



# HYDRO-HEATER

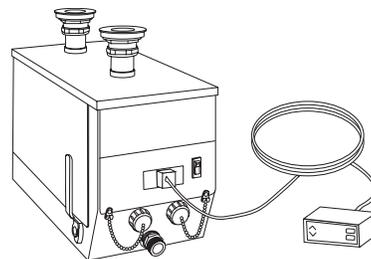
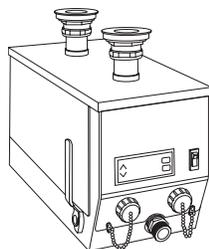
## Food Rethermalizers/Hot Food Table Heater

### FR2 Series

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## Installation & Operating Manual

I&W #07.05.143.00



This manual contains important safety information concerning the maintenance, use and operation of this product. Failure to follow the instructions contained in this manual may result in serious injury. If you are unable to understand the contents of this manual, please bring it to the attention of your supervisor. Do not operate this equipment unless you have read and understood the contents of this manual.

Este manual contiene importante información sobre seguridad concerniente al mantenimiento, uso y operación de este producto. Cualquier falla en el seguimiento de las instrucciones contenidas en este manual puede resultar en un serio daño. Si usted no puede entender el contenido de este manual por favor pregunte a su supervisor. No opere este equipo al menos que haya leído y comprendido el contenido de este manual.

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## IMPORTANT OWNER INFORMATION

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Record the model number, serial number (identification plate located on the lower right hand side, front corner of the unit), voltage and purchase date of your Hydro-Heater in the spaces below. Please have this information available when calling Hatco for service assistance.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Voltage \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Business Hours: 8:00 a.m. to 5:00 p.m.  
Central Standard Time

(Summer Hours: June to September -  
8:00 a.m. to 5:00 p.m. C.D.T.  
Monday through Thursday  
8:00 a.m. to 2:30 p.m. C.D.T. Friday)

Telephone: (800) 558-0607; (414) 671-6350

Fax: (800) 690-2966 (Parts & Service)  
(414) 671-3976 (International)



24-Hour 7-Day Parts & Service Assistance available in the United States and Canada by calling (800) 558-0607.

Additional information can be found by visiting our web site at [www.hatcocorp.com](http://www.hatcocorp.com)

## INTRODUCTION

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Hatco FR2 Hydro-Heater Food Rethermalizers/Hot Food Table Heaters are designed to supply temperature-controlled water to a holding vessel (sink or tank) located above the heater. Water flows by natural convection from the holding vessel directly into a tubular water chamber with heating elements uniquely wrapped on the outside of the flow tube. The heating elements do not come in direct contact with the water eliminating sediment and lime buildup on the element, resulting in longer life. The heated water flows upward and returns to the holding vessel. A special electronic controller maintains the setpoint temperature assuring a responsive and efficient operation.

The unit electrical and plumbing connections are factory-assembled and ready for installation.

This manual provides the installation, safety and operating instructions for the Hydro-Heater

Food Rethermalizers/Hot Food Table Heaters. We recommend all installation, operating and safety instructions appearing in this manual be read prior to installation or operation of your Hatco Hydro-Heater. Safety instructions that appear in this manual after a warning symbol  and the words **WARNING** or **CAUTION** printed in bold face are very important.  **WARNING** means there is the possibility of serious injury or death to yourself or others.  **CAUTION** means there is the possibility of minor or moderate injury. **CAUTION** *without the symbol* signifies the possibility of equipment or property damage only.

Hatco Hydro-Heaters are a product of extensive research and field testing. The materials used were selected for maximum durability, attractive appearance and optimum performance. Every unit is thoroughly inspected and tested prior to shipment.

# IMPORTANT SAFETY INSTRUCTIONS

**IMPORTANT! Read the following important safety instructions to avoid personal injury or death, and to avoid damage to the equipment or property.**

## **⚠ WARNINGS**

- ⚠ Hatco FR2 series units are designed for commercial use only by properly trained personnel!
- ⚠ To avoid any injury, turn the power switch off at the fuse disconnect switch/circuit breaker or unplug the unit from the power source and allow to cool completely before performing any maintenance or cleaning.
- ⚠ For proper electrical installation conforming to local electrical codes, consult a licensed electrical contractor.
- ⚠ Units are designed to heat water up to 190°F (88°C). To avoid any injury or damage DO NOT set temperature controls to a setting higher than 190°F (88°C).
- ⚠ For proper plumbing installation conforming to local plumbing codes consult a licensed plumbing contractor.
- ⚠ If service is required on this unit, contact your Authorized Hatco Service Agent, or contact the Hatco Service Department at 800-558-0607 or 414-671-6350; fax 800-690-2966 or international fax 414-671-3976.
- ⚠ This product has no “user” serviceable parts. To avoid damage to the unit or injury to personnel, use only Authorized Hatco Service Agents and Genuine Hatco Parts when service is required.
- ⚠ Genuine Hatco Replacement Parts are specified to operate safely in the environments in which they are used. Some aftermarket or generic replacement parts do not have the characteristics that will allow them to operate safely in Hatco equipment. It is essential to use Hatco Replacement Parts when repairing Hatco equipment. Failure to use Hatco Replacement Parts may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn.

## **⚠ CAUTIONS**

- ⚠ Water in the unit and holding vessel is very hot. Wear protective gloves and proper attire when operating to avoid injury.
- ⚠ Do not use extension pipes on the inlet and outlet connections on heater units. Poor performance or unsafe conditions may occur.

## **CAUTIONS**

Do not overtighten unions or nuts. Overtightening may cause leaks.

Do not turn the electrical current to the unit on until the holding vessel has been filled with water or element burnout may occur.

Inspect weekly for lime buildup inside unit. Excessive amounts can affect unit performance and reduce the operating life of the unit.

To avoid any damage to the heater unit use only delimers that are non-corrosive to aluminum, brass and stainless steel. Damage caused by corrosive material or solutions is not covered under warranty.

Drain holding vessel with power to the unit off, or element burnout may occur.

Water Quality Requirements - Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (.75 grains of hardness per liter) must be treated or softened before being supplied to a Hydro-Heater. Water containing over 3.0 GPG (.75 GPL) will decrease the efficiency and reduce the operating life of the unit.

# MODEL DESCRIPTIONS

## ALL MODELS

The Hydro-Heater mounts easily to the underside of a holding vessel, leaving the entire vessel area free. Units are shipped ready to install with all gaskets and fittings. Hydro-Heaters include a stainless steel front, powder coated body, a low-water cut-off system and a convenient drain outlet.

## FR2 MODELS

The Hatco FR2 model heaters are designed to be used with a Bain-Marie or Food Rethermalizer to heat or hold foods at temperatures between 140°F (60°C) and 190°F (88°C). The desired holding temperature is maintained by a special electronic controller and “free flow” technology.

## UNITS WITH BUILT-IN TEMPERATURE CONTROL

Units with built-in electronic temperature controller and display are excellent for installations where the unit is easily accessible and viewing is not obstructed.

## UNITS WITH REMOTE TEMPERATURE CONTROL

Units supplied with remote electronic temperature controller and display allow for easy operator monitoring and temperature control.

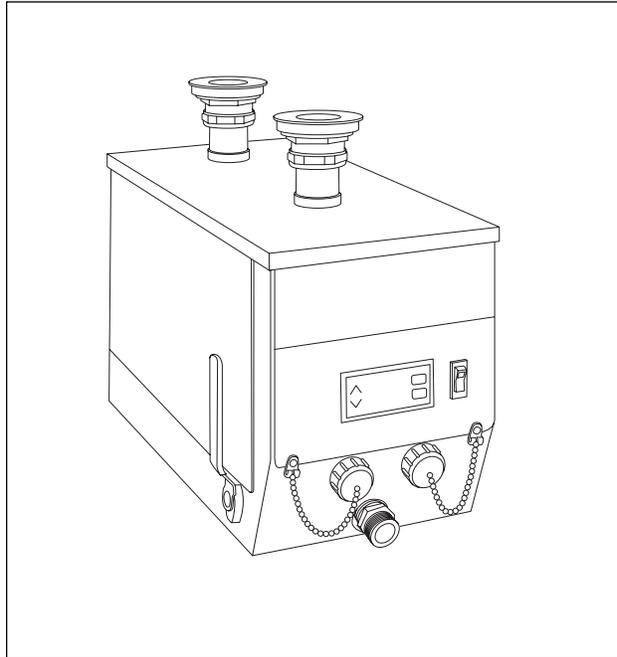


Figure 1. Hydro-Heater with Built-In Temperature Controller

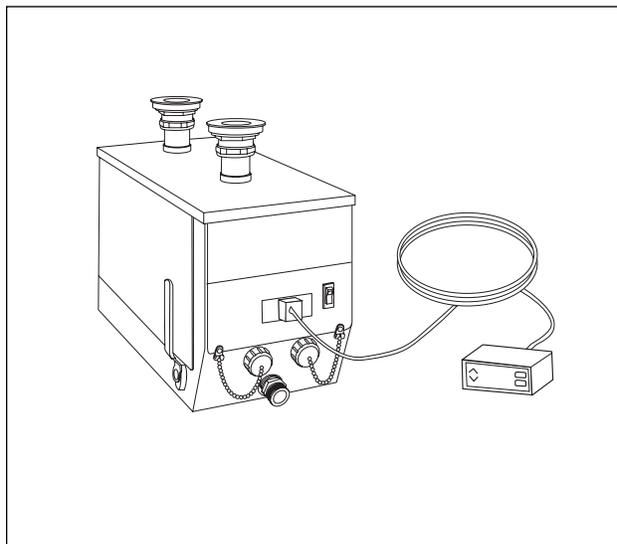


Figure 2. Hydro-Heater with Remote Electronic Controller

# SPECIFICATIONS

## ELECTRICAL RATING CHART – FR2 MODELS

| Model   | Voltage | Kilowatts (kW) | Phase | Amps | Wire Sizing AWG*† | Fuse or Circuit Breaker* | Shipping Weight |
|---------|---------|----------------|-------|------|-------------------|--------------------------|-----------------|
| FR2-3   | 208     | 3              | 1     | 14.5 | 12                | 20                       | 24 lbs. (11 kg) |
| FR2-4   | 208     | 4              | 1     | 19.2 | 12                | 30                       | 24 lbs. (11 kg) |
| FR2-6   | 208     | 6              | 1     | 28.8 | 10                | 40                       | 27 lbs. (12 kg) |
| FR2-3   | 240     | 3              | 1     | 12.5 | 12                | 20                       | 24 lbs. (11 kg) |
| FR2-4   | 240     | 4              | 1     | 16.7 | 12                | 30                       | 24 lbs. (11 kg) |
| FR2-6   | 240     | 6              | 1     | 25.0 | 10                | 40                       | 27 lbs. (12 kg) |
| FR2-3B  | 208     | 3              | 3     | 8.4  | 14                | 15                       | 24 lbs. (11 kg) |
| FR2-4B  | 208     | 4              | 3     | 11.2 | 14                | 15                       | 24 lbs. (11 kg) |
| FR2-6B  | 208     | 6              | 3     | 16.7 | 12                | 30                       | 27 lbs. (12 kg) |
| FR2-3B  | 240     | 3              | 3     | 7.3  | 14                | 15                       | 24 lbs. (11 kg) |
| FR2-4B  | 240     | 4              | 3     | 9.6  | 14                | 15                       | 24 lbs. (11 kg) |
| FR2-6B  | 240     | 6              | 3     | 14.5 | 12                | 20                       | 27 lbs. (12 kg) |
| FR2-8   | 208     | 8              | 1     | 38.4 | 8                 | 50                       | 27 lbs. (12 kg) |
| FR2-8   | 240     | 8              | 1     | 33.3 | 8                 | 50                       | 27 lbs. (12 kg) |
| FR2-9B  | 208     | 9              | 3     | 25.0 | 10                | 40                       | 27 lbs. (12 kg) |
| FR2-9B  | 240     | 9              | 3     | 21.7 | 10                | 30                       | 27 lbs. (12 kg) |
| FR2-12B | 208     | 12             | 3     | 33.4 | 8                 | 50                       | 27 lbs. (12 kg) |
| FR2-12B | 240     | 12             | 3     | 29.0 | 10                | 40                       | 27 lbs. (12 kg) |

\* Based upon NEC 2002 Code

† Based upon THHN wire rated 90°C.

**NOTE:** NSF Standard 4 has recently added performance requirements for food rethermalizing. The requirements mirror the requirements for food rethermalizing in the FDA Food Code. The basic requirement is that food reach a temperature of 165°F (74°C) in a time period of two hours or less.

*Appliances that are manufactured for the purpose of rethermalizing food will need to meet these performance requirements in order to be listed to NSF Standard 4.*

*The Hatco FR2 Series heating unit is specifically made for food rethermalizing, however, the heating unit is designed to be incorporated into a hot water bath rethermalizer. Hatco does not supply the vessel that contains the water, nor the system which determines how food is placed and held in the vessel. The Hatco FR2 unit attaches to the bottom of the vessel and supplies hot water to the vessel.*

*Hatco does supply sizing recommendations to enable the appliance manufacturer to correctly size the FR2 unit to the vessel. However, there are variables in the way that the vessel is manufactured that affect its ability to pass the NSF performance requirements. The Hatco FR2 unit is listed with NSF for construction only. Due to the fact that the FR2 is only a portion of a larger system, it is impossible to do performance testing until the FR2 unit is incorporated onto the water vessel.*

*The result is that it is the responsibility of the vessel manufacturer to have the entire rethermalizing appliance tested and listed in accordance with NSF Standard 4. Simply hanging an NSF listed FR2 unit on the appliance does not transfer NSF listing to the entire appliance.*

# SPECIFICATIONS

## SIZING INFORMATION

Hatco recommends the following guidelines be used to ensure proper operation and sanitation.

### For FR2 Series in a Bain-Marie or Steam Table Application

- Minimum 750 watts (.75 kW) per square foot (0.8 watts per sq. cm) of vessel top.

### For FR2 Series in a Food Rethernalizer Application

- Minimum 2000 watts per square foot (2.2 watts per sq. cm) of vessel top.

**NOTE:** Use the FR2 unit for a vessel up to 6' (1829 mm) long. Over 6' (1829 mm) minimum two units required.

See the *Minutes To Heat Table* to determine the amount of time required to heat water using a FR2 series in a Bain-Marie or Steam Table application.

## DIMENSIONS

| Width (A)          | Depth (B)           | Height (C)          |
|--------------------|---------------------|---------------------|
| 6-3/4"<br>(172 mm) | 17-1/8"<br>(435 mm) | 12-3/4"<br>(324 mm) |

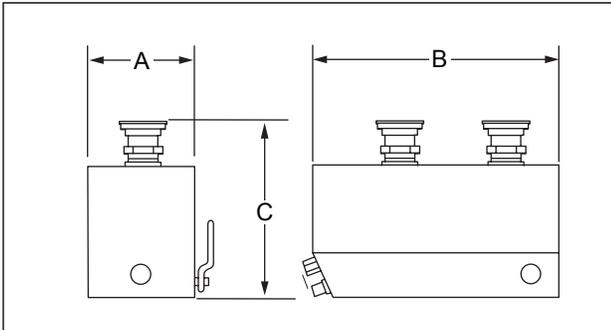


Figure 2. Dimensions

## ELECTRICAL

Install a fused disconnect switch or circuit breaker sized according to the applicable *Electrical Rating Chart*. The wiring from the switch or circuit breaker to the Hatco unit must be in accordance with local electrical requirements and codes.

### WARNING

**For proper electrical installation conforming to local electrical codes, consult a licensed electrical contractor.**

Models come complete with all electrical wiring and are equipped with three electrical knockouts, one at the rear and one on each side towards the rear. When performing installation, run electrical connections through one of these knockouts.

**NOTE:** FR2 Series units equipped with auto-fill have two electrical knockouts; one at the rear and one on the right, when facing control side.

**NOTE:** FR2 Series units with remote electronic controller require that the controller with 8 terminal plug be connected to the 8 terminal receptacle located on the front of the heater unit. Before mounting controller, make sure it is located close enough to the heater so the lead wires can be properly connected.

# INSTALLATION

## PLUMBING

An adhesive backed paper template is shipped with the unit and is used to locate the sink strainer holes. Use the following procedure to install the heater unit to the holding vessel.

**NOTE:** The FR2 heater should be positioned with no more than 3' (914 mm) on either side when mounted under holding vessel. See Figure 4. A perforated water baffle (not supplied with unit) must be used to distribute the heated water properly.

**NOTE:** Use one FR2 for a Hot Food Table up to 6' (1829 mm) long. Over 6' (1829 mm) minimum 2 units required.

### ⚠ CAUTION

**Do not use extension pipes on the inlet and outlet connections on heater units. Poor performance or unsafe conditions may occur.**

1. Expose the adhesive back of the paper template and stick the template on the bottom of the holding vessel. Center the template with the words "Front Cover" positioned against the front inside wall of the vessel.
2. Center punch and drill a 3/4" (19 mm) pilot hole at each of the two center marks on the template.
3. Remove the template and cut a 2" (51 mm) diameter hole at each pilot hole location using a standard #ATV1756 Greenlee cutter.

**NOTE:** If a #ATV1756 Greenlee cutter is not available, use a standard Greenlee 1-1/2" conduit cutter #500-6978, which is slightly under 2" (51 mm) diameter. File or ream holes as necessary to 2" (51 mm) diameter required for mounting sink strainers.

4. See Figure 5. In each of the holes, install a male threaded sink strainer with a thin gasket between the strainer flange and the bottom of the holding vessel.
5. Install **two** thick gaskets at the underside of the holding vessel along with a thin fiber gasket, and secure **finger tight** with the nut.
6. Attach the heater to the strainers loosely with the union nuts and 1-3/4" (45 mm) rubber gaskets.

**NOTE:** Make sure rubber gaskets are positioned inside the union nuts and are not crimped.

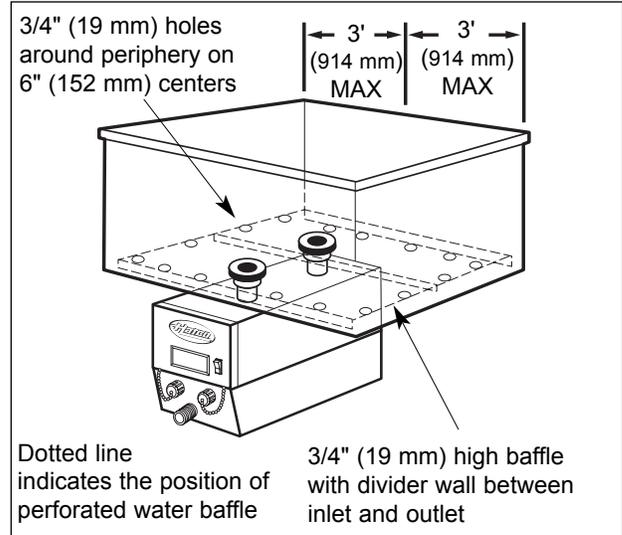


Figure 4. Hydro-Heater Water Baffle

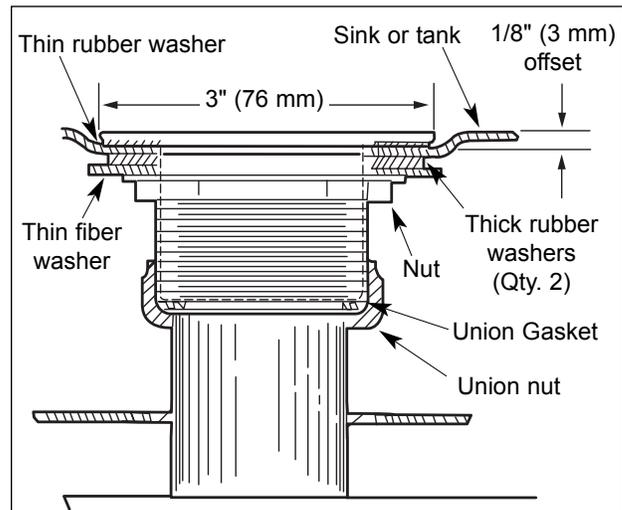


Figure 5. Installing Sink Strainer

7. Tighten nuts on strainers securely.
8. Tighten union nuts securely.
9. Fill the holding vessel with water and check for leaks.

### CAUTION

**Do not overtighten unions or nuts. Overtightening may cause leaks.**

**NOTE:** A 3/4" (19 mm) hose or pipe may be connected to the heater sump drain and run to an open sight drain. The sump drain should not be permanently connected to the sanitary drain system. Check local plumbing code for proper drain installation. See MAINTENANCE for more information.

# INSTALLATION

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## CAUTION

**Water Quality Requirements - Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (.75 grains of hardness per liter) must be treated or softened before being supplied to a Hydro-Heater. Water containing over 3.0 GPG(.75 GPL) will decrease the efficiency and reduce the operating life of the unit.**

## AUTO-FILL

Units with the Auto-fill option require the following steps be completed before start-up.

### **WARNING**

**For proper plumbing installation conforming to local plumbing codes consult a licensed plumbing contractor.**

1. Supply 1/4" NPT copper water supply line to inlet of solenoid valve on heater.

**NOTE:** *Ball valve or gate valve, line strainer, union(s) and vacuum breaker or other anti-siphon device must be supplied by table manufacturer or installer if required.*

2. Locate a point on the sidewall of the water vessel which is 1/2" (13 mm) up from the bottom of the food pan(s).
3. Mark and drill a 1/2" (13 mm) hole into the side wall of the tank.
4. Deburr the hole. Burrs may crack or damage the probe when tightened.
5. Position upper water sensor into tank with o-ring against inside wall.
6. Place washer onto threads of probe on outside wall of tank.
7. Secure all with nylon nut, making sure flat side of nut is towards washer.
8. Tighten until snug. Be careful not to overtighten nut. Overtightening may cause leaks and/or crack the probe.
9. Turn on water and check for leaks.
10. Connect wire lead to probe.

## ⚠ WARNINGS

Hatco FR2 series units are designed for commercial use only by properly trained personnel!

## ⚠ WARNINGS

Units are designed to heat water up to 190°F (88°C). To avoid any injury or damage **DO NOT** set temperature controls to a setting higher than 190°F (88°C).

## ⚠ CAUTION

Water in the unit and holding vessel is very hot. Wear protective gloves and proper attire when operating to avoid injury.

## CAUTION

Do not turn the electrical current to the unit on until the holding vessel has been filled with water or element burnout may occur.

## START-UP PROCEDURES

1. Make sure clean-out cap(s) (2-3 element units only) are securely tightened. See Figure 6.
2. Close sump drain by moving handle all of the way forward **until it stops**. See Figure 6.
3. Fill the holding vessel with hot tap water to normal operating level.
4. Check that the fused disconnect switch or circuit breaker is on, or if equipped with power cord and plug make sure unit is plugged into proper receptacle.
5. Turn power switch to ON position. The electronic display will glow to indicate power is supplied.
6. To set the controller to the desired temperature press “Set” button once; unit will display “SP1.” See Figure 7.
7. Press “Set” button again; unit displays current setpoint.

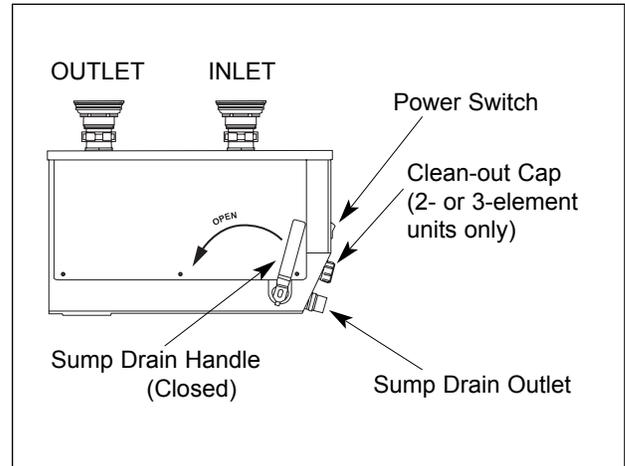


Figure 6. Hydro-Heater Side View

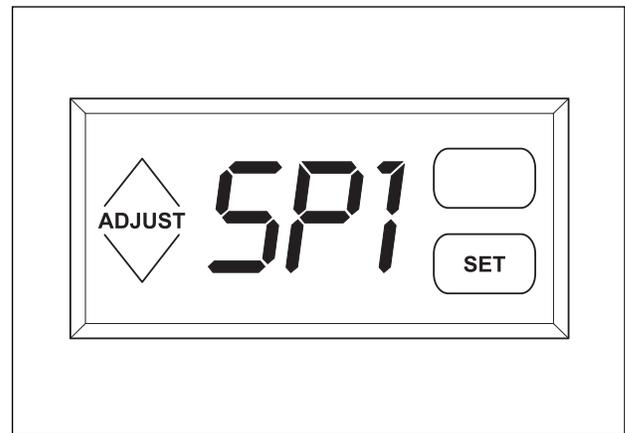


Figure 7. Controller

8. Press “Up” or “Down” arrow to change and display desired setpoint.
9. Press “Set” button again until display goes blank. After 5 seconds unit will display current operating temperature.

**NOTE:** If steps 6-9 are interrupted or no changes are made for 15 seconds the controller will go back to its original setting without accepting the change.

# OPERATION

## MINUTES TO HEAT TABLE

| Water Temp. At Start-Up | 9" (23 cm) DEEP WATER - 750 WATTS PER SQUARE FOOT OF VESSEL TOP |            |            |             |             |             |             |             |             |             |             |             |
|-------------------------|---|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                         | Temperature °F (°C) Water Heated To:                            |            |            |             |             |             |             |             |             |             |             |             |
|                         | 70<br>(21)  | 80<br>(27) | 90<br>(32) | 100<br>(38) | 110<br>(43) | 120<br>(49) | 130<br>(54) | 140<br>(60) | 150<br>(66) | 160<br>(71) | 170<br>(77) | 180<br>(82) |
| 60°F (16°C)             | 12  | 23         | 35         | 47          | 60          | 72          | 85          | 100         | 116         | 136         | 162         | 211         |
| 70°F (21°C)             |   | 12         | 24         | 36          | 49          | 61          | 74          | 89          | 105         | 125         | 151         | 200         |
| 80°F (27°C)             |   |            | 12         | 24          | 37          | 49          | 62          | 77          | 93          | 113         | 139         | 188         |
| 90°F (32°C)             |   |            |            | 12          | 25          | 34          | 50          | 65          | 85          | 101         | 127         | 176         |
| 100°F (38°C)            |   |            |            |             | 13          | 28          | 38          | 53          | 69          | 89          | 115         | 164         |
| 110°F (43°C)            |   |            |            |             |             | 12          | 25          | 40          | 56          | 66          | 102         | 151         |
| 120°F (48°C)            |   |            |            |             |             |             | 13          | 28          | 44          | 64          | 90          | 139         |
| 130°F (54°C)            |   |            |            |             |             |             |             | 15          | 31          | 51          | 77          | 126         |
| 140°F (60°C)            |   |            |            |             |             |             |             |             | 16          | 36          | 62          | 111         |
| 150°F (65°C)            |   |            |            |             |             |             |             |             |             | 20          | 46          | 95          |
| 160°F (71°C)            |   |            |            |             |             |             |             |             |             |             | 26          | 75          |
| 170°F (76°C)            |   |            |            |             |             |             |             |             |             |             |             | 49          |

| Water Temp. At Start-Up | 6" (15 cm) DEEP WATER - 750 WATTS PER SQUARE FOOT OF VESSEL TOP |            |            |             |             |             |             |             |             |             |             |             |
|-------------------------|---|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                         | Temperature °F (°C) Water Heated To:                            |            |            |             |             |             |             |             |             |             |             |             |
|                         | 70<br>(21)  | 80<br>(27) | 90<br>(32) | 100<br>(38) | 110<br>(43) | 120<br>(49) | 130<br>(54) | 140<br>(60) | 150<br>(66) | 160<br>(71) | 170<br>(77) | 180<br>(82) |
| 60°F (16°C)             | 8   | 15         | 23         | 61          | 40          | 48          | 57          | 67          | 77          | 90          | 108         | 140         |
| 70°F (21°C)             |   | 8          | 16         | 24          | 33          | 40          | 49          | 59          | 70          | 83          | 100         | 133         |
| 80°F (27°C)             |   |            | 8          | 16          | 25          | 33          | 41          | 51          | 62          | 75          | 92          | 125         |
| 90°F (32°C)             |   |            |            | 8           | 17          | 23          | 33          | 43          | 54          | 67          | 84          | 117         |
| 100°F (38°C)            |   |            |            |             | 9           | 17          | 15          | 35          | 45          | 59          | 76          | 109         |
| 110°F (43°C)            |   |            |            |             |             | 8           | 17          | 27          | 37          | 44          | 68          | 100         |
| 120°F (48°C)            |   |            |            |             |             |             | 9           | 19          | 29          | 42          | 60          | 92          |
| 130°F (54°C)            |   |            |            |             |             |             |             | 10          | 21          | 34          | 51          | 84          |
| 140°F (60°C)            |   |            |            |             |             |             |             |             | 11          | 24          | 41          | 74          |
| 150°F (65°C)            |   |            |            |             |             |             |             |             |             | 13          | 31          | 63          |
| 160°F (71°C)            |   |            |            |             |             |             |             |             |             |             | 17          | 50          |
| 170°F (76°C)            |   |            |            |             |             |             |             |             |             |             |             | 33          |

## GENERAL

### WARNING

To avoid any injury, turn the power switch off at the fuse disconnect switch/circuit breaker or unplug the unit from the power source and allow to cool completely before performing any maintenance or cleaning.

### Recommended Cleaning Schedule

Complete draining and cleaning should be done

- On a daily basis.
- Whenever food particles accumulate in the tank.
- Whenever a spill occurs.
- Whenever the unit is to be stored or shipped, especially in freezing temperatures.

### Helpful Hints

- Keep inlet and outlet free of debris.
- Keep false bottoms in place and free of debris.
- Delime unit using a non-corrosive deliming solution.

### CAUTION

Inspect daily for lime buildup inside unit. Excessive amounts can affect unit performance and reduce the operating life of the unit.

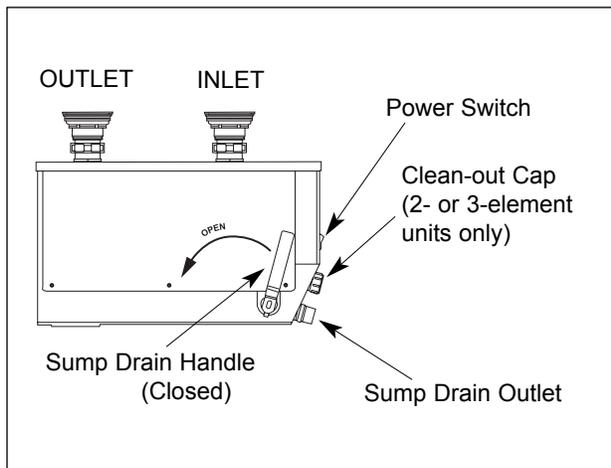


Figure 8. Hydro-Heater Side View

## DRAINING & CLEANING ALL MODELS

**NOTE:** The holding vessel should be drained through its own drain valve to discharge debris and water that remains in it.

### CAUTION

Drain holding vessel with power to the unit off, or element burnout may occur.

### DAILY (See Figure 8)

1. Turn power switch to the OFF position.
  2. Drain holding vessel to discharge visible water and debris. Close drain when finished
  3. Wipe visible deposits from the sink or tank.
  4. Dissolve a safe, non-toxic, non-corrosive sanitizer into 1 gallon (3.7 L) of hot water and pour into tank. Refill the tank 1/2" (1 cm) above the false bottom with hot water and soak for at least 15 minutes.
- NOTE:** Follow the sanitizers instructions for the proper mixture of water and sanitizer.
5. Connect one end of a drain hose onto the sump drain outlet with the other end in a bucket or open site drain in a manner according to local plumbing codes.
  6. To drain the unit open the sump drain valve by moving the valve handle backwards until it completely stops. Water will now flow from the drain hose.
  7. Thoroughly wash unit with fresh water until discharge is clear and all sanitizers have been removed and rinsed.
  8. Close sump drain by moving handle all of the way forward **until it stops**. See Figure 8.
  9. Reinstall perforated water baffle/false bottom in correct position.
  10. Follow normal operation instructions.

# MAINTENANCE

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## WEEKLY (See Figure 8)

1. Turn power switch to the OFF position.
2. Drain holding vessel to discharge visible water and debris.
3. Wipe visible deposits from the sink or tank.
4. Remove clean-out caps (2- or 3-element units only).
5. Inspect for lime and sediment build-up at the sump drain outlet and heating element chamber outlets (2 or 3 element units only have heating element chamber outlets).
6. Remove any visible lime sediment or debris deposits from the outlets using the cleaning brush supplied with the unit, Hatco part number 03.40.060.00.

To remove, insert brush into the clean-out and sump drain outlets and use a scrubbing motion until clean.

7. Remove brush and flush clean water through the chambers until discharge is clear.
8. Reinstall clean-out caps removed in step 4.
9. Close all drains and fill with water before restarting.

## DELIMING INSTRUCTIONS

### CAUTION

**Inspect weekly for lime buildup inside unit. Excessive amounts can affect unit performance and reduce the operating life of the unit.**

**NOTE:** Product failure caused by liming or sediment buildup is not covered under warranty.

### CAUTION

**To avoid any damage to the heater unit use only delimers that are non-corrosive to aluminum, brass and stainless steel. Damage caused by corrosive material or solutions is not covered under warranty.**

The amount of lime and mineral content in the water and how often the unit is operated will dictate how often the unit needs to be delimed.

Units supplied with water that contains high lime and mineral content may require deliming on a daily basis.

**NOTE:** The delimer used should be a safe, non-toxic, non-corrosive solution. Follow the delimer's instructions.

In order to dissolve water scale, lime and rust deposits from the heating chamber, thermostat probes and interior surfaces of the unit, perform the following procedure:

1. Disconnect power supply to heater at breaker and turn power switch to OFF position.
2. Connect one end of a drain hose onto the sump drain outlet with the other end in a bucket or open site drain in a manner according to local plumbing codes.
3. Open sump drain valve and drain all water.
4. When draining is finished, close sump drain valve.
5. Slowly add delimer and water mixture into heat tank through sink strainer assemblies. Allow the unit to stand with the mixture in the reservoir for the recommended period of time.

**NOTE:** The time required will vary depending on the solution used and amount of deposits in the reservoir.

## MAINTENANCE

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6. After cleaning, drain all expended solution from the unit through the sump drain.
7. Thoroughly wash heater tank with fresh water for several minutes until discharge is clear and all deliming solution has been removed and rinsed.
8. Close sump drain by moving handle all of the way forward **until it stops**.
9. Follow normal operation instructions.

### **CAUTION**

**Do not turn the electrical current to the unit on until the holding vessel has been filled with water or element burnout may occur.**

### **WARNING**

**If service is required on this unit, contact your Authorized Hatco Service Agent, or contact the Hatco Service Department at 800-558-0607 or 414-671-6350; fax 800-690-2966 or international fax 414-671-3976.**

### **WARNING**

**This product has no “user” serviceable parts. To avoid damage to the unit or injury to personnel, use only Authorized Hatco Service Agents and Genuine Hatco Parts when service is required.**

### **WARNING**

**Genuine Hatco Replacement Parts are specified to operate safely in the environments in which they are used. Some aftermarket or generic replacement parts do not have the characteristics that will allow them to operate safely in Hatco equipment. It is essential to use Hatco Replacement Parts when repairing Hatco equipment. Failure to use Hatco Replacement Parts may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn.**

# HATCO LIMITED WARRANTY

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## 1. PRODUCT WARRANTY

Hatco warrants the products that it manufactures (the "Products") to be free from defects in materials and workmanship, under normal use and service, for a period of one (1) year from the date of purchase when installed and maintained in accordance with Hatco's written instructions or 18 months from the date of shipment from Hatco. Buyer must establish the product's purchase date by returning Hatco's Warranty Registration Card or by other means satisfactory to Hatco in its sole discretion.

Hatco warrants the following Product components to be free from defects in materials and workmanship from the date of purchase (subject to the foregoing conditions) for the period(s) of time and on the conditions listed below:

- a) **One (1) Year Parts and Labor PLUS One (1) Additional Year Parts-Only Warranty:**  
Toaster Elements (metal sheathed)  
Drawer Warmer Elements (metal sheathed)  
Drawer Warmer Drawer Rollers and Slides  
Food Warmer Elements (metal sheathed)  
Display Warmer Elements (metal sheathed air heating)  
Holding Cabinet Elements (metal sheathed air heating)
- b) **One (1) Year Parts and Labor PLUS Four (4) Years Parts-Only Warranty on pro-rated terms that Hatco will explain at Buyer's request:**  
3CS and FR Tanks
- c) **One (1) Year Parts and Labor PLUS Nine (9) Years Parts-Only Warranty on:**  
Electric Booster Heater Tanks  
Gas Booster Heater Tanks

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT INFRINGEMENT. Without limiting the generality of the foregoing, SUCH WARRANTIES DO NOT COVER: Coated incandescent light bulbs, fluorescent lights, lamp warmer heat bulbs, glass components, Product failure in booster tank, fin tube heat exchanger, or other water heating equipment, caused by liming, sediment buildup, chemical attack or freezing, Product misuse, tampering or misapplication, improper installation or application of improper voltage.

## 2. LIMITATION OF REMEDIES AND DAMAGES

Hatco's liability and Buyer's exclusive remedy hereunder will be limited solely, at Hatco's option, to repair or replacement by a Hatco-authorized service agency (other than where Buyer is located outside of the United States, Canada, United Kingdom or Australia in which case Hatco's liability and Buyer's exclusive remedy hereunder will be limited solely to replacement of part under warranty) with respect to any claim made within the applicable warranty period referred to above. Hatco reserves the right to accept or reject any such claim in whole or in part. Hatco will not accept the return of any Product without prior written approval from Hatco, and all such approved returns shall be made at Buyer's sole expense. HATCO WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCES, FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR COSTS OR LOST PROFITS RESULTING FROM THE USE OF OR INABILITY TO USE THE PRODUCTS OR FROM THE PRODUCTS BEING INCORPORATED IN OR BECOMING A COMPONENT OF ANY OTHER PRODUCT OR GOODS.



## HATCO AUTHORIZED PARTS DISTRIBUTORS

### ALABAMA

Jones McLeod Appl. Svc.  
Birmingham 205-251-0159

### ARIZONA

Auth. Comm. Food Equip.  
Phoenix 602-234-2443

Byassee Equipment Co.  
Phoenix 602-252-0402

### CALIFORNIA

Industrial Electric  
Huntington Beach 714-379-7100

Chapman Appl. Service  
San Diego 619-298-7106

P & D Appliance  
S. San Francisco 650-635-1900

### COLORADO

Hawkins Commercial Appliance  
Englewood 303-781-5548

### DELAWARE

Food Equipment Service  
Wilmington 302-996-9363

### FLORIDA

Whaley Foodservice Repair  
Jacksonville 904-725-7800

Universal Restaurant Services  
Miami 305-593-5488

Nass Service Co., Inc.  
Orlando 407-425-2681

B.G.S.I.  
Pompano Beach 954-971-0456

Comm. Appliance Service  
Tampa 813-663-0313

### GEORGIA

Adcox Service Co.  
Atlanta 404-361-8010

Southeastern Rest. Svc.  
Norcross 770-446-6177

### HAWAII

Burney's Comm. Service, Inc.  
Honolulu 808-848-1466

Food Equip Parts & Service  
Honolulu 808-847-4871

### ILLINOIS

Parts Town  
Lombard 708-865-7278

Eichenauer Elec. Service  
Decatur 217-429-4229

Midwest Elec. Appl. Service  
Elmhurst 630-279-8000

Cone's Repair Service  
Moline 309-797-5323

### INDIANA

GCS Service  
Indianapolis 317-545-9655

### IOWA

Electric Motor Service Co.  
Davenport 319-323-1823

### KENTUCKY

GCS Service  
Louisville 502-367-1788

### LOUISIANA

Chandlers Parts & Service  
Baton Rouge 225-272-6620

Bana Comm. Parts, Inc.  
Shreveport 318-631-6550

### MARYLAND

Electric Motor Service  
Baltimore 410-467-8080

GCS Service  
Silver Spring 301-585-7550

### MASSACHUSETTS

Ace Service Co., Inc.  
Needham 781-449-4220

### MICHIGAN

Commercial Kitchen Service  
Bay City 517-893-4561

Bildons Appliance Service  
Detroit 248-478-3320

Midwest Food Equip. Service  
Grandville 616-261-2000

### MINNESOTA

GCS Service  
Minneapolis 612-546-4221

### MISSOURI

GCS Service  
Kansas City 816-920-5999

Commercial Kitchen Services  
St. Louis 314-890-0700

Kaemmerlen Parts & Service  
St. Louis 314-535-2222

### NEBRASKA

Anderson Electric  
Omaha 402-341-1414

### NEVADA

Burney's Commercial  
Las Vegas 702-736-0006

Hi. Tech Commercial Service  
N. Las Vegas 702-649-4616

### NEW JERSEY

Jay Hill Repair  
Fairfield 973-575-9145

Service Plus  
Flanders 973-691-6300

### NEW YORK

Acme American Repairs, Inc.  
Brooklyn 718-456-6544

### NEW YORK (continued)

Alpro Service Co.  
Brooklyn 718-386-2515

Appliance Installation  
Buffalo 716-884-7425

Northern Parts Dist.  
Plattsburgh 518-563-3200

J.B. Brady, Inc.  
Syracuse 315-422-9271

### NORTH CAROLINA

Authorized Appliance  
Charlotte 704-377-4501

### OHIO

Akron/Canton Comm. Svc. Inc.  
Akron 330-753-6635

Certified Service Center  
Cincinnati 513-772-6600

Commercial Parts and Service  
Columbus 614-221-0057

GCS Service  
Columbus 614-476-3225

Electrical Appl. Repair Service  
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E. A. Wichman Co.  
Toledo 419-385-9121

### OKLAHOMA

Hagar Rest. Service, Inc.  
Oklahoma City 405-235-2184

Krueger, Inc.  
Oklahoma City 405-528-8883

### OREGON

Bressie Electric Co.  
Portland 503-231-7171

Ron's Service, Inc.  
Portland 503-624-0890

### PENNSYLVANIA

FAST Comm. Appl. Service  
Philadelphia 215-288-4800

GCS Service  
Pittsburgh 412-787-1970

K & D Service Co.  
Harrisburg 717-236-9039

Elmer Schultz Services  
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Electric Repair Co.  
Reading 610-376-5444

### RHODE ISLAND

Marshall Electric Co.  
Providence 401-331-1163

### SOUTH CAROLINA

Whaley Foodservice Repair  
W. Columbia 803-791-4420

### TENNESSEE

Camp Electric  
Memphis 901-527-7543

### TEXAS

Stove Parts Supply  
Fort Worth 817-831-0381

Armstrong Repair Service  
Houston 713-666-7100

Commercial Kitchen Repair Co.  
San Antonio 210-735-2811

San Antonio Rest. Equip.  
San Antonio 210-532-1660

### UTAH

GCS Service  
Salt Lake City 801-487-3653

### VIRGINIA

Daubers  
Norfolk 757-855-4097

Daubers  
Springfield 703-866-3600

### WASHINGTON

Restaurant Appl. Service  
Seattle 206-524-8200

### WISCONSIN

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Madison 608-246-3160

A.S.C., Inc.  
Milwaukee 414-543-6460

## CANADA

### BRITISH COLUMBIA

Key Food Equipment Service  
Vancouver 604-433-4484

### ONTARIO

R.G. Henderson Ltd.  
Toronto 416-422-5580

Choquette CKS  
Ottawa 613-739-8458

### QUÉBEC

Choquette CKS  
Montreal 514-722-2000

Choquette CKS  
Québec City 418-681-3944

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