

**3** series  
**0000**

K/W Part #:31E03-027

Date: 9-00

Supersedes:

# INSTALLATION & OPERATION MANUAL

**M4N3**

***Multi-Deck, Narrow, Meat Merchandiser***



*This case conforms to the Commercial Refrigerator Manufacturers Association's  
Health and Sanitation Standard.*

5201 Transport Blvd., Columbus, GA 31907  
800-866-5596

**KYSOR/WARREN®**





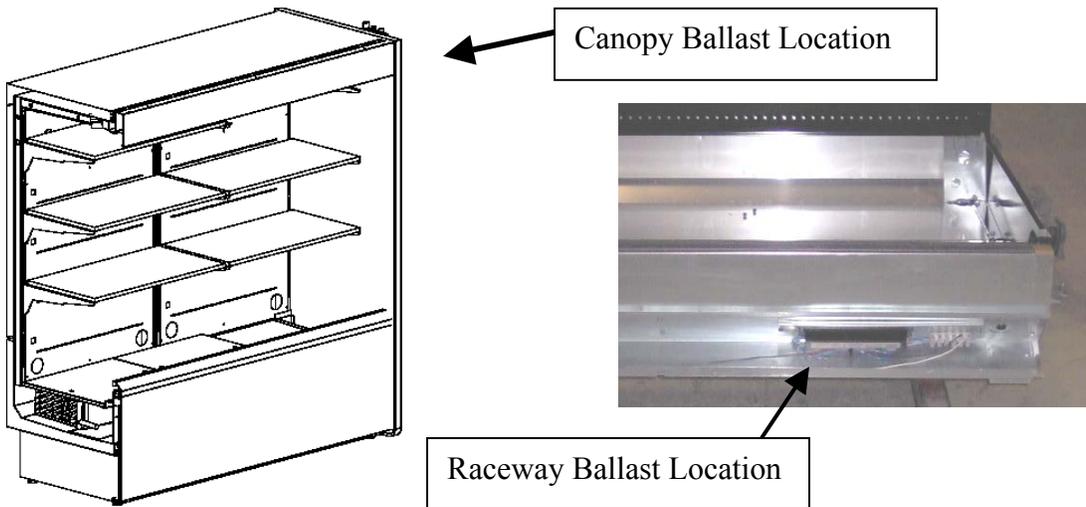
## INSTALLATION & OPERATION MANUAL ADDENDUM BALLAST RELOCATION

The ballast for this case has been relocated as of January 09, 2006. The advantage of the new location allows for more shelf space and lowers the BTU. The information we have placed in this addendum is for the shelf light ballast only. For any other information, refer to the manual or contact our office at 1-800-866-5596.

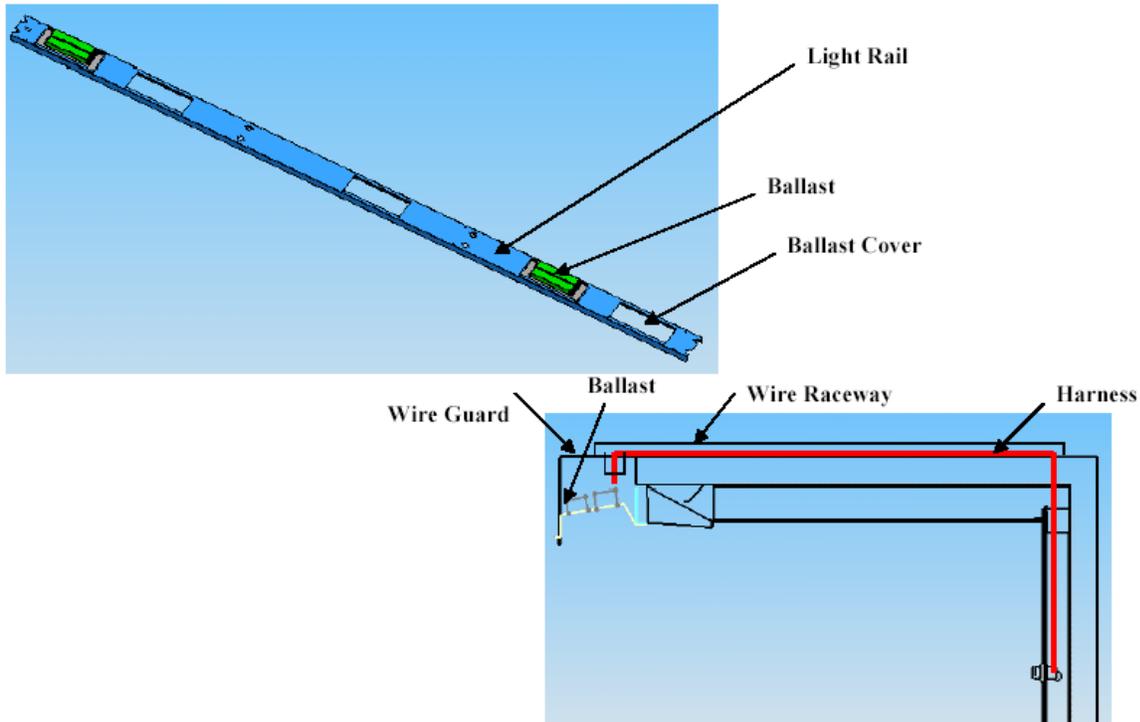
### Ballast Location/Connections

---

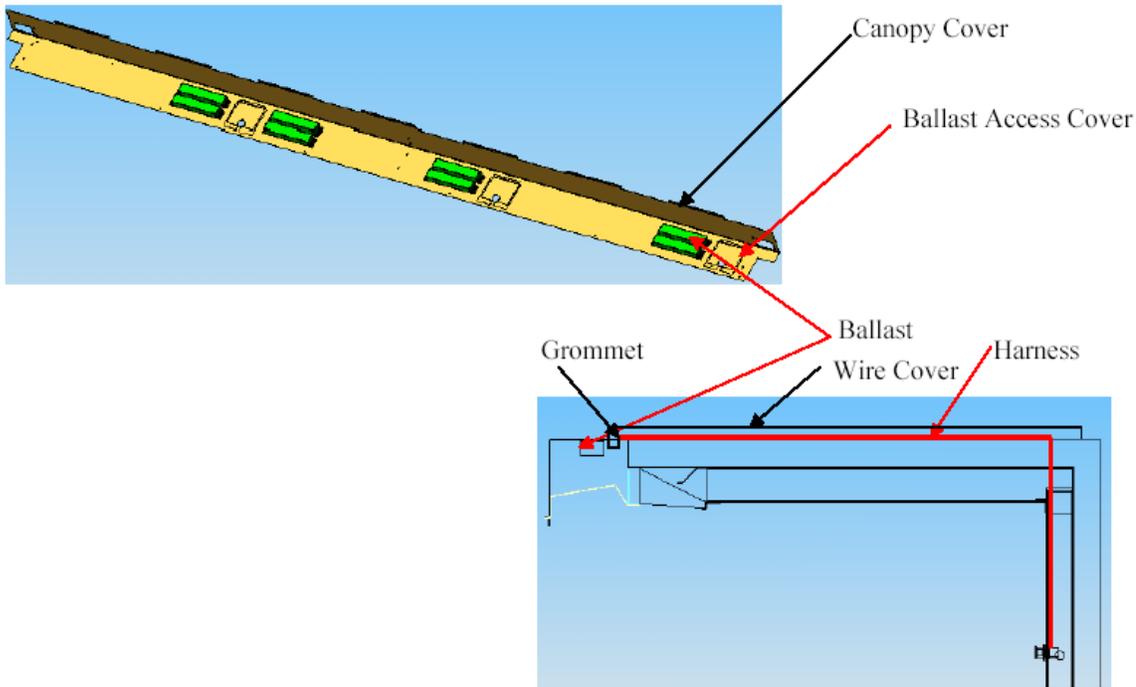
Ballasts are located in canopy or the raceway. See wiring diagram for layout.



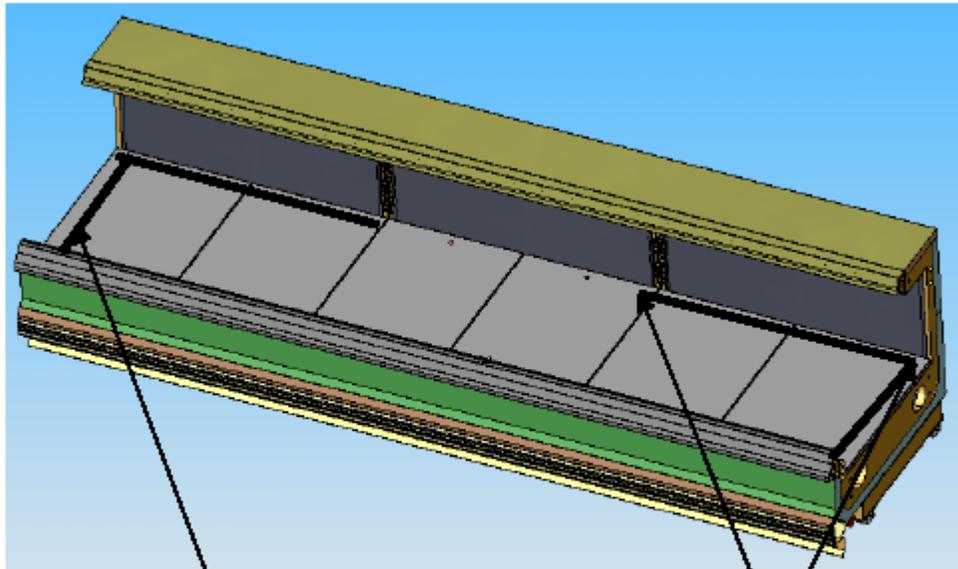
### Remote Ballast Location (Welded-Canopy)



**Remote Ballast Location (Drop-Down Canopy)**



**Remote Ballast Location (Canopyless Cases):**



**Left 4' Section**

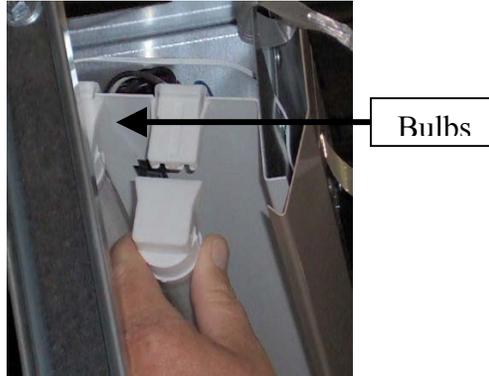
Wiring to Left side of Raceway

**Middle & Right 4' Section**

Wiring to Right side of Raceway



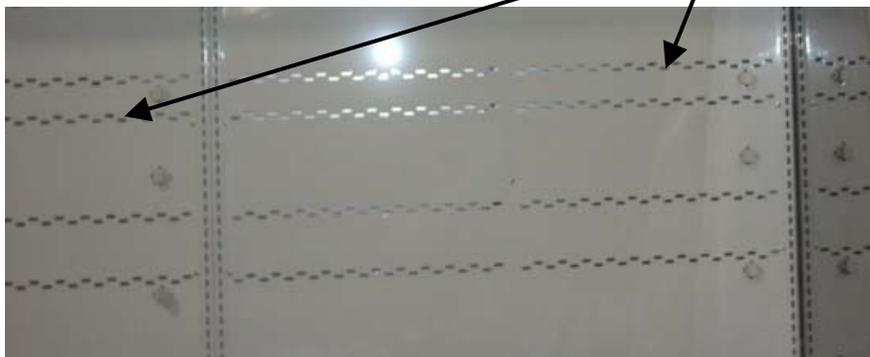
**WARNING!** It is imperative that the pins of the bulbs and the shelf power cords be completely seated in their respective lamp holder or receptacle (see pictures below). If they are not completely seated, an electrical arc could occur which will cause the lamp holders to melt and become an electrical hazard. Care must be taken during cleaning, product stocking and re-lamping processes to insure that the bulbs and shelf cords are not dislodged.



Note: The fluorescent bulb is capable of lighting even if the bulb and shelf power cord are not completely seated.



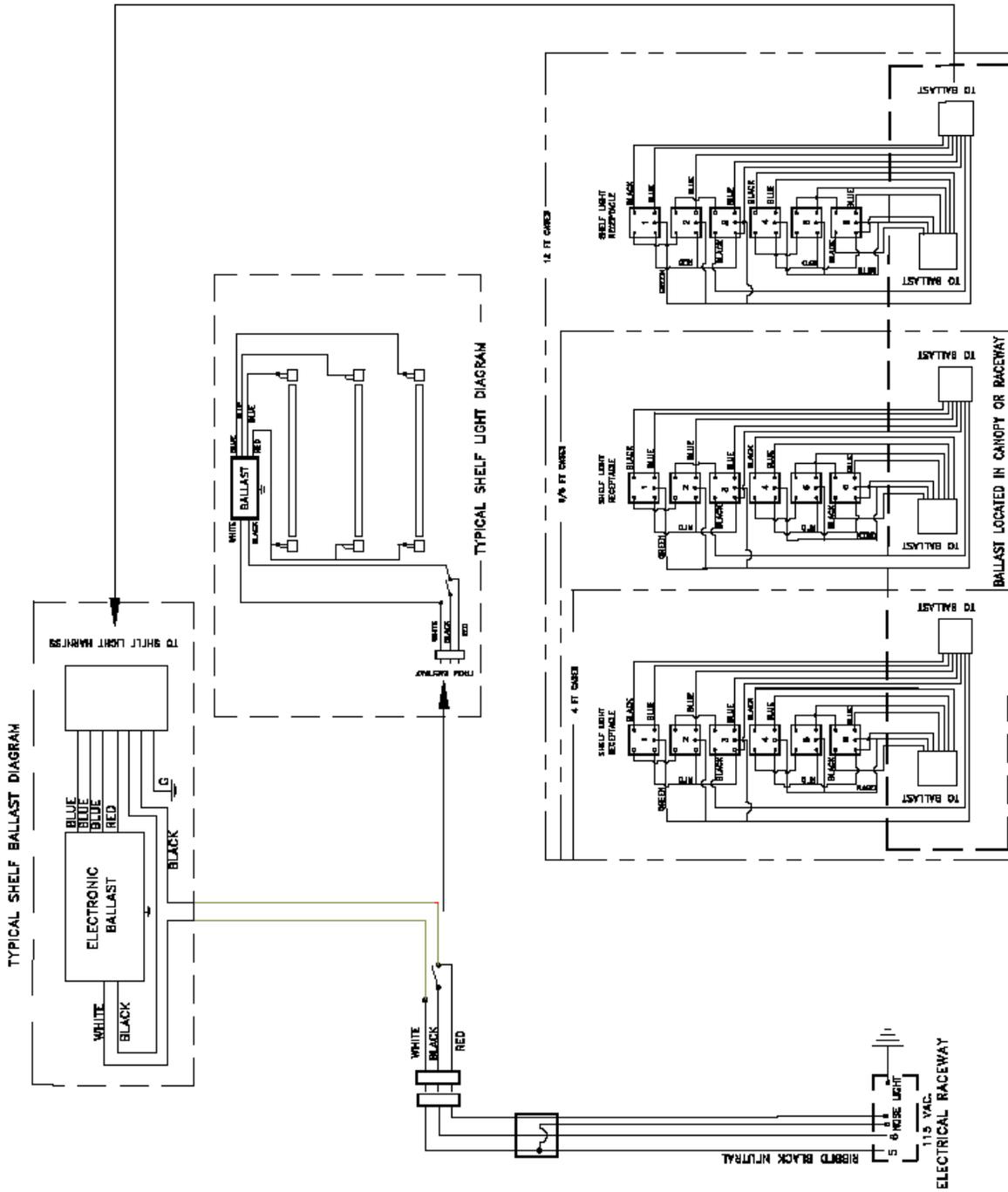
Note: The shelf light harness has power interruption circuit and ALL shelves must be plugged in correctly before any shelf lights will work. The **shelf plugs** are now located on the right side of each back panel. (See picture below).



**WARNING!** Always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as fans, heaters, thermostats and light bulbs. Failure to disconnect the electrical power may result in personal injury or death.

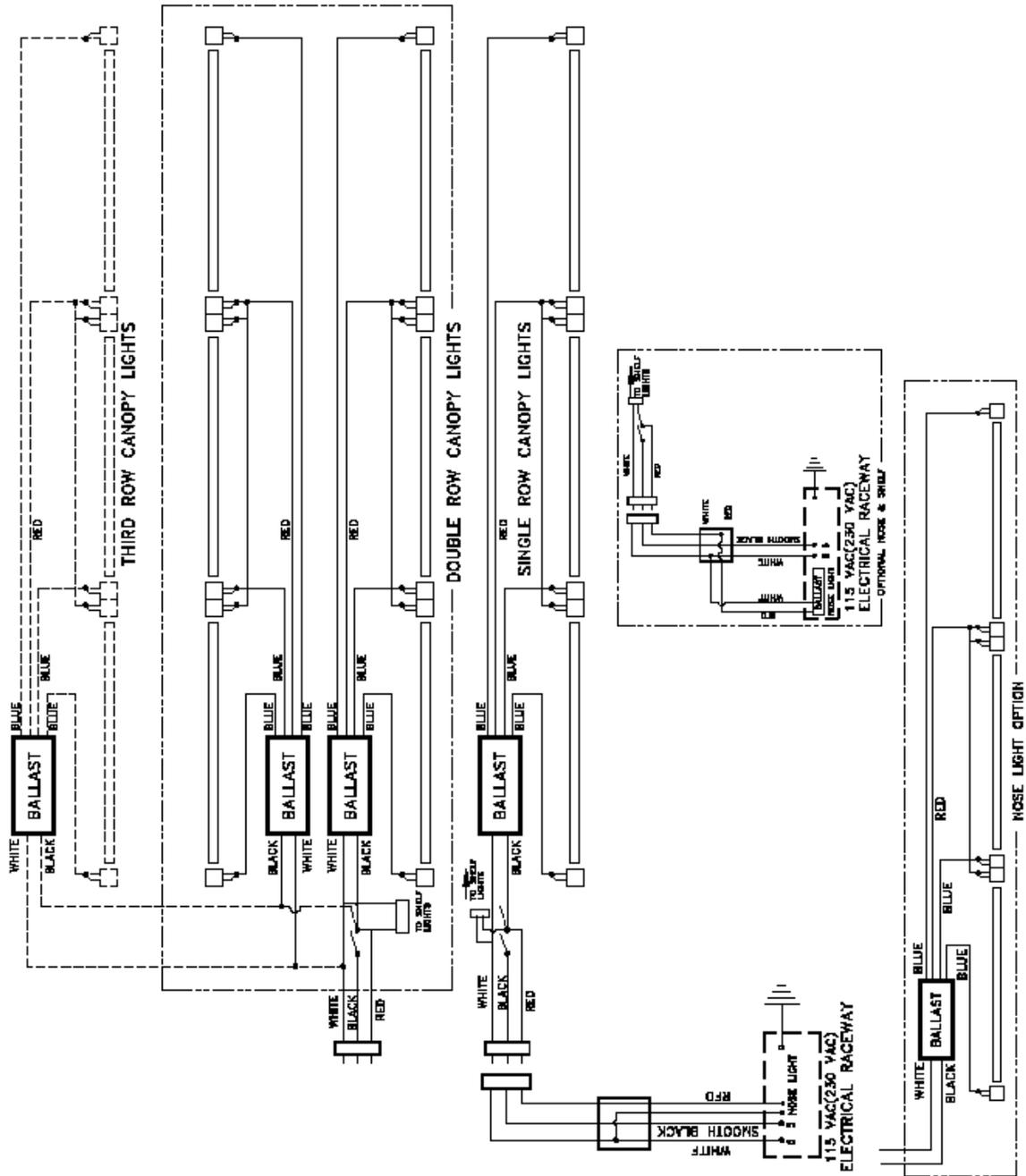
# Wiring Diagram

Both Canopy and Raceway



CAUTION: SHELF RECEPTACLE HAS BALLAST VOLTAGE.

# Wiring Diagram for Canopy Light



## INSTALLATION AND OPERATING INSTRUCTIONS

### *M4N3 MODEL*

### *MEAT-DELI MERCHANDISER*

#### **APPLICATION**

The Kysor//Warren self-service meat and deli cases are designed to merchandise red meat and deli products. These cases should be installed and operated according to the instructions contained in this manual to insure proper performance. They are designed for display of packaged products in an air-conditioned store where temperature and humidity are maintained at a **maximum of 75 degree F dry bulb temperature and 55% relative humidity**. This case meets the Commercial Refrigeration Manufacturers Association health and sanitation standard, CRS-S1-96, for retail food store refrigerators.

#### **MODEL**

#### **DESCRIPTION**

M4N3	Multi-Deck Meat or Deli, Off-Cycle Defrost, Two or Three Adjustable Shelves.
------	--

## TABLE OF CONTENTS

APPLICATION .....	1
GENERAL .....	4
SHIPPING DAMAGE .....	4
INSTALLATION & LOCATION .....	4
JOINING .....	5
WASTE OUTLET .....	6
INSTALLING DRIP PIPE .....	6
PLAN VIEW .....	7
CLEANING .....	7
LOADING .....	8
ELECTRICAL .....	8
ELECTRICAL RACEWAY .....	8
ELECTRICAL CONNECTIONS .....	9
REFRIGERATION FAN MOTORS .....	9
ANTI-SWEAT HEATERS .....	9
EXPANSION VALVE & SUPERHEAT .....	10
REFRIGERATION LINES .....	10
REFRIGERANT .....	11
HEAT EXCHANGER .....	11
OPERATION .....	11
DEHYDRATION OF REFRIGERATION SYSTEMS .....	11
OFF-CYCLE DEFROST .....	12
ELECTRIC DEFROST MODELS .....	12
HOT GAS DEFROST MODELS .....	13
THERMOSTAT LOCATION .....	13
RECOMMENDED CONTROL SETTINGS .....	13
CASE DATA .....	14
SHELF WIRING DIAGRAM .....	15
FAN WIRING DIAGRAM .....	16
CASE PART SELECTION .....	17

# 3000 *series*

CASE FRONT PART SELECTION .....	18
CASE TRIM SELECTION .....	19
CASE TRIM & ALIGNMENT .....	20
RECOMMENDED PIPING PRACTICES FOR KYSOR/WARREN CASES .....	23
PIPING DIAGRAM .....	25
M4N3 CASEVIEW .....	26
PARTS WARRANTY POLICY .....	27
WARRANTY.....	28

## **GENERAL**

These cases may be installed individually or in a continuous line-up consisting of several 8' and 12' sections by using a joint kit. A plexiglass divider kit must be used between cases operating on different refrigeration systems. The divider will be factory installed if specified on order.

## **SHIPPING DAMAGE**

All equipment should be examined for shipping damage before and during unloading. If there is any damage, the carrier should be notified immediately and an inspection requested. Also, any damage must be noted on the equipment delivery receipt. If damage is of a concealed nature, you must contact the carrier immediately or no later than three (3) days following delivery. A claim must be filed with the carrier by the consignee for all damages.

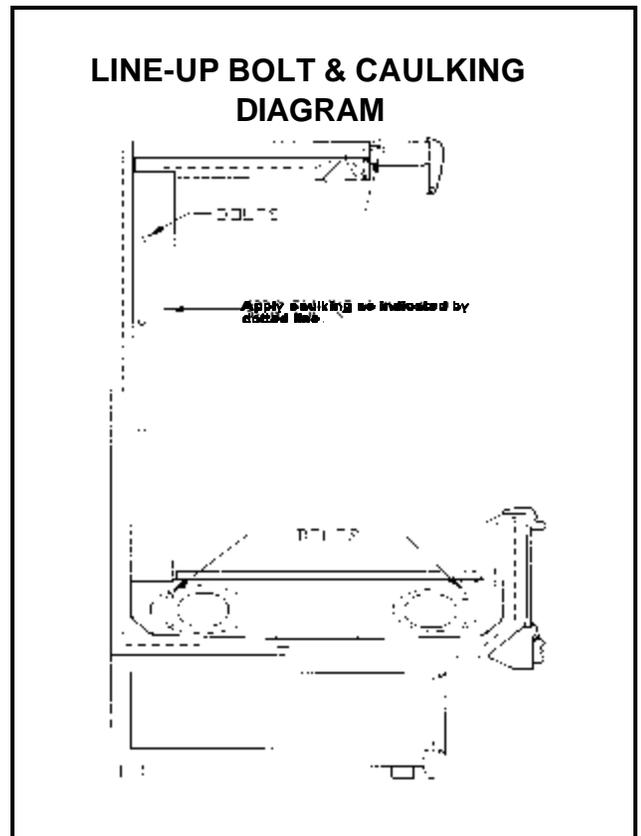
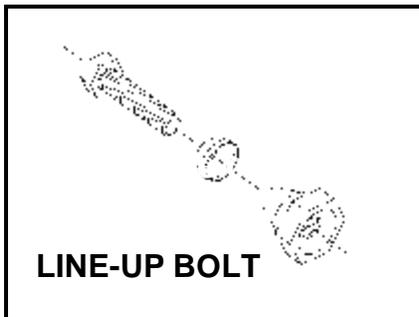
**NOTE:** All claims for shortages must be made within 10 days after receipt of shipment.

## **INSTALLATION & LOCATION**

**IMPORTANT:** This case must be located on a firmly based floor and leveled within plus or minus 1/16". Use shims provided to level your case.

## JOINING

Two or more cases of like models can be joined together to form a continuous line-up. Before lining up cases, inspect refrigeration lines, electrical connections and controls to insure cases are in the proper line-up and are in the proper sequence.



## JOINING INSTRUCTIONS

1. Move cases as near their permanent location as possible before removing shipping braces, skids or rollers. NOTE: all cases are factory numbered with line-up and position numbers. Make sure that cases are installed in order. (Line up sticker found on the front of each case.)
2. Remove skids and shipping braces. Install approximately a 5/16" bead of sealer at one end of case as noted by a phantom line on cross-section.
3. Move cases as close together as possible and level by using the shims provided. **CASES MUST BE LEVELED FROM FRONT TO BACK AND END TO END.**
4. Remove access covers over line-up holes & place the special T-nut washer on the 3/8" machine bolt with hollow section away from the bolt head. Insert the 3/8" line-up bolts

in the end frame. Tighten the 3/8" bolts with nut washer into the T-nuts alternately until cases are pulled up tight & the joint is completely sealed. (Reasonable care should be exercised in this procedure to prevent end frame distortion.) Assist in pulling the case up tight by bumping from opposite end of case or by using pry bar.

5. Inspect joint for proper air and water tight seal inside and outside the case.
6. Replace line-up access cover plugs & plates.

Most case trim can and should be installed immediately after cases are lined up to prevent loss. The trim that cannot be installed immediately such as the kickplate area, and related parts should be stored in a safe place until refrigeration and electrical work is completed.

## **WASTE OUTLET**

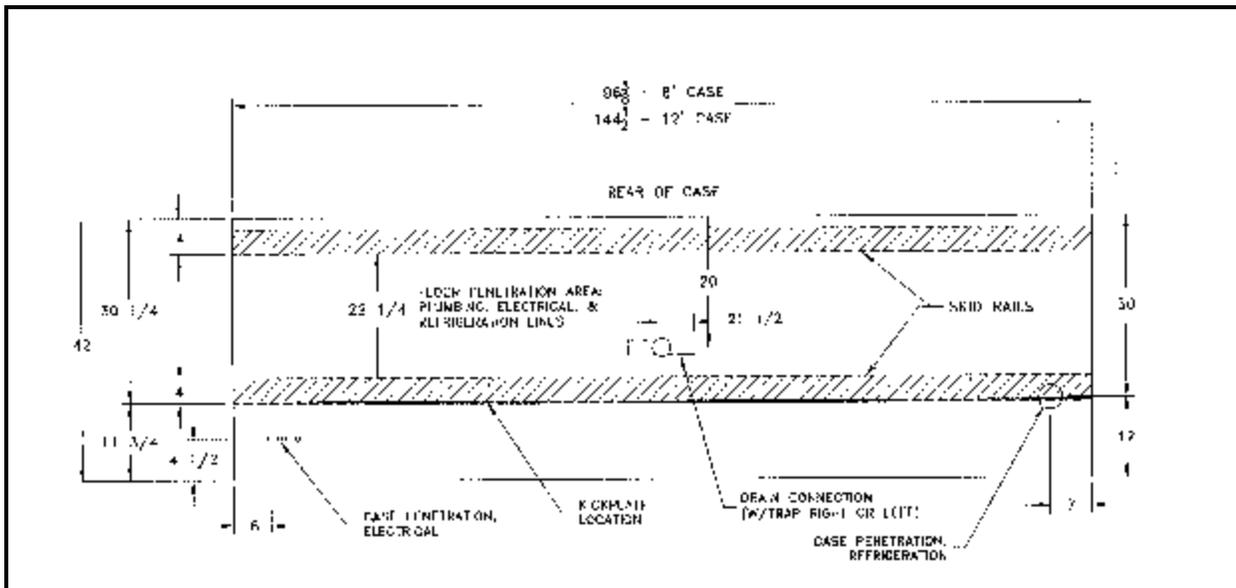
These cases are equipped with a 1 1/2" M-NPT waste outlet connection which terminates in the center of the case below the insulated bottom. A 1 1/2" PVC water seal trap is shipped loose for field installation.

## **INSTALLING DRIP PIPE**

Improperly installed drip pipes can seriously effect the operation of this case and result in increased maintenance cost. Listed below are some general rules for drip pipe installation:

- C Never use a double water seal.
- C Never use a pipe smaller than the size pipe or water seal supplied with the case.
- C Always provide as much fall as possible in drip pipe. (1" fall for each 4' of drip pipe.)
- C Avoid long runs of drip pipe which make it impossible to provide necessary fall.
- C Provide a drip space between drip pipe and floor drain or sewer connection.
- C Do not allow drip pipe to come in contact with uninsulated suction lines, which will cause the condensation from your case to freeze.

## PLAN VIEW



## CLEANING

To insure minimum maintenance cost, case should be thoroughly emptied and washed out at least once a month. The exterior should be washed weekly. A mild soap and water solution is recommended for painted surfaces of the cabinet. Do not use cleaners containing abrasive materials or ammonia which will scratch or dull finish. The waste outlet should be flushed with water following each cleaning.

**CAUTION:** Be sure that refrigeration and all electrical power is off before washing your case.

**WARNING:** Never introduce water into the case faster than the waste outlet can carry it away. Do not use steam or high pressure systems to clean the case, as seals may be broken which will cause the case to leak. When cleaning lighted shelves, wipe down with a wet sponge or cloth so that water does not enter the light rails. Do not use a hose or submerge shelves in water.

## ***LOADING***

Merchandise should not be placed in the case until all controls have been adjusted and the case is at proper temperature. **AT NO TIME SHOULD THE CASE BE STOCKED BEYOND THE LOAD LINE OR OVER THE FRONT EDGE OF ADJUSTABLE SHELVES.** In doing so, you will seriously affect the performance which will result in higher product temperatures and increase operating costs.

## ***ELECTRICAL***

All field installed wiring must comply with the NATIONAL ELECTRICAL CODES and LOCAL CODES.

## ***ELECTRICAL RACEWAY***

An electrical raceway is provided with each case for wiring your fan, anti-sweat heaters, and light circuits from case to case without using conduit. This applies, of course, when the front bumper is properly secured into position. This is an approved method by the Underwriters' Laboratories; however, field wiring must be in accordance with local and national electrical codes.

## ***ELECTRICAL CONNECTIONS***

All field connections are made in the electrical raceway. Make sure that proper voltage is supplied to your case. Check case nameplate for the required voltage for fans, anti-sweat heaters, lights and defrost heaters. **ALL CASES MUST BE GROUNDED.** The Case Data chart on page 15 shows the electrical ratings for your case. This is the same information that appears on your case nameplate.

**NOTE:** Fan motors must operate continuously and panel must be marked sufficiently to prevent the fan motors from being turned off accidentally. When cases are multiplexed, add the total of these amperage values to determine wire size and circuit protection.

On electric defrost models, the defrost heater amperages of all cases on defrost circuit should be added together, and if their rating exceeds the defrost time clock or condensing unit breaker capacity, a defrost relay and circuit breaker must be employed and furnished by others. Make sure that proper wire size and branch circuit protection are employed for safe operation.

## ***REFRIGERATION FAN MOTORS***

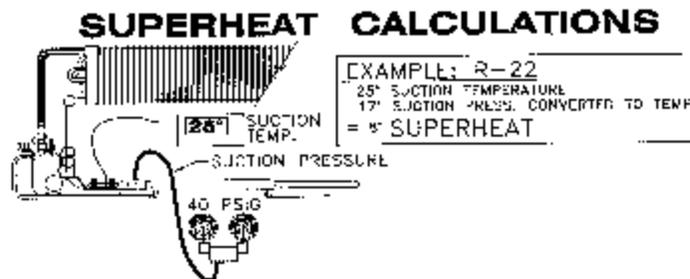
The fan motors employed are permanently oiled for the life of the motor and require no periodic maintenance. They are wired according to the enclosed wiring diagram and must run continuously.

## ***ANTI-SWEAT HEATERS***

M4N3 cases have no anti-sweat heaters.

## EXPANSION VALVE & SUPERHEAT

The expansion valve furnished with your case has been sized for maximum coil efficiency. To adjust superheat, place a thermocouple under the expansion valve bulb. Read the suction line pressure as near coil as possible. (If at the condensing unit, estimate suction line loss at 2 PSIG.) Convert coil suction pressure to temperature. The difference between coil temperature and the thermocouple temperature is superheat. (Use average superheat when expansion valve is hunting.) Do not set superheat until cases have pulled down to operating temperature and never open or close valve over 1/4 turn between adjustments. Allow 10 minutes or more between adjustments. Superheat setting should be between 6 and 8 degrees F.



## REFRIGERATION LINES

The refrigeration lines are located under the deck pans on the 8' and 12' cases. A refrigeration outlet is provided in the front right hand end of the M4N3 cases. Make sure all refrigeration lines lie close to the case bottom so as not to obstruct the air pattern or block the deck pans. See the section on "Recommended Piping Practices" for additional details on piping.

These 8' and 12' cases have polyurethane foamed-in-place insulation. In opening a ferrule hole, simply heat a piece of copper tubing of the same size as the tubing to be employed and force it through the ferrule hole.

**NOTE:** Seal around lines after connections are made. Keep direct flame from bottom of cases, as heat will disintegrate the bottom and insulation. Use a heat shield when welding near the bottom of the cases.

## ***REFRIGERANT***

Expansion valves are supplied for the refrigerant specified on the original sales order.

## ***HEAT EXCHANGER***

Heat exchangers are standard in these cases. They aid to increase operating efficiency and reduce frosting and flood-back to the compressor. Heat exchangers may not be used if mechanical subcooling is incorporated in the system design.

## ***OPERATION***

On single condensing unit systems a thermostat should be used to control temperatures. The thermostat bulb should be mounted in the discharge air. On parallel units, temperature control can be provided by EPR valve, thermostat and liquid line solenoid or solid state low pressure controls on the compressor unit. The Recommended Control Settings chart shows approximate settings for cases. Since many variables are present in each installation, such as store temperature, length of tubing runs, temperature desired in case, etc., the case data is only a guide for the installer.

## ***DEHYDRATION OF REFRIGERATION SYSTEMS***

Please read carefully before placing system into operation. To prevent scaling due to brazing, dry nitrogen should be allowed to flow through lines at 2 psig while brazing operations are taking place. After laying refrigerant lines, they should be blown out with dry nitrogen before making final connections at fixture or condensing unit to prevent any foreign matter being left

in the lines.

After the case has been pressure-tested (not to exceed 250 pounds) and proven leak-free, it is recommended that the case be dehydrated with a vacuum pump to 1000 microns for the first two evacuations and 500 microns on the third. This triple evacuation method requires evacuating the case three successive times and breaking the first two vacuums with dry nitrogen. The third vacuum would be broken with the refrigerant specified for the case.

**CAUTION: During installation and service of this equipment, precautions should be taken to prevent loss of refrigerant to the atmosphere.**

## ***OFF-CYCLE DEFROST***

Off-cycle defrost is standard on these models. The fans run continuously and defrost termination is by a bi-metal “fixed” temperature control. These controls are wired in series and set to terminate at 45 degrees F on the coil. See the case data page for defrost clock control settings. The defrost cycle is initiated by the time clock, which stops the refrigeration until the coil is free of frost.

**Note: Do not use pump down systems with off-cycle defrost. On parallel compressor systems, an electric stop EPR valve or solenoid is required in the suction line.**

## ***ELECTRIC DEFROST MODELS***

For optional electric defrost, electric heaters are utilized to melt the frost and ice on the coil. The heaters are located in the air stream in front of the coil. The defrost cycle is time initiated and should be temperature terminated. Case fans operate continuously in defrost and refrigeration. As a safety precaution, a safety cut-off is wired in series with the defrost heater to turn the heater off at temperatures above 70-degree F.

## **HOT GAS DEFROST MODELS**

On hot gas defrost models, (optional for parallel compressors operation only) hot gas is routed through the suction line and evaporator coil. It exits the coil through a by-pass around the expansion valve and heat exchanger to return to the liquid line where the condensed liquid is used to feed the other cases on the same parallel unit. The case fans continue to operate during defrost to warm up the drain pan and air ducts. The defrost cycle is time initiated and should be temperature terminated.

## **THERMOSTAT LOCATION**

For convenience, the thermostat (if utilized) is located at the left end of the case. If the case is equipped with a defrost terminator, it will be located in the same area.

## **RECOMMENDED CONTROL SETTINGS**

<b><u>MODEL</u></b>	<b><u>REFRIGERANT</u></b>	<b><u>EPR SETTING</u></b>	<b><u>THERMOSTAT</u></b>	
			<b><u>CUT-OUT</u></b>	<b><u>CUT-IN</u></b>
M4N3	HCFC-22	43#	26E	22E
	HFC-134a	18#	26E	22E
(+20 deg F)	R-404a	55#	26E	22E
	HFC- 507	59#	26E	22E

## CASE DATA M4N3

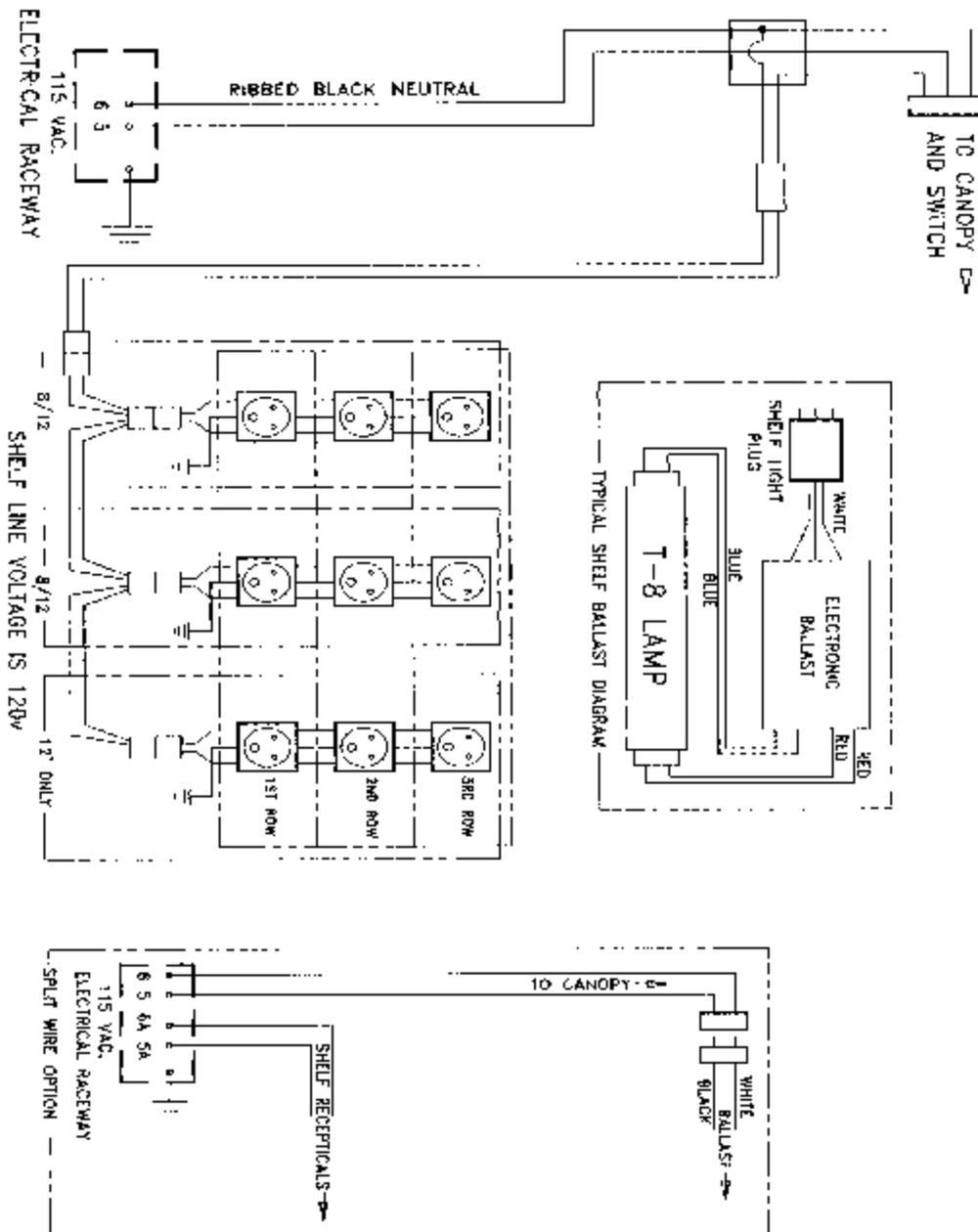
M4N3		8'	12'
<b>Cubic Feet Capacity</b>	M4N3	60.8 cf	91.1 cf
<b>Square Feet Display Area</b>		56 sf	84 sf
<b># of Fans/ Wattage</b>	Electric & Hot Gas defrost Air defrost	2/40 2/40	3/60 3/60
<b>Light Wattage-Canopy</b>	1- Row	49 w	85 w
	2-Rows	99 w	170 w
<b>Optional Defrost Heater Load (watts)</b>		1825w	2654w
<b>Defrost Amps@ (230v)</b>		7.93a	11.54a
<b># Defrosts/ Fail Safe (Off-Cycle)-</b>		4/40 min	4/40 min
<b># Defrosts/ Fail Safe (Electric)-</b>		4/30 min	4/30 min
<b># Defrosts/ Fail Safe (Hot Gas)-</b>		4/18 min	4/18 min
<b>Defrost Termination</b>	Off-Cycle	45E	45E
	Hot gas & Electric	55E	55E
<b>Superheat Setting</b>		6E to 8E	6E to 8E
<b>Evaporator Temp</b>		+20E	+20E
<b>BTU Requirements</b>	M4N3	*11,000	*16,500

**IMPORTANT:** \* BTU requirements shown are for use on parallel systems only. A minimum excess capacity should be added to all conventional single compressor condensing units.

**NOTE:** Temperature is measured in discharge air. Defrost frequency is at design conditions. (Max 75EF and 55% humidity) Higher temperature or humidity may require more defrost and longer failsafes.

# 3000 series

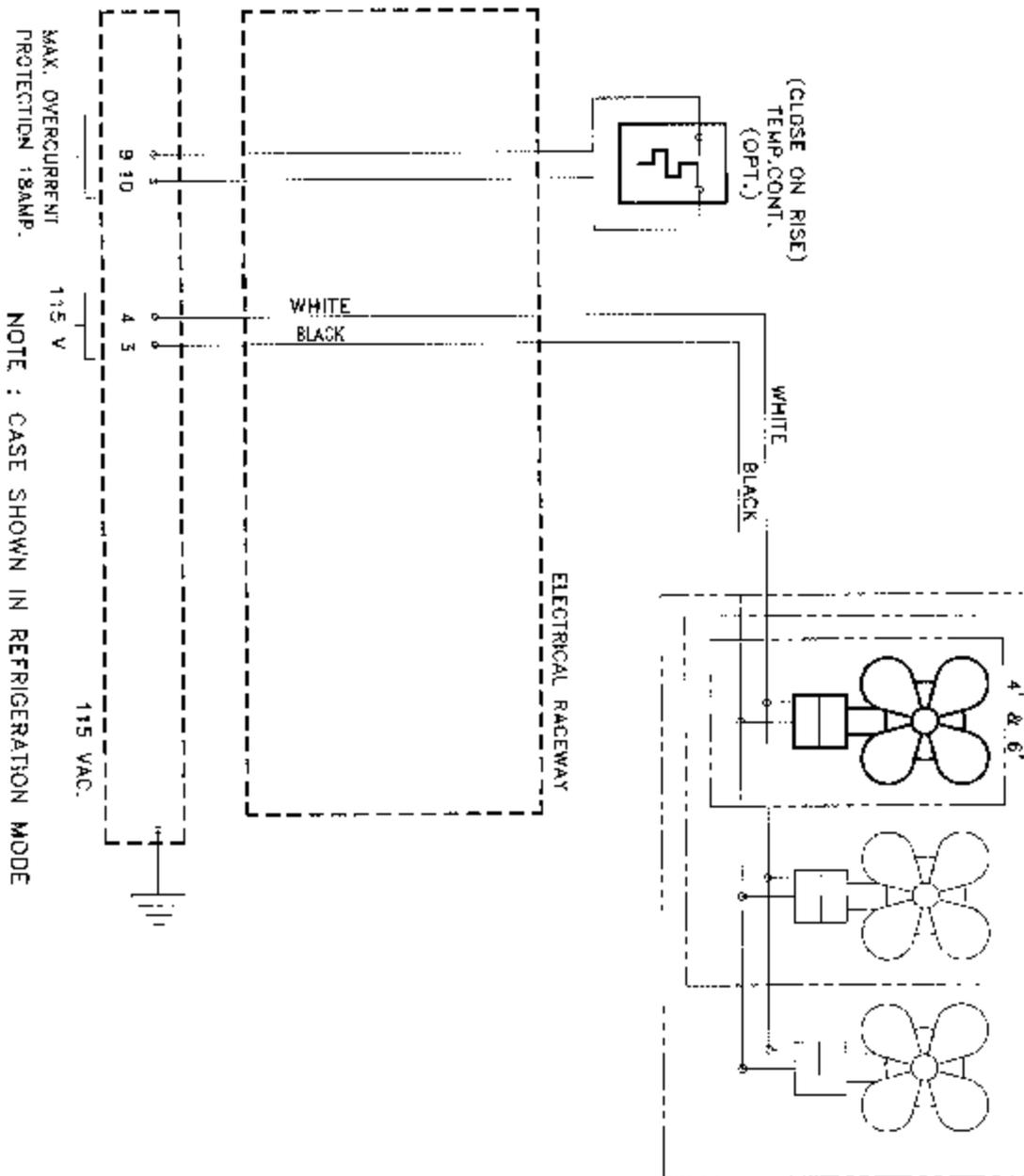
## SHELF WIRING DIAGRAM- M4N3



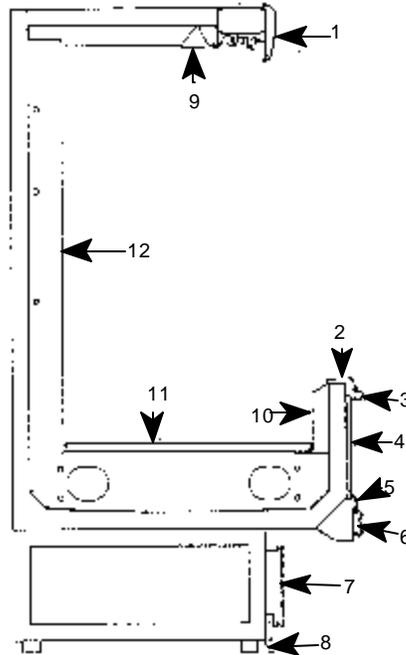
Merchandising Solutions By

**KYSOR/WARREN**

## FAN WIRING DIAGRAM- M4N3



## CASE PART SELECTION



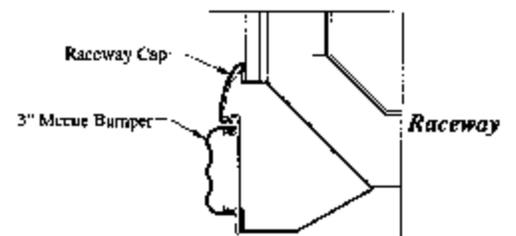
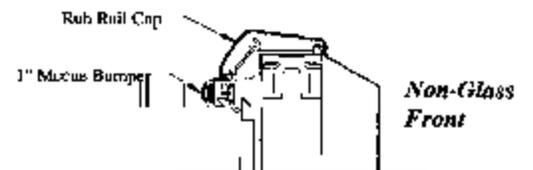
1	Canopy	7	Lower Front Panel
2	Rub Rail Cap	8	Kickplate
3	1" Bumper	9	Honeycomb
4	Upper Front Panel	10	Front Baffle
5	Raceway Cap	11	Deck Pan
6	3" Bumper	12	Inside Back Panel

## CASE FRONT PART SELECTION

### FOR CASES IN A LINEUP:

Rub Rail Cap Starter	1/lineup	Std. or w/ ptm
Raceway Cap Starter	1/lineup	
1" Mccue Bumper Starter	1/lineup	
3" Mccue Bumper Starter	1/lineup	

Rub Rail Cap	1/case	Std. or w/ptm
Raceway Cap	1/case	
1" Mccue Bumper	1/case	
3" Mccue Bumper	1/case	



### FOR SINGLE CASE:

Rub Rail Cap	1/case	Std. or w/ ptm
Raceway Cap	1/case	
1" Mccue Bumper	1/case	
3" Mccue Bumper	1/case	

## **CASE TRIM SELECTION**

### **FOR SINGLE CASE W/ TWO ENDS:**

No end trim is required.

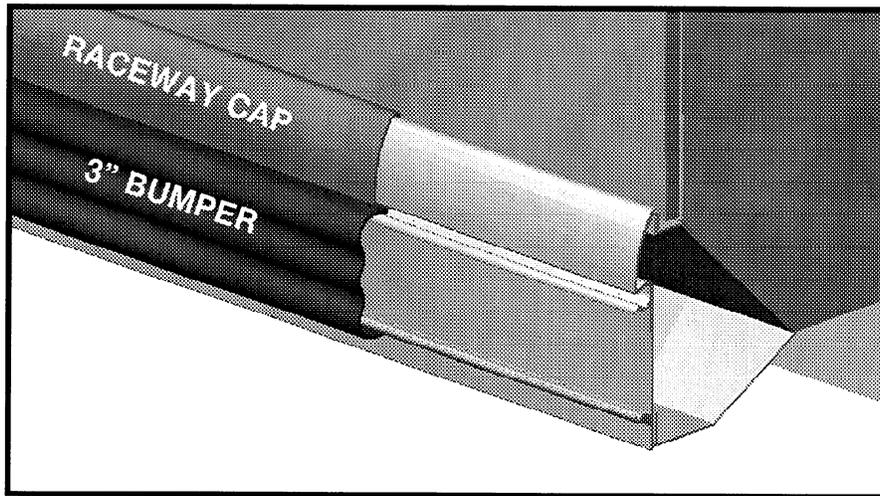
**NOTE:** IF A MUTUAL END IS USED IN A LINEUP, THE PROPER ADDITIONAL PIECES OF TRIM SHOULD BE USED.

### ***3" Bumper***

- Install the 3" bumper parts to the raceway using the same procedure as described for the 1" bumper parts.

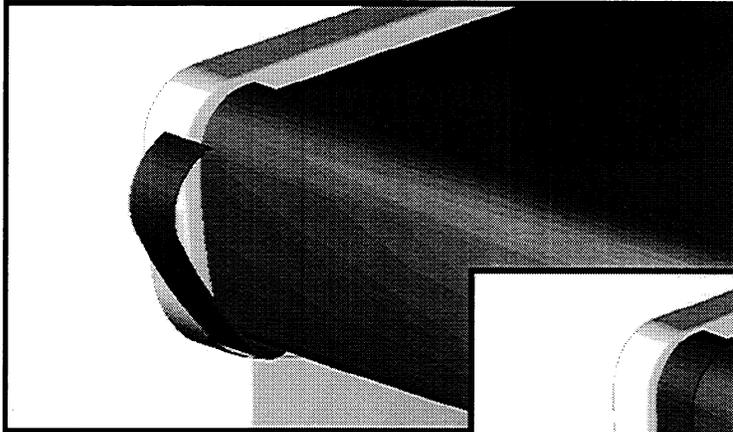
### ***Raceway Cap***

- Install the raceway cap parts to the raceway using the same procedure as described for the rub rail cap. *Note:* The raceway cover parts do not overlap as the rub rail cap parts do.

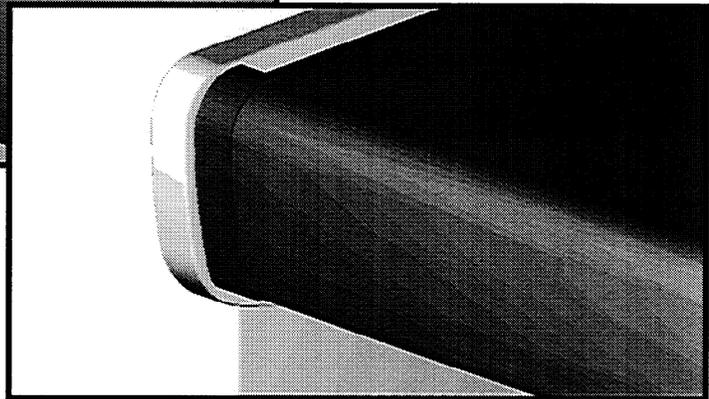


### ***Canopy End Trim Installation - All Models***

---

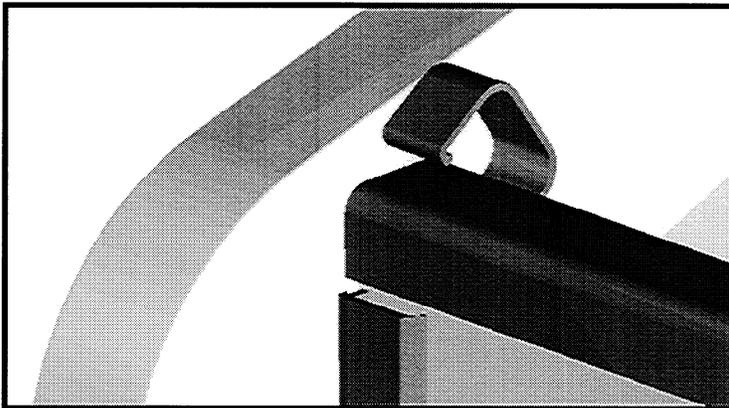


Hook the end trim under the lower edge of the canopy then rotate the part over the top of the canopy and snap into place.

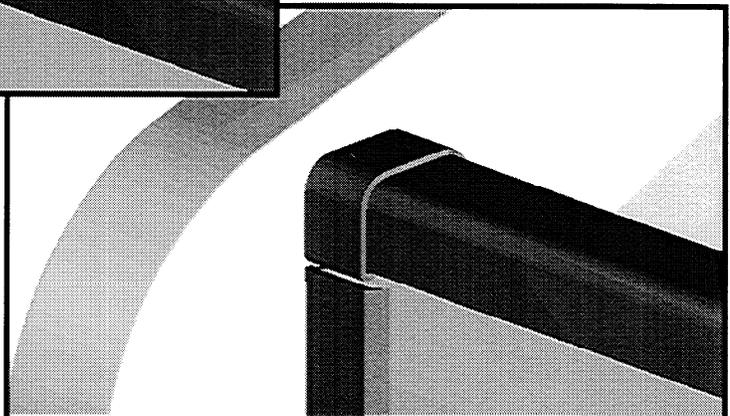


### ***Glass Cap Rail End Trim Installation - Glass Models***

---



Hook the back inside edge of the end trim to the back side of the glass cap rail then rotate the part forward and snap into place.



## ***Bumper, Rub Rail Cap, and Raceway Cover Installation***

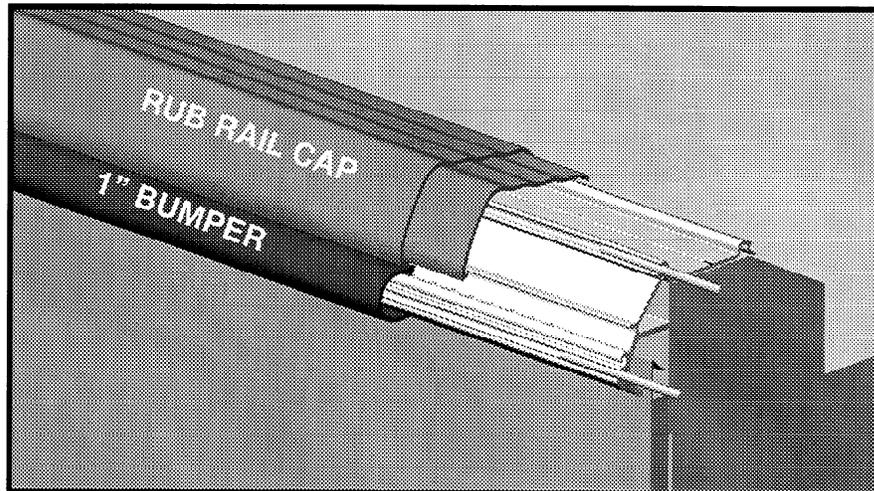
---

### ***1" Bumper***

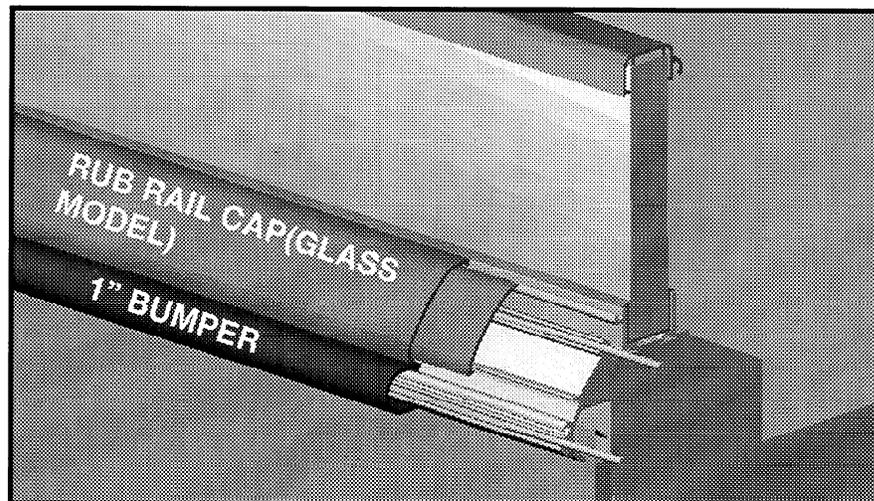
- Install the two foot length of 1" bumper to the left hand end of the first case in the lineup. To install the bumper hook the lower edge of the bumper to the aluminum retainer and rotate the bumper up and snap the top edge onto the retainer. Install this part as close to the case flat end panel as possible.
- Install the additional case length 1" bumper parts crossing over the joint of the cases in the lineup and trimming the last piece to fit the last case in the lineup.

### ***Rub Rail Cap***

- Install the four foot rub rail cap part to the left hand of the first case in the lineup. To install the rub rail cap hook the lower edge of the cap to the aluminum front rail just above the 1" bumper then rotate the cap toward the case and snap it down to the back hook on the aluminum rail on non-glass models and the top hook on the aluminum rail on glass models. Install this part as close to the case flat end panel as possible.
- Install the additional case length rub rail cap parts as close to one another as possible, crossing over the joint of the cases in the lineup and overlapping each part where provided. Trim the last part to fit the last case in the lineup.



**Non-Glass Model**



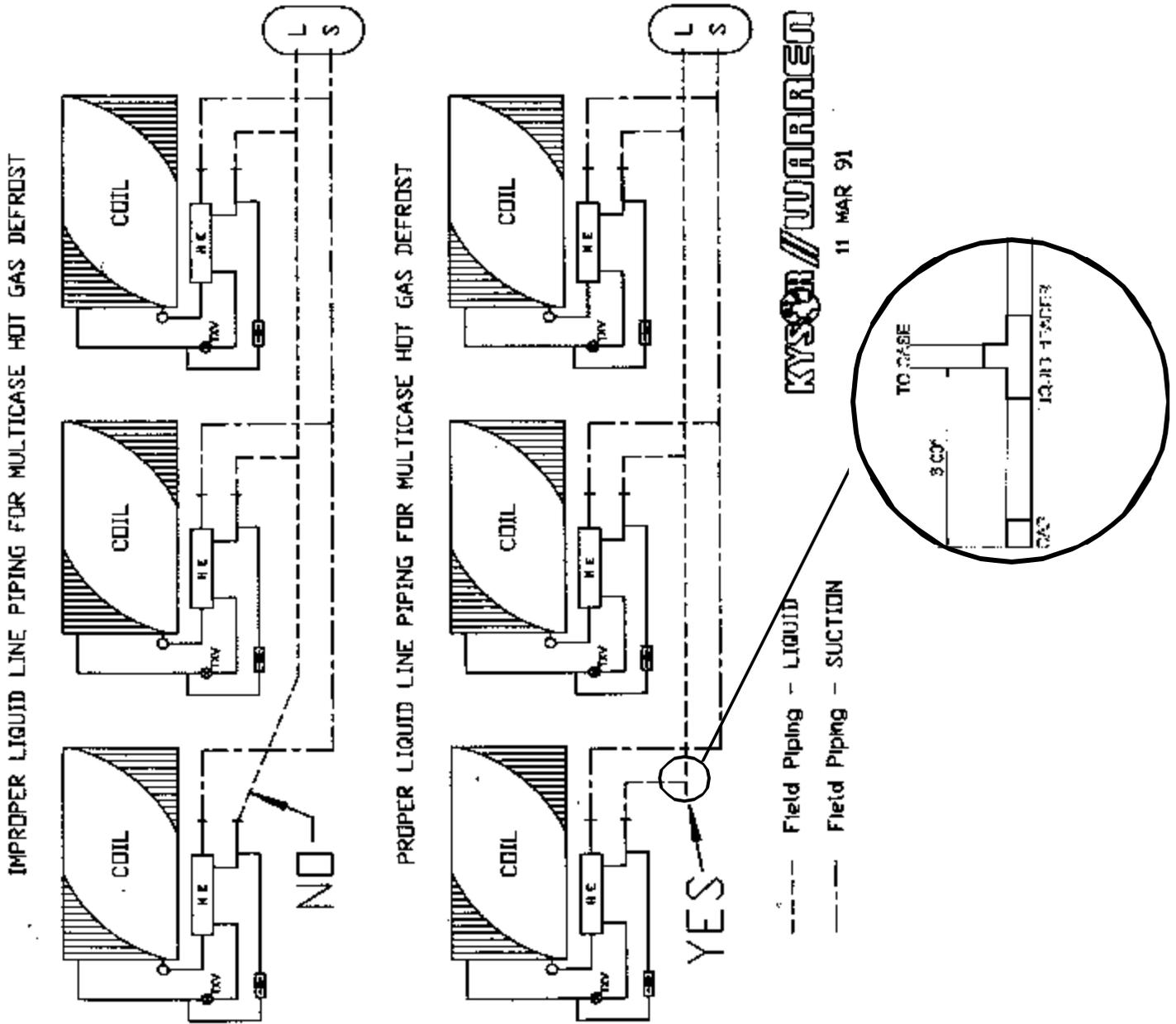
**Glass Model**

## **RECOMMENDED PIPING PRACTICES FOR KYSOR/WARREN CASES**

1. Proper size refrigeration lines are essential to good refrigeration performance. Suction lines are more critical than liquid or discharge lines. Oversized suction lines may prevent good oil return to the compressor. Undersized lines can rob refrigeration capacity and increase operating cost. Consult the technical manual or legend sheet for proper line sizes.
2. Refrigeration lines in cases in line-ups can be reduced. However, the lines should be no smaller than the main trunk lines in at least 1/3 of the cases and no smaller than one size above the case lines to the last case. Reductions should not exceed one line size per case. It is preferred to bring the main trunk lines in at the center of line-up. Liquid lines on systems on hot gas defrost must be increased one line size above the main trunk line for the entire line-up. Individual feed lines should be at the bottom of the liquid header.(See proper liquid line piping diagram on page 32)
3. Do not run refrigeration lines from one system through cases on another system.
4. Use dry nitrogen in lines during the brazing to prevent scaling and oxidation.
5. Insulate suction lines from the cases to the compressor with 3/4" wall thickness foam on low temperature cases to provide maximum of 65-degree sub-cooled gas back to the compressor and prevent condensation in exposed areas. Insulate suction lines on medium temperature cases with 1 /2" thick insulation in exposed areas to prevent condensate droppage.
6. Suction and liquid lines should never be taped or soldered together. Adequate heat exchanger is provided in the case. Kysor//Warren recommends use of heat exchanger in all medium and low temperature case that are not mechanically sub-cooled for proper operation.
7. Refrigeration lines should never be placed in the ground unless they are protected against moisture and electrolysis attack.

8. Always slope suction lines down toward the compressor,  $\frac{1}{2}$ " each 10'. Do not leave dips in the line that would trap oil.
9. Provide "P" traps at the bottom of suction line risers, 4' or longer. Use a double "P" trap for each 20' of risers. "P" traps should be the same size as the horizontal line. Consult the technical manual or legend sheet for proper size risers.
10. Use long radius ells and avoid 45-degree ells.
11. Provide expansion loops in suction lines on systems on hot gas defrost. An expansion loop is required for each 100' of straight run.
12. Strap and support tubing to prevent excessive line vibration and noise.
13. Brazing of copper to copper should be with a minimum of 10% silver. Copper to brass or copper to steel should be with 45% silver.
14. Avoid the use of "bull head" tees in suction lines. An example is where suction gas enters both ends of the tee and exits the center. This can cause a substantial increase in pressure drop in the suction lines.
15. When connecting more than one suction line to a main trunk line, connect each branch with an inverted trap.

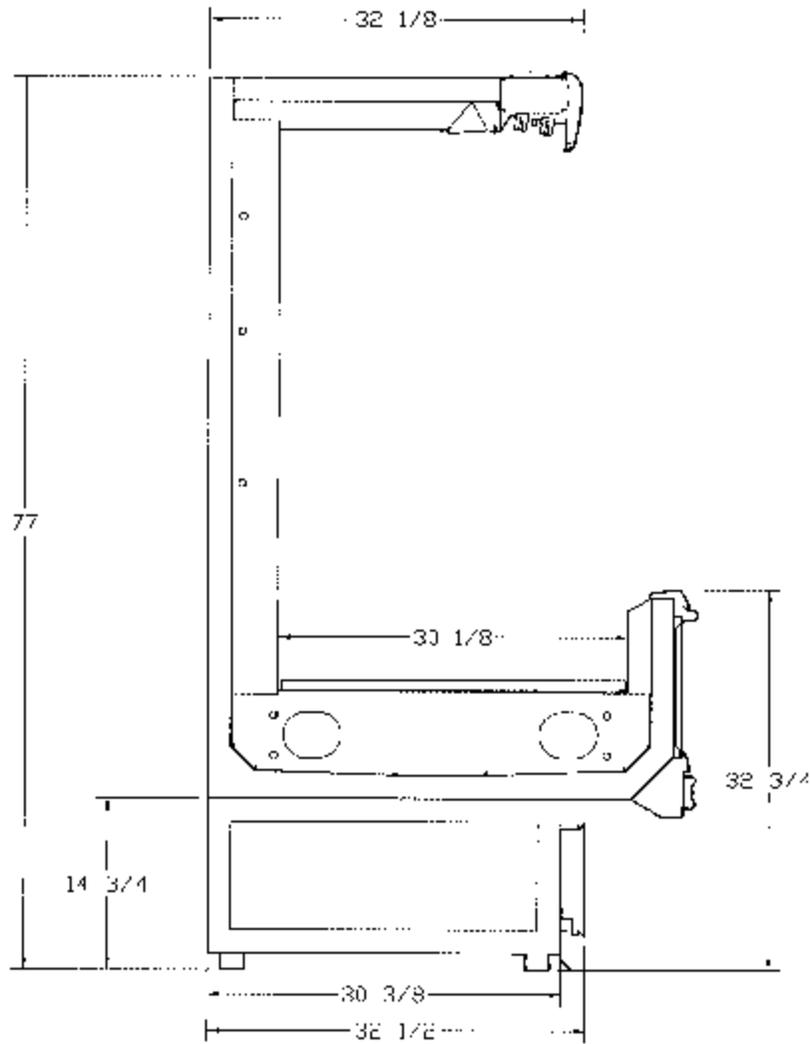
## PIPING DIAGRAM



Merchandising Solutions By

**KYSOR/WARREN**

## CASE VIEW - M4N3



## ***PARTS WARRANTY POLICY***

The following procedures are in accordance with Kysor//Warren's standard one year warranty which covers any part to be free of defects under normal use and service for one year from the date of installation. **Not to exceed one year and thirty days from the date of original shipment from the factory.**

### ***New Equipment Parts Shortages and Defects***

Any parts shortages or damage must be reported to Kysor//Warren no more than 10 working days from the date of delivery. After this time has expired Kysor//Warren will assume the parts were lost during installation and all parts required will be charged cost plus shipping to replace.

### ***Parts Ordering Procedure***

All parts must be ordered through the Kysor//Warren parts department with the following information:

- Store Name and Number
- Location
- Unit or Case Model and Serial Number
- Firm or Contractor Placing Order
- Shipping Address
- Part Description
- Reason for Defect

If the order is for a replacement part still in warranty a Purchase Order Number will be required from the contractor placing the order. We will then issue a Return Material Authorization Tag that will be sent to the firm or contractor who has ordered the part.

### ***Return Authorization Procedure***

Warranty parts must be returned postage prepaid to Kysor//Warren within 30 days from replacement part ship date and must be accompanied by a RMA in order to ensure proper credit. The RMA tag number should also be written on the outside of the box. Any parts not returned within 30 days will be invoiced to the firm or contractor who has placed the order.

IN THE CONSTANT EFFORT TO IMPROVE OUR PRODUCTS, WE RESERVE THE RIGHT TO CHANGE AT ANY TIME SPECIFICATIONS, DESIGN, OR PRICES WITHOUT INCURRING OBLIGATION.

# KYSOR/WARREN

DIVISION OF KYSOR INDUSTRIAL CORPORATION

P.O. Box C  
1800 Industrial Blvd.  
Conyers, Georgia 30207  
770-489-6600

## ONE-YEAR WARRANTY

KYSOR/WARREN warrants to the original purchaser this new equipment and all parts thereof, to be free from defects in material and workmanship under normal use and service. If any part or parts of the equipment should prove defective during the period of one year from installation date (not to exceed one year and thirty days from the date of original shipment from the factory), KYSOR/WARREN hereby guarantees to replace or repair, without charge (F.O.B. CONYERS, GEORGIA), such part or parts as prove defective, and which KYSOR/WARREN's examination discloses to its satisfaction to be thus defective, with a new or functionally operative part. The liability of KYSOR/WARREN under this warranty shall be limited to claims made by the original purchaser to KYSOR/WARREN or its local distributor within the warranty period.

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS, AND ALL OTHER OBLIGATIONS OR LIABILITIES OF KYSOR/WARREN.**

**I. GLAZING:** Glass is not guaranteed against breakage. If this refrigerator is equipped with a glazing assembly carrying the manufacturer's brand name (Thermopane, Twindow, etc.), the manufacturer's glazing warranty in effect at the time of this shipment is extended to that assembly. It is void outside the continental United States.

**II. BULBS:** Light Bulbs and Fluorescent lamp tubes are not covered by any warranty for length of life or for any type of breakage.

### **III. THIS WARRANTY SHALL NOT APPLY:**

1. To the condensing unit used with refrigerated equipment unless same was sold and shipped by KYSOR/WARREN.
2. When this equipment or any part thereof is damaged by fire, flood, act of God, or when the original model and serial-number plate has been altered, defaced, or removed.
3. When this equipment or any part thereof is subject to accident, alteration, abuse, misuse, tampering, operation on low or improper voltages, or is put to a use other than recommended by KYSOR/WARREN.
4. When this equipment or any part thereof is damaged, or when operation is impaired, due to failure to follow installation manual (improper installation is the responsibility of the installer).
5. Outside the continental United States, Canada and Mexico.
6. To labor cost for replacement of parts, or for freight or shipping expenses.
7. To freight or shipping charges or to customs duties to ANY country.
8. If the Warranty holder fails to comply with all the provisions, terms and conditions of this Warranty.

Parts replaced under this Warranty are warranted only through the remainder of the original Warranty. KYSOR/WARREN may, at its option and in its discretion, elect to honor this Warranty and to disregard the original purchaser's noncompliance with any of the provisions, terms and conditions of the Warranty.

### **THIS WARRANTY DOES NOT COVER CONSEQUENTIAL DAMAGES.**

KYSOR/WARREN shall not be liable under any circumstances for any consequential damages, including loss of profits, additional labor costs, loss of refrigerant or food products, or injury to person or property caused by defective material or parts or for any delay in the performance of this Warranty due to causes beyond its control. The foregoing shall constitute the sole and exclusive remedy of any purchaser and the sole and exclusive liability of KYSOR/WARREN in connection with this product.

