

# Fried Food Holding Station

## FFHS Series

### 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**

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

### **⚠ 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**

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.

### **⚠ Warning**

Do not store or use gasoline or other flammable vapors or liquids in 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**

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

### **⚠ Warning**

Use caution when handling metal surface edges of all equipment.

### **Note**

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.

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# Section 1

## General Information

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### Model Numbers

NOTE: This manual covers standard units only. If you have a custom unit, consult the technical service department.

Item/SKU	Model	Model Description
FFHS10A-C1G11	FFHS-10	Counter Top
FFHS16A-C1G11	FFHS-16	Counter Top
FFHS16A-D1G11	FFHS-16	Drop In
FFHS16F-C1G11	FFHS-16	Counter Top
FFHS16H-D1G11	FFHS-16	Drop In
FFHS27A-C1G11	FFHS-27	Counter Top
FFHS27A-D1G11	FFHS-27	Drop In
FFHS32A-D1G11	FFHS-32	Drop In

### Serial Number Location

Fried Food Holding Station serial numbers are located on the data plate that also includes the model number. The data plate is located on the rear of the unit.




**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.mercoproducts.com/Service#Warranty](http://www.mercoproducts.com/Service#Warranty)

### Regulatory Certifications

Models are certified by:

-  Underwriters Laboratories Sanitation
-  Underwriters Laboratories (UL)
-  Underwriters Laboratories of Canada (CUL)

## Section 2 Installation

**⚠ DANGER**

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

**⚠ DANGER**

Use appropriate safety equipment during installation and servicing.

### Location

**⚠ Warning**

This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply (e.g., circuit breaker or disconnect switch) is provided.

**⚠ Warning**

Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit or gas lines.

**⚠ 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.

**⚠ Caution**

Do not position the air intake vent near steam or heat exhaust of another appliance.

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

- Holding cabinets 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 combustibile materials.
- 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 6.
- Do not obstruct the flow of ventilation air. Make sure the air vents of the equipment are not blocked.

### Weight of Equipment

Item/SKU	Model	Ship Weight
FFHS10A-C1G11	FFHS-10	42lbs/19kg
FFHS16A-C1G11	FFHS-16	57lbs/26kg
FFHS16A-D1G11	FFHS-16	57lbs/26kg
FFHS16F-C1G11	FFHS-16	57lbs/26kg
FFHS16H-D1G11	FFHS-16	57lbs/26kg
FFHS27A-C1G11	FFHS-27	96lbs/44kg
FFHS27A-D1G11	FFHS-27	96lbs/44kg
FFHS32A-D1G11	FFHS-32	255lbs/116kg

### 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.

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

**Counter Top Models @ Front & Rear Intakes**  
 3.00" (8cm) and 100 CFM air flow

**Drop In Models @ Front & Rear Intakes**  
 3.00" (8cm) and 100 CFM air flow

**Drop In Models Sides & Bottom**  
 3.00" (8cm)

**Drop In Models In An Enclosed Space**  
 120 square inches (774 sq cm) of unrestricted air flow

### Dimensions

Item/SKU	Model	Width	Depth	Height
FFHS10A-C1G11	FFHS-10	10.50" (27cm)	25.00" (64cm)	10.00" (25cm)
FFHS16A-C1G11	FFHS-16	16.00" (41cm)	25.00" (64cm)	10.00" (25cm)
FFHS16A-D1G11	FFHS-16	17.50" (44cm)	25.25" (64cm)	9.75" (25cm)
FFHS16F-C1G11	FFHS-16	16.00" (41cm)	19.00" (48cm)	10.00" (25cm)
FFHS16H-D1G11	FFHS-16	17.50" (44cm)	19.75" (50cm)	9.75" (25cm)
FFHS27A-C1G11	FFHS-27	27.50" (70cm)	25.00" (64cm)	10.00" (25cm)
FFHS27A-D1G11	FFHS-27	28.50" (72cm)	25.25" (64cm)	9.75" (25cm)
FFHS32A-D1G11	FFHS-32	33.50" (85cm)	25.25" (64cm)	9.75" (25cm)

### Cutout Installation Dimensions

A gasket is installed in the flange of each unit. The weight of the unit on the gasket forms a seal preventing liquids from seeping into the cut-out opening.

Item/SKU	Model	Counter Cutout Dimensions Width x Depth
FFHS10A-C1G11	FFHS-10	NA
FFHS16A-C1G11	FFHS-16	NA
FFHS16A-D1G11	FFHS-16	16.62" x 24.44" (42cm x 62cm)
FFHS16F-C1G11	FFHS-16	NA
FFHS16H-D1G11	FFHS-16	16.62" x 18.88" (42cm x 48cm)
FFHS27A-C1G11	FFHS-27	NA
FFHS27A-D1G11	FFHS-27	27.50" x 24.25" (70cm x 62cm)
FFHS32A-D1G11	FFHS-32	32.50" x 24.25" (83cm x 62cm)

## 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.

## GROUND FAULT CIRCUIT INTERRUPTER

Ground Fault Circuit Interrupter (GFCI/GFI) protection is a system that shuts down the electric circuit (opens it) when it senses an unexpected loss of power, presumably to ground. Manitowoc does not recommend the use of GFCI/GFI circuit protection to energize our equipment. If code requires the use of a GFCI/GFI then you must follow the local code. The circuit must be dedicated, sized properly and there must be a panel GFCI/GFI breaker. We do not recommend the use of GFCI/GFI outlets to energize our equipment as they are known for more intermittent nuisance trips than panel breakers.

## VOLTAGE

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.

## RATED AMPERAGES, HORSEPOWER, VOLTAGE & POWER CORD CHART

Units with plugs are supplied with approximately 6ft (183cm) cords.

Item/SKU	Model	V, Hz, Ph	Amps	Watts	Plug Type
FFHS10A-C1G11	FFHS-10	120, 60, 1	8.3	1000	NEMA 5-15P
FFHS16A-C1G11	FFHS-16	120, 60, 1	12.0	1450	NEMA 5-15P
FFHS16A-D1G11	FFHS-16	120, 60, 1	12.0	1450	NEMA 5-15P
FFHS16F-C1G11	FFHS-16	120, 60, 1	12.0	1450	NEMA 5-15P
FFHS16H-D1G11	FFHS-16	120, 60, 1	12.0	1450	NEMA 5-15P
FFHS27A-C1G11	FFHS-27	208, 60, 1	22.4	4650	NEMA L6-30P
FFHS27A-D1G11	FFHS-27	208, 60, 1	22.4	4650	NEMA L6-30P
FFHS32A-D1G11	FFHS-32	208, 60, 1	22.4	4650	NEMA L6-30P

## 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**

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.

### **⚠ Warning**

Do not contact moving parts.

### **⚠ Warning**

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

### **⚠ Warning**

Racks, utensils, rack guides, and oven surfaces may become hot during or after use. Use utensils or protective clothing, like pan grips or dry oven mitts, when necessary to avoid burns.

### **⚠ Warning**

DO NOT use the cavity for storage. DO NOT leave paper products, cooking utensils, or food in the cavity when not in use.

### **⚠ 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.

### **⚠ Caution**

Do not block the supply and return air grills or the air space around the air grills. Keep plastic wrappings, paper, labels, etc. from being airborne and lodging in the grills. Failure to keep the air grills clear will result in unsatisfactory operation of the system.

### **⚠ Caution**

Failure to follow the operating and cleaning instructions could cause grease build-up which may result in a decrease in food quality.

### **Note**

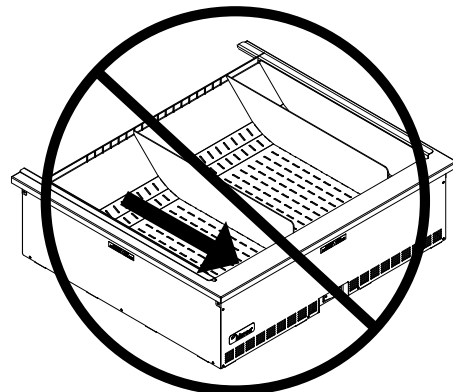
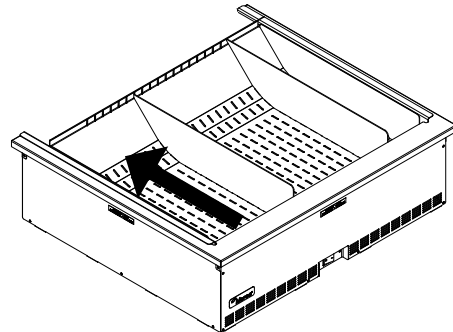
The airflow and temperature is factory pre-set for optimum holding time for all fried foods. No adjustment of airflow or temperature is required.

### **Start Up Instructions**

1. Verify the grease pan and salt trays are installed properly.
2. Adjust dividers to desired location. First, lock in lower tab near the rear of the salt tray then pivot downward until all tabs are locked into place.
3. Turn power to the "ON" position. "I" = ON, "O" = OFF.
4. Allow for a 20-minute preheat.

### **Serving Food Product Instruction**

1. When scooping food product from the appliance, work in a front-to-back motion so as to avoid possible grease build-up in the air-intake holes located in the front of the unit.



## Section 4 Maintenance

### ⚠ DANGER

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

### ⚠ 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.

### ⚠ Warning

On units containing the cool down option (all 208V units), never disconnect the incoming power before cool-down is complete. Never unplug the unit before cool-down is complete as this will bypass an important safety feature and may cause injury. Always allow unit to cool down prior to disconnecting from power source.

### ⚠ 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.

### ⚠ 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.

### ⚠ Caution

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

## Cleaning and Sanitizing Procedures

### GENERAL

You are responsible for maintaining the equipment in accordance with the instructions in this manual to ensure satisfactory performance of your Fried Food Holding Station. Neglecting to follow these procedures may result in reduced holding times, reduced reliability and may void the warranty. Maintenance procedures are not covered by the warranty.

Maintenance	Daily	After Prolonged Shutdown	At Start-Up
Dividers, Salt Tray & Grease Pan	X	X	X
Interior	X	X	X
Exterior	X	X	X

**DAILY CLEANING INSTRUCTIONS**

- Counter top model pictured below.
1. Upon completion of the last holding cycle of the day, allow the unit to cool.
  2. Disconnected from power source.
  3. Remove dividers.



4. Remove salt tray.

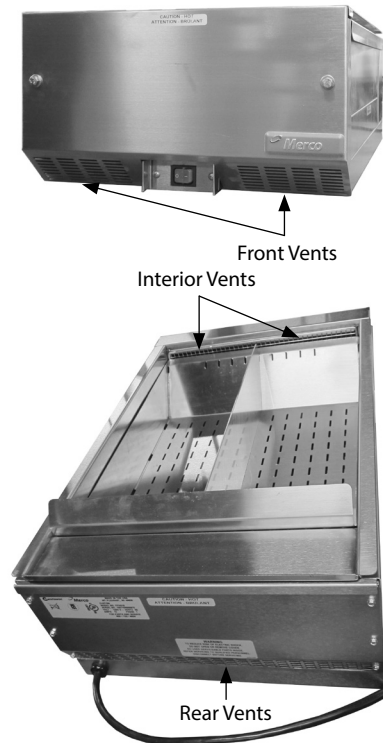


5. Remove grease pan.



6. Wash components with soapy water.
  7. Use a soft cloth or sponge, dampened with warm soapy water, to wash the interior and exterior of the appliance.
- NOTE: Do not flood the appliance with cleaning fluid!

8. Airflow openings should be inspected and any blockage should be removed.
- Drop In models will have to be lifted out of counter to inspect air openings.



9. Rinse using a cloth dampened with clear water, then dry.
10. Install pans, trays and dividers.

**STAINLESS STEEL CLEANING**

Stainless steel requires nothing more than a daily wiping with a damp cloth. If, however, an excessive amount of food particles/grease are allowed to collect, a non-abrasive cleaner (hot sudsy water) may be used. Wipe dry with a clean, soft cloth.

Always rub with the "grain" of the stainless steel to avoid marring the finish. Never use steel wool or abrasive pads for cleaning. Never use chlorinated, citrus based or abrasive cleaners.

Stainless steel has a clear coating that is stain resistant and easy to clean. Products containing abrasives will damage the coating and scratch it. 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 an attempt to restore the steel.

## Section 5 Troubleshooting

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### Troubleshooting Chart

Problem	Probable Cause	Corrective Action
Machine doesn't operate.	No power.	Check power source. Verify voltage. Call for service.
Excessive time to reach temperature.	Improper voltage.	Verify voltage.
Low airflow volume.	Improper voltage.	Verify voltage.
Heat works but no airflow.	Internal wiring.	Call for service.
Airflow works but no heat.	Internal wiring.	Call for service.
Degrading performance.	Grease or debris build-up.	Clear air intakes at front and rear of unit.

### Sequence Of Operation

<b>Power Supply</b>	Electrical power is supplied to the unit by a 3 conductor service for single phase. Black conductor is hot. White conductor is neutral. Green and yellow conductor is ground. Power is permanently supplied to one of the normally open contacts of the main switch also to one side of the normally open contacts of the main heater relay.
<b>Heating Circuit</b>	Closing the main power switch feeds power through the normally closed high limit thermostat to the coil of the main relay. Its contacts now close supplying power to the main heater. Also for air circulation power is supplied to the main fan motor.



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