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OPERATOR'S MANUAL TECHNICAL SUPPLEMENT PARTS AND ELECTRICAL DIAGRAMS



### **ITEM NUMBER**

 $\square$ 

**20024** HI18F, 120V-60-1

**20025-3** HI18F, 208/240V-60-1

**20022** HI24F, 120V-60-1

**20023-3** HI24F, 208/240V-60-1

### SERIAL NUMBER

Item Number / Serial Number are listed on a data tag attached to the equipment. This manual should only be used with the Item Number(s) shown above.

(Other)



## SUPPORT

**USA/Canada** 1-800-578-2547 **International** (+1) 206-322-5474 Email service@belshaw.com Web www.belshaw.com





# Econo-Icer HI18/HI24 *Operator's Manual*

Belshaw Bros., Inc. 814 44<sup>TH</sup> ST NW, Suite 103 Auburn, WA 98001 USA Phone: (206) 322-5474 ■ Fax: (206) 322-5425 Email: service@belshaw.com ■ http://www.belshaw.com

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### **IMPORTANT** Keep This Manual For Future Reference.



### EQUIPMENT RECORD

Please	e provide	the informat	ion below	າ when you	ı correspond	with us
about	your mad	chine.				

Purchased by	
Installed by	
Date of installation	Model number
Serial number	

#### 040618

MN-1747EN Belshaw Bros., Inc. 814 44th Street NW, Suite 103 Auburn, WA 98001 USA Phone: (206) 322-5474 ■ Fax: (206) 322-5425 Email: service@belshaw.com ■ http://www.belshaw.com

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Certificate Number Report Reference Issue Date 20151109-E30669 E30669-20151106 2015-NOVEMBER-09

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This is to certify that epresentative samples of	COMMERCIAL COOKING APPLIANCES Commercial Electric Donut Icers - HI18C, HI18F, HI24C,
	HI24F
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	UL 197, Standard for Commercial Electric Cooking Appliances
	CAN/CSA C22.2 No. 109-M1981, Standard for Commercial Cooking Appliances
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# Contents

P	REFACE	2
	OPERATION	4
	INSTALLING HI18/HI24 DIGITAL TEMPERATURE RETROFIT KIT Parts Needed Installation Instructions	7
3	CLEANING	
4	MAINTENANCE	<b>12</b> 12
г.	AND A LYOTH LY YO NOW CONTROL DAVID	0

FIGURE 1, INSTALLING NEW CONTROL PANEL	9
Figure 2, Element Connections on Relay	9
FIGURE 3, THERMOCOUPLE ROUTING 1	9
Figure 4, Thermocouple Routing 2	9
FIGURE 5, INSTALLATION OF THERMOCOUPLE BRACKET	9
FIGURE 6, INSTALLATION OF THERMOCOUPLE	9
FIGURE 7, INSTALLATION OF THERMOCOUPLE	10
FIGURE 8, INSTALLATION OF THERMOCOUPLE	10
Figure 9, Controls	10
Figure 10, Temperature Controller	10

# Preface

### The HI18/HI24 Econo-Icer is

designed for quickly and easily icing donuts and a variety of baking products.

The **HI18/HI24 Econo-Icer** is meant to be used on a flat, stationary surface, with the operator standing on the handled side. The operator must work safely at all times and follow the instructions and warnings in this manual.

The **HI18/HI24 Econo-Icer** uses electrical elements to heat frosting in its kettle. The machine is available with the following electrical configurations:

- ✓ 120 volts, 1 phase, 60 hertz
- ✓ 220 volts, 1 phase, 60 hertz

### The HI18/HI24 Econo-Icer

produces less than 70 dB(A) of equivalent continuous A-weighted sound pressure at work stations. This has been determined during a run of the machine with shortening in the kettle, using a Bruel & Kjaer sound level meter, type 2236.

To use the **HI18/HI24 Econo-Icer** safely, heed the following warnings:

▲ UNPLUG the machine before attempting any adjustment, repair, disassembly, or cleaning to avoid electrocution or other injury.

NEVER USE force to assemble, disassemble, operate, clean, or maintain the machine.

- To prevent unintentional startup and possible fire, UNPLUG the machine if there is a local power outage. When the power is restored, it is safe to plug the machine in again.
- MAKE SURE that all electrical cords are routed so that no one will trip over them.
- To avoid electrocution, MAKE SURE that no electrical cords are frayed or cracked and that they do not pass through any water or icing.
- NEVER TOUCH the icing pan once the machine is on. The pan gets very hot, which may cause serious burns.

▲ DO NOT OVERFILL the icing pan with icing. If shortening overflows the

Belshaw-Adamatic Bakery Group 2 Econo-Icer HI18/HI24 OM, MN-1747EN

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icing pan, it could cause serious burns or could cause someone to slip on the floor and be seriously injured.

A MAKE SURE that the machine and the icing are cool before attempting any adjustment, repair, disassembly, or cleaning. Hot icing can cause serious burns.

BE CAREFUL never to get icing, water, or other materials on the floor. If anything does get spilled on the floor, mop it up immediately. Materials on the floor can cause people to slip or fall, resulting in serious injury or loss of life.

# Operation

## Operation

1. FILL **Icing Pan** with icing approximately 1/2" from the top of the pan.



- 2. TURN ON Heater.
- ALLOW icing to heat for 45 minutes to reach desired icing temperature. The Heating Indicator Light will turn off, and the Temperature Controller will display the icing temperature.

**NOTE:** Periodic stirring of the icing is necessary to ensure constant, even heating of the icing.





- 4. ROTATE **Wire / Frame** over icing.
- 5. SLIDE the rack of donuts into the **Rack Holder**.

# 1



- 6. ROTATE the **Wire / Frame** over the rack of donuts to be iced.
- 7. FIRMLY GRIP the two (2) handles and rotate the **Wire / Frame** and rack of donuts to be iced.



8. RETURN the empty donut rack to the original position.



9. PUSH DOWN on the **Icing Lift Handle** to raise the **Icing Pan** until it reaches desired height.



10. LOWER the Icing Pan.



11. ROTATE the empty donut rack over the iced donuts.



12. FIRMLY GRIP the two (2) handles and rotate the **Wire / Frame** and donut rack to the original position.



13. ROTATE the **Wire / Frame** over the icing, remove iced donuts, and repeat steps 1-13.

# 2 Installing HI18/HI24 Digital Temperature Retrofit Kit

## **Parts Needed**

- 1. Heater Control Box Assembly (HI24-1017) + Hardware:
  - ✓ 4X ." Bolts
  - ✓ 8X ." Washers
  - ✓ 2X 6" High Temperature Wire Sleeves
- 2. 6X Wire Ties (990-0150)
- 3. Thermocouple Mounting Bracket (HI24-7008)
- 4. Heating Element Mounting Hardware:
  - ✓ 4X #10 Washers
  - ✓ 2X #10 Nuts

## **Installation Instructions**

- 1. UNPLUG HI Unit from power source.
- 2. REMOVE existing Heater Control Box:
  - ✓ Remove Icing Pan.
  - ✓ Remove Top Cover from

Heating Panel (4X Bolts).

- ✓ Remove wires from Heating Element.
- ✓ Remove old Heating Control Box Front Cover (4X Bolts).
- ✓ Remove 4X bolts connecting the old Heating Control Box to Heating Panel.
- ✓ Remove old Heating Control Box, including wire for connecting to Heating Elements, and Wire Sleeves.

### 3. ATTACH Retrofit Heating Control Box:

- Remove 5X bolts securing the Front Cover of the new Heating Control Box Assembly and remove the cover.
- ✓ Place Wire Sleeves on 12 GA white wires sticking out of the backside of the new Heater Control Box. (See Figure 1.)
- ✓ Insert the wires and sleeves through heating box holes. (See Figure 1.)
- ✓ Ensure sleeves are located as shown below. (See Figure 1.)
- ✓ NOTE: Grommets located in

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the new Heating Control Box pop off easily. **Use care when moving wire through grommets.** 

- ✓ Remove Front Cover of the new Heating Control Box Assembly.
- ✓ Remove 4X nuts and 4X washers from long bolts on back of new Heater Control Box.
- ✓ Install the new Heating Control Panel onto the Heating Box using corresponding holes and hardware provided in this kit.
- Replace Heating Control Box Front Cover (5X Bolts), making sure not to pinch any wires under the cover. DO
   NOT over-tighten Front Cover bolts. Doing so could lead to gasket leakage.
- 4. Reinstall the Top Cover of Heating Panel (5X Bolts).
- 5. Replace Icing Pan.
- Route Female Thermocouple wire under the unit. (See Figures 3 and 4.)
  - ✓ Attach shielded thermocouple wire to Frame using supplied wire ties. (See Figure 4.)
- 7. Place Thermocouple into indicated alignment hole on Thermocouple Bracket. (See Figure 5.)
- 8. PLACE Thermocouple Bracket on

Icing Pan. (See Figure 6, 7, and 8.)

- 9. PLUG in unit and verify all functions work properly.
  - Rotate Green ON/OFF Switch (located furthest to the left of the unit) to the ON position. The green light in the switch should illuminate. (See Figure 9.)
  - ✓ Omron Controller (far right) should power up and display Current Temperature (PV, large number) and Set Point temperature (SV, small number). (See Figure 10.)
  - To test digital temperature controller, wrap hand around Thermocouple, and ensure the indicated temperature (PV, displayed in large text) rises.
  - ✓ The Set Point (SV) can be changed by pushing the D or U arrows. (See Figure 10.)
  - ✓ Heat Cycle light should turn on after approximately 5 seconds.

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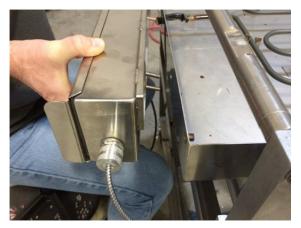


Figure 1, Installing New Control Panel



Figure 2, Element Connections on Relay



Figure 3, Thermocouple Routing 1



Figure 4, Thermocouple Routing 2



Figure 5, Installation of Thermocouple Bracket



Figure 6, Installation of Thermocouple



Figure 7, Installation of Thermocouple



Figure 9, Controls

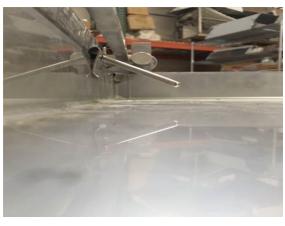


Figure 8, Installation of Thermocouple

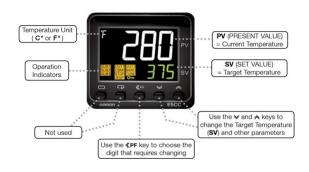


Figure 10, Temperature Controller

TROUBLESHOOTING	
Potential Issue	What To Do
Error or Alarm present on Digital Temperature Control	<ul> <li>Ensure Thermocouple is connected and functioning properly</li> <li>Cycle power (Green Power Switch, or unplug unit for 10 seconds, and plug back in)</li> </ul>
Thermocouple becomes disconnected, Digital Temperature Control is flashing S.ERR	<ul> <li>Reconnect Thermocouple. S.ERR on temperature controller will disappear after a brief moment.</li> <li>Cycle power if necessary to clear controller error/alarm warning</li> </ul>
Device on, indicated temperature not rising	<ul> <li>Ensure Thermocouple is connected, located in the Thermocouple Bracket and connected to the Icing Pan</li> </ul>

# Cleaning

Once a day, clean the **HI18/HI24 Econo-Icer** as explained below:

- 1. REMOVE any debris from the work area before disassembling the **HI18/HI24 Econo-Icer**.
- 2. UNPLUG and REMOVE Thermocouple and Bracket from Icing Pan.
- To avoid being burned, WAIT for Icing Pan to cool before removing; REMOVE Icing Pan.
- 4. UNPLUG AND REMOVE heating panel assembly from unit.
- 5. CLEAN the **HI18/HI24 Econo-Icer** with warm water and mild cleaner.
- 6. LIFT the **Tray Holder** over to the right side rest position, wash with warm soapy water, rinse, and wipe dry.
- REMOVE Retainer Knob (HI24-0041, see parts list) that holds the Wire / Frame in place and lift out the Wire / Frame. Place Wire / Frame in automatic dishwasher. Use caution so that the wires do not get damaged.

8. RETURN the **Tray Holder** to the left side rest position.

For your safety, observe the following warnings throughout the entire cleaning process.

 Thoroughly clean and dry the floor if icing, water, or other materials are spilled.
 Materials spilled on the floor can cause serious injury or loss of life.



 To avoid the possibility of shock, unplug the unit before cleaning.



To avoid damage to the
 Wire / Frame, use caution
 when removing and
 transporting.



## 4

# Maintenance

## Lubrication

- USE several drops of Lubriplate FMO-900-AW gear oil on the Lift Handle Axle, located under the heating panel assembly. LUBRICATE EVERY TWO WEEKS.
- USE Lubriplate FMO-900-AW gear oil to lubricate the tray Holder and Wire Holder Pivot Pins. LUBRICATE EVERY WEEK.



### WARNING

To avoid serious burns or other injury, always disconnect the machine from the power source before lubricating.



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# Econo-Icer HI18/HI24 Technical Supplement

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### IMPORTANT

Keep This Manual For Future Reference.



### **EQUIPMENT RECORD**

Please provide the information below when you correspond with us about your machine.

Purchased by	
Installed by	
Date of installation	Model number
Serial number	

#### 042615

#### MN-1748EN

Belshaw Adamatic Bakery Group

#### 814 44th Street NW, Suite 103

#### Auburn, WA 98001 USA

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# Contents

	6
1 MAINTENANCE WIRE TENSIONING AND REPLACEMENT.	
2 PROGRAMMING THE TEMPERATURE CONTROLLER	8
UNLOCKING THE CONTROLLER	
CHANGING OPERATOR SET POINTS	
CHANGING OPERATOR LEVEL PARAMETERS	
CHANGING INITIAL LEVEL PARAMETERS	
CHANGING ADVANCED LEVEL PARAMETERS	
LOCKING THE CONTROLLER	
SETTING THE CONTROLLER TO DEFAULT SETTINGS	
3 TROUBLESHOOTING	
TROUBLESHOOTING SPECIFICS	

# Preface

To transport the HI18/HI24 Econo-**Icer** to the workstation and unpack it, follow the steps listed below:

- 1. Use a fork lift or pallet jack to transport the shipping crate to workstation.
- 2. Break down the shipping crate.
- 3. Remove all packing materials, including foam, tape, brown paper, plastic, and white protective coating.

### The HI18/HI24 Econo-Icer is

designed for quickly and easily icing donuts and a variety of baking products.

The HI18/HI24 Econo-Icer is meant to be used on a flat, stationary surface, with the operator standing on the handled side. The operator must work safely at all times and follow the instructions and warnings in this manual.

### The HI18/HI24 Econo-Icer uses

electrical elements to heat frosting in its kettle. The machine is available with the following electrical configurations:

- ✓ 220 volts, 1 phase, 50 hertz
- ✓ 240 volts, 1 phase, 50 hertz

### The HI18/HI24 Econo-Icer

produces less than 70 dB(A) of equivalent continuous A-weighted sound pressure at work stations. This has been determined during a run of the machine with shortening in the kettle, using a Bruel & Kjaer sound level meter, type 2236.

### To use the HI18/HI24 Econo-Icer

safely, heed the following warnings:

- $\triangle$  UNPLUG the machine before attempting any adjustment, repair, disassembly, or cleaning to avoid electrocution or other injury.
- ⚠ NEVER USE force to assemble, disassemble, operate, clean, or maintain the machine.
- $\triangle$  To prevent unintentional startup and possible fire, UNPLUG the machine if there is a local power outage. When the power is restored, it is safe to plug the machine in again.



⚠ MAKE SURE that all electrical cords are routed so that no one will trip over them.

4



 $\triangle$  To avoid electrocution, MAKE SURE that all electrical cords are not frayed or cracked and that they do not pass through any water or icing.

 $\triangle$  NEVER TOUCH the icing pan once the machine is on. The pan gets very hot, which may cause serious burns.

⚠ DO NOT OVERFILL the icing pan with icing. If shortening overflows the icing pan, it could cause serious burns or could cause someone to slip on the floor and be seriously injured.

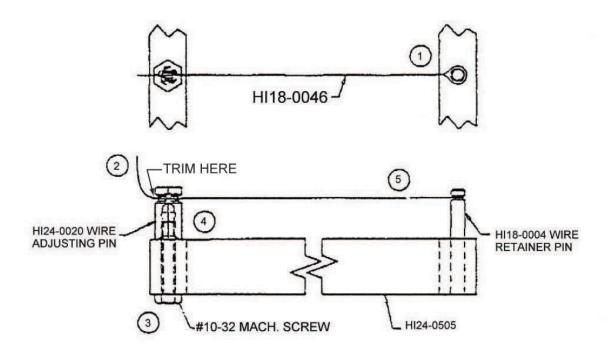
A MAKE SURE that the machine and the icing are cool before attempting any adjustment, repair, disassembly, or cleaning. Hot icing can cause serious burns.

A BE CAREFUL never to get icing, water, or other materials on the floor. If anything does get spilled on the floor, mop it up immediately. Materials on the floor can cause people to slip or fall, resulting in serious injury or loss of life.

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# 1

# Maintenance



## Wire Tensioning and Replacement.

The following tools are required for wire tensioning and replacement:

- ✓ 5/16" Open-End Wrench
- ✓ Wire Cutter

### IMPORTANT

Do not use a box wrench to tighten. This will cause too much torque, and frame may bend and bow.



- 1. PLACE looped end of wire over the **Wire Retainer Pin** (HI18-0004) placing it in the groove.
- THREAD other end of wire through the hole in the Wire Adjusting Pin (HI24-0020) and BEND the end pointing up as shown.
- With the 5/16" open-end wrench, LOOSEN the #10-32X1" machine screw.
- With the 5/16" open-end wrench, TURN the Wiring Adjusting Pin to tighten the wire. Be sure the wire winds in the groove of the pin. (This will

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Econo-Icer HI18/HI24 TS, MN-1748EN

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6

also tighten the loop around the **Wire Retainer Pin**.)

- 5. TIGHTEN the wire until taut, removing all slack. **Do Not Over Tighten! Over Tightening Will Cause The Frame To Bend And Bow.**
- 6. TIGHTEN the **#10-32 machine screw** to hold pin in place.
- 7. TRIM excess tail of the end of wire with wire cutters.

# 2 Programming the Temperature Controller

### The TJ-0184D-1 or 2 Controller

comes per-programmed and protected so the operator cannot change the setup parameters. To change any settings, you must first unlock the **Controller.** 

**Note**: Only the settings that are changed from the factory settings are listed in this section.



## **Unlocking the Controller**

To unlock the controller:

- 1. PRESS the 🖸 + 🖙 keys for more than 3 seconds.
- 2. PRESS the 🖙 **key** to move to the next parameter.
- 3. PRESS the *i* or *i* to change the parameter *aRPL* and *cCPL* from 2 to 0.
- PRESS the + keys for more than 1 second to return to operator screen.

PARAMETER	FACTORY DEFAULT SETTING			EXPLANATION OF PRESENT SETTING
Protection Parameters				
Operation/Adjustment Protect	0	2	200L	2:Display and change of only "PV" and "PV/SP" parameters are allowed. [2]
Initial Setting/Communications Protect	1	2	<i>CCP</i> E	2:Prohibited. [2]

## **Changing Operator Set Points**

To change operator set points: (Must be unlocked to change Alarm Value 1.)

- 1. PRESS the 🖙 **key** to move to the next parameter.
- 3. PRESS the O key to return to operator screen.

	FACTORY DEFAULT SETTING			PANEL	EXPLANATION OF PRESENT SETTING
Operator Set Points					
Set Point	0.0	125.0/50.0	°F/°C		
Alarm Value 1	0.0	10.0/5.0	°F/°C	AL - 1	

## **Changing Operator Level Parameters**

To change operator level parameters: (Must be unlocked.)

- 1. PRESS the 🖸 **key** for less than 1 second.
- 2. PRESS the 🖙 **key** to move to the next parameter.
- 3. PRESS the *i* or *i* key to change the parameter.
- 4. PRESS the O key to return to operator screen.

PARAMETER	FACTORY DEFAULT SETTING			FRONT PANEL	EXPLANATION OF PRESENT SETTING
Operator Level Parameters					
Process Value Input Shift	0.0	0.0	°F/°C	EN5	This is the offset setting for calibration.
Hysteresis (Heating)	1.0	0.5	°F/°C	HYS	•

## Changing Initial Level Parameters

To change initial level parameters: (Must be unlocked.)

- 1. PRESS the 🖸 **key** for more than 1 second to adjust intial parameters.
- 2. PRESS the 🖃 **key** to move to the next parameter.
- 3. PRESS the  $\bowtie$  **or**  $\bowtie$  **key** to change the parameter.

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operator screen.

4. PRESS the O key for more than 1 second return to

PARAMETER	FACTORY DEFAULT SETTING	PRESENT SETTING		FRONT PANEL	EXPLANATION OF PRESENT SETTING
Initial Level Parameters					
Input Type	5	8		EN-E	8:Thermocouple [J] (-20.0 to 400.0°C or 0.0 to 750.0°F) [8]
Temperature Unit	0	1		d-U	°F [F]
SP Upper Limit	130.0	150.0/65.0	°F/°C	SL - H	
SP Lower Limit	-20.0	0.0	°F/°C	5L - L	
Alarm 2 Type	2	0		ALF5	0:Alarm function OFF [0]
Alarm 3 Type	2	0	•	ALF3	0:Alarm function OFF [0]
Alarm 4 Type	2	0	•	ALFA	0:Alarm function OFF [0]

## **Changing Advanced Level Parameters**

To change advanced level parameters: (Must be unlocked.)

1. UNLOCK the controller.

- 2. PRESS the 🖸 **key** for more than 1 second to adjust intial parameters.
- 3. PRESS the *⊡* **key** until you get to parameter *RMi*.
- PRESS the 
   or ≥ key to change RMar parameter to 169.

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PARAMETER	FACTORY DEFAULT SETTING		PANEL	EXPLANATION OF PRESENT SETTING
Advanced Level Parameters				
Alarm 1 Latch	0	1	A ILE	Enabled [oN]
PV/SP No. 1 Display Selection	4	1		1:"PV/SP/No display" [1]
PV Decimal Point Display	1	0	PV dP	OFF [ <i>āFF</i> ]

## Locking the Controller

After programming: To lock the controller:

- 1. PRESS the  $\bigcirc$  +  $\bigcirc$  keys for more than 3 seconds.
- 2. PRESS the 🖃 **key** to move to the next parameter.
- 3. PRESS the  **or key** to change the parameter *GRPL* and *CEPL* from 0 to 2.
- PRESS the + keys for more than 1 second to return to operator screen.

## Setting the Controller to Default Settings

To set the controller back to factory default settings: (Must be unlocked.)

- PRESS the key for more than 1 second to adjust initial parameters.
- 2. PRESS the 🖙 **key** until you get to **parameter** *RM*<sub>∂</sub>*V*.
- 4. CHANGE **parameter** *INIL* from *GFF* to *FREL*.
- PRESS the key for more than 1 second to return to initial screen.
- PRESS the key for more than 1 second to return to operator screen.

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# Troubleshooting

If you have a problem with your HI18/HI24 Econo-Icer that you cannot solve, call your dealer or another qualified technician.

If your dealer cannot help you, please call Belshaw Adamatic at 800-578-2547. When you call, please specify the following:

- ✓ The MODEL NAME of the machine.
- ✓ The SERIAL NUMBER of the machine.
- ✓ The VOLTAGE, PHASE, and CYCLE of the machine.



## 3

## **Troubleshooting Specifics**

NO HEAT AND ON/OFF SWITCH DOES NOT LIGHT UP				
Possible Causes	What To Do			
Unit not plugged in or wall electrical breaker is tripped.	Plug unit in and/or check electrical outlet.			
ON/OFF SWITCH ON AND LIT UP, HEATING LI	GHT NOT ON			
Possible Causes	What To Do			
Loose wire.	Check wires.			
NO HEAT, ON/OFF SWITCH ON AND LIT UP, HEATING LIGHT ON				
Possible Causes	What To Do			
Heating element failure.	Check heating element of open circuit.			
Relay failure.	Check if relay turns on; replace if defective.			
UNEVEN ICING TEMPERATURE.				
Possible Causes	What To Do			
Icing needs stirring.	Stir icing.			
WIRES ARE NOT EVENLY TAUT				
Possible Causes	What To Do			
Wires are not evenly adjusted.	Tighten loose wires.			
NO HEAT, ON/OFF SWITCH ON AND LIT UP, HEATING LIGHT NOT ON				
Possible Causes	What To Do			
Loose wire.	Check wires.			
High limit tripped.	Wait 10 minutes and recheck.			
Temperature controller set too low.	Adjust set point higher.			
Thermocouple not plugged in.	Plug thermocouple into connector.			

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# Parts Diagrams for HI18F, HI24F

Mark the Item Number for your Icer below.

#### ABOUT ITEM NUMBERS:

Icer models are identified by an Item Number. You need your Icer's Item Number to find the correct parts diagrams for your glazer. The Item Number is located on a data tag on the icer. When the item number is known, it should be checked off on the cover page of this manual, and also in the table below.

MARK YOUR ICER'S ITEM NUMBER BELOW	ITEM NUMBER	MODEL	VOLTS	HERTZ
	20024	HI 18F	110-120 V	50/60 HZ
	20025-3	HI 18F	208-240 V	50/60 HZ
	20022	HI 24F	110-120 V	50/60 HZ
	20023-3	HI 24F	208-240 V	50/60 HZ

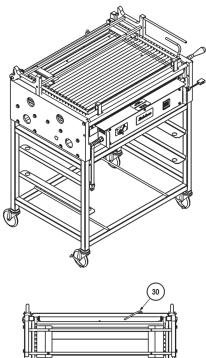
DIAGRAM: HI18-2012TAB, OVERALL ASSEMBLY 120V and 208-240V models

### Model: HI18F

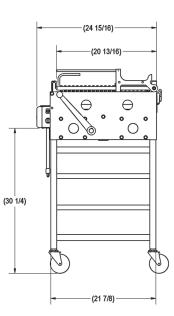
## Item Numbers: 20024, 20025-3

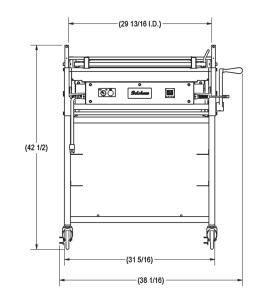
TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER

	BILL OF MATERIAL					
ITEM	HI18-2012 QTY	HI18-2012-240CE QTY	PART NUMBER	DESCRIPTION		
1	2	2	HI24-0008-1	STAND-OFF; CONDUIT		
2	4	4	FT6-0120	CASTER SOCKET; 18 GA, 1.25, RT-POLY		
3	2	-	HG18-0031-4	SWIVEL CASTER, 4"		
4	2	-	HG18-0031B-4	SWIVEL CASTER W/BRAKE, 4"		
5	1	1	HI18-0001	ICING PAN		
6	2	2	HI18-0008	LIFT SHAFT		
7	2	2	HI18-0021	TRAY HOLDER (NOT SHOWN)		
8	1	1	HI18-0030	SPACER SHAFT-SHORT		
9	8	8	HI18-0031	SHAFT; SPACER-LONG		
10	1	1	HI18-0032	SIDE PANEL-RIGHT (MACH)		
11	1	1	HI18-0033	SIDE PANEL-LEFT (MACH)		
12	1	1	HI18-0035	LIFT HANDLE		
13	1	1	HI18-0037	TRAY STOP		
14	4	4	HI18-0042	FOOT		
15	2	2	HI18-0057	SCREEN HOLDER-FRONT		
16	4	4	HI18-0084-1	SPACER FILLER		
17	2	2	HI18-0502	LIFT BRACKET ASSEMBLY		
18	1	1	HI18-0503	LIFT AXLE ASSEMBLY		
19	1	-	HI18-0505	ASSY; POWER CORD; 120V, 15AMP		
20	2	2	HI18-0506	HINGE BOLT ASSEMBLY		
21	2	2	HI18-0521	ASSY; MOUNTING BRACKET; TRAY HOLDER		
22	1	1	HI18-1002	ASSY,DONUT RETAINER FRAME		
23	1	1	HI18-1003	ASSEMBLY, TRAY RETAINER		
24	1	1	HI18-1010SS	WELDMENT; FRAME ASSEMBLY		
25	1	-	HI18-1300	HEATING PANEL ASSY; 120V		
26		1	HI18-1300-240CE	HEATING PANEL ASSY; 240V CE		
27	1	1	HI24-7010L	RETAINING BRKT, HI TRAYS		
28	1	1	HI24-7010	RETAINING BRKT, HI TRAYS		
29		1	HI24-9002	POWER CORD; CEE 7/7		
30	(REF)	(REF)	TCPL-0004A	THERMOCOUPLE, TYPE J, MALE		
31	4	4	903-0973SS	1/4-20X5/8 SS HEX CAP SCREW		
32	2	2	903-1319SS	5/16-18X1 UNC SS HEX HEAD MACHINE SCREW		
33	4	4	903-1321	5/16-18X3/4 UNC SS HEX HEAD MACHINE SCREW		
34	16	16	903-1330	5/16-18X1 UNC SS HEX HEAD MACHINE SCREW		
35	2	2	903-1335SS	5/16-18X1-1/4 SS HEX CAP SCREW		
36	2	2	903-1355SS	5/16-18X2 UNC SS HEX HEAD MACHINE SCREW		
37	2	2	903-6103	5/16-18 UNC SS HEX NUT		
38	4	4	903-7529	1/4 SS INT TOOTH LOCK WASHER		
39	20	20	903-7540SS	SST, 5/16 FLAT WASHER, REGULAR		









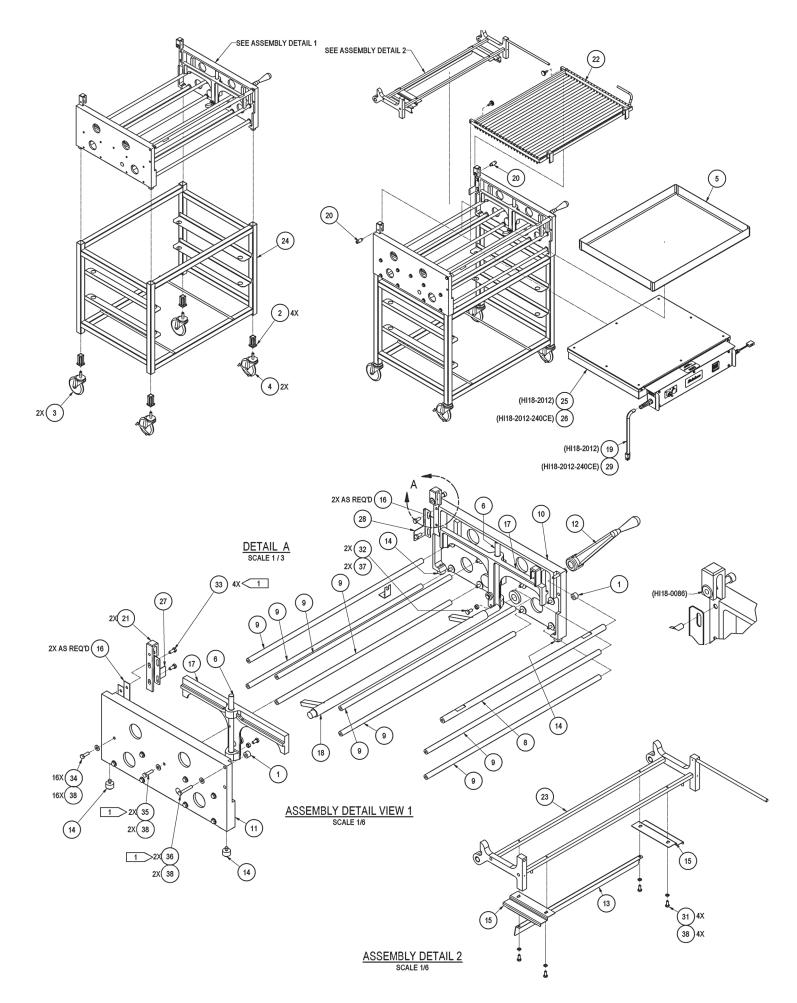


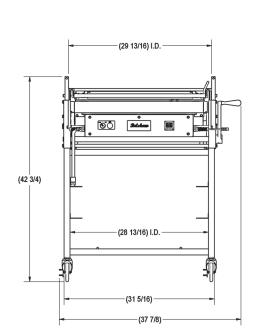
DIAGRAM: HI24-2005TAB, OVERALL ASSEMBLY 120V and 208-240V models

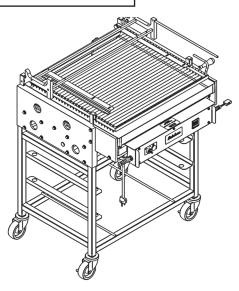
## Model: HI24F

## Item Numbers: 20022, 20023-3

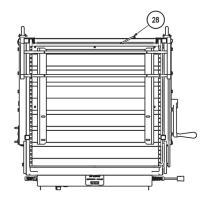
TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER

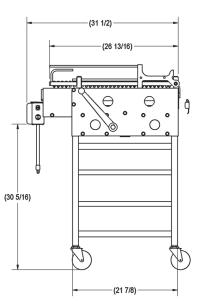
	BILL OF MATERIAL					
ITEM	HI24-2005 QTY	HI24-2005-240CE QTY	PART NUMBER	DESCRIPTION		
1	4	4	FT6-0120	CASTER SOCKET; 18 GA, 1.25, RT-POLY		
2	2	2	HG18-0031-4	SWIVEL CASTER, 4"		
3	2	2	HG18-0031B-4	SWIVEL CASTER W/BRAKE, 4"		
4	2	2	HI18-0008	LIFT SHAFT		
5	1	1	HI18-0030	SPACER SHAFT-SHORT		
6	8	8	HI18-0031	SHAFT; SPACER-LONG		
7	1	1	HI18-0032	SIDE PANEL-RIGHT (MACH)		
8	1	1	HI18-0033	SIDE PANEL-LEFT (MACH)		
9	1	1	HI18-0035	LIFT HANDLE		
10	1	1	HI18-0037	TRAY STOP		
11	4	4	HI18-0042	FOOT		
12	2	2	HI18-0502	LIFT BRACKET ASSEMBLY		
13	1	1	HI18-0503	LIFT AXLE ASSEMBLY		
14	1	-	HI18-0505	ASSY; POWER CORD; 120V, 15AMP		
15	2	2	HI18-0506	HINGE BOLT ASSEMBLY		
16	2	2	HI18-0521	ASSY; MOUNTING BRACKET; TRAY HOLDER		
17	1	1	HI18-1010SS	WELDMENT; FRAME ASSEMBLY		
18	1	1	HI24-0006	ICING PAN		
19	2	2	HI24-0008	PAN EXTENSION		
20	2	2	HI24-0018	TRAY HOLDER		
21	1	1	HI24-1001	DONUT RETAINER FRAME ASSY		
22	1	1	HI24-1002	ASSEMBLY; TRAY RETAINER		
23	1	-	HI24-1300	HEATING BOX ASSEMBLY, 120V		
24	-	1	HI24-1300-240CE	HEATING BOX ASSY, 240V CE		
25		1	HI24-9002	POWER CORD; CEE 7/7		
26	1	1	HI24-7010	RETAINING BRKT, HI TRAYS		
27	1	1	HI24-7010L	RETAINING BRKT, HI TRAYS		
28	(REF)	(REF)	TCPL-0004A	THERMOCOUPLE, TYPE J, MALE		
29	4	4	903-0973SS	1/4-20X5/8 SS HEX CAP SCREW		
30	2	2	903-1319SS	5/16-18X1 UNC SS HEX HEAD MACHINE SCREW		
31	4	4	903-1321	5/16-18X3/4 UNC SS HEX HEAD MACHINE SCREW		
32	16	16	903-1330	5/16-18X1 UNC SS HEX HEAD MACHINE SCREW		
33	4	4	903-1335SS	5/16-18X1-1/4 SS HEX CAP SCREW		
34	4	4	903-1350	5/16-18X1-1/2 UNC SS HEX HEAD MACHINE SCREW		
35	2	2	903-6103	5/16-18 UNC SS HEX NUT		
36	4	4	903-7529	1/4 SS INT TOOTH LOCK WASHER		
37	24	24	903-7540SS	SST, 5/16 FLAT WASHER, REGULAR		





ASSEMBLED VIEW





DIAGRAMS PAGE 4

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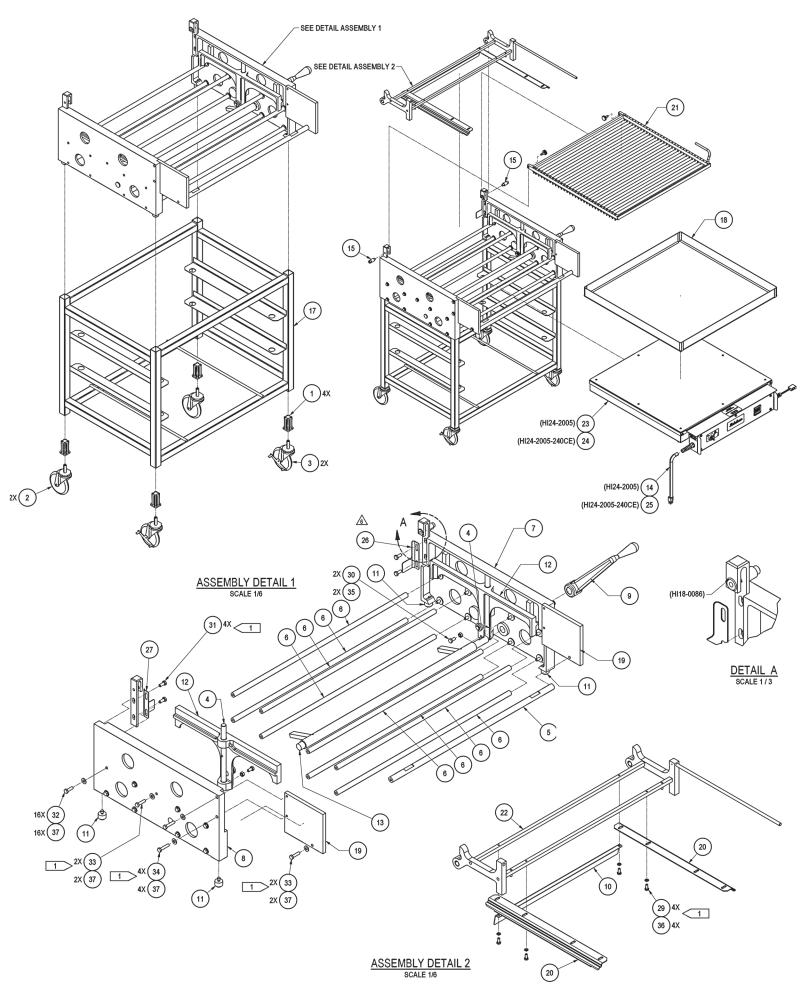
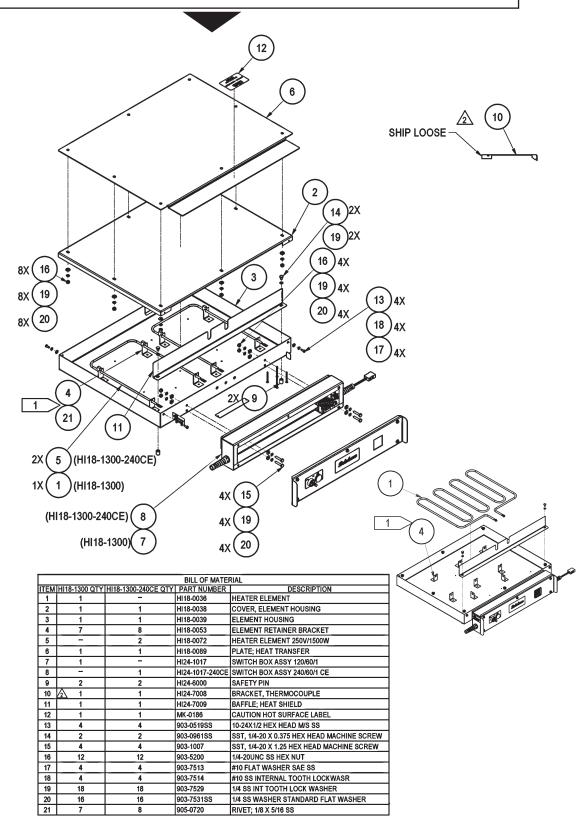


DIAGRAM: HI18-1300, HEATING PANEL ASSEMBLY 120V and 208-240V models

## Model: HI18F

## Item Numbers: 20024, 20025-3

TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER



DIAGRAMS PAGE 6

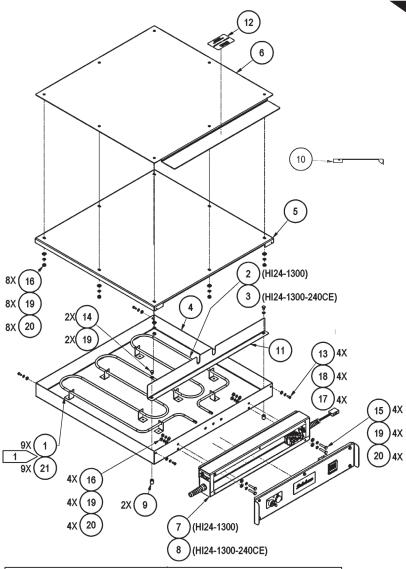
DIAGRAM: HI24-1300, HEATING PANEL ASSEMBLY

120V and 208-240V models

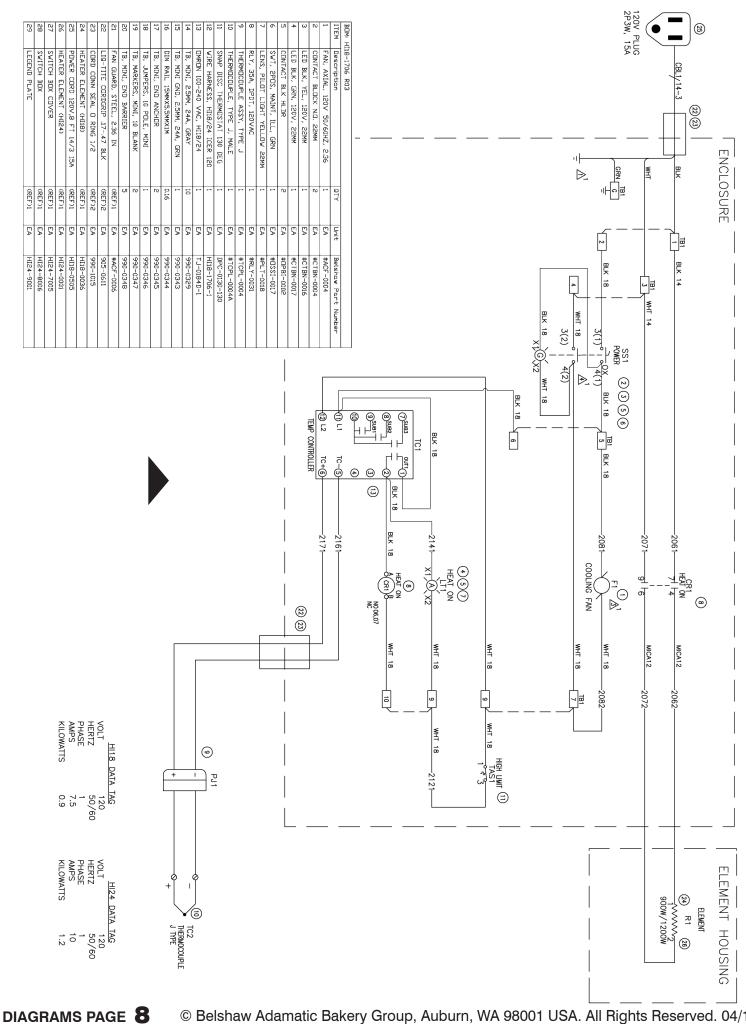
### Model: HI24F

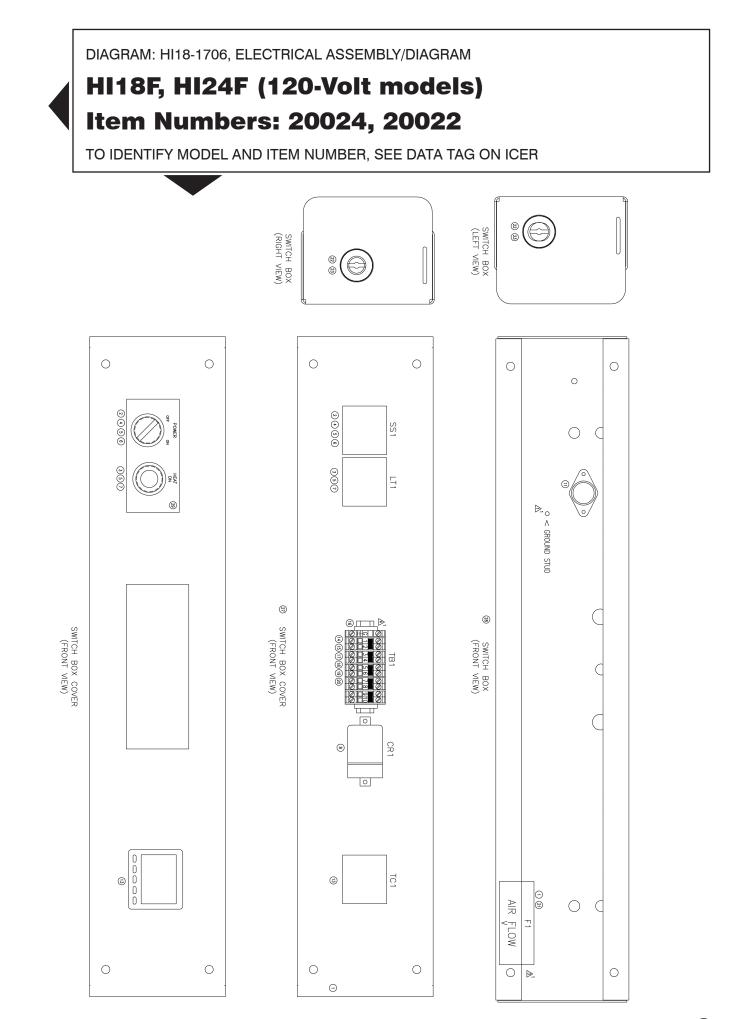
## Item Numbers: 20022, 20023-3

TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER

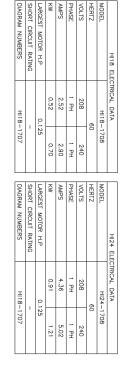


	BILL OF MATERIAL			
ITEM	HI24-1300 QTY	HI24-1300-240CE QTY	PART NUMBER	DESCRIPTION
1	8	9	HI18-0053	ELEMENT RETAINER BRACKET
2	1	-	HI24-0001	HEATING ELEMENT 120V/1200W
3		1	HI24-0001-240	HEATING ELEMENT 240V/1200W
4	1	1	HI24-0004	ELEMENT HOUSING
5	1	1	HI24-0005	ELEMENT HOUSING COVER
6	1	1	HI24-0011	HEAT TRANSFER PLATE
7	1	-	HI24-1017	SWITCH BOX ASSY 120/60/1
8	-	1	HI24-1017-240CE	SWITCH BOX ASSY 240/60/1 CE
9	2	2	HI24-6000	SAFETY PIN
10	<u></u>	1	HI24-7008	BRACKET, THERMOCOUPLE
11	1	1	HI24-7009	BAFFLE; HEAT SHIELD
12	1	1	MK-0186	CAUTION HOT SURFACE LABEL
13	4	4	903-0519SS	10-24X1/2 HEX HEAD M/S SS
14	2	2	903-0961SS	SST, 1/4-20 X 0.375 HEX HEAD MACHINE SCREW
15	4	4	903-1007	SST, 1/4-20 X 1.25 HEX HEAD MACHINE SCREW
16	12	12	903-5200	1/4-20UNC SS HEX NUT
17	4	4	903-7513	#10 FLAT WASHER SAE SS
18	4	4	903-7514	#10 SS INTERNAL TOOTH LOCKWASR
19	18	18	903-7529	1/4 SS INT TOOTH LOCK WASHER
20	16	16	903-753188	1/4 SS WASHER STANDARD FLAT WASHER
21	8	9	905-0720	RIVET; 1/8 X 5/16 SS



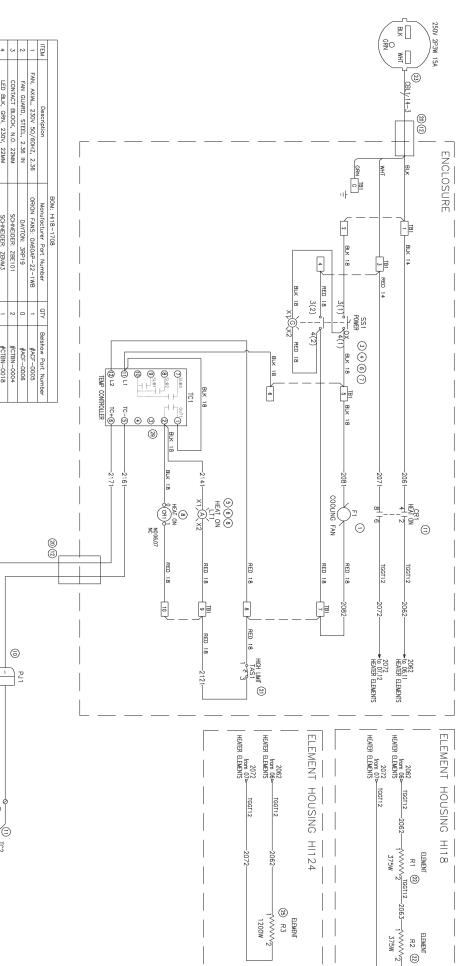


		BOM: HI18-1708		
ITEM	Description	Manufacturer Part Number	٩R	Belshaw Part Number
-	FAN, AXIAL, 230V 50/60HZ, 2.36	ORION FANS: 0A60AP-22-1WB		#ACF-0005
2	FAN GUARD, STEEL, 2.36 IN	DAYTON: 3RP19	0	#ACF-0006
G	CONTACT BLOCK, N.O. 22MM	SCHNEIDER: ZBE101	N	#CTBN-0004
4	LED BLK, GRN, 230V, 22MM	SCHNEIDER: ZBVM3	-	#CTBN-0018
U	LED BLK, YEL, 230V 22MM	SCHNEIDER: ZBVM5	-	#CTBN-0019
თ	CONTACT BLK HLDR	SCHNEIDER: ZB4BZ009	2	#0PBI-0002
7	SWT, 2POS, MAINT, ILL, GRN	SCHNEIDER: ZB4BK1233	-	7100-ISSO#
00	LENS, PILOT LIGHT YELLOW 22MM	SCHNEIDER: ZB4BV053		#PLT-0018
9	SQ D. RELAY, DPDT, 30A 240V	SCHNEIDER: RPF2BP7	1	#RLY-0035
10	THERMOCOUPLE ASSY, TYPE J	EUSTIS: FEJOOOJX024SX	1	#TCPL-0004
Ξ	THERMOCOUPLE, TYPE J MALE	EUSTIS: ED-128-14	-	#TCPL-0004A
12	LIQ-TITE CORDGRIP .1747 BLK	HEYCO: 3251	٥	905-0611
13	TB, MINI, 2.5MM, 24A, GRAY	ALLEN-BRADLEY: 1492-LMJ3	9	990-0329
14	TB, MINI GND, 2.5MM, 24A, GRN	ALLEN-BRADLEY: 1492-LMJG3	1	990-0343
5	DIN RAIL 15MMX5.5MMX1M	ALLEN-BRADLEY: 1492-DR3	0.16	990-0344
6	TB, MINI, END ANCHOR	ALLEN-BRADLEY: 1492-EAJ15	N	990-0345
17	TB, JUMPERS, 10 POLE, MINI	ALLEN-BRADLEY: 1492-CJLJ5-10-BL	1	990-0346
18	TB, MARKERS, MINI, 10 BLANK	ALLEN-BRADLEY: 1492-M5X5	2	990-0347
19	TB, MINI, END BARRIER	ALLEN-BRADLEY: 1492-EBLMJ3	-	990-0348
20	CORD CONN SEAL O RING 1/2	HUBBELL: 20509001	0	990-1015
21	SNAP DISC 130 DEC SPST	SUPCO: L130	1	DPC-0130-130
22	HEATER ELEMENT 250V/1500W	EMERSON ELECTRIC: CH626-F83-004	0	HI18-0072
23	POWER CORD 250V 14/3 SJO,8 FT	POWER FIRST: 3AY39	0	HI18-0505-250
24	WIRE HARNESS, HI18/24, 240V UL		1	HI18-1708-1
25	ELEMENT 240V/1200W	CHROMALOX: 393-877864-002	0	HI24-0001-240
26	LABEL; ON/OFF SWT, HEAT LIGHT		0	HI24-9001
27	COVER, SWITCH BOX, ENCL. HI18/HI24	••	0	HI24-7005
28	WLDT, SWITCH BOX, ENCLOSURE		0	HI24-8006 R00S
29				



+

TC2 THERMOCOUPLE

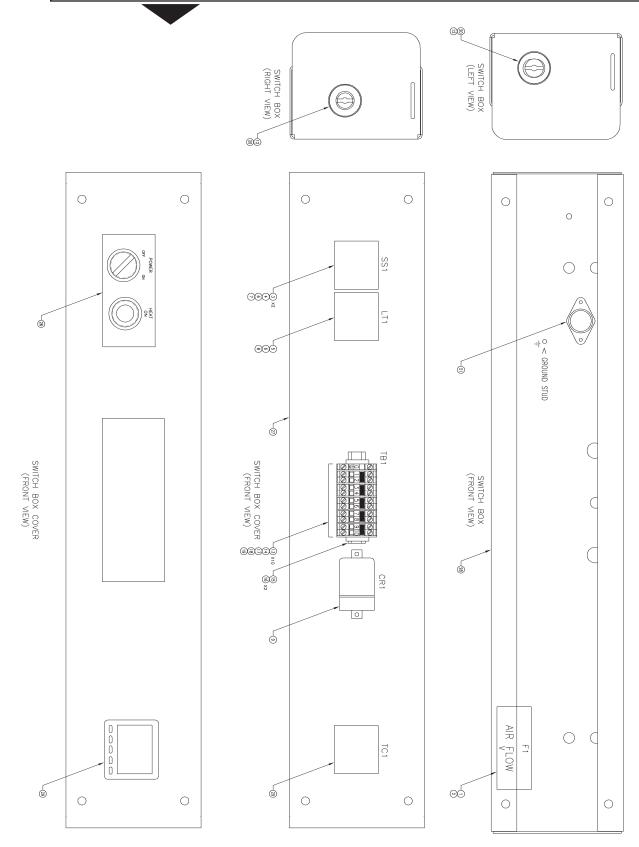


-20/2

DIAGRAM: HI18-1708, ELECTRICAL ASSEMBLY/DIAGRAM

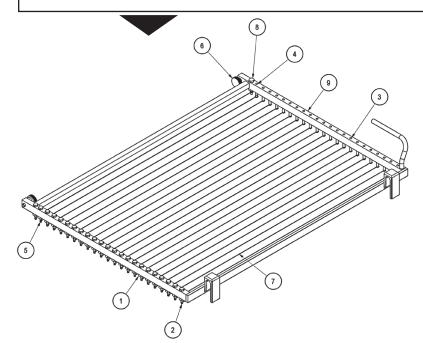
## HI18F, HI24F (208-240 Volt models) Item Numbers: 220025-3, 20023-3

TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER



## Model: HI18F, Item Numbers 20024, 20025-3

TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER

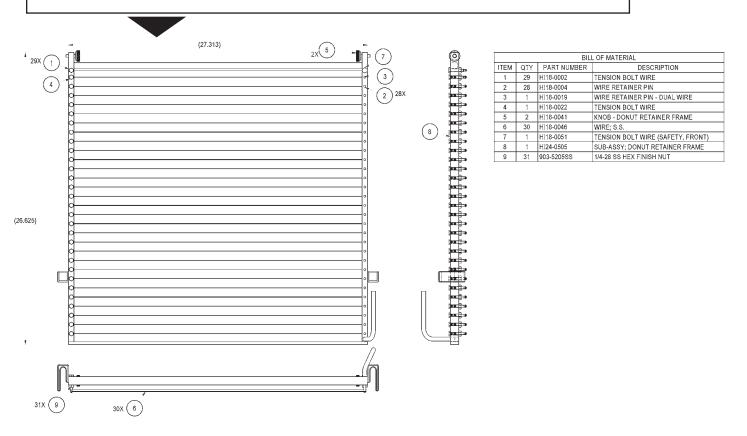


	BILL OF MATERIAL				
ITEM	QTY	PART NUMBER	DESCRIPTION		
1	24	903-5205SS	1/4-28 SS HEX FINISH NUT		
2	22	HI18-0002	TENSION BOLT WIRE		
3	21	HI18-0004	WIRE RETAINER PIN		
4	1	HI18-0019	WIRE RETAINER PIN - DUAL WIRE		
5	1	HI18-0022	TENSION BOLT WIRE		
6	2	HI18-0041	KNOB - DONUT RETAINER FRAME		
7	23	HI18-0046	WIRE; S.S.		
8	1	HI18-0051	TENSION BOLT WIRE (SAFETY, FRONT)		
9	1	HI18-0504	SUB-ASSY; DONUT RETAINER FRAME		

DIAGRAM: HI24-1002, DONUT RETAINER FRAME

## Model: HI24F, Item Numbers 20022, 20023-3

TO IDENTIFY MODEL AND ITEM NUMBER, SEE DATA TAG ON ICER







## **Belshaw Adamatic Bakery Group**

Limited Warranty / Return Policy

Subject to the terms and limitations set forth in this limited warranty ("Limited Warranty"), Belshaw Adamatic Bakery Group (also referred to as "the Manufacturer") warrants to the original purchaser ("Purchaser") of Manufacturer's equipment and parts ("Products"), Belshaw Adamatic Bakery Group's manufacture and assembly of Products to be free from defects in workmanship and material which would result in product failure under normal use and service. Belshaw Adamatic Bakery Group's entire liability under this Limited Warranty is limited to either repairing or replacing at Manufacturer's factory or on Purchaser's premises, at Belshaw Adamatic Bakery Group's option, any Products purchased by Purchaser which shall be determined by the Manufacturer to be defective. If necessary to return Products to Manufacturer's factory, Products must be shipped by Purchaser with transportation charges prepaid by Purchaser.

Belshaw Adamatic Bakery Group reserves the right to make changes in design or add any improvement to its Products at any time without incurring any obligations to install the same on Products previously sold.

Possession, use or operation of Products sold hereunder for any other than their designed purpose, or use of Products which are in poor repair, modified, improperly operated, or neglected, is done at the Purchaser's risk. Belshaw Adamatic Bakery Group hereby disclaims any liability for these actions and shall not be liable for defects in or for any damages or loss to any property which is attributable to such actions.

Under no circumstances shall Belshaw Adamatic Bakery Group be liable for any indirect, special, incidental, or consequential damages arising out of, or from the use of its Products by Purchaser, its assignees, employees, agents or customers.

#### THIS LIMITED WARRANTY SHALL BE PURCHASER'S SOLE AND EXCLUSIVE REMEDY WITH **RESPECT TO DEFECTIVE PRODUCTS.**

#### Warranty Period

This Limited Warranty covers Products manufactured by Belshaw Adamatic Bakery Group and sold by Belshaw Adamatic Bakery Group or its authorized distributor ("Distributor") or authorized dealer ("Dealer"), and this Limited Warranty shall extend for a period of one (1) year from date of shipment to Purchaser, and to the original Purchaser only.

#### Limited Warranty

With respect to products not manufactured by Belshaw Adamatic Bakery Group, warranty coverage shall be limited to the warranty of the original manufacturer of the product, or the Belshaw Adamatic Bakery Group Limited Warranty, whichever is the lesser coverage period.

Replacement Products provided under the terms of this Limited Warranty are warranted for the remainder of the original warranty period applicable to the Product.

#### Exclusions

This Limited Warranty excludes from its coverage and does not apply to: (a) solenoid and relay coils; (b) lamps; (c) "O" rings; (d) belts; and (e) impellers. This Limited Warranty also excludes the cost of labor for removing and replacing Products subject to a warranty claim, other than the labor incurred directly by the Manufacturer when, in Belshaw Adamatic Bakery Group's opinion, a repair of the Product by the Manufacturer is justified.

#### Warranty Claims

In case of warranty claims relating to your Product, you must follow the instructions below.

#### Report Claims to Your Authorized Distributor or Dealer or to Belshaw Adamatic Bakery Group

As soon as you discover a problem, contact the Distributor or Dealer from whom you purchased the Product or Belshaw Adamatic Bakery Group. Your Distributor or Dealer will notify Belshaw Adamatic Bakery Group for you. **Only Belshaw Adamatic Customer Service can approve or authorize warranty claims.** 

You must state the following:

- 1. Your name, company name, and telephone number
- 2. The location, phone number, and contact name where the Product is located
- 3. The invoice number and date of purchase of the Product
- 4. The Model and Serial Number of the Product, as written on the data tag attached to the Product
- 5. A description of the problem and how it occurred

#### **Shipping Damage and Missing Items**

**Damage to the Packaging or Crate.** On delivery, promptly check all packages thoroughly for any sign of damage. In cases of visible damage, **always note the damage on the Delivery Receipt.** Failure to note damage is taken by the Freight Carrier to mean that the package is in good condition at time of receipt, and can result in denial of a Freight Claim. Take photographs that clearly show the damage.

**Damage to Products.** If you find any damaged Product inside the shipment, photograph the damage both inside and outside of the package. Do not throw the packaging away. Photos of the package and contents are needed to show the condition of the Product at the time it was received.

**Missing Items.** As soon as you believe any items to be missing from a shipment, promptly report this to the Distributor or Dealer from whom the Product was purchased or to Belshaw Adamatic Bakery Group. If possible, photograph the entire contents of the delivery and email this to your Distributor or Dealer, or to Belshaw Adamatic Customer Service at <u>service@belshaw.com</u>.

#### **Returning Products to Belshaw Adamatic Bakery Group**

Under the terms of the Limited Warranty, you may be asked to return to Belshaw Adamatic Bakery Group any Product that is the subject of a warranty claim. These Products must be clearly labeled with a Return Goods Authorization Number ("RGA Number") given to you by your Distributor or Dealer, or by Belshaw Adamatic Customer Service. Products received without an RGA Number will not be processed. All Products must be shipped freight prepaid by the Purchaser to Belshaw Adamatic Bakery Group at the address below.

#### Contacting Belshaw Adamatic Bakery Group

At any time, you can contact Belshaw Adamatic Bakery Group customer service for assistance

Belshaw Adamatic Bakery Group Customer Service 814 44th St. NW, Suite 103, Auburn WA 98001, USA Phone: 800-578-2547 (USA/ Canada) or (+1)206-322-5474 (Worldwide) Email: <u>service@belshaw.com</u> Office Hours: Monday – Friday, 6am to 4pm, USA Pacific Time

Belsha amatic



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> > service@belshaw.com

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