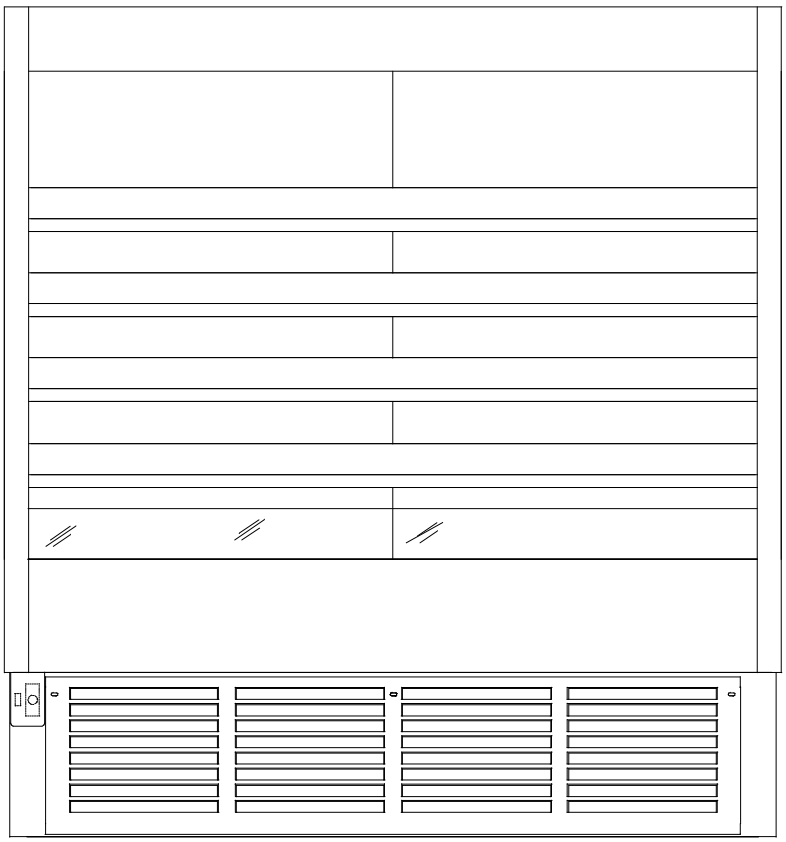
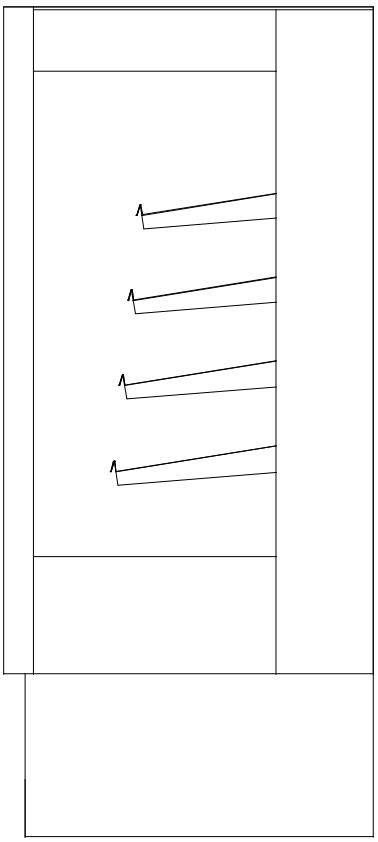
**E3332**
**05/29/12**

# ERSSHP378, ERSSHP478, ERSSHP678

**Self-Contained R404A Models**

## INSTALLATION & OPERATION INSTRUCTIONS





KEEP THIS MANUAL FOR FUTURE REFERENCE

Engineering and technical data are subject to change without notice.

FEDERAL INDUSTRIES 215 FEDERAL AVE. Belleville, WI 53508
Toll Free 1(800) 356-4206 WI Phone (608) 424-3331 Fax: (608) 424-3234

# CONTENTS

# INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the ERSSHP, Refrigerated Self-Service Merchandisers. A repair parts list is also included in the manual. Read all of these documents carefully before installing or servicing your case.

**NOTICE**

**Read this manual before installing your case. Keep this manual and refer to it before doing any service on the equipment. Failure to do so could result in personal injury or damage to the case.**

**NOTICE**

**Installation and service of the electrical components in the case must be performed by a licensed electrician.**

The portions of this manual covering components contain technical instructions intended only for persons qualified to perform electrical work.

**DANGER**

**Improper or faulty hookup of electrical components in the case can result in severe injury or death.**

**All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.**

## SERIAL NUMBER

Record the model and serial numbers of the case for easy reference. Always refer to both model and serial numbers in your correspondence regarding the case.

Case Model_____ Serial Number_____

This manual cannot cover every installation, use, or service situation. If you need additional information, call or write us:

**WARRANTY/TECHNICAL SERVICE DEPARTMENT**
**Federal Industries**
**215 FEDERAL AVE.**
**Belleville, WI 53508**
**Toll Free (800) 356-4206 / WI Phone (608) 424-3331**

# WARNING LABELS
# SAFETY INSTRUCTIONS

This is the safety-alert symbol. When you see this symbol on your case or in the manual, be alert to the potential for personal injury or damage to your equipment.

Be sure you understand all safety messages and always follow recommended precautions and safe operating procedures.

## NOTICE TO EMPLOYERS

**You must make sure that everyone who installs, uses, or services your case is thoroughly familiar with all safety information and procedures.**

Important safety information is presented in this section and throughout the manual. The Following signal words are used in the warning and safety messages:

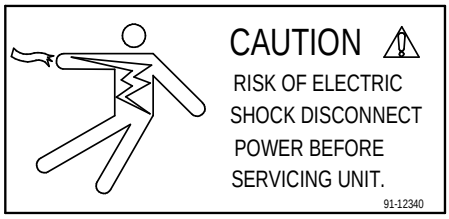
**DANGER:** Severe injury or death **will** occur if you ignore the message.

**WARNING:** Severe injury or death **can** occur if you ignore the message.

**CAUTION:** Minor injury or damage to your case **can** occur if you ignore the message.

**NOTICE:** This is important installation, operation, or service information. If you ignore the message, you may damage your case.

The warning and safety labels shown throughout this manual are placed on your Federal Industries case at the factory. Follow all warning label instructions. If any warning or safety labels become lost or damaged, call our customer service department at 1(800) 356-4206 for replacements.




*This label is located on the back of the display case on the front of the case behind the access panel.*

CAUTION
HAZARDOUS MOVING PARTS
DO NOT OPERATE UNIT WITH
DISPLAY PANS REMOVED.

*This label is located below the display pan.*

# INSTALLATION INSTRUCTIONS

## Locating the Display Case

This case is designed for indoor use only.

The case should be located where it is not subjected to the direct rays of the sun, heating ducts, grills, radiators, or ceiling fans, nor should it be located near open doors or main door entrances. Avoid locations where there is excessive air movement or air disturbances and avoid high humidity locations such as near cases with water misting or fogging devices.

The condenser air inlet is located in the front of the case. Do not block this inlet and do not locate the air inlet near a source of heat. Clearance of 6" minimum must be maintained at the back of the case for condenser air. Clearance at the top of the case should also be at least 8".

Do not build this unit into an alcove and do not locate where condenser discharge air cannot escape or where warm condenser air is allowed to re-circulate.

## Removing Case From Shipping Skid

**CAUTION: If a Johnson bar or pry bar is used to move the case, make certain that the case is lifted under the welded steel frame, and not by the end panels of the case. Damage to the ends will result from lifting under the end panels.**

Move the case as near as possible to the final location before removing it from the shipping skid.

Remove the front and rear compressor compartment grills.

Three or Four bolts secure the case to the shipping skid.
Remove, then discard these bolts.

## Leveling the Case

The case must be level for proper drainage of defrost water to the condensate evaporator or floor drain.

Check the level of the case along the front rail and along the top of the display pan. Shim under the case frame as needed to level the case. It is recommended that the leveled case be sealed to the floor with an NSF Listed Sealant.

## Grill Removal

**DANGER: Electrical shock hazard. Do not operate unit with panels removed.**

The front and rear grills require removal for case installation.

Both grills must be in place for proper operation of the case. Grills must be reinstalled after case installation.

## Condensate Evaporator

**NOTICE: During normal defrost cycles, steam from the condensate evaporator may be visible around the case.**

This case maybe furnished with an electric condensate evaporator. Plumbing connections may not be required.

The condensate evaporator can be removed from the case and the condensate drain can be plumbed to a drain to conserve energy if desired. Disconnect the condensate evaporator wires at the condensate evaporator to remove. This must be done by a qualified electrician.

This is an open merchandiser and at times can produce a large amount of condensate water. To ensure that adequate evaporator capacity is available, a high wattage heater is used. The heater turns off automatically when the water level in the pan drops.

Check that the float is positioned correctly and that the switch operates at time of installation.

Make sure that the drain line has not been dislodged during shipment and that the drain trap terminates properly over the water reservoir.

## Lights

The case comes standard with one top light and two vertical lights that are wired into the case. The light switch is located in the control compartment behind the lift up access door in the base front left corner.

# ELECTRICAL INFORMATION & GROUNDING

## THIS CASE MUST BE GROUNDED

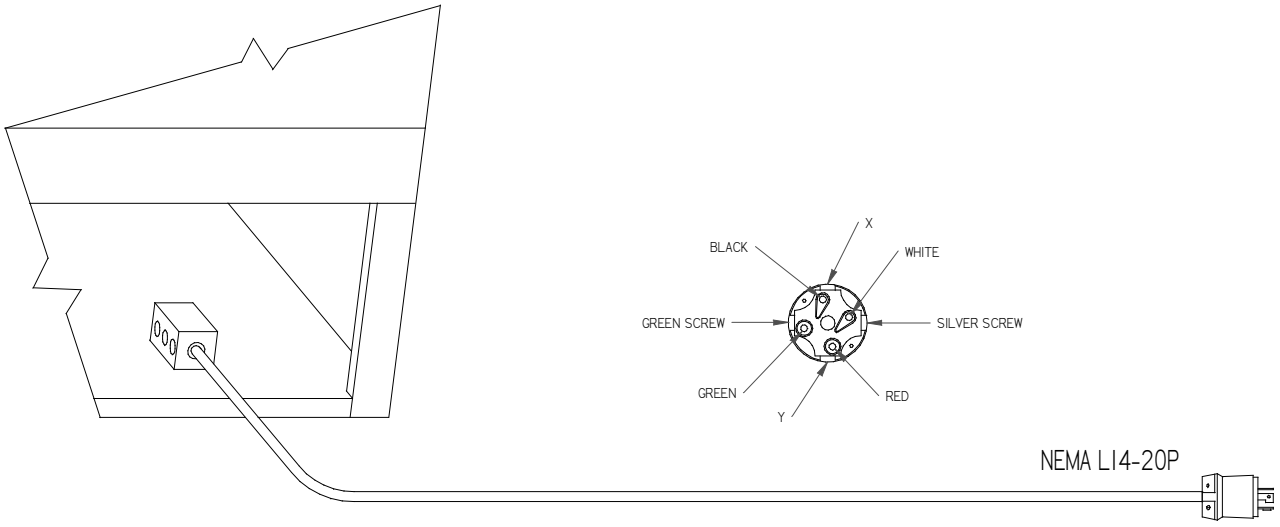
**DANGER: Improper or faulty hookup of electrical components of the case can result in severe injury or death.**

All of the cases electrical connections must be performed only by a licensed electrician.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.

The electrical service must be grounded upon installation.

The electrical connection box is accessible from the rear of the case.




## Cord Connected

-A factory installed optional power cord is properly sized to the amperage requirements of the case. See the electrical data plate located on the rear exterior of the case for the proper circuit size for each case.

- The cord is factory installed protruding from the rear corner of the case.

-A separate circuit for each display case is required to prevent other appliances on the same circuit from overloading the circuit and causing malfunction.

# OPERATING INSTRUCTIONS

## Initial Start-Up

After all the checks outlined in the installation section of this manual have been made, the case is ready to be put into service. Turn on the Power at the breaker box and flip the Power Switch and Light Switch on unit to the on position.

At start up from a warm unit, it is recommended that the temperature control is set at a warm setting, such as 1 on the dial. After the unit has gone through several cycles, turn the control to a mid range setting, then to a colder setting if necessary to maintain desired product temperature

**NOTICE: This refrigerated display case is designed to operate in a maximum environment of 75 DEG. F and 55% relative humidity. Exceeding these limits will cause poor case performance and excessive sweating.**

## User Controls


***Power Switch***

The unit has a power switch that turns off power to the entire unit, including the condensate evaporator and the lights. This switch is located behind a lift up panel on the unit base.

***Light Switch***

The unit has a light switch that turns on and off the interior lights of unit. This switch is located below the lift up panel on the unit base.

***Electronic Control***

This control is located behind a lift up panel on the unit base.

***Temperature Control Knob***

This controls the temperature of the display interior of case.

-OFF: Turning the control counterclockwise to the “WARM” setting is an Off position, this position turns the refrigeration off and all indicator lights will also be off at this setting.

-ON; The control will be on from the warmest setting at “1” and the coldest setting at “COLD”.

***Cooling light***

This light will be on when control requires refrigeration to be on. The compressor / condensing unit should be running to cool the case.

***Defrost light***

This light will be on when control when refrigeration is defrosting allowing ice to melt off of evaporator coil. The number of times and length of defrost will vary depending on case environment. Display will indicate “df” when unit is in a scheduled 8hr defrost interval.

***Alarm light***

This light indicates that there is a problem with case or electronic control and service should be called.

## Lights

The light switch is located behind the lift up control cover on the left side of the base front this switch controls the three lights only.

## Light Replacement

The light fixtures use a tombstone socket and cap on each end of the bulb To remove a light, pull the bulb straight away from the mounting surface on each end. The caps snap in place over the tombstone sockets.

The bulbs are furnished with plastic safety light shields. Make certain the light shields are always in place to safeguard against bulb breakage.

When replacing lights, use direct equivalents to the original bulbs.

## Placing Product In Case

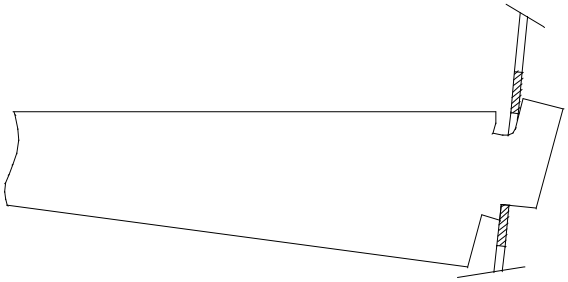
Do not overload the case with product to a point where the top air discharge grill or the bottom air intake grill are blocked, or where the air curtain created by the discharge air is blocked.

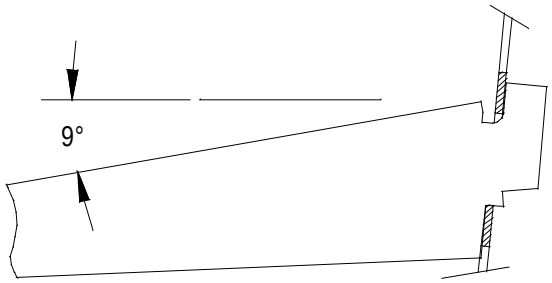
# LOAD CASE INTERIOR WITH PRE-CHILLED PRODUCT ONLY.

## Shelves

The ERSSHP has 16” solid metal shelves. These shelves are installed at the factory.

The shelves are adjustable in 1-5/8” increments. To adjust the shelves, first remove the shelf from the shelf brackets. Remove the shelf from the shelf standard and reposition as desired.
The shelves can be installed horizontally or slanted at a 9º downward angle. To change the shelf slant, Lift the shelf up at the back until the brackets can be repositioned in the shelf standard slots. See diagram below






**CAUTION:**

**Do not place more than 100 lbs. of product on a ERSSHP478 OR ERSSHP678 shelf.**

**Do not place more than 80 lbs. of product on a ERSSHP378 shelf.**

**Damage to the shelf standard may occur if the shelf is overloaded.**

## Periodic Maintenance

*Cleaning Condenser Coil*

Disconnect power to the unit.

Remove the front grill and vacuum the front surface of the condenser coil. This should be done every one or two months as necessary.

*Cleaning Case Interior*

Turn light switch off.

Clean interior surfaces with mild detergent and water. Do not use abrasive cleaners on case interior.

# SERVICE INFORMATION

**CAUTION**
RISK OF ELECTRIC SHOCK

DISCONNECT POWER
BEFORE SERVICING UNIT

Before any service work is performed on the case, make sure all power is disconnected to the case.

Service problems or request for repair parts from authorized service agencies, trained service personnel, or owners should be referred to:

**CUSTOMER SERVICE DEPARTMENT**
**Federal Industries**
**215 Federal Ave.**
**Belleville, WI 53508**
**Toll Free: (800) 356-4206 / WI Phone (608) 424-3331**
**Fax: (608) 424-3234**

## Pre-Service Checklist

You may avoid the cost and inconvenience of an unnecessary service call by first reviewing this checklist of frequently encountered situations that can cause unsatisfactory case performance.

**CAUTION: Before servicing case turn off power at the main breaker of fuse box.**

### *Case Does Not Operate*

-Check for disconnected power supply.

-Check for tripped breaker or blown fuse.

## Pre-Service Checklist

### Case Temperature Too Warm

Check that top air discharge grill and/or bottom air intake grill are not blocked.

Check for a blocked or dirty condenser coil.

Check that there are no outside air disturbances in or around cases. These disturbances can be caused by nearby doors or entrances, overhead ceiling fans or air diffuser vents, direct sunlight, or other heat sources. The location of open refrigerated merchandisers is critical to case performance.

Make sure that warm product is not being installed inside the case. All product must be pre-chilled prior to loading for proper case performance.

Check temperature/pressure control for proper settings.

Check cold air flow. Lack of or no air flow may indicate a blocked evaporator coil or defective evaporator fan motor. Contact a qualified service company if there is no air flow inside case.

### Lights Do Not Operate

Check that light switch located behind control panel cover in base left hand front corner is “on”.

Check that all light bulbs are properly seated in the light holders.

### Overflow of Condensate Evaporator

Check that float is positioned correctly inside water reservoir.

Check that drain line is properly located over the water reservoir.

Check that store conditions do not exceed 75° and/or 55% relative humidity for prolonged periods of time.

## Special Service Situations

There are rare occasions when the refrigerant charge must be evacuated from a case in order to perform service work. In those situations, Federal Industries recommends that the refrigerant charge be evacuated into a recovery system to prevent the possibility of hydrofluoracarbons (HFC's) from being released into the atmosphere. The release of HFC's into the atmosphere is a source of greenhouse gases.

If moisture or liquid is observed around or under a Federal Industries case, an immediate investigation should be made by qualified personnel to determine the source of the moisture or liquid. The investigation made should determine if the case is malfunctioning or if there is a simple housekeeping problem.

Moisture or liquid around or under a case is a potential slip/fall hazard for persons walking by or working in the general area of the case. Any case malfunction or housekeeping problem that creates a slip/fall hazard around or under a case should be corrected immediately.

# SALE & DISPOSAL

## Owner Responsibility

If you sell or give away your Federal Industries case, you must make sure that all safety labels and the Installation-Service Manual are included with it. If you need replacement labels or manuals, Federal Industries will provide them free of charge. Contact the Customer Service Department at Federal Industries at (800) 356-4206.

The Customer Service Department at Federal Industries should be contacted at the time of sale or disposal of your case so records may be kept of its new location.

If you sell or give away your Federal Industries case and you evacuate the refrigerant charge before shipment, Federal Industries recommends that the charge be evacuated into a recovery system to reduce the possibility of HFC's from being released into the atmosphere. The release of HFC's into the atmosphere is a source of greenhouse gases.

# REFRIGERATION & ELECTRICAL DATA

| **Model** | **ERSSHP378** | |
|---|---|---|
| **POWER SUPPLY, VOLTS** | 120/208-240Volts | |
| Frequency | 60 Hertz | |
| Phase | 1 Phase | |
| Number of Wires | 3 | |
| Refrigerant Charge (R-404A) | 3 lbs. | |
| | **AMPS** | **VOLTS** |
| Compressor | | |
| RLA | 4.3 | 208-240 |
| LRA | 31.0 | 208-240 |
| Condenser Fan Motor | 0.6 | 208-240 |
| Evaporator Fan Motor | 0.4 | 120 |
| Lights | 0.8 | 120 |
| Condensate Pan Heater | 5.0 | 240 |

Refer to the rating plate data attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

# REFRIGERATION & ELECTRICAL DATA

| **Model** | **ERSSHP478** | |
|---|---|---|
| **POWER SUPPLY, VOLTS** | 120/208-240 Volts | |
| Frequency | 60 Hertz | |
| Phase | 1 Phase | |
| Number of Wires | 3 | |
| Refrigerant Charge (R-404A) | 4 lbs. | |
| | **AMPS** | **VOLTS** |
| Compressor | | |
| RLA | 5.7 | 208-240 |
| LRA | 31.0 | 208-240 |
| Condenser Fan Motor | 0.7 | 208-240 |
| Evaporator Fan Motor (2) | 0.4ea | 120 |
| Lights | 0.8 | 120 |
| Condensate Pan Heater | 5.0 | 240 |

Refer to the rating plate data attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

# REFRIGERATION & ELECTRICAL DATA

| **Model** | **ERSSHP678** | |
|---|---|---|
| **POWER SUPPLY, VOLTS** | 120/208-240 Volts | |
| Frequency | 60 Hertz | |
| Phase | 1 Phase | |
| Number of Wires | 3 | |
| Refrigerant Charge (R-404A) | 4.25 lbs. | |
| | **AMPS** | **VOLTS** |
| Compressor | | |
| RLA | 7.7 | 208-240 |
| LRA | 54.0 | 208-240 |
| Condenser Fan Motor | 0.7 | 208-240 |
| Evaporator Fan Motor (3) | 0.4ea | 120 |
| Lights | 0.8 | 120 |
| Condensate Pan Heater | 5.0 | 240 |

Refer to the rating plate data attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

# CONTROL OPERATION

## Electronic Control

This unit is equipped with an Invensys – Ranco model E72R temperature control. The control parameters are set at the factory and cannot be manually changed in the field. Control parameter changes can only be made by downloading a new set of parameters via a program chip supplied by Federal Industries. The pre set control parameters are listed on the chart in the Settings Chart below.

### Operation

The control uses two sensors, one located in the air stream and one located on the evaporator coil. The sensor located in the air stream is referred to as the temperature control sensor. The sensor located on the evaporator coil is referred to as the coil sensor.

The temperature control sensor is located in the top duct above the honeycomb material. The sensor location is critical for proper operation on the unit. Do not move or relocate this sensor.

The coil sensor is strapped to the top side of the evaporator coil. This sensor location is critical for proper operation of the unit. Do not move or relocate this sensor.

The temperature control is set to cut in at 40 degrees F. The Temp control cuts out at 23 degrees F at the coldest setting' COLD' and 34 degrees F at the warmest setting, '1' on the control dial.

### The temp control turns off the refrigeration system when the control is turned all the way counterclockwise.

### Defrost Cycle

The Ranco control is programmed to initiate defrost via two different methods. There are 3 programmed defrost cycles in the case which will initiate a defrost cycle every 8 hours. The unit does not have a time clock so the defrost cycles cannot be set for any specific time of day.

The unit also has an 'On demand' defrost feature that will initiate a defrost when the temperature differential between the evaporator temperature and the air temperature is more than 25 degrees for 5 minutes after 30 minutes into the refrigeration cycle.

## Control Factory Settings

The control parameters are set at the factory and cannot be manually changed in the field. Control parameter changes can only be made by downloading a new set of parameters via a program chip supplied by Federal Industries

| Tab | Ref# | Parameter Description | Federal Configuration Value | Resolution | Notes |
|---|---|---|---|---|---|
| Configuration | 1 | Temperature Units | ℉ | - | . |
| | 2 | Defrost Method | Off-Cycle | - | |
| | 3 | | | | |
| | 4 | Defrost Termination Method | Evap. Sensor | - | Evap. Sensor located on right coil. |
| | 5 | | | | |
| | 6 | | | | |
| | 7 | | | | |
| Setpoints | 8 | Cut-In Warm | 40℉ | 1℉ | constant Cut-In |
| | 9 | Cut-Out Warm | 34℉ | 1℉ | |
| | 10 | Cut-In Cold | 40℉ | 1℉ | constant Cut-In |
| | 11 | Cut-Out Cold | 23℉ | 1℉ | |
| Compressor | 12 | Compressor Min. Off-Time @ Startup | 0:0 (min:sec) | 1 sec. | |
| | 13 | Compressor Min. On-Time | 5 min. | 1 sec. | |
| | 14 | Compressor Min. Off-Time | 2 min. | 1 sec. | |
| Display | 15 | Defrost Display Lock (display during defrost) | "DF" LOCK | - | |
| | 16 | Display Unlock Time | 2 min | 1 min. | |
| | 17 | Display Temp. Offset | 0℉ | 1℉ (?) | |
| Fan | | | | | |
| Alarm | | | | | |
| Fault | 32 | Sensor Failure Mode | Duty Cycle | - | |
| | 33 | Compressor On-Time If Sensor Failed | 15 min. | 1 min | |
| | 34 | Compressor Off-Time If Sensor Failed | 6 min. | 1 min | |
| | 35 | Sensor Fault Monitoring Time | 1 min. | 1 sec.(?) | |

| | | | | | |
|---|---|---|---|---|---|
| | 36 | **Defrost Function** | **System Run Time** | - | |
| | | | | | |
| | 37 | **Defrost Cycle @ Power On** | **Disable** | - | |
| | 38 | **Defrost Termination Temp.** | **45℉** | 1℉ | |
| | 39 | **Time to First Defrost** | **8 hr** | 1 min. | |
| | 40 | **Time to Subsequent Defrosts** | **8 hr** | 1 min. | |
| **Defrost** | 41 | **Defrost Duration (Failsafe)** | **45 min.** | 1 min. | |
| | 42 | **Drip Time** | **0 min.** | 1 min. | |
| | 43 | **Temp.-Initiated Defrost Function** | **Enable** | - | |
| | 44 | **Temp. Defrost Initiation Space minus Evap. (℉)** | **25℉** | 1℉ (?) | On-Demand Defrost |
| | 45 | **Temp.-Initiated Defrost Time Delay** | **5 min.** | 1 sec.(?) | |
| | 46 | **Temp.-Initiated Defrost Time Delay After Defrost** | **30 min.** | 1 sec. | |

## Control Display

The control display is located in the unit base. It is programmed to display the current temperature from the control sensor located inside the center tower at the top.

# REPLACEMENT PARTS

## MODEL ERSSHP378

| Part Description | Part Number |
|---|---|
| **Refrigeration System** | **ERSSHP378** |
| Condensing Unit (Self-Contained Only) | 30-17887 |
| Compressor (Replacement) | 30-18052 |
| Evaporator Coil | 33-13283 |
| Expansion Valve | 32-18244 |
| Temperature Control | 32-19027 |
| Temp. Control Sensor | 32-19209 |
| Defrost Control Sensor | 32-19094 |
| Evaporator Fan Motor | 41-11628 |
| Evaporator Fan Blade | 72-14569 |
| Filter Drier | 32-12626 |
| **Electrical Components** | |
| Condensate Evaporator Heater (240 V) | 40-13021 |
| Condensate Evaporator Float Switch | 41-13022 |
| Top Light | 42-11519 |
| Vertical lights | 42-11070 |
| Ballast Three Lamps | 39-12903 |
| Light Switch (On/Off) | 41-11066 |
| Top Anti Sweat Heater | 43-14892 |
| Safety Thermodisc Assembly | SA-1880 |
| Tombstone Socket | 42-15440 |
| Tombstone cap | 42-15441 |
| Power Cord | 43-15268 |
| **Miscellaneous Components** | |
| Price Tag Molding | W11329-21A |
| Vertical Light Shield | 42-13644 |
| Condensate Float Assembly (Float & Rod) | SA2928 |
| Condensate Evaporator Assembly (240 V) | SA-1879 |
| Metal Shelf 16” | SA5005-2A |
| End Glass | 50-19163 |
| Condensate Steam Notice Tag | 91-13038 |

# REPLACEMENT PARTS

## MODEL ERSSHP478

| Part Description | Part Number |
|---|---|
| **Refrigeration System** | **ERSSHP478** |
| Condensing Unit (Self-Contained Only) | 30-17888 |
| Compressor (Replacement) | 30-18053 |
| Evaporator Coil | 33-11541 |
| Expansion Valve | 32-18244 |
| Temperature Control | 32-19027 |
| Temp. Control Sensor | 32-19209 |
| Defrost Control Sensor | 32-19094 |
| Evaporator Fan Motor | 41-11628 |
| Evaporator Fan Blade | 72-13316 |
| Filter Drier | 32-11561 |
| **Electrical Components** | |
| Condensate Evaporator Heater (240 V) | 40-13021 |
| Condensate Evaporator Float Switch | 41-13022 |
| Top Light | 42-11069 |
| Vertical lights | 42-11070 |
| Ballast Three Lamps | 39-12903 |
| Light Switch (On/Off) | 41-11066 |
| Top Anti Sweat Heater | 43-14891 |
| Safety Thermodisc Assembly | SA-1880 |
| Tombstone Socket (lights) | 42-15440 |
| Tombstone Cap (lights) | 42-15441 |
| Power Cord | 43-15268 |
| **Miscellaneous Components** | |
| Price Tag Molding | W11329-22A |
| Vertical Light Shield | 42-13644 |
| Condensate Float Assembly (Float & Rod) | SA2928 |
| Condensate Evaporator Assembly (240 V) | SA-1879 |
| Metal Shelf 16” | SA5005-1A |
| End Glass | 50-19163 |
| Condensate Steam Notice Tag | 91-13038 |

# REPLACEMENT PARTS

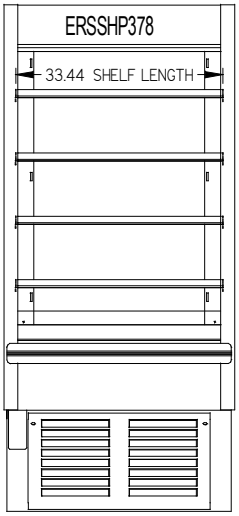
## MODEL ERSSHP678

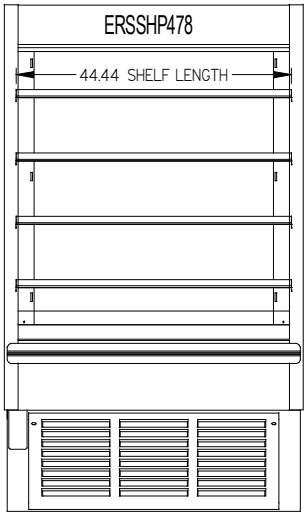
| Part Description | Part Number |
|---|---|
| **Refrigeration System** | **ERSSHP678** |
| Condensing Unit (Self-Contained Only) | 30-17889 |
| Compressor (Replacement) | 30-18054 |
| Evaporator Coil | 33-11542 |
| Expansion Valve | 32-18245 |
| Temperature Control (Before 5/23/12) | 32-19027 |
| Temperature Control (After 5/23/12) | 32-19445-1 |
| Control Display (Before 5/23/12) | 32-19092 |
| Control Display (After 5/23/12) | 32-19446 |
| Temp. Control Sensor | 32-19209 |
| Defrost Control Sensor | 32-19094 |
| Evaporator Fan Motor | 41-11628 |
| Evaporator Fan Blade | 72-13316 |
| Filter Drier | 32-11561 |
| **Electrical Components** | |
| Condensate Evaporator Heater (240 V) | 40-13021 |
| Condensate Evaporator Float Switch | 41-13022 |
| Top Light | 42-11071 |
| Vertical light | 42-11070 |
| Ballast Three Lamps | 39-12903 |
| Light Switch (On/Off) | 41-11066 |
| Top Anti Sweat Heater | 43-14893 |
| Safety Thermodisc Assembly | SA-1880 |
| Tombstone Socket (Lights) | 42-15440 |
| Tombstone Cap (lights) | 42-15441 |
| Power Cord | 43-15268 |
| **Miscellaneous Components** | |
| Price Tag Molding | W11329-2A |
| Vertical Light Shield | 42-13644 |
| Condensate Float Assembly (Float & Rod) | SA2928 |
| Condensate Evaporator Assembly (240 V) | SA-1879 |
| Metal Shelf 16” | SA5005-A |
| End Glass | 50-19163 |
| Condensate Steam Notice Tag | 91-13038 |

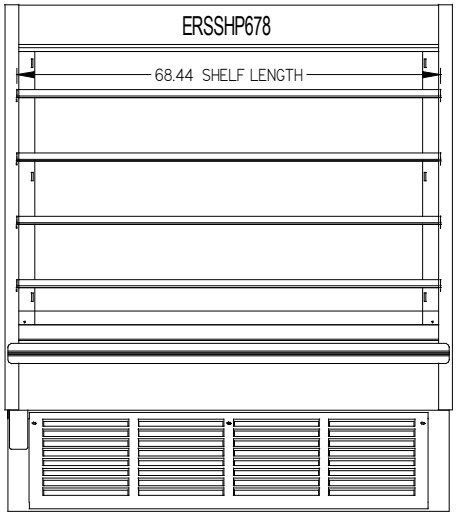
# ERSSHP DISPLAY AREA & VOLUME

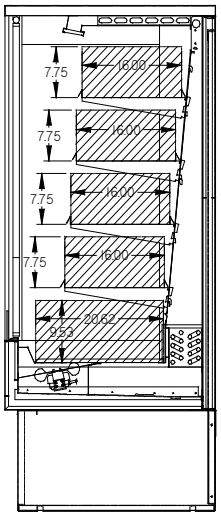
| | ERSSHP378 | ERSSHP478 | ERSSHP678 |
|---|---|---|---|
| CUBIC FT. PER SHELF | 2.4 | 3.2 | 4.9 |
| CUBIC FT. DISPLAY DECK | 3.8 | 5.0 | 7.8 |
| TOTAL CUBIC FT. | 13.4 | 17.8 | 27.4 |
| SQUARE INCHES PER SHELF | 535.0 | 711.0 | 1095.0 |
| SQUARE INCHES DISPLAY DECK | 690.0 | 917.0 | 1413.0 |
| TOTAL SQUARE INCHES | 2830.0 | 3761.0 | 5793.0 |
| SHELF WIDTH | 33.44 | 44.44 | 68.44 |

NOTE: CUBIC FEET IS MEASURED WITH 2" CLEARANCE BETWEEN SHELVES






| REV. | CHANGE RECORD | APP'D | DATE | ECN# |
|---|---|---|---|---|

TOLERANCES: UNLESS OTHERWISE NOTED DECIMAL .XX= ±.03 .XXX= ±.015 ANGULAR = ±1°

FEDERAL INDUSTRIES
BELLEVILLE, WISCONSIN 53508

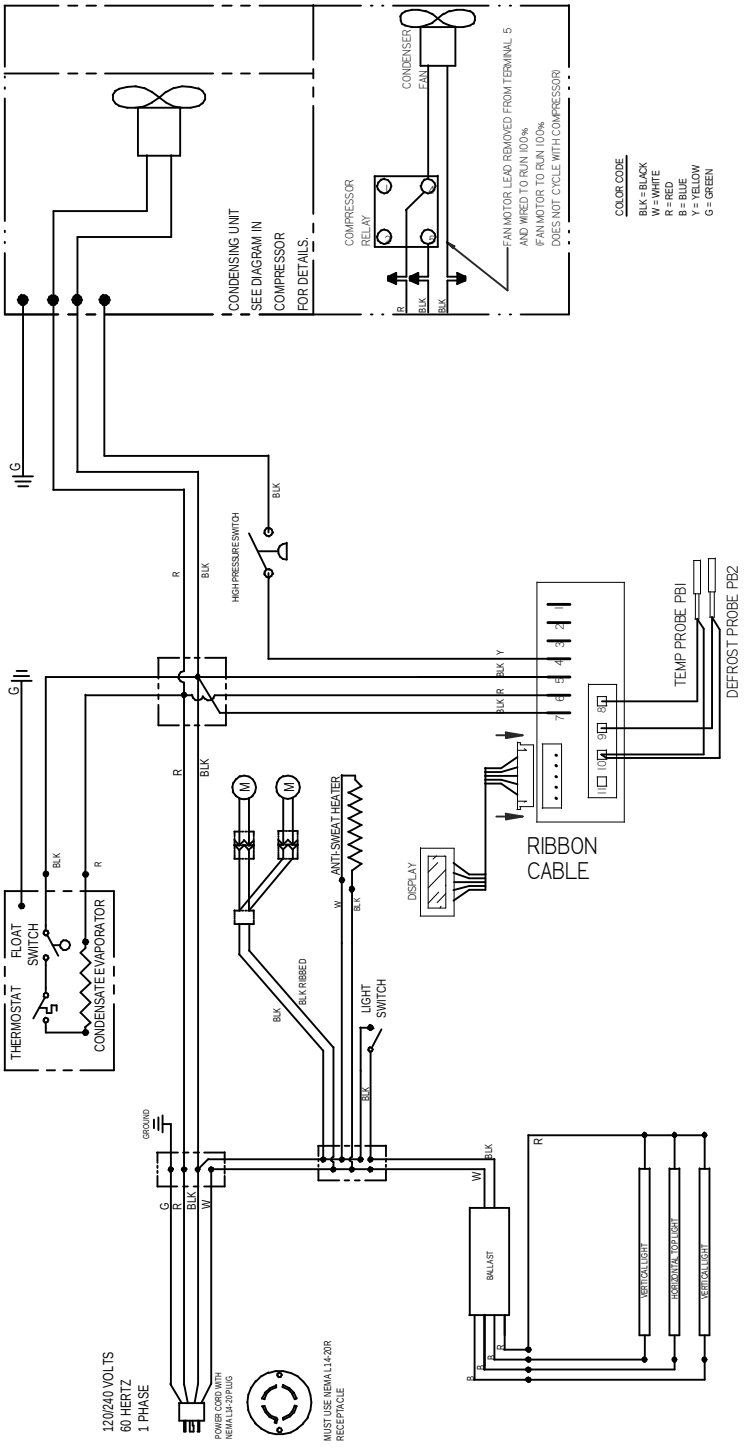
MATERIAL: X FINISH: X

CHECKED BY: NAME: ERSSHP DISPLAY AREA & VOLUME

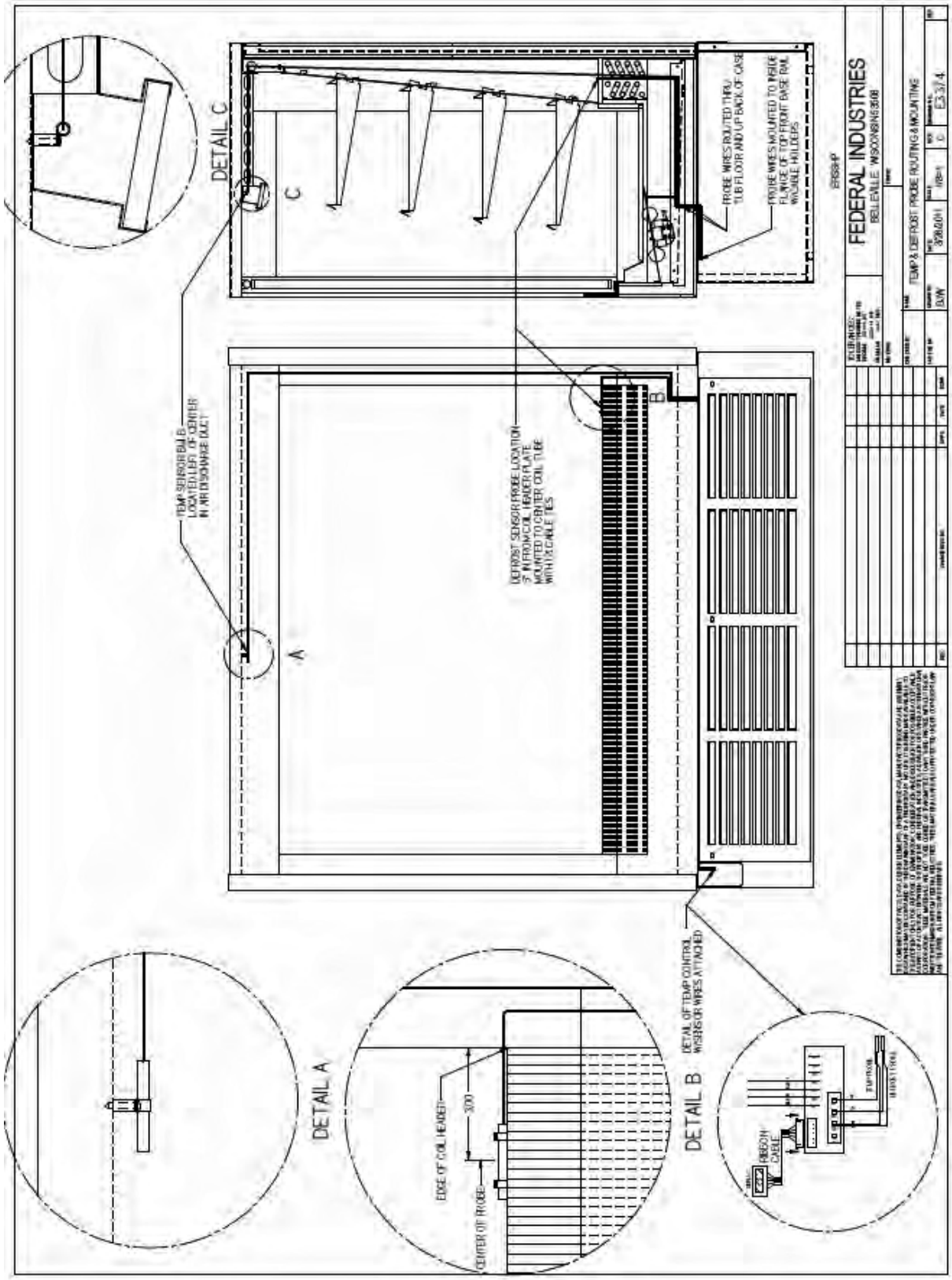
| CAD FILE NO. | DRAWN BY | DATE | SCALE | SIZE | DRAWING NO. | REV. |
|---|---|---|---|---|---|---|
| -- | BJW | 12/30/10 | 3/32"=1" | C | E3350 | - |

# WIRING DIAGRAM

## ERSSHP378, ERSSHP478, ERSSHP678
## SELF CONTAINED



# TEMP & DEFROST PROBE MOUNTING LOCATIONS


DETAIL C
DETAIL A
DETAIL B
FEDERAL INDUSTRIES
TEMP & DEFROST PROBE ROUTING & MOUNTING