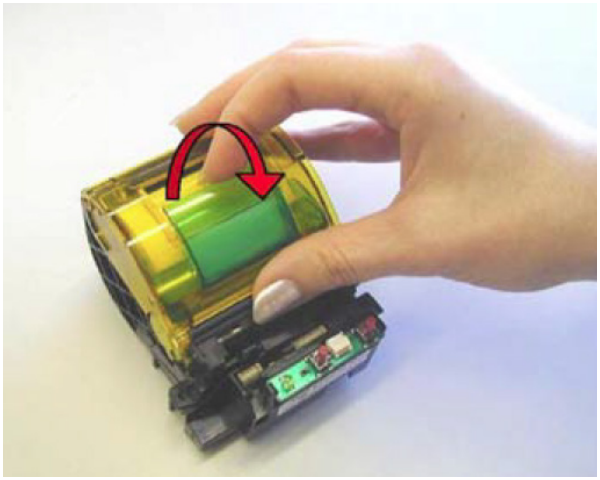
(Flashing)

to end programming press (ON/OFF).

PRINTER (OPTIONAL)

How to Open Lid

Pull the lever until the lid is released from its locked position. To avoid damage, do not use excessive force.



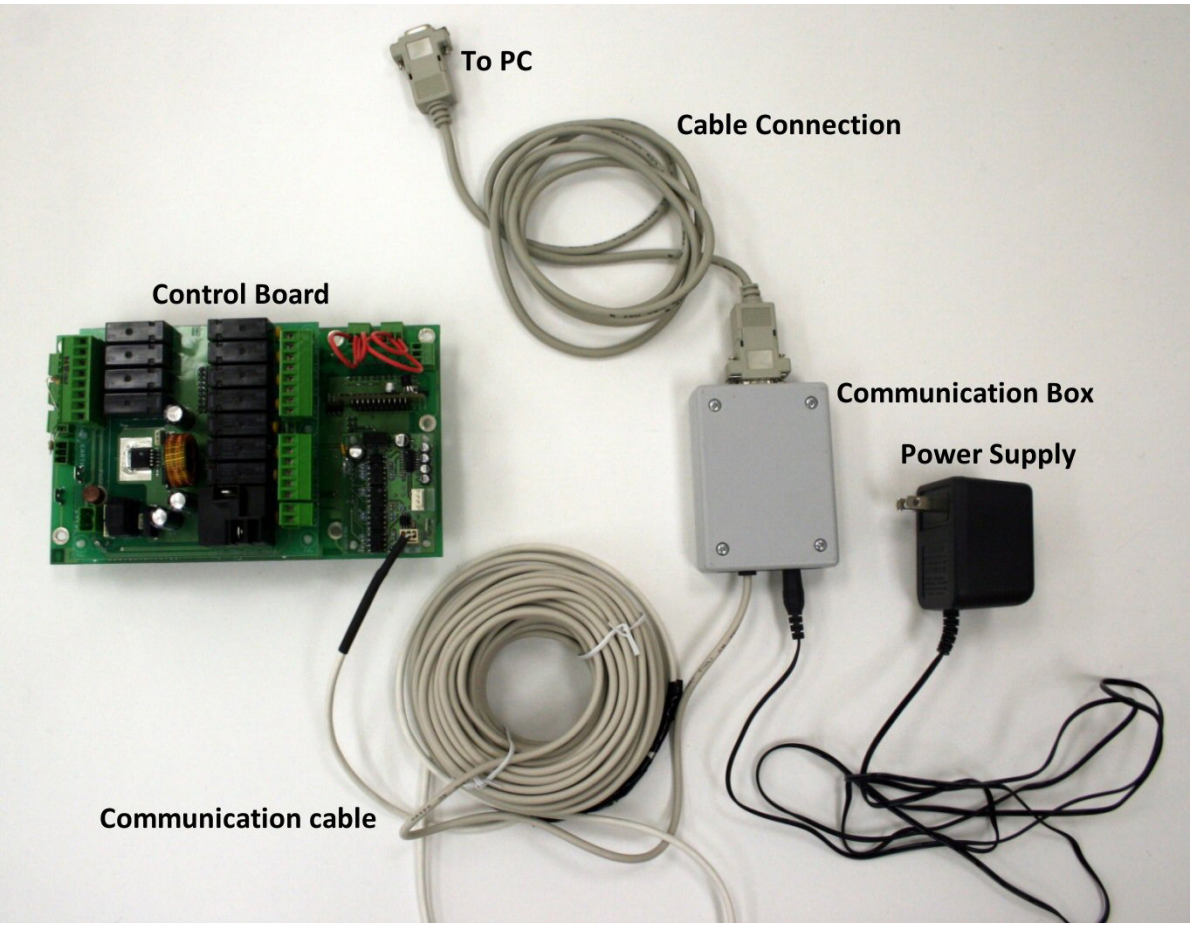
Replacing Paper Roll

If the paper roll needs replacing, open the printer lid and remove the remaining paper. Unspool a few inches from a new roll of paper. Hold approximately two inches of paper outside the device as you place the new roll into the reservoir. Close the lid by applying equal amounts of pressure on each side ensuring the lid is in the locked position. Now tear the spare paper away.

Note: In the case of printer replacement, the red side of the data cable connects to the printer and the black side of the cable connects to the control board.

PC CONNECTION (OPTIONAL)

The two-way full communication between the Blast Chiller and computer is optional and requires an additional software/hardware kit.



The PC connection kit includes:

1. Communication Box
2. Cable Connection from communication box to the computer serial port
3. Communication Cable from the control board to communication box
4. Power Supply for communication box- 120V, 15A, Plug NEMA 5-15P
5. Software CD

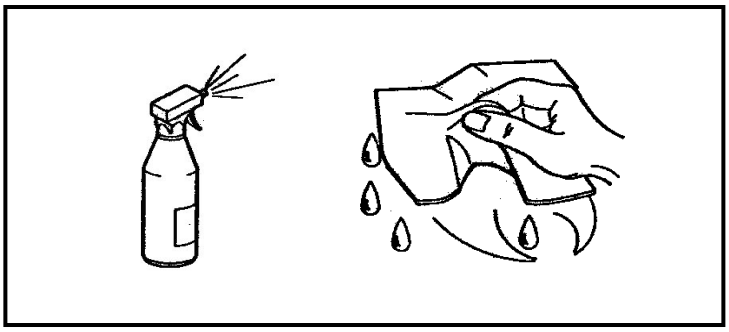
CLEANING INSTRUCTIONS

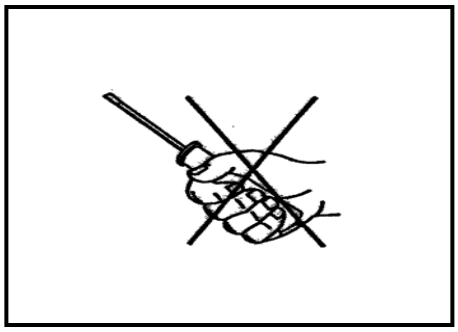
WARNING: Do not use a pressurized water source such as a hose sprayer to clean the exterior or interior of the unit.

CLEANING THE INTERIOR AND EXTERIOR

The interior cabinet of the blast chiller should be cleaned daily or after each use to avoid altering the taste and aromas of the food.

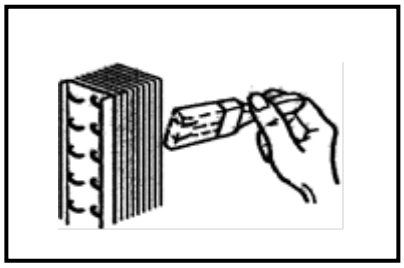
For cleaning the storage compartment use warm water and mild soap and rinse thoroughly.
Avoid the use of strong detergents and abrasive cleaners as they tend to scratch the surface.
Clean the exterior of the unit with warm water, mild soap and a soft cloth. Dampen the cloth and wipe in the direction of the grain.
Clean the door gaskets to provide a tight seal.
Keep blast chiller probes clean of food products to allow for accurate readings and to avoid any potential food contamination.
If drain lines are in use, keep them clean of condensate water to prevent backups.
Do **NOT** use cleaners containing chlorine as this may promote corrosion of the stainless steel.
Avoid using sharp tools, especially when cleaning the evaporator.

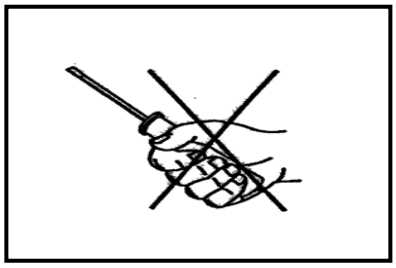




CLEANING THE AIR CONDENSER

Keeping the air condenser clean allows the cabinet to operate more efficiently, allowing the air to circulate freely and use less energy. Cleaning should be scheduled regularly to keep it free from lint and dust accumulation. It is recommended to use a non-metallic brush to remove all the dust and dirt from the condenser fins.





TROUBLESHOOTING GUIDE FOR TK10-2 AND TK20-2

This section of the manual should be performed by a licensed and certified technician.

The unit will not function or turn on

1. ***Disconnect electrical plug from receptacle!*** Use a standard screwdriver and take the top cover off the unit.
2. With the top cover off, visually check the top electrical compartment for loose wires and disconnected terminals.
3. Using a volt meter check the main power supply (receptacle) for proper 208VAC ± 5%.
4. ***Reconnect electrical plug to receptacle.*** Check the power inside of the unit at the main terminal blocks L1 & L2. The unit must have 208VAC ± 5%.

Control panel faceplate buttons not working properly

1. Inspect the control panel's faceplate for exterior damage.
2. If there is no exterior damage, use a 5.5mm wrench to adjust the four nuts of the circuit board so that when faceplate buttons are pressed, contact is made with board. A beep will sound when buttons make contact.

The unit does not refrigerate

1. If the compressor, fan condenser and fan evaporator are working, check the refrigerant pressure on the refrigeration system (R404A).
2. If the compressor and fan condenser do not work, start a **MANUAL SHOCK FREEZE** cycle and see if the unit is working. If the compressor and fan condenser start working, the refrigerant level is incorrect.
3. If the compressor and fan condenser still do not work, check the voltage at the termination point on the compressor.
4. If the unit is running and the compressor does not come on and there is 208VAC ± 5% at the compressor, the compressor is damaged. Consult the factory for replacement parts.
5. If there is not 208VAC ± 5%, check to see if there is 208VAC across the compressor relay contacts located between the expansion valve and transformer.
6. Check for 24VAC at the coil of the compressor relay.
7. If there is 24VAC at the coil of the relay and there is no power 208VAC transferred through the contacts to the compressor, replace the relay. Consult the factory for replacement parts.
8. If there is no power 24VAC at the coil of the compressor relay, check to see if the circuit board receives 24VAC input power from the secondary of the LE60200 transformer.
9. If the circuit board receives 24VAC and the control panel is not working, the circuit board is damaged and needs to be replaced. Consult the factory for replacement parts.
10. If the circuit board does not receive 24VAC from the secondary of the LE60200 transformer, check the 208VAC primary of the transformer.
11. If there is 208VAC primary voltage and there is no 24VAC secondary voltage, replace the LE60200 transformer. Consult the factory for replacement parts.

Fan evaporator does not work

1. Start a **MANUAL SHOCK FREEZE** cycle.
2. Check fan(s) voltage, 208VAC ± 5%, at the terminal block.
3. If there is 208VAC for the fan(s), the fan(s) must be damaged and should be replaced. Consult the factory for replacement parts.
4. If there is not 208VAC for the fan(s), check the fan(s) relay contacts for 208VAC.
5. If there is 208VAC across the fans relay, check for 24VAC at the coil of the fan(s) relay. If there is not 24VAC across the relay coil, check the circuit board.
6. If there is 24VAC across the relay coil and there is no power 208VAC transferred through the relay contacts to the fan(s), replace the relay. Consult the factory for replacement parts.

Ice around the door perimeter

1. Start a **MANUAL SHOCK FREEZE** cycle and wait until the air cavity is below 30 ^{0}F.
2. Check for 208VAC at the terminal blocks of the door heater.
3. If there is 208VAC for the door heater, the door heater is damaged and should be replaced. Consult the factory for replacement parts.
4. If there is not 208VAC for the door heater, check the relay for the door heater for 208VAC and the circuit board for 24VAC.

Display reads “AIR PROBE N/G”

1. Check the connections of the air probe at the circuit board.
2. The probe is an RTD100 and should read between 100Ω and 110Ω at an ambient of 60 ^{0}F to 80 ^{0}F. If the probe does not read between these values, replace the air probe. Consult the factory for replacement parts.

Display reads “FOOD PROBE N/G”

1. Ensure that an optional food probe was purchased and installed in the unit.
2. Check the connections of the food probe at the circuit board.
3. The probe is an RTD100 and should read between 100Ω and 110Ω at an ambient of 60 ^{0}F to 80 ^{0}F. If the probe does not read between these values, replace the food probe. Consult the factory for replacement parts.

TROUBLESHOOTING GUIDE FOR ROLL-IN MODELS

This section of the manual should be performed by a licensed and certified technician.

Control panel faceplate buttons not working properly

1. Inspect the control panel's faceplate for exterior damage.
2. If there is no exterior damage, use a 5.5mm wrench to adjust the four nuts of the circuit board so that when faceplate buttons are pressed, contact is made with board. A beep will sound when buttons make contact.

Please note: Models ending in (-1) require 115VAC for the control panels and uniframes. Models ending in (-2) require 208VAC for the control panels and uniframes.

No power to the unit

1. Using a volt meter check the main power supply (receptacle) for proper 115VAC or 208VAC ± 5%.
2. Check the power inside of the unit at the main terminal blocks L1 & L2. The unit must have 115VAC or 208VAC ± 5%.

Fan evaporator does not work

1. If the unit has the correct voltage, start a **MANUAL HARD CHILL** cycle.
2. Check fan(s) voltage, 115VAC or 208VAC ± 5%, at the terminal block.
3. If there is voltage to the fan(s) and the fans are not working, replace the fan(s). Consult the factory for replacement parts.
4. If there is not voltage at the fan(s), check the fan(s) relay contacts.
5. If there is voltage at the fan(s) relay, check for the 24VAC at the coil of the fan(s) relay. If there is not 24VAC across the relay coil, check the circuit board.
6. If there is 24VAC at the relay coil and no line voltage through the relay contacts to the fan(s), replace the relay. Consult the factory for replacement parts.

Ice around the door perimeter

1. Start a **MANUAL HARD CHILL** cycle and wait until the air cavity is below 30 ^{0}F.
2. Check for voltage at the terminal blocks of the door heater.
3. If there is voltage to the door heater but it is not heating, the door heater should be replaced. Consult the factory for replacement parts.
4. If there is no voltage at the door heater, check the door heater relay for voltage.

Display reads “AIR PROBE N/G”

1. Check the connections of the air probe at the circuit board.
2. The probe is an RTD100 and should read between 100Ω and 110Ω at an ambient of 60 ^{0}F to 80 ^{0}F. If the probe does not read between these values, replace the air probe. Consult the factory for replacement parts.

Display reads “FOOD PROBE N/G”

1. Ensure that an optional food probe was purchased and installeded in the unit.
2. Check the connections of the food probe at the circuit board.
3. The probe is an RTD100 and should read between 100Ω and 110Ω at an ambient of 60 ^{0}F to 80 ^{0}F. If the probe does not read between these values, replace the food probe. Consult the factory for replacement parts.

WARRANTY

The warranty covers all parts, with the exception of the optional UV bulb, printer and the food probes, found to be defective as well as the labor required to replace them for a period of one year from the date of shipment.

For full warranty details please refer to the **Thermo-Kool®** standard warranty supplied with each unit or available upon request.

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