



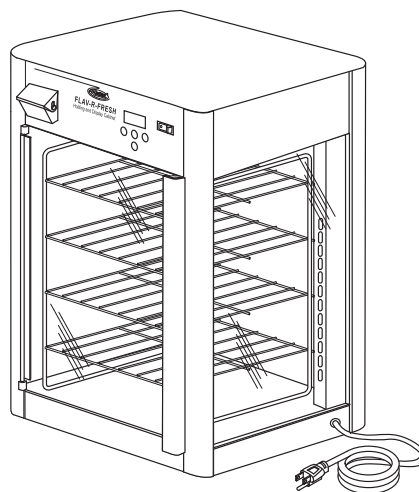
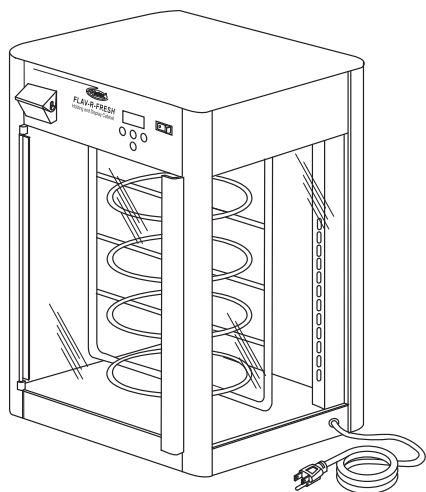
FLAV-R-FRESH®

Holding and Display Cabinets

FDWD Series

Installation and Operating Manual

I&W #07.05.177.00



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're 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. Keep this manual in a safe location for future reference.

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. Almacenar este manual en una localización segura para la referencia futura.

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IMPORTANT OWNER INFORMATION

Record the model number, serial number (identification decal located on the lower right hand side, rear corner of the unit), voltage, and purchase date of your Flav-R-Fresh® Holding and Display Cabinet in the spaces provided. Please have this information available when contacting 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.S.T.
Monday through Thursday
8:00 a.m. to 2:30 p.m. C.S.T. Friday)

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

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



24 Hour 7 Day Parts and 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.

INTRODUCTION

Hatco Flav-R-Fresh® Holding and Display Cabinets are designed to hold prepared foods for prolonged periods of time while maintaining that “just-made” quality. Hatco Holding and Display Cabinets provide the best environment for food products by regulating the air temperature while at the same time balancing the humidity level. The use of controlled, moisturized heat maintains serving temperature and food texture longer than conventional dry holding equipment.

The Flav-R-Fresh® air flow pattern is designed to maintain consistent cabinet temperature without drying out foods. The precise combination of heat and humidity creates a “blanket” effect around the food. The air flow rate enables the cabinet to recover temperature rapidly after opening and closing the door.

This manual provides the installation, safety, and operating instructions for the Flav-R-Fresh® Holding and Display Cabinets. Hatco recommends all installation, operating, and safety instructions appearing in this manual be read prior to installation or operation of your Hatco Holding and Display Cabinet. Safety instructions that appear in this manual after a safety alert symbol and the words **WARNING** or **CAUTION** printed in boldface 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. The word **NOTICE** signifies the possibility of equipment or property damage only.












Hatco Flav-R-Fresh® Holding and Display Cabinets 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 inspected and tested thoroughly prior to shipment.






IMPORTANT SAFETY INFORMATION

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





WARNING

-  For safe and proper operation, plug unit into a properly grounded electrical outlet of the correct voltage, size, and plug configuration. If the plug and receptacle do not match, contact a qualified electrician to determine and install the proper voltage and size electrical outlet.
-  To avoid any injury, turn the POWER switch OFF, unplug the unit from the power source, and allow to cool completely before performing any maintenance or cleaning.
-  Overfilling can cause electrical shock. The water reservoir is full when "LO H2O" stops flashing on the CABINET TEMPERATURE display. Stop filling when "LO H2O" stops flashing on the display.
-  To avoid any injury, turn the POWER switch OFF and allow the unit to cool before draining.
-  To prevent any injury, discontinue use if power cord is frayed or worn.
-  To prevent any injury or damage to the unit, do not pull unit by power cord.
-  To avoid any injury or damage, the unit must be serviced by qualified personnel only.
-  Only light bulbs that meet or exceed NSF standards and are specifically designed for food holding areas may be used. Breakage of light bulbs not specially coated could result in personal injury and/or food contamination.
-  For safe and proper operation, the display cabinet must be located 2" (51 mm) from combustible walls and materials. If safe distances are not maintained, discoloration or combustion could occur.
-  Holding food at temperatures less than 140°F (60°C) may be dangerous. Temperatures under 140°F (60°C) promote the growth of harmful bacteria and toxins in some foods.
-  Hatco Corporation is not responsible for the actual food product serving temperature. It is the responsibility of the user to assure that the food product is held and served at a safe temperature.

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.
-  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 Replacement 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 Genuine Hatco Replacement Parts when repairing Hatco equipment. Failure to use Genuine Hatco Replacement Parts may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn.

CAUTION

-  Some exterior surfaces on the display cabinet will get hot. Use caution when touching these areas to avoid injury.
-  To avoid any injury or damage, locate the display cabinet at the proper counter height in an area that is convenient for use. The location should be level to prevent the unit or its contents from accidentally falling and strong enough to support the weight of the unit and food.
-  Unit is not weatherproof. For safe and proper operation, locate the unit indoors where the ambient air temperature is a minimum of 70°F (21°C).
-  The unit must be transported in an upright position. Before moving or tipping the unit, secure all glass surfaces with tape. The water must be drained from the unit also. Failure to do so may result in damage to the unit or personal injury.

IMPORTANT SAFETY INFORMATION

NOTICE

Water Quality Requirements – Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (0.75 grains of hardness per liter) must be treated and softened before being used. Water containing over 3.0 GPG (0.75 GPL) will decrease the efficiency and reduce the operating life of the unit.

Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of your Flav-R-Fresh® Holding and Display Cabinet, marring its appearance and making it susceptible to soil accumulation.

NOTICE

Do not use deionized water. Deionized water will greatly shorten the life of the water pan and heating element.

MODEL DESIGNATION

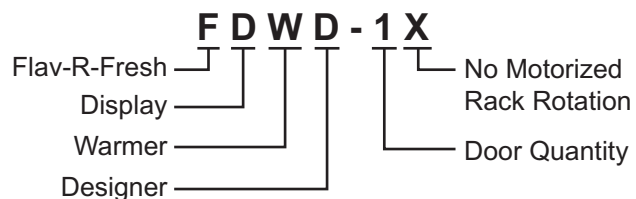


Figure 1. Model Designation

MODEL DESCRIPTIONS

ALL MODELS

All display cabinets have an air heating system, humidity system with low water control protection, incandescent lights, tempered glass sides, and a door. The standard access door can be hinged left or right. The pretzel tree is stainless steel and the other display racks are nickel-plated. All units are available in the following *Designer* colors: Black, Navy Blue, Gray Granite, Hunter Green, Warm Red and White Granite.

MODEL FDWD-1

The Flav-R-Fresh® model FDWD-1 is a **single door** model with a motorized rotating display (see Figure 2.). It comes standard with a pizza rack that holds up to four (4) round pizza pans with a maximum diameter of 15" (381 mm). The rotating rack pauses automatically when the door is opened. An optional rotating pretzel tree or 4-shelf multi-purpose stationary rack is available also.

NOTE: Model FDWD-1 **cannot** be converted to a model FDWD-2.

MODEL FDWD-1X

The FDWD-1X is similar to the FDWD-1, but features a 4-shelf, multi-purpose stationary rack instead of the rotating display (see Figure 3.). The rack can hold pans with a maximum width of 13" (330 mm) and a depth of 18" (457 mm).

NOTE: Model FDWD-1X **cannot** be converted to a model FDWD-1 or FDWD-2X.

MODEL FDWD-2

The FDWD-2 is the same as model FDWD-1, but has an additional door on the opposite side of the controls for pass-through convenience.

MODEL FDWD-2X

The FDWD-2X is the same as model FDWD-1X, but has an additional door on the opposite side of the controls for pass-through convenience.

NOTE: Refer to the ACCESSORIES section near the back of this manual for additional options available for the above models.

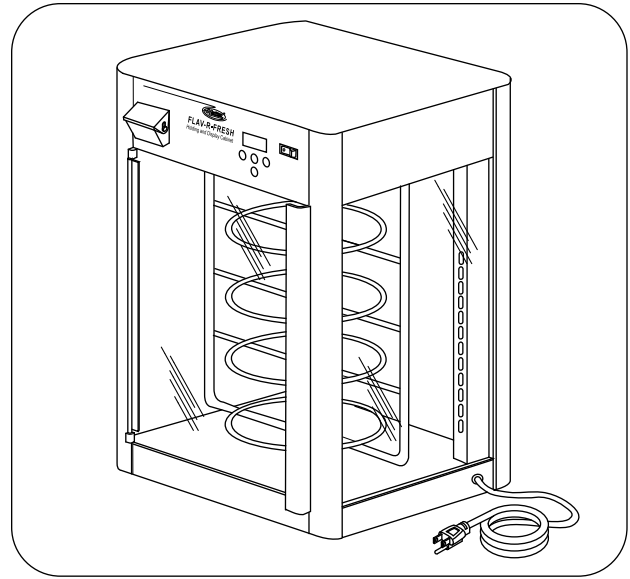


Figure 2. FDWD-1 Model

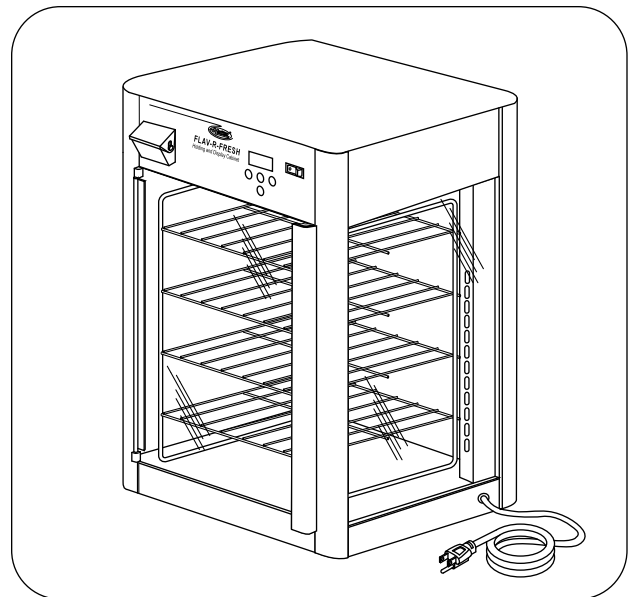


Figure 3. FDWD-1X Model

SPECIFICATIONS

PLUG CONFIGURATIONS

Units are supplied from the factory with an electrical cord and plug installed. Plugs are supplied according to the application as shown in Figure 4.

⚠ WARNING

For safe and proper operation, plug unit into a properly grounded electrical outlet of the correct voltage, size, and plug configuration. If the plug and receptacle do not match, contact a qualified electrician to determine and install the proper voltage and size electrical outlet.

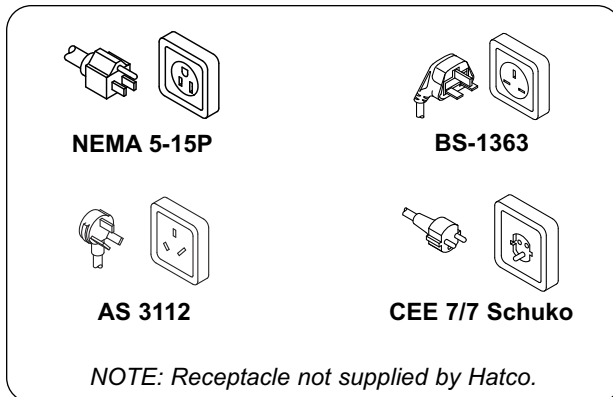


Figure 4. Plug Configurations

ELECTRICAL RATING CHART

Model	Voltage	Hertz	Watts	Amps	Plug Configuration	Shipping Weight
FDWD-1	120	60	1420	11.8	NEMA 5-15P	80 lbs. (36 kg)
	220	50	1470	6.7	CEE 7/7 Schuko, BS-1363 or AS 3112	80 lbs. (36 kg)
	240	50	1470	6.1	CEE 7/7 Schuko, BS-1363 or AS 3112	80 lbs. (36 kg)
FDWD-1X	120	60	1420	11.8	NEMA 5-15P	82 lbs. (37 kg)
	220	50	1470	6.7	CEE 7/7 Schuko, BS-1363 or AS 3112	82 lbs. (37 kg)
	240	50	1470	6.1	CEE 7/7 Schuko, BS-1363 or AS 3112	82 lbs. (37 kg)
FDWD-2	120	60	1420	11.8	NEMA 5-15P	86 lbs. (39 kg)
	220	50	1470	6.7	CEE 7/7 Schuko, BS-1363 or AS 3112	86 lbs. (39 kg)
	240	50	1470	6.1	CEE 7/7 Schuko, BS-1363 or AS 3112	86 lbs. (39 kg)
FDWD-2X	120	60	1420	11.8	NEMA 5-15P	88 lbs. (40 kg)
	220	50	1470	6.7	CEE 7/7 Schuko, BS-1363 or AS 3112	88 lbs. (40 kg)
	240	50	1470	6.1	CEE 7/7 Schuko, BS-1363 or AS 3112	88 lbs. (40 kg)

The shaded area contains electrical information for **Export models only**.

DIMENSIONS

Model	Width (A)	Depth (B)	Height (C)
FDWD-1	19-3/8" (492 mm)	20-7/8" (530 mm)	28-5/8" (727 mm)
FDWD-1X	19-3/8" (492 mm)	20-7/8" (559 mm)	28-5/8" (727 mm)
FDWD-2	19-3/8" (492 mm)	22" (559 mm)	28-5/8" (727 mm)
FDWD-2X	19-3/8" (492 mm)	22" (559 mm)	28-5/8" (727 mm)
Footprint Width (D): 19-1/16" (485 mm) Footprint Depth (E): 15-3/8" (390 mm) Cabinet Opening: 15-3/4"W x 19-3/4"H (400 x 502 mm)			

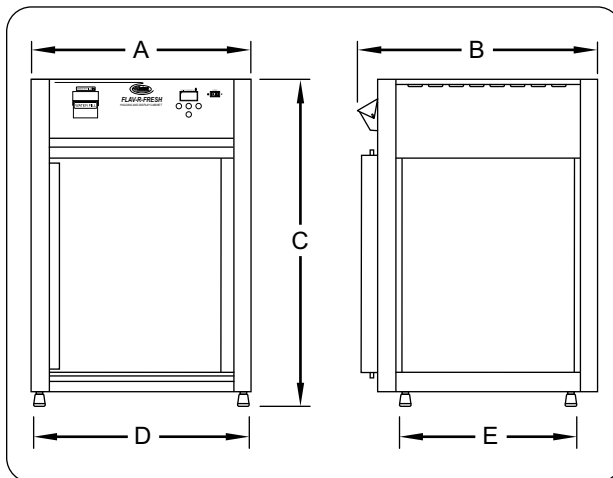


Figure 5. Dimensions

INSTALLATION

UNPACKING

The Flav-R-Fresh® Holding and Display Cabinets are shipped with most components installed and ready for operation. The following installation instructions must be performed before plugging in and operating the cabinet.

1. Remove unit from box.
2. Remove information packet. **To prevent delay in obtaining warranty coverage, fill out and mail in the warranty card.**
3. Remove tape and protective packaging from all surfaces of unit.

Floor Sheet

The stainless steel floor in all Flav-R-Fresh® cabinets is protected during shipping with a sheet of corrugated cardboard. This protection **must be removed** prior to cabinet operation.

Display Racks

The display racks have packing material and cardboard attached for protection during shipping. This protection **must be removed** prior to cabinet operation.

Legs

The Flav-R-Fresh® cabinets are shipped with four 1" (25 mm) metal screw-type feet attached to the bottom of the unit. For cabinets with the optional 4" (102 mm) Adjustable Legs, see the **ACCESSORIES** section for installation instructions.

Glass Panels

The Flav-R-Fresh® cabinets have tempered glass panels that are protected during shipping by rubber tabs along the glass edges and tape to securely hold the panels (see Figure 6.). These tabs and tape **must be removed** prior to cabinet operation.

NOTE: If installing 4" (102 mm) legs, do not remove glass protection until leg installation is complete. See the **ACCESSORIES** section for installation instructions.

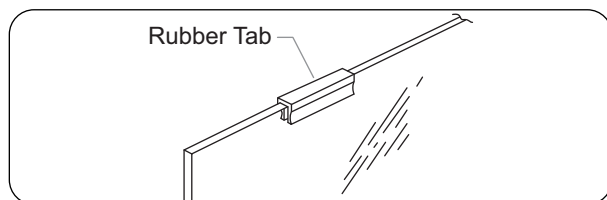


Figure 6. Shipping Tab for Glass Panels

LOCATION

⚠ CAUTION

To avoid any injury or damage, locate the display cabinet at the proper counter height in an area that is convenient for use. The location should be level to prevent the unit or its contents from accidentally falling and strong enough to support the weight of the unit and food.

⚠ WARNING

For safe and proper operation, the display cabinet must be located 2" (51 mm) from combustible walls and materials. If safe distances are not maintained, discoloration or combustion could occur.

⚠ CAUTION

Unit is not weatherproof. For safe and proper operation, locate the unit indoors where the ambient air temperature is a minimum of 70°F (21°C).

⚠ CAUTION

The unit must be transported in an upright position. Before moving or tipping the unit, secure all glass surfaces with tape. The water also must be drained from the unit. Failure to do so may result in damage to the unit or personal injury.

INSTALLATION

REVERSIBLE ACCESS DOOR

The Flav-R-Fresh® access door may be hinged on either the left or right side for your convenience (see Figure 7.). Use the following procedure to reverse the door hinges.

1. Remove the top hinge pin screw holding the door to the hinge. Remove the nylon washer.
2. Tip the door assembly forward (away from cabinet) and lift gently to clear the bottom hinge assembly. Remove the two nylon washers.
3. Reinstall the hinge pin screw that was removed in Step 1.
4. Remove the screws holding the hinges to the cabinet.
5. Remove the screws from the striker plates on the non-hinge side of the cabinet.
6. Install the striker plates on the opposite side of the cabinet where the hinges were previously mounted.
7. Install the hinges on the opposite side of the cabinet where the striker plates were previously mounted using the original hinge mounting screws.
8. Carefully rotate the door 180°.
9. Remove the hinge pin screw from the end that is now the top.
10. Carefully place the door assembly with the two nylon washers into the bottom hinge.
11. Tip/tilt the door assembly towards the cabinet and align the door top with the hinge. With the nylon washer between the door top and the hinge, reinstall the door hinge pin screw through the hinge and into the door top.

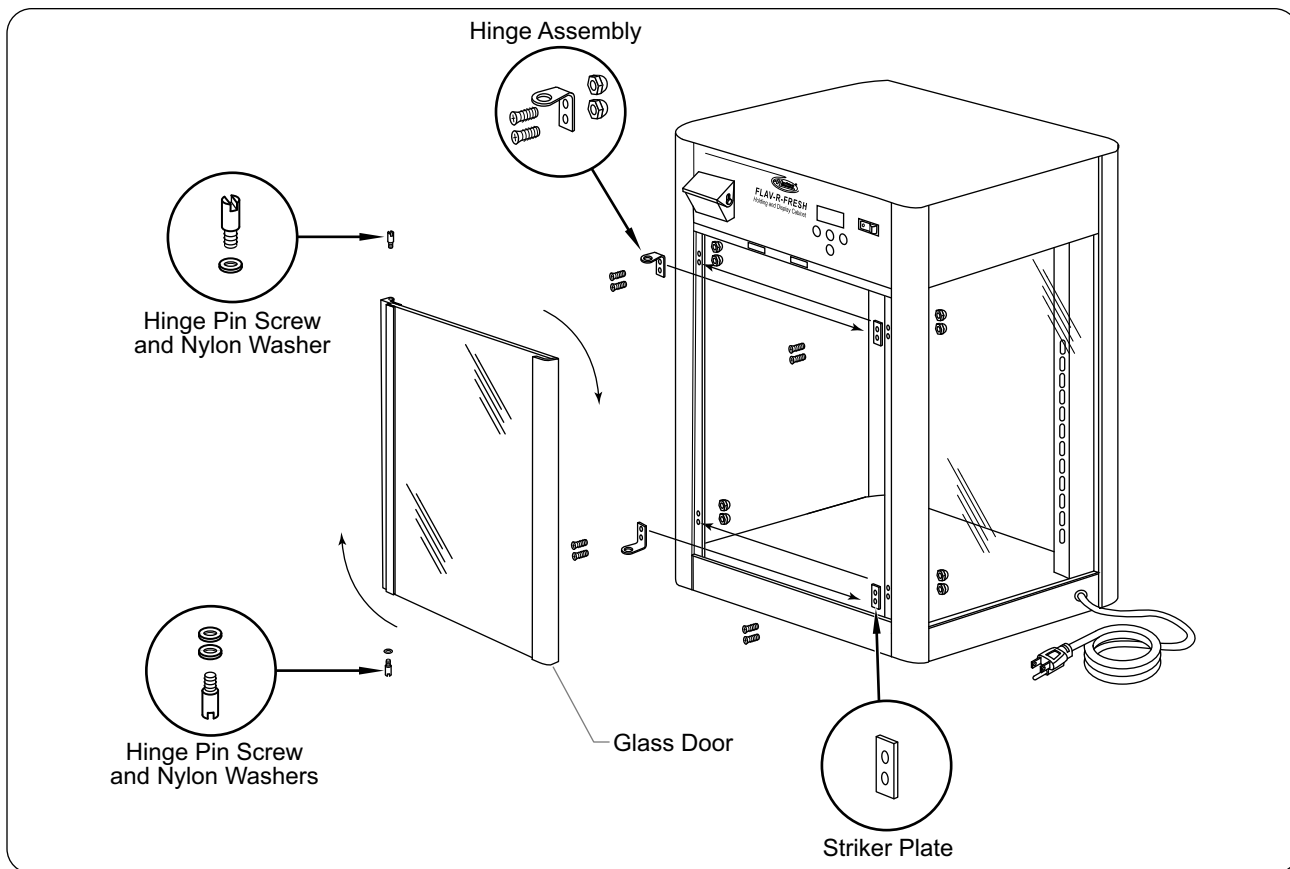


Figure 7. Reversible Access Door

INSTALLATION

RELOCATING THE PROXIMITY SWITCH (Rotating Rack Models Only — FDWD-1 and FDWD-2)

FDWD Models equipped with a rotating rack will require relocating the proximity switch(es) when reversing the door(s).

The proximity switch stops the rack from rotating when the door is opened. Follow the steps listed below to move the proximity switch(es) to the proper position after reversing the door(s). Unit requires one switch per door.

1. Turn off the unit. Unplug the unit from the power source.
2. Remove the four screws and top cover.
3. Remove the screw and nut securing the proximity switch to the cabinet. The screw is accessed from inside the cabinet. Reinstall screw and nut into hole after removing switch.
4. Cut the cable tie securing the proximity switch wires to the wiring harness. Mark the two wires for reassembly and unplug the wires from the proximity switch. Route the wires to the opposite corner and reattach the wires to the switch.

5. Remove the screw and nut from the new mounting hole. Secure the proximity switch to the mounting hole with the screw and nut. Make sure to maintain switch orientation when tightening hardware.

6. Make sure wires do not interfere with the other components inside the cabinet, then secure switch wires to wiring harness with a cable tie (not supplied).

NOTE: On models equipped with two doors, it may be necessary to move the air chamber to access the proximity switch on the customer side door. Drain all water from the unit, remove the drain plug from inside the cabinet, and remove the four screws securing air chamber assembly to the cabinet. Carefully move air chamber out of the way to access proximity switch. Reassemble after relocating switch.

7. Install the top cover and four screws.

8. Plug the unit into the proper power source.

9. Turn on the unit and test the operation of the proximity switch(es) by making sure the rack rotates when the doors are closed and stops rotating when a door is opened.

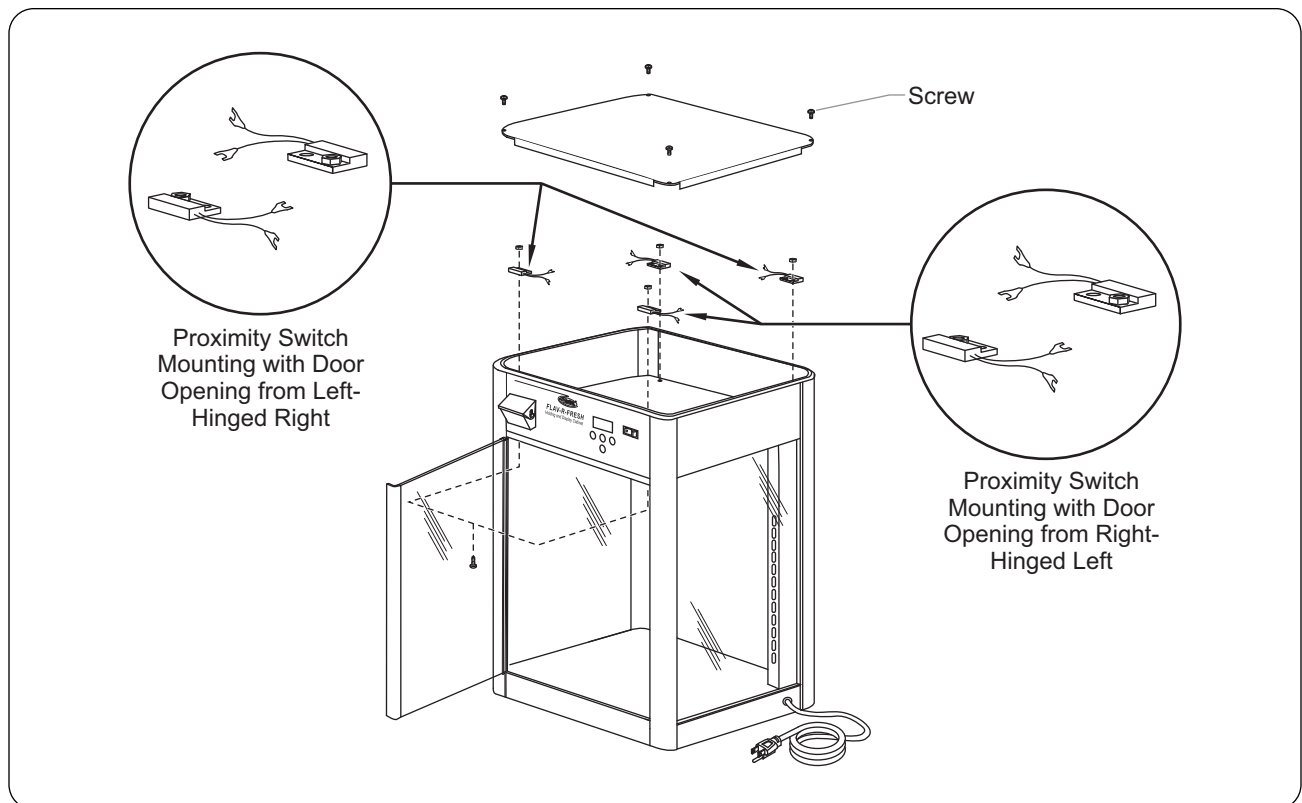


Figure 8. Relocating Proximity Switch

OPERATION

GENERAL

1. Plug the cabinet into a properly grounded electrical outlet of the correct voltage, size, and plug configuration. See the **SPECIFICATIONS** section for details.
2. Move the POWER switch to the ON position. The CABINET TEMPERATURE display will flash "LO H2O" four times and then flash the cabinet temperature. It will continue to alternate this way until the water reservoir is filled. Once the reservoir is full, "LO H2O" will stop flashing and the display will show the cabinet temperature.

NOTICE

Water Quality Requirement — Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (0.75 grains of hardness per liter) must be treated and softened before being used. Water containing over 3.0 GPG (0.75 GPL) will decrease the efficiency and reduce the operating life of the unit.

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

3. Fill the water reservoir with **softened** or **distilled** water. To fill the reservoir, lift up the fill cup cover and pull forward (see Figure 9.). Slowly pour the water into the cup until "LO H2O" stops flashing on the CABINET TEMPERATURE display.

NOTE: To assure proper operation when using distilled water, add one teaspoon of salt to the water reservoir during the initial manual fill only.

⚠ WARNING

Overfilling can cause electrical shock. The water reservoir is full when "LO H2O" stops flashing on the CABINET TEMPERATURE display. Stop filling when "LO H2O" stops flashing on the display.

Use of softened or distilled water is recommended to preserve the life of the electrical and mechanical components in the reservoir. **Do not** use deionized water. If "hard" water is used, the reservoir will require periodic cleaning and deliming. See the **MAINTENANCE** section for deliming instructions.

NOTICE

Do not use deionized water. Deionized water will greatly shorten the life of the water reservoir and heating element.

NOTE: Product failure caused by deionized water is not covered by warranty.

NOTE: On the initial fill the water reservoir capacity is 80 ounces or 2-1/2 quarts (2.3 liters).

4. Set the humidity to the desired level. See the **FOOD HOLDING GUIDE** for recommendations.
5. Set the air temperature to the desired temperature. See the **FOOD HOLDING GUIDE** for recommendations.

Setting the Air Temperature

1. Press the AIR TEMPERATURE key to enter temperature mode (tsp will be shown on the CABINET TEMPERATURE display).
2. Press the AIR TEMPERATURE key again to show the current temperature setting.
3. Press the Arrow Up key or Arrow Down key to reach the desired temperature. The temperature range is 80°-195°F (27°-91°C) in single degree increments. See **FOOD HOLDING GUIDE** for recommendations.
4. After the desired temperature is set, wait 15 seconds without pushing any keys for the CABINET TEMPERATURE display to return automatically to operational mode.

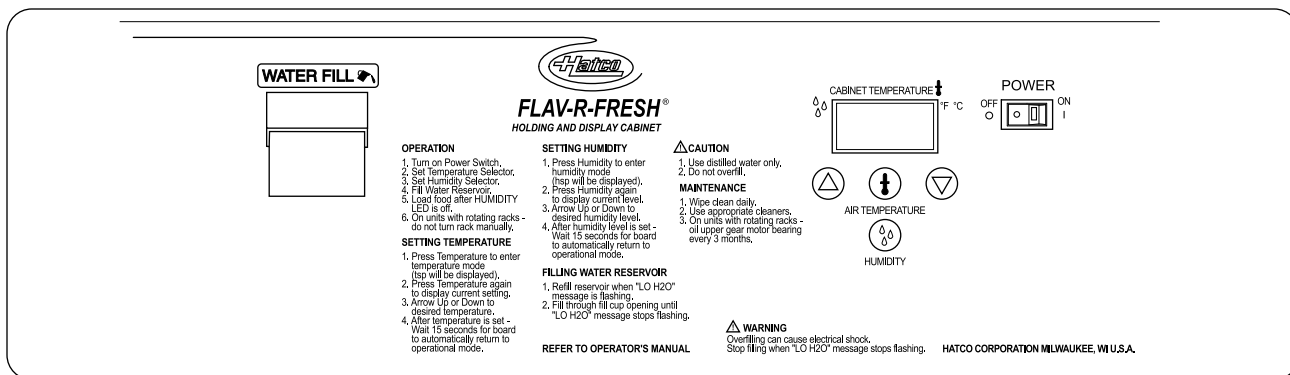


Figure 9. Flav-R-Fresh® Control Panel

OPERATION

Setting the Humidity Level

1. Press the HUMIDITY key to enter humidity mode (hsp will be shown on the CABINET TEMPERATURE display).
2. Press the HUMIDITY key again to show the current humidity level.
3. Press the Arrow Up key or Arrow Down key to reach the desired humidity level. Humidity range is 1 through 5 (1 is the lowest amount of humidity and 5 is the highest). See *FOOD HOLDING GUIDE* for recommendations.
4. After the desired humidity level is set, wait 15 seconds without pushing any keys for the CABINET TEMPERATURE display to return automatically to operational mode.

NOTE: *Temperature and humidity settings may vary depending upon product make-up and consistency. The CABINET TEMPERATURE display shows the lowest temperature point inside the cabinet, not the product temperature.*

Allow 20 minutes to preheat a full reservoir of water. The Flav-R-Fresh® is then ready to hold foods at the humidity and temperature selected.

The reservoir capacity permits uninterrupted operation for approximately 3-6 hours, depending on the settings and how frequently the door is opened. When “LO H2O” is flashing on the CABINET TEMPERATURE display, add water to the reservoir. The water reservoir refill capacity is approximately 64 ounces, or two (2) quarts (1.9 liters).

⚠ WARNING

Overfilling can cause electrical shock. The water reservoir is full when “LO H2O” stops flashing on the CABINET TEMPERATURE display. Stop filling when “LO H2O” stops flashing on the display.

⚠ CAUTION

Some exterior surfaces on the display cabinet will get hot. Use caution when touching these areas to avoid injury.

⚠ WARNING

To prevent any injury, discontinue use if power cord is frayed or worn.

⚠ WARNING

To prevent any injury or damage to the unit, do not pull unit by power cord.

⚠ WARNING

Hatco Corporation is not responsible for the actual food product serving temperature. It is the responsibility of the user to ensure that the food product is held and served at a safe temperature.

⚠ WARNING

Holding food at temperatures less than 140°F (60°C) may be dangerous. Temperatures under 140°F (60°C) promote the growth of harmful bacteria and toxins in some foods.

FOOD HOLDING GUIDE

Type of Food	Maximum Holding Time	Humidity Setting	Temperature	
			°F	°C
Biscuits	4 Hours	4	130	55
Chicken Pieces (Fried)	4 Hours	5	175	80
Croissants	4 Hours	1	140	60
Fruit Pies	3-1/2 Hours	4	140	60
Onion Rings	1/2 to 1 Hour	1	175	80
Pizza — Thick Crust	1 Hour	4	185	85
Thin Crust	1 Hour	5	180	82
Pretzels	3 Hours	4	140	60
Wrapped Sandwiches	2 Hours	4	180	82

NOTE: *All times and settings are recommendations only and may vary depending on product preparation, cooking time and internal food temperature.*

MAINTENANCE

GENERAL

The Hatco Flav-R-Fresh® Holding and Display Cabinets are designed for maximum durability and performance with minimum maintenance. The rack motor and blower motor are permanently lubricated and require no maintenance.

CLEANING

⚠ WARNING

To prevent electric shock or injury, turn the **POWER switch OFF**, unplug the unit from the power source and allow to cool completely before performing any maintenance or cleaning.

⚠ WARNING

To prevent any injury, discontinue use if power cord is frayed or worn.

Hatco Flav-R-Fresh® cabinets are made of stainless steel and aluminum. To preserve the bright finish, it is recommended that the exterior and interior surfaces be wiped daily with a damp cloth. Food pans should be removed and washed. Stubborn stains may be removed with a good stainless steel cleaner or a non-abrasive cleaner.

NOTICE

Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of your Flav-R-Fresh® Holding and Display Cabinet marring its appearance and making it susceptible to soil accumulation.

Clean the glass sides using a common glass cleaner. For hard-to-clean stains, removal of the glass is suggested.

Removing the Glass

1. Lift the glass to be cleaned out of the bottom channel of the cabinet.
2. Pull the lower edge away from the cabinet.
3. Carefully lower the glass until the top clears the cabinet.

Replacing the Glass

1. Position the glass with the top edge under the cabinet lip and raise the glass until it clears the bottom channel of the cabinet.
2. Move the bottom of the glass towards the cabinet until the glass rests against the cabinet frame.
3. Carefully lower the glass until it rests in the bottom channel of the cabinet.

Removing the Rotating Rack for Cleaning (Models FDWD-1 and FDWD-2)

1. Open the front access door.
2. Remove the two (2) connecting pins from the connecting coupling located at the top of the rack inside the cabinet (see Figure 10.).
3. Lower the connecting coupling until it is free of the motor shaft and remove the rack from the cabinet.

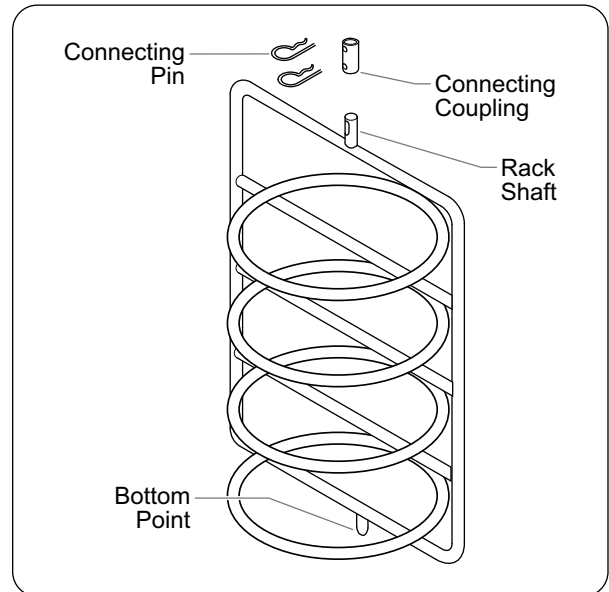


Figure 10. Removing Motorized Display Racks

Replacing the Rotating Rack

1. With the connecting coupling in position on the top rack shaft, insert the rack into the cabinet through the access door and place the rack bottom point in the dimple located at the center of the cabinet floor.
2. Slide the connecting coupling up onto the motor shaft and align the coupling holes.
3. Insert the two (2) connecting pins. The top connecting pin goes through the connecting coupling and the motor shaft. The bottom connecting pin goes through the connecting coupling and the rack shaft.

MAINTENANCE

DRAINING THE RESERVOIR

WARNING

To avoid any injury, turn the power OFF to the unit and allow to cool before draining.

It is recommended that the Flav-R-Fresh® water reservoir be drained prior to moving the cabinet and after removing lime or mineral deposits from the water reservoir.

To drain the reservoir, locate the valve on the underside of the ceiling sheet. Position a one gallon (four liter) container under the valve. Turn the valve handle from the horizontal position (closed) to the vertical position (open). Once the reservoir is empty, return handle to the closed position.

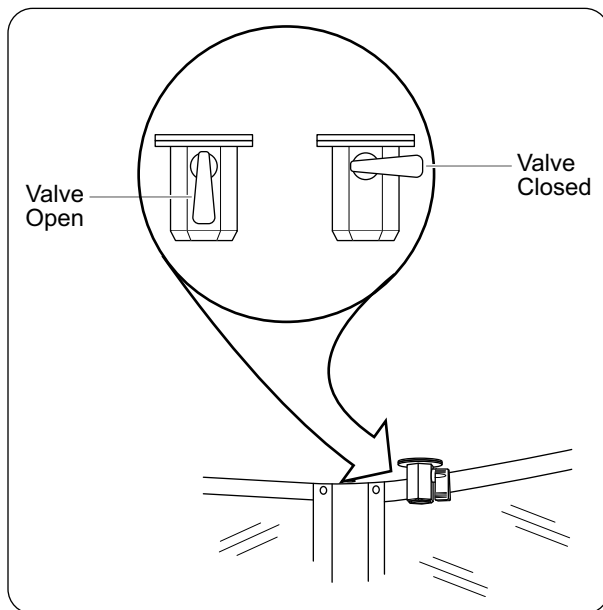


Figure 11. Draining Reservoir Valve

NOTE: If the water used has an excessive amount of lime or mineral content, follow the REMOVING LIME AND MINERAL DEPOSITS procedure for periodic cleaning and deliming of the water reservoir.

NOTICE

Water Quality Requirement — Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (0.75 grains of hardness per liter) must be treated and softened before being used. Water containing over 3.0 GPG (0.75 GPL) will decrease the efficiency and reduce the operating life of the unit.

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

REMOVING LIME AND MINERAL DEPOSITS

1. Turn off the unit and unplug the unit from its power source.
2. After the unit has cooled down, drain all remaining water out of the unit.
3. Fill the unit with a mixture of 75% water and 25% off-the-shelf vinegar.

NOTE: It is recommended that this procedure be performed when the unit will not be used for a period of time, such as the end of the day.

4. Plug the unit into the correct power source and turn on the unit.
5. With both the humidity and heat settings on high, allow the unit to run for 30 minutes.
6. After the deliming period, turn off the unit, unplug it from the power source, and allow it to cool.
7. Drain the solution from the unit (refer to the DRAINING THE RESERVOIR procedure).
8. Continue to fill and drain the unit with water until the discharge is clear and all deliming solution has been removed and rinsed through.
9. Plug the cabinet power cord into its power source and fill the unit as usual for daily operation.

NOTE: The lime and mineral content of the water used for daily operation will determine how often this procedure must be performed.

MAINTENANCE

DISPLAY LIGHT BULB REPLACEMENT

The display light is an incandescent bulb that illuminates the warming area. This bulb has a special coating to guard against injury and food contamination in the event of breakage.

To replace a bulb, disconnect the power supply and wait until the unit has cooled. Display lamps have a threaded base. Unscrew the bulb from the unit and replace it with a new specially coated incandescent bulb. Hatco shatter-resistant bulbs meet NSF standards for food holding and display areas. For 120 Volt applications, use Hatco part number 02.30.043.00. For 220 or 240 Volt applications, use Hatco part number 02.30.058.00.

WARNING

Only light bulbs that meet or exceed NSF standards and that are specifically designed for food holding areas may be used. Breakage of light bulbs not specially coated could result in personal injury and/or food contamination.

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 Replacement 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 Genuine Hatco Replacement Parts when repairing Hatco equipment. Failure to use Genuine Hatco Replacement Parts may subject operators of the equipment to hazardous electrical voltage resulting in electrical shock or burn.

TROUBLESHOOTING GUIDE

⚠ WARNING

To avoid any injury or damage, the unit must be serviced by qualified personnel only.

⚠ WARNING

To prevent electric shock or injury, turn the **POWER switch OFF**, unplug the unit from the power source, and allow to cool completely before performing any maintenance or cleaning.

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Unit is energized, but display lights do not work.	Light bulb is burned out or loose.	Check light bulb. If burned out, replace. If loose, tighten.
Unit operates, but is not circulating air inside cabinet.	Blower wires are loose or disconnected.	Contact Authorized Service Agent or Hatco for assistance.
	The correct voltage may not be supplied to blower.	Contact Authorized Service Agent or Hatco for assistance.
Unit is plugged in, but nothing works.	No power to unit.	Check electrical receptacle and verify that power supply matches specifications on unit. If receptacle is not working, check circuit breaker and reset, or plug unit into a different known working receptacle.
	Power cord connections are loose or disconnected.	Contact Authorized Service Agent or Hatco for assistance.
	Power cord is damaged.	Contact Authorized Service Agent or Hatco for assistance.
	Defective ON/OFF switch.	Contact Authorized Service Agent or Hatco for assistance.
Unit is operational, but revolving rack (if so equipped) does not turn.	Incorrect voltage is supplied to rack motor.	Contact Authorized Service Agent or Hatco for assistance.
	Proximity magnet or proximity switch not working properly.	Contact Authorized Service Agent or Hatco for assistance.

NOTE: TROUBLESHOOTING GUIDE continued on next page.

TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Unit is not producing any "hot air" inside cabinet.	Safety high-limit is tripped or open.	Contact Authorized Service Agent or Hatco for assistance.
	Incorrect voltage supplied to heating element.	Contact Authorized Service Agent or Hatco for assistance.
	Blower motor is not working.	Check blower motor - refer to Symptom <i>"Unit operates, but is not circulating air inside cabinet."</i>
Unit is heating, but is not producing humidity inside cabinet. Low water light is off, and unit is full of water.	Incorrect voltage supplied to water heating element or heating element is defective.	Contact Authorized Service Agent or Hatco for assistance.
Unit is heating, but is not producing humidity inside cabinet. Low water light is on and unit is full of water.	When using distilled water, no minerals are being sensed by low water probe.	On initial fill, add one teaspoon of salt to the water reservoir.
	Low water protection system is malfunctioning.	Contact Authorized Service Agent or Hatco for assistance.

4" (102 MM) ADJUSTABLE LEGS

The 4" (102 mm) adjustable legs are used to add additional height to the unit.

1. Secure all glass sides and doors with tape. Lay the unit on it's side.
2. Remove the four 1" (25 mm) metal screw type feet.
3. Remove leg bracket hardware, and align the new leg bracket (part number 04.24.235.00) over existing bracket. Secure to the cabinet with the previously removed hardware.

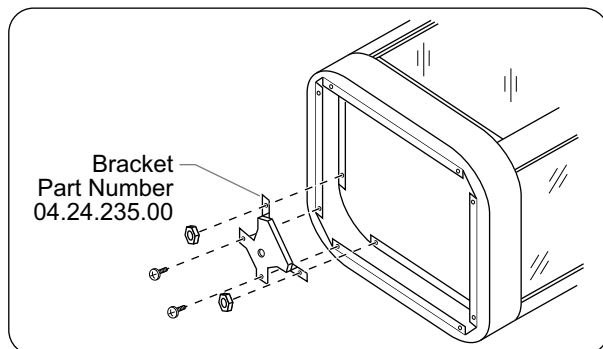


Figure 12. Installation of Leg Bracket

4. Screw the 4" (102 mm) legs into the holes provided. After all the legs are tightened, return the unit to its upright position. If the unit is not level or rocks, turn the adjustable tip of the appropriate leg to correct the condition. (See Figure 13.)

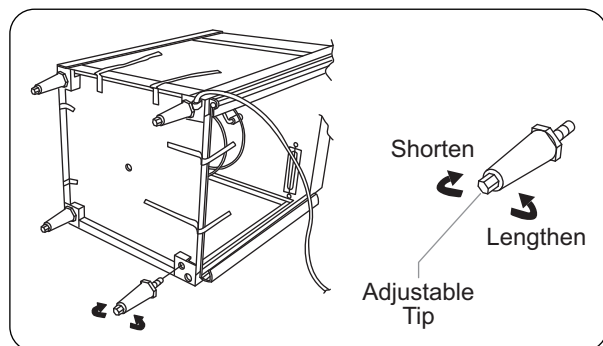


Figure 13. Installing and Leveling Legs

DISPLAY RACKS

A nickel-plated 4-tier circle rack, a nickel-plated 4-shelf multi-purpose rack, a nickel-plated 4-shelf angle rack, and a stainless steel pretzel tree are available to "customize" Flav-R-Fresh® to your foodservice operation (see Figure 14.).

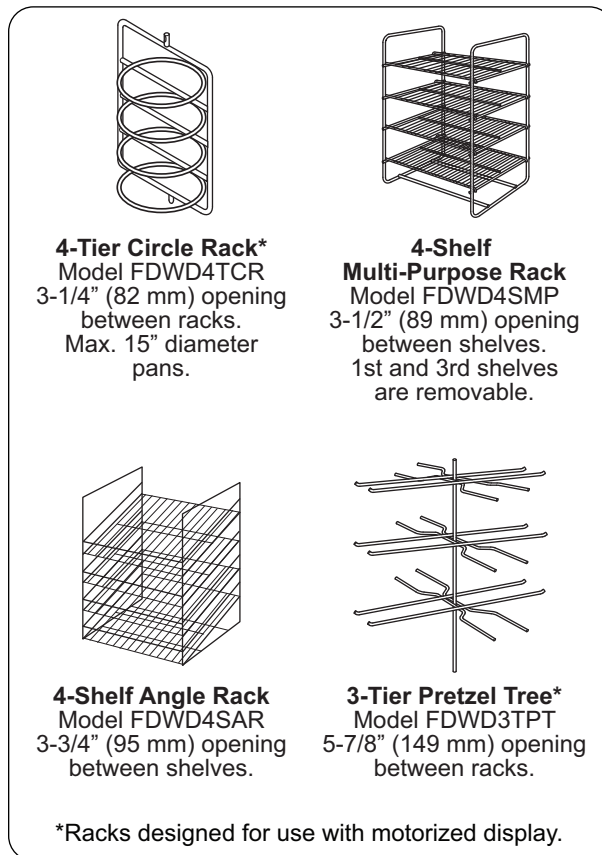
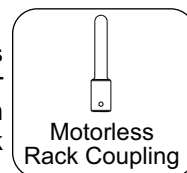


Figure 14. Display Racks

Motorless Rack Coupling

The motorless rack coupling allows the stationary installation of a 4-tier circle rack or 3-tier pretzel tree in cabinets that do not have a rack motor (FDWD-1X and FDWD-2X).



ACCESSORIES

MERCHANDISING DECAL

Self-adhesive merchandising decals are available to promote your food products. The decals are designed to be installed on three (3) sides of the cabinet above the glass panels. Merchandising decals are red with yellow letters reading HOT PIZZA or HOT PRETZELS. A graphic decal featuring pizza illustrations is also available.

Decal Installation (See Figure 15)

1. Before installing decals, clean the side panels with a non-oily cleaner, such as isopropyl alcohol (rubbing alcohol).
2. After the cleaned surfaces have dried, remove the protective backing from the decal and apply to the panel.
3. Any air pockets or bubbles behind the sticker can be removed by rubbing gently with a soft cloth from the center towards the outer edges.

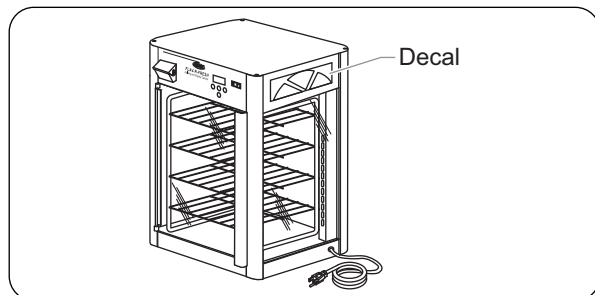


Figure 15. Decal Installation

SIGN HOLDERS

Use the following procedures to install either the Three-Piece Sign Holder or the One-Piece Sign Holder.

NOTE: Signage not supplied by Hatco. Sign dimensions 19-1/16" w (484 mm) x 3-1/4" h (83 mm) x 1/16" l (2 mm).

⚠ WARNING

To avoid any injury, turn the **POWER switch OFF**, unplug the unit from the power source, and allow to cool completely before performing any maintenance or cleaning.

Three-Piece Sign Holder Installation (See Figure 16)

1. Remove the four hood mounting screws from the cabinet hood.
2. Align the two sign holder side pieces over the mounting holes for the cabinet hood.
3. Reinsert the two front hood mounting screws through the holes in the front (control side) of the two sign holder side pieces and into the cabinet hood. **DO NOT** tighten.

4. Align the holes in the sign holder rear piece with the holes in the sign holder side pieces and the holes in the cabinet hood.
5. Reinsert the two rear hood mounting screws through the sign holder rear piece, the sign holder side pieces and into the cabinet hood.
6. Tighten all screws.
7. Place the polycarbonate window(s) into sign holder.

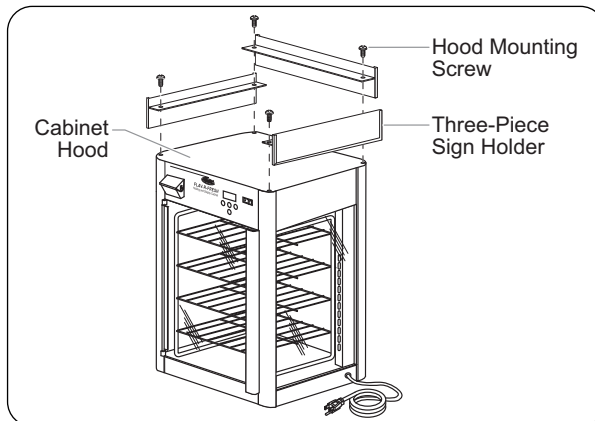


Figure 16. Three-Piece Sign Holder Installation

One-Piece Sign Holder Installation (See Figure 17)

NOTE: The One-Piece Sign Holder is available on FDWD-1 and FDWD-1X models only.

1. Remove the four hood mounting screws from the cabinet hood.
2. Remove the existing cabinet hood.
3. Place the new cabinet hood/sign holder assembly over the mounting holes.
4. Reinsert the four hood mounting screws through the holes in the cabinet hood/sign holder assembly and into the cabinet.
5. Tighten all screws.

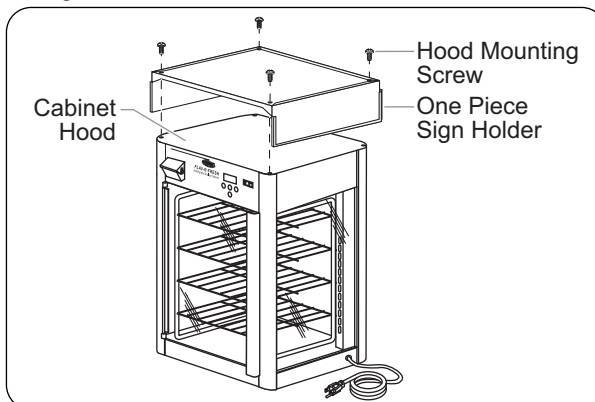


Figure 17. One-Piece Sign Holder Installation

HATCO LIMITED WARRANTY

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)
Built-In Heated Well Elements
(metal sheathed)

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
Commercial Parts & Service, Inc.
Huntington Beach 714-379-7100

Chapman Appl. Service
San Diego 619-298-7106

P & D Appliance
Commercial Parts & Service, Inc.
S. San Francisco 650-635-1900

COLORADO

Hawkins Commercial Appliance
Englewood 303-781-5548

FLORIDA

Whaley Foodservice Repair
Jacksonville 904-725-7800

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

TWC Services
Smyrna 770-438-9797

Heritage Service Group
Norcross 866-388-9837

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

Goodwin Tucker Group
Des Moines 515-262-9308

KENTUCKY

Certified Service Center
Lexington 859-254-8854

Certified Service Center
Louisville 502-964-7007

LOUISIANA

Chandlers Parts & Service
Baton Rouge 225-272-6620

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

General Parts
Kansas City 816-421-5400

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

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

Electrical Appl. Repair Service
Independence 216-459-8700

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

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

PENNSYLVANIA

Elmer Schultz Services
Philadelphia 215-627-5401

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

Appliance Installation & Service
Pittsburgh 412-809-0244

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

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

GCS Service
Fort Worth 817-831-0381

Armstrong Repair Service
Houston 713-666-7100

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

UTAH

La Monica's Rest. Equip. Service
Murray 801-263-3221

VIRGINIA

Daubers
Norfolk 757-855-4097

Daubers
Springfield 703-866-3600

WASHINGTON

Restaurant Appl. Service
Seattle 206-524-8200

WISCONSIN

A.S.C., Inc.
Madison 608-246-3160

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

CANADA

ALBERTA

Key Food Equipment Service
Edmonton 780-438-1690

BRITISH COLUMBIA

Key Food Equipment Service
Vancouver 604-433-4484

MANITOBA

Air Rite, Inc.
Winnipeg 204-895-2300

NEW BRUNSWICK

EMR Services, Ltd.
Moncton 506-855-4228

ONTARIO

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

Choquette CKS
Ottawa 613-739-8458

QUEBEC

Choquette CKS
Montreal 514-722-2000

Choquette CKS
Québec City 418-681-3944

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