

# F14 Series Hot Food Tables

## Original Instructions Installation, Operation and Maintenance Manual

This manual is updated as new information and models are released. Visit our website for the latest manual.



## Safety Notices

### **⚠ Warning**

Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, injury or death.

### **⚠ DANGER**

Do not install or operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

### **⚠ Warning**

Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, local/national regulations for disconnection / lock out / tag out procedures for all utilities including electric, gas, water and steam.

### **⚠ Warning**

Do not store or use gasoline or other flammable vapors or liquids inside or within the vicinity of this or any other appliance. Never use flammable oil soaked cloths or combustible cleaning solutions, for cleaning..

### **⚠ Warning**

This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm. Operation, installation, and servicing of this product could expose you to airborne particles of glasswool or ceramic fibers, crystalline silica, and/or carbon monoxide. Inhalation of airborne particles of glasswool or ceramic fibers is known to the State of California to cause cancer. Inhalation of carbon monoxide is known to the State of California to cause birth defects or other reproductive harm.

### **⚠ Warning**

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by a person responsible for their safety. Do not allow children to play with this appliance.

### **Notice**

Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your equipment. Visit our website [www.wbtkitchenware.com](http://www.wbtkitchenware.com) for manual updates, translations, or contact information for service agents in your area.

### **Notice**

These appliances are intended to be used for commercial applications, for example in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries, butcheries, etc., but not for continuous mass production of food.

### **Notice**

Climatic class 4 is defined as ambient conditions of 30°C and 55% relative humidity, according to ISO 23953-2.

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# Section 1

## General Information

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### Model Numbers

This manual covers standard units only.

NOTE: For custom units, consult Manitowoc KitchenCare at 1-844-724-CARE.

Domestic Electric With Individual Wells
F14EI232
F14EI348
F14EI460
F14EI572
F14EI688

Domestic Electric With Single Tank
F14EW232
F14EW348
F14EW460
F14EW572
F14EW688

Export Electric With Individual Wells	
F14EI232-E	F14EI232-ESP-E
F14EI348-E	F14EI348-ESP-E
F14EI460-E	F14EI460-ESP-E
F14EI572-E	F14EI572-ESP-E
F14EI688-E	F14EI688-ESP-E

Export Electric With Single Tank
F14EW232-E
F14EW348-E
F14EW460-E

### Serial Number Location

The serial number on all F14 Series hot food tables is printed on the tag located on the plate shelf.

Always have the serial number of your unit available when calling for parts or service.




### Warranty Information

- Register your product for warranty.
- Verify warranty information.
- View and download a copy of your warranty.




@ [www.delfield.com/warranty](http://www.delfield.com/warranty)

### Regulatory Certifications

Domestic Models are certified by:

-  National Sanitation Foundation (NSF)
-  Underwriters Laboratories (UL)
-  Underwriters Laboratories of Canada (cUL)

Export Models are certified by:

-  National Sanitation Foundation (NSF)
-  European Conformity
-  Technical Inspection Association

## Section 2 Installation

### **⚠ DANGER**

Installation must comply with all applicable fire and health codes in your jurisdiction.

### **⚠ DANGER**

Risk of fire/shock. All minimum clearances must be maintained. Do not obstruct vents or openings.

### **⚠ DANGER**

Use appropriate safety equipment during installation and servicing.

### **⚠ DANGER**

All utility connections and fixtures must be maintained in accordance with local and national codes.

### **⚠ Warning**

Remove all removable panels before lifting and installing.

### **⚠ Warning**

Use caution when handling metal surface edges of all equipment.

### **Notice**

This symbol indicates the location of the equipotential bonding conductor connection.



### **Notice**

This symbol indicates a hot surface that can cause injury to persons.



## Location

### **⚠ Warning**

These appliances are to be connected with flexible connections for equipotential bonding and connection to services such as electricity supply, water supply, gas supply, and steam supply such that the appliance can be moved in the direction required for cleaning a distance not less than the dimension of the application in the direction of movement plus 500mm without the flexible connections becoming taught or being subject to strain.

### **⚠ Warning**

To avoid instability the installation area must be capable of supporting the combined weight of the equipment and product. Additionally the equipment must be level side to side and front to back.

### **⚠ Warning**

This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

The location selected for the equipment must meet the following criteria. If any of these criteria are not met, select another location.

- Units are intended for indoor use only.
- The location **MUST** be level, stable and capable of supporting the weight of the equipment.
- The location **MUST** be free from and clear of combustible materials.
- Do not install near objects or surfaces affected by heat or moisture.
- Equipment **MUST** be level both front to back and side to side.
- Position the equipment so it will not tip or slide.
- Recommended air temperature is 41° - 86°F (5° - 30°C).
- Proper air supply for ventilation is **REQUIRED AND CRITICAL** for safe and efficient operation. Refer to Clearance Requirements chart on page 8.
- Do not install the equipment directly over a drain. Steam rising up out of the drain will adversely affect operation, air circulation, and damage electrical / electronic components.

## Weight of Equipment

Model	Weight
F14EI232	216lbs (98kg)
F14EI232-E	
F14EI232-ESP-E	
F14EI348	296lbs (134kg)
F14EI348-E	
F14EI348-ESP-E	
F14EI460	376lbs (170kg)
F14EI460-E	
F14EI460-ESP-E	
F14EI572	456lbs (207kg)
F14EI572-E	
F14EI572-ESP-E	
F14EI688	536lbs (243kg)
F14EI688-E	
F14EI688-ESP-E	
F14EW232	316lbs (143kg)
F14EW232-E	
F14EW348	440lbs (199kg)
F14EW348-E	
F14EW460	500lbs (227kg)
F14EW460-E	
F14EW572	560lbs (254kg)
F14EW688	660lbs (299kg)

## Clearance Requirements

### DANGER

Minimum clearance requirements are the same for noncombustible locations as for combustible locations. The flooring under the appliance must be made of a noncombustible material.

- The factory installed legs must be used and not removed.

## Dimensions

Model	Length	Depth	Height
F14EI232	32" (81cm)	31.50" (80cm)	40" (102cm)
F14EI232-E			
F14EI232-ESP-E			
F14EI348	48" (122cm)	31.50" (80cm)	40" (102cm)
F14EI348-E			
F14EI348-ESP-E			
F14EI460	60" (152cm)	31.50" (80cm)	40" (102cm)
F14EI460-E			
F14EI460-ESP-E			
F14EI572	72" (183cm)	31.50" (80cm)	40" (102cm)
F14EI572-E			
F14EI572-ESP-E			
F14EI688	88" (224cm)	31.50" (80cm)	40" (102cm)
F14EI688-E			
F14EI688-ESP-E			
F14EW232	32" (81cm)	31.50" (80cm)	40" (102cm)
F14EW232-E			
F14EW348	48" (122cm)	31.50" (80cm)	40" (102cm)
F14EW348-E			
F14EW460	60" (152cm)	31.50" (80cm)	40" (102cm)
F14EW460-E			
F14EW572	72" (183cm)	31.50" (80cm)	40" (102cm)
F14EW688	88" (224cm)	31.50" (80cm)	40" (102cm)

Model	Number of 11.87" x 19.87" (30.2cm x 50.5cm) openings
F14EI232	2
F14EI232-E	
F14EI232-ESP-E	
F14EI348	3
F14EI348-E	
F14EI348-ESP-E	
F14EI460	4
F14EI460-E	
F14EI460-ESP-E	
F14EI572	5
F14EI572-E	
F14EI572-ESP-E	
F14EI688	6
F14EI688-E	
F14EI688-ESP-E	
F14EW232	2
F14EW232-E	
F14EW348	3
F14EW348-E	
F14EW460	4
F14EW460-E	
F14EW572	5
F14EW688	6

## Electrical Service

### DANGER

Check all wiring connections, including factory terminals, before operation. Connections can become loose during shipment and installation.

### Warning

This appliance must be grounded and all field wiring must conform to all applicable local and national codes. Refer to rating plate for proper voltage. It is the responsibility of the end user to provide the disconnect means to satisfy the authority having jurisdiction.

All electrical work, including wire routing and grounding, must conform to local, state and national electrical codes.

The following precautions must be observed:

- The equipment must be grounded.
- A separate fuse/circuit breaker must be provided for each unit.
- A qualified electrician must determine proper wire size dependent upon location, materials used and length of run (minimum circuit ampacity can be used to help select the wire size).
- The maximum allowable voltage variation is  $\pm 10\%$  of the rated voltage at equipment start-up (when the electrical load is highest).
- Check all green ground screws, cables and wire connections to verify they are tight before start-up.

### Notice

These appliances will operate within the marked rated voltage range without adjustment.



Units must be hard wired in the field.

Model	Amps 208V/230V	Voltage, Cycle, Phase
F14EI232	10.0/11.0	208/230, 60, 1
F14EI348	15.0/16.0	208/230, 60, 1
F14EI460	20.0/22.0	208/230, 60, 1
F14EI572	24.0/27.0	208/230, 60, 1
F14EI688	29.0/32.0	208/230, 60, 1

Model	Voltage, Cycle, Phase	Amps	Amps for optional 120/208 voltage
F14EW232	120/240, 60, 1	24.0	21.0
F14EW348	120/240, 60, 1	24.0	21.0
F14EW460	120/240, 60, 1	24.0	21.0
F14EW572	120/240, 60, 1	48.0	42.0
F14EW688	120/240, 60, 1	48.0	42.0

Model	Temp Class	Voltage, Cycle, Phase	Watts
F14EI232-E	N	240, 50, 1	2900
F14EI232-ESP-E	N	240, 50, 1	1000
F14EI348-E	N	240, 50, 1	4350
F14EI348-ESP-E	N	240, 50, 1	1500
F14EI460-E	N	240, 50, 1	5800
F14EI460-ESP-E	N	240, 50, 1	2000
F14EI572-E	N	240, 50, 1	7250
F14EI572-ESP-E	N	240, 50, 1	2500
F14EI688-E	N	240, 50, 1	8700
F14EI688-ESP-E	N	240, 50, 1	3000

Model	Temp Class	Voltage, Cycle, Phase	Watts
F14EW232-E	N	240, 50, 1	6000
F14EW348-E	N	240, 50, 1	6000
F14EW460-E	N	240, 50, 1	6000

## Leg Leveling

All four legs are adjustable. Adjust each leg until the unit is stable and level, both front to back and left to right. A level unit is necessary to maintain an equal water depth throughout the wells.

## Plumbing

### **Warning**

Connect to a potable water supply only.

### **Warning**

Moisture collecting from improper drainage can create a slippery surface on the floor and a hazard to employees. It is the owner's responsibility to provide a container or outlet for drainage.

Hot water supply connection is provided 36" (91.4cm) above the floor, 3.12" (7.9cm) from the front left end at the rear of the unit. You must supply the required 1/2" (1.3cm) NPT connection. The minimum water pressure is 20psi (138kPa), the maximum water pressure is 80psi (552kPa).

A waste connection is provided 25" (63.5cm) above the floor, 7.5" (19.1cm) from the right end. You must supply the required 1" (2.5cm) NPT connection.

## Section 3 Operation

### **DANGER**

The on-site supervisor is responsible for ensuring that operators are made aware of the inherent dangers of operating this equipment.

### **DANGER**

Steam can cause serious burns. Always wear some type of protective covering on your hands and arms when removing lids or pans from the unit. Lift the lid or pan in a way that will direct escaping steam away from your face and body.

### **DANGER**

Do not operate any appliance with a damaged cord or plug. All repairs must be performed by a qualified service company.

### **DANGER**

Never stand on the unit! They are not designed to hold the weight of an adult, and may collapse or tip if misused in this manner.

### **DANGER**

Keep power cord AWAY from HEATED surfaces. DO NOT immerse power cord in water. DO NOT let power cord hang over edge of table or counter.

### **Warning**

When operated dry, the well bottoms become very hot. Do not allow unprotected skin to contact any well surface.

### **Warning**

The operator of this equipment is solely responsible for ensuring safe holding temperature levels for all food items. Failure to do so could result in unsafe food products for customers.

### **Warning**

Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.

### **Warning**

All covers and access panels must be in place and properly secured, before operating this equipment.

### **Caution**

Never use anything other than plain water in the wells or tank. Failure to observe this warning may result in personal injury or damage to the unit.

### **Caution**

Using ice in a hot food well can cause condensation and damage to the well over time.

### **Caution**

Opening the drain cock will lead to the outflow of the hot contents of the bains-marie.

### F14EI Series (Individual Wells)

Before the unit is used the first time for serving, turn the temperature knob to "HI" and heat the well for 20 to 30 minutes. Any residue or dust that adhered to the heater element(s) will be burned off during this initial preheat period.

NOTE: Never place food directly into the well. Always use pans.

Although these models may be operated either with or without water in the wells, wet operation is recommended. When using thick sauces always operate the hot food well filled with water. This will provide a more uniform temperature for the sauce.

Always place covers on pans when not serving to prevent food from drying out and to reduce your operating cost.

For most efficient operation when empty, keep covered insets in each well during preheating and when the well is not in use.

Do not put food down drain.

#### WET OPERATION

1. Fill food well with 2" (50mm) of water. For quicker pre-heating, use hot water to fill the well.
2. Turn the control to "HIGH" and pre-heat the warmer for 30 minutes.
3. After pre-heating, set the control to your desired serving temperature.

#### DRY OPERATION

1. Pre-heat the well on "HIGH" for approximately 15 minutes.
2. After pre-heating, set the control to your desired serving temperature.

Only 6" (15.2cm) deep insets should be used with a dry food well. When operated dry, the bottom of the food well will discolor. A mild abrasive cleaner is recommended to clean this discoloration.

#### TEMPERATURE

Water in wells	160°F to 180°F (71°C to 82°C)
Product in pans	140°F to 160°F (60°C to 71°C)

### F14EW Series (Single Tank)

These units must be operated with 4" (102mm) minimum water in the well. If operated dry, a low water safety switch will interrupt the electric supply to the heater to prevent heater failure. If the low water safety switch shuts off power, turn the control to the OFF position. If the water level is below the heating element, allow the well to cool completely, then refill with water. Reactivate the well by turning the control ON and resetting to the previous temperature.

Continuous interruption of power due to a low water level may disable the heater permanently. Pouring water on a hot heating element will damage it.

NOTE: Never place food directly into the well. Always use pans.

Always place covers on pans when not serving to prevent food from drying out and to reduce your operating cost.

For most efficient operation, when empty, keep covered insets in each well during preheating and when the well is not in use.

#### WET OPERATION

1. Fill food well with 4" (102mm) of water (heater must be covered by water). For quicker pre-heating, use hot water to fill the well.
2. Set the control to your desired serving temperature.

#### TEMPERATURE

Water in wells	160°F to 180°F (71°C to 82°C)
Product in pans	140°F to 160°F (60°C to 71°C)

### F14EI-ESP Series (Energy Saving Power)

These units are designed to hold warm food product between 140°F to 160°F (60°C to 71°C).

F14EI-ESP series individually heated hot food units may be operated "wet" (with water in the wells) or "dry". However, "dry" operation using 6.0" deep pans produces optimum performance.

A power switch and digital control are provided for each individual heated food well. After the unit is hard wired to the electrical system, turn the power switch ON and the digital display will read OFF. Press Set and then use the arrows to select the desired temperature setting (1-10). The new temperature setting is entered 3 seconds after the last button is pressed. When the power switch is used to turn the well OFF and back ON the temperature setting will remain.

NOTE: Never place food directly in well. Always use pans.

For most efficient operation, keep covered inserts in each well during preheating or when empty.

Always place covers on pans when not serving to prevent food from drying out.

### WET OPERATION

Fill the food well with a minimum of 2" (5cm) of water and cover with lid or empty pan. To preheat water, set temperature control at 3. With pans in place, wells will boil water. Food temperature will vary depending on type and amount of product. To minimize steam and water usage, set control at lowest setting that will maintain proper food temperature. To reduce preheating time, use hot water to fill the well. Preheating time with room temperature water is one hour.

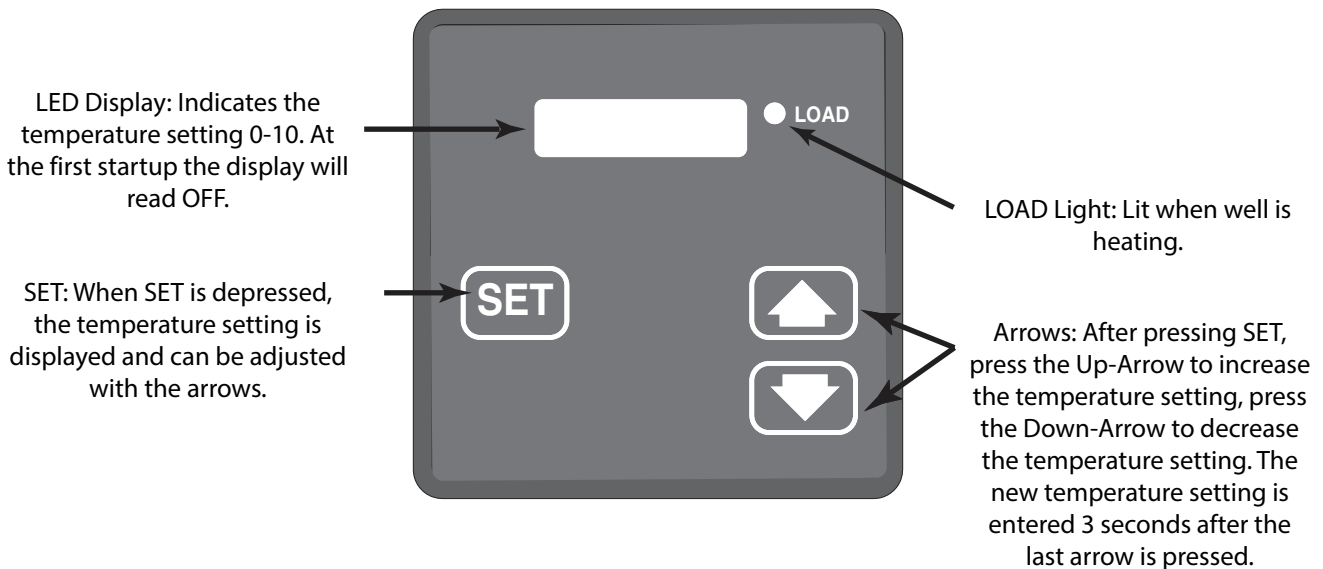
### DRY OPERATION

Dry operation is more efficient and is preferred.

When operated dry, the bottom of the well will discolor. To clean, use a stainless steel cleaner or mild abrasive.

When operated dry, the well bottoms become very hot. Do not allow unprotected skin to contact any well surface.

### F14EI-ESP Series Temperature Control Operation



## Section 4 Maintenance

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### **Warning**

When cleaning interior and exterior of unit, care should be taken to avoid the front power switch and the rear power cord. Keep water and/or cleaning solutions away from these parts.

### **Caution**

Maintenance and servicing work other than cleaning as described in this manual must be done by an authorized service personnel.

### **Warning**

Never use a high-pressure water jet for cleaning or hose down or flood interior or exterior of units with water. Do not use power cleaning equipment, steel wool, scrapers or wire brushes on stainless steel or painted surfaces.

### **Warning**

When using cleaning fluids or chemicals, rubber gloves and eye protection (and/or face shield) must be worn.

### **DANGER**

It is the responsibility of the equipment owner to perform a Personal Protective Equipment Hazard Assessment to ensure adequate protection during maintenance procedures.

### **DANGER**

Failure to disconnect the power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.

### **DANGER**

Disconnect electric power at the main power disconnect for all equipment being serviced. Observe correct polarity of incoming line voltage. Incorrect polarity can lead to erratic operation.

### **Caution**

Never use window sprays or kitchen scouring compounds to clean plexiglas.

### **Caution**

Never use an acid based cleaning solution on exterior panels! Many food products have an acidic content, which can deteriorate the finish. Be sure to clean the stainless steel surfaces of ALL food products.

Maintenance	Daily	Weekly	After Prolonged Shutdown	At Start-Up
Interior	X		X	X
Exterior	X		X	X
Food Wells	X		X	X
Drain		X	X	X

## General

You are responsible for maintaining the equipment in accordance with the instructions in this manual. Maintenance procedures are not covered by the warranty.

## Stainless Steel Cleaning

Clean the unit and around it as often as necessary to maintain cleanliness and efficient operation.

Wipe surfaces with a damp cloth rinsed in water to remove dust and dirt from the unit. Always rub with the "grain" of the stainless steel to avoid marring the finish. If a greasy residue persists, use a damp cloth rinsed in a mild dish soap and water solution. Wipe dry with a clean, soft cloth.

Never use steel wool or abrasive pads for cleaning. Never use chlorinated, citrus based or abrasive cleaners.

Stainless steel exterior panels have a clear coating that is stain resistant and easy to clean. Products containing abrasives will damage the coating and scratch the panels. Daily cleaning may be followed by an application of stainless steel cleaner which will eliminate water spotting and fingerprints. Early signs of stainless steel breakdown are small pits and cracks. If this has begun, clean thoroughly and start to apply stainless steel cleaners in attempt to restore the steel.

## Food Wells

The interior of the food wells should be cleaned daily with a non-abrasive cleaner and non-abrasive pad. If necessary, a mild abrasive may be used on the interior of the pans only. Hard water stains and lime scaling may require a special cleaning product.

- Follow product instructions carefully if a sanitizer is used.
- Do not to leave cleaners in a food well overnight or for an extended period of time.
- Never use steel wool.
- Never use a high-pressure water wash for cleaning as water can damage the electrical components.

## Drain

Each unit has a drain. Each drain can become loose or disconnected during normal use. Be sure all drain lines are free of obstructions.





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