

VR1-D

DELI SERVICE MERCHANDISER

USER MANUAL

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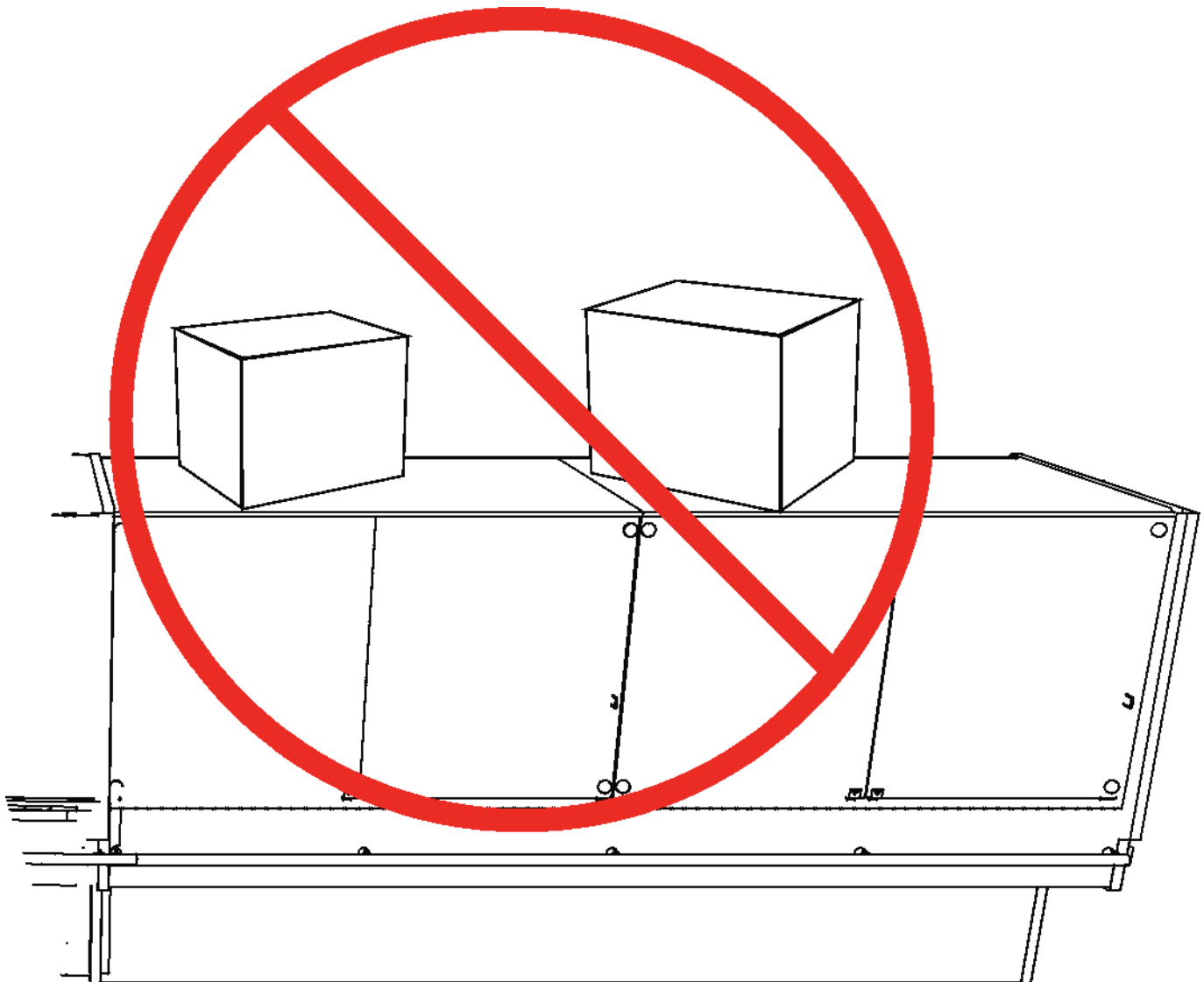
Notice



WARNING

1. DO NOT load or stand over top of case. Glass breakage may occur if precautions are disregarded.

*Broken glass can cause lacerations, cuts, and puncture wounds which may result in severed arteries or tendons, amputations, eye injuries, or exposure to disease.



General Information

Case Description:

Description: Refrigerated Service Deli Merchandiser

Shipping Damage: All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory and the carrier has assumed responsibility for safe arrival. If damaged, either apparent or concealed, claim must be made to the carrier Immediately.

Apparent Loss or Damage: If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, carrier may refuse claim. The carrier will supply necessary claim forms.

Concealed Loss or Damage: When loss or damage is not apparent until after all equipment is uncrated, a claim for concealed damage is made. Make request in writing to carrier for inspection within 15 days, and retain all packaging. The carrier will supply inspection report and required claim forms.

Shortages: Check your shipment for any possible shortages of material (See Parts List page 9). If a shortage should exist and is found to be the responsibility of Hussmann Chino, notify Hussmann Chino. If such a shortage involves the carrier, notify the carrier immediately, and request an inspection. Hussmann Chino will acknowledge shortages within ten days from receipt of equipment.

Hussmann Chino Product Control: The serial number and shipping date of all equipment have been recorded in Hussmann's files for warranty and replacement part purposes. All correspondence pertaining to warranty or parts ordering must include the serial number of each piece of equipment involved, in order to provide the customer with the correct parts.

Location/Store Conditions: The VR1-D refrigerated merchandiser has been designed for use only in air conditioned stores where temperature and humidity are maintained at or below 75°F Dry bulb and 55% relative humidity. DO NOT allow air conditioning, electric fans, ovens, open doors or windows (etc.) to create air currents around the merchandiser, as this will impair its correct operation.

Keep this booklet with the case at all times for future reference.

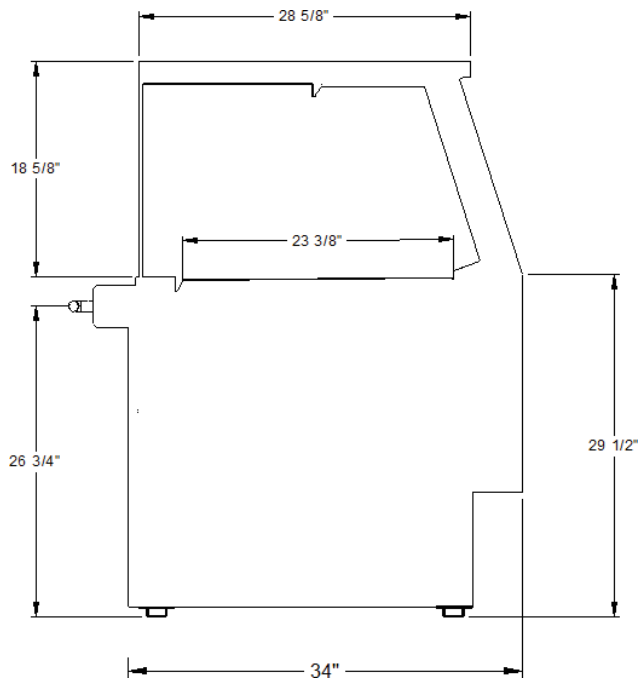
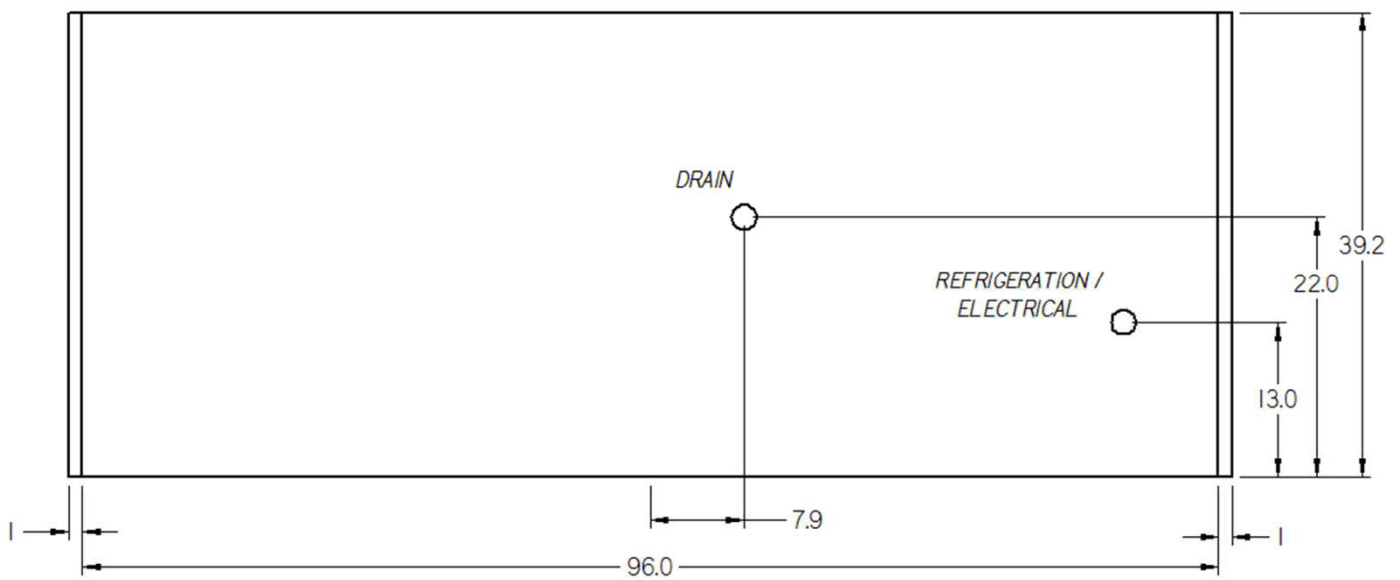
HUSSMANN®/CHINO

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(909) 628-8942 FAX
(909) 590-4910
(800) 592-2060



This equipment is to be installed to comply with the applicable NEC, Federal, State, and Local Plumbing and Construction Code having jurisdiction.

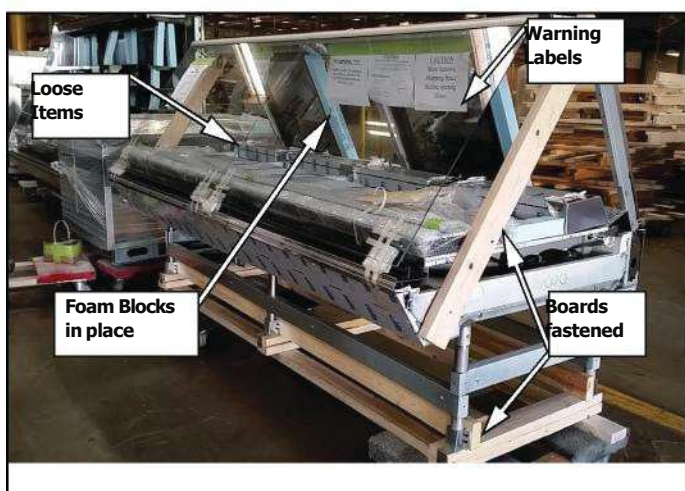
CASE SECTIONS

VR1-D**VR1-D-8 PLAN**

Installation

NOTICE

Do NOT remove Foam Blocks from shelves and glass until the merchandisers are positioned for installation. Shelves or merchandising glass may be damaged.



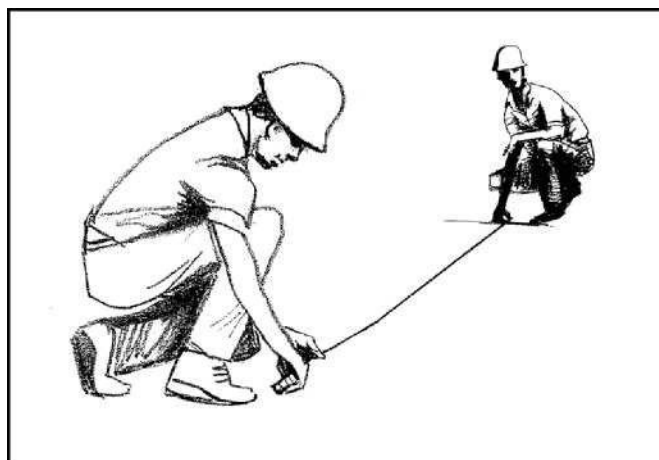
Case is to arrive at store as was shipped from factory. See reference above for proper shipment referencing. (Not actual case)

Receiving case

Upon receiving your new Hussmann Case all equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports/ or claim form. If there is obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise carrier may refuse claim.

snapping chalk Lines

Prepare permanent positioning by marking floors with Chalk snap lines where cases are to be located. Chalk lines are to run along the base or legs of cases.



Installation (cont'd)

VR1-D Lifting and Transport Instructions

1. The VR1-D can be lifted by a forklift at typical lifting points.
2. Ensure lower body panels are removed before lifting with a forklift. Serious damage will occur if the body panels are not removed. (Shipped loose from factory)
3. Make sure that fork spacing and width will not damage drain or come in contact with piping, or electrical lines
4. Be sure that the forks are long enough to support beyond the center of the case but not damage near components. Check for proper balance before moving. A minimum fork length of 36" is recommended for 68" wide cases

1. The VR1-D merchandiser can be raised at one end underneath the deck with a forklift or J-Bar if forklift is not accessible to allow the placement of rollers or dollies.
2. Evenly support the entire base structure on rollers or dollies before attempting to move. Each Base Leg must have its own dolly to properly support the case.

WARNING

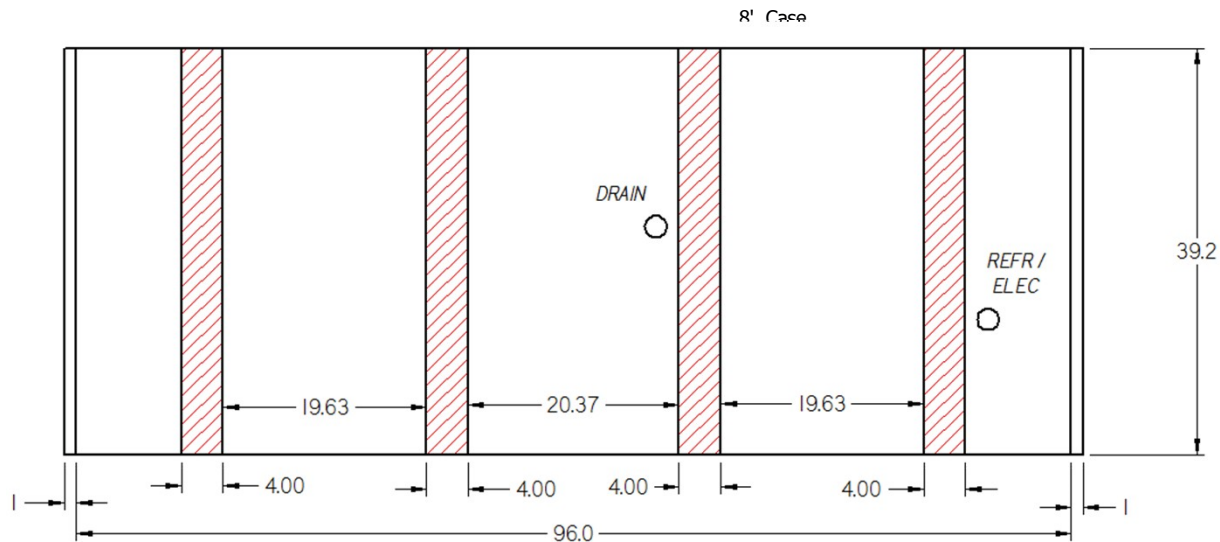
Improper placement of forks may damage drainage piping. Use a spotter when placing forks. Make sure that piping will not be damaged. Use J-Bars or Jacks if forks cannot be used safely

Lifting Points are typical and dependent upon size of case and refrigeration application, drainage configurations will call for alterations in Lifting Zones.

Below are the following drainage configurations and lifting should be altered to the expected model.

VR1-D-8 Drain Location

FORKLIFT BLADE PLACEMENT (PLACE BLADES IN 4" REGIONS AS SHOWN)

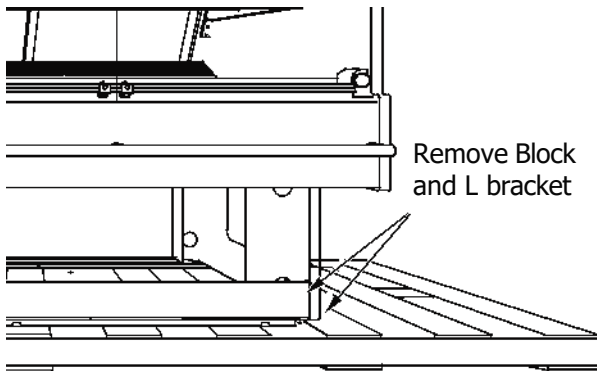


Installation (cont'd)

Skid Removal and Placement (Channel-Style Legs)

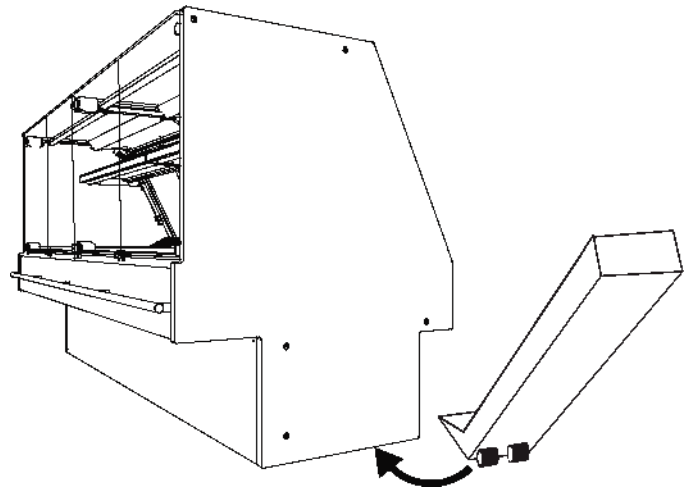
Important: See lifting instructions to properly lift case when being placed on dollies or permanent location.

First remove Blocks and L Brackets around the case from pallet.



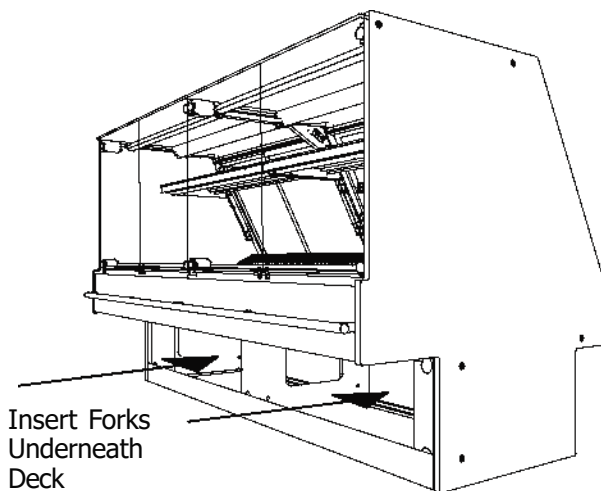
panels. Check for damage before discarding packaging.

In the case a fork lift truck is not available follow the demonstration below to properly lift case using a Johnson Bar (J-Bar) to place on dollies to traffic from start point to placement area.

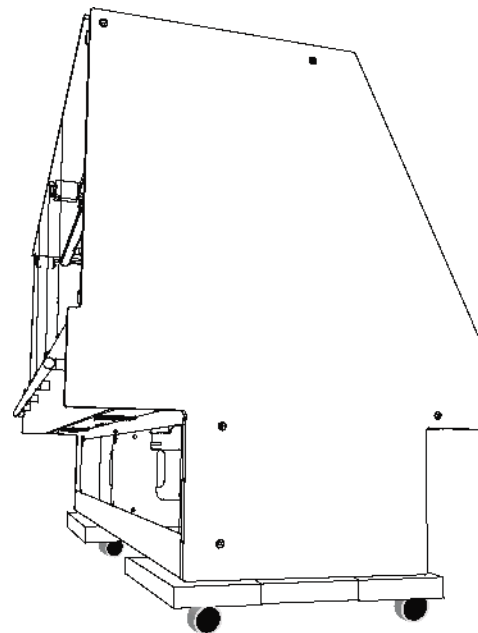


Proceed by setting forklifts under specified locations as instructed in the Lifting Instructions. Be careful not to damage drains or near components when placing forks underneath case. A spotter is mandatory to ensure no damage is caused to the case. Lift case and replace with dollies, place near or in permanent location.

Place J-Bar underneath base of merchandiser to gain leverage, once lifted place Dollie underneath first end and slowly lower onto dolly ensuring merchandiser is placed on stable location. Proceed to opposite end and repeat.



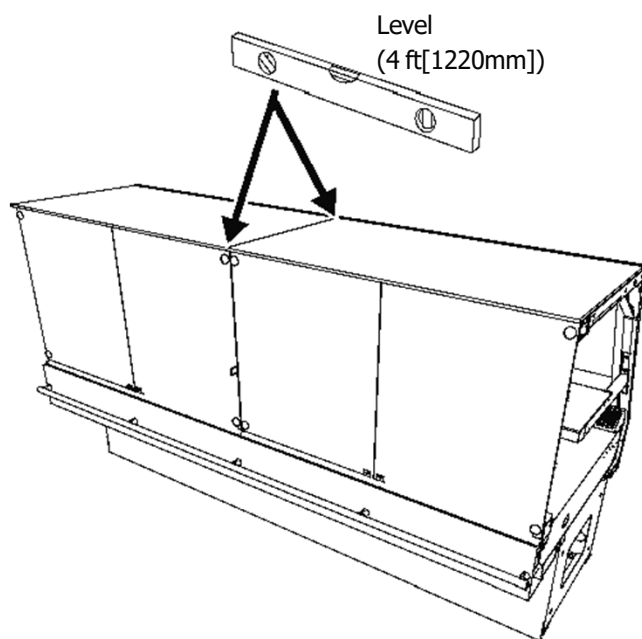
Move the fixture as close as possible to its permanent location and then remove all packaging and preparing to remove off Skid. Remove all separately packed accessories such as kits, and



Installation (cont'd)

Leveler Adjustment (Channel-Style Legs)

Position the case at the highest point. Set a long magnetized level (4ft [1220 mm] or more) on either underneath the deck or on top of the case. Ensure to level case from front to back and side to side.



Note: To avoid removing concrete flooring, begin line up levelling from the Highest point of the store floor.

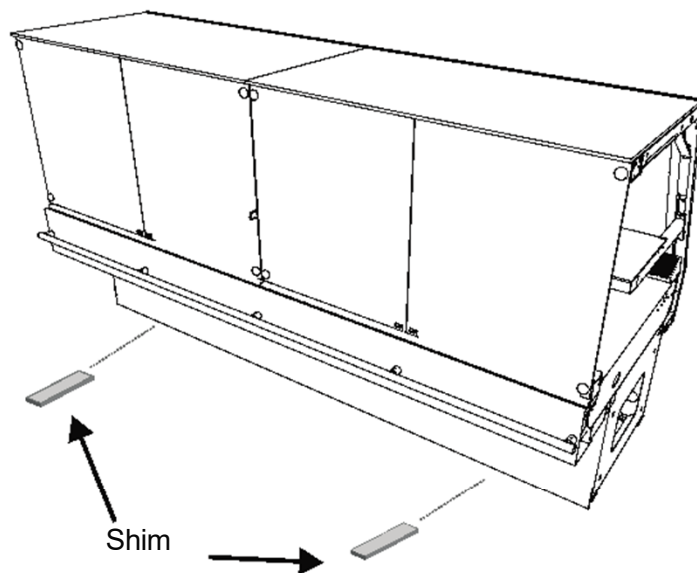
NOTICE

Longer length cases may require shims along the center portion of the case to maintain proper case performance and drainage.

Shim The Case

Use shims at each corner of the case to level out any discrepancies in order to optimize case performance and proper drainage.

Note: Metal Shims are recommended for use to eliminate any deterioration from shims over time



Installation (cont'd)

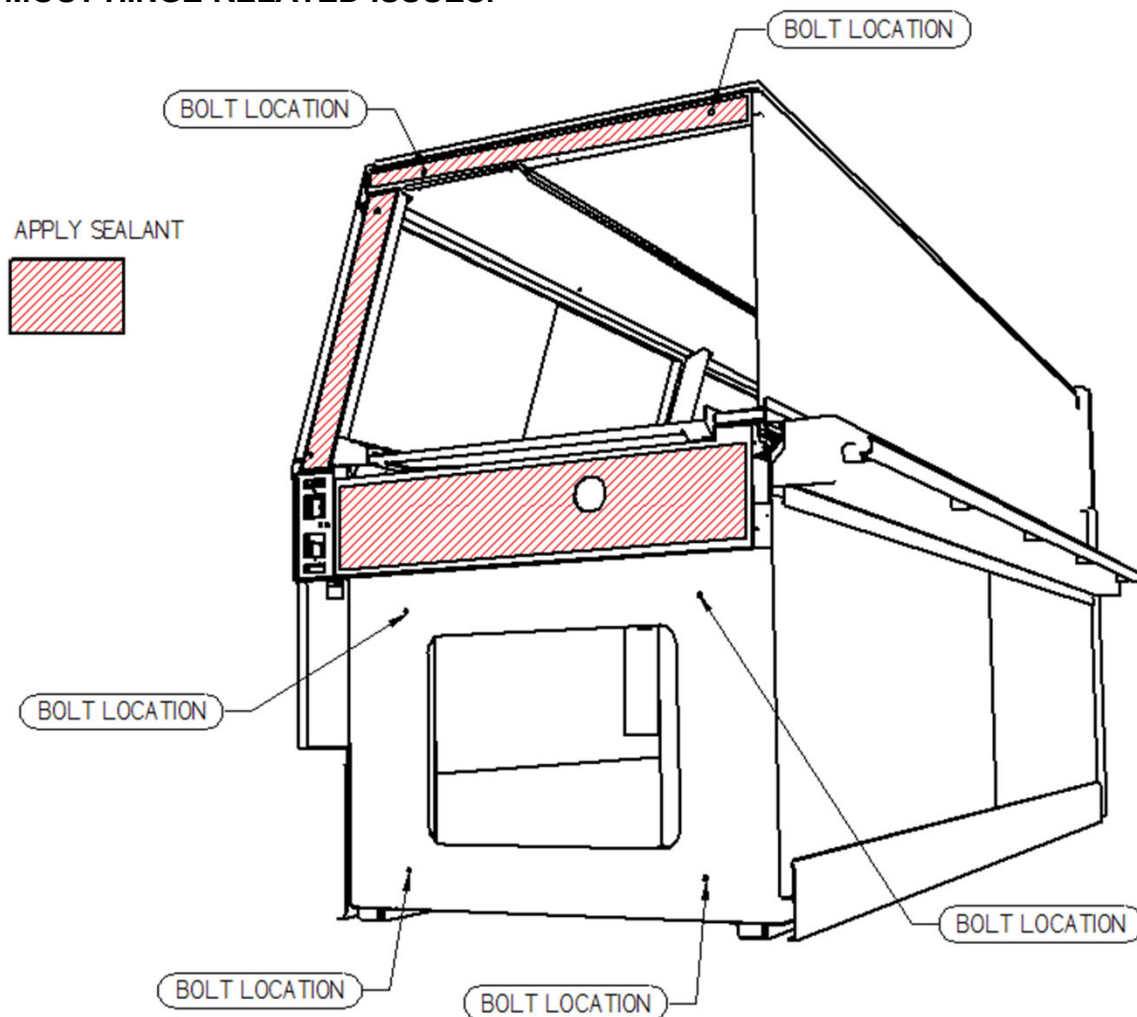
Setting and Joining

The sectional construction of these models enable them to be joined in line to give the effect of one continuous display.

An alignment pin kit is supplied with every case and must be used in alignment.

Leveling

IMPORTANT! IT IS IMPERATIVE THAT CASES BE LEVELED FROM FRONT TO BACK AND SIDE TO SIDE PRIOR TO JOINING. A LEVEL CASE IS NECESSARY TO ENSURE PROPER OPERATION, WATER DRAINAGE, GLASS ALIGNMENT AND OPERATION OF THE HINGES SUPPORTING THE GLASS. LEVELING THE CASE CORRECTLY WILL HELP TO SOLVE MOST HINGE-RELATED ISSUES.



Installation (cont'd)

Setting

STEP 1. Using case blueprints, measure off and mark on the floor the exact dimensions of where the cases will sit. Snap chalk line for front and back positions of base rail or pedestal. Mark the location of each joint front and back. Find the highest point throughout the lineup. **FLOORS ARE NORMALLY NOT LEVEL!** Determine the highest point of the floor; cases will be set off this point. All cases in the entire lineup must be brought up to the highest level of the case sitting at the highest point in the lineup.

STEP 2. Set first case over the highest part of the floor and adjust legs so that case is level.

STEP 3. Set second case within one foot (1') of the first case. Keep the supports along the length of the case and far end of case. Level case to the first using the instructions in step one.



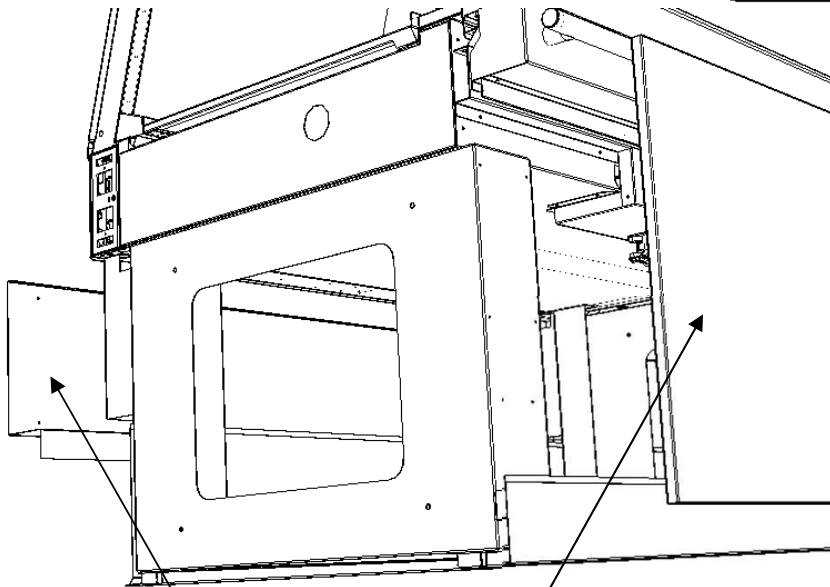
**ATTENTION
INSTALLER**

It is the contractor's responsibility to install case(s) according to local construction and health codes.

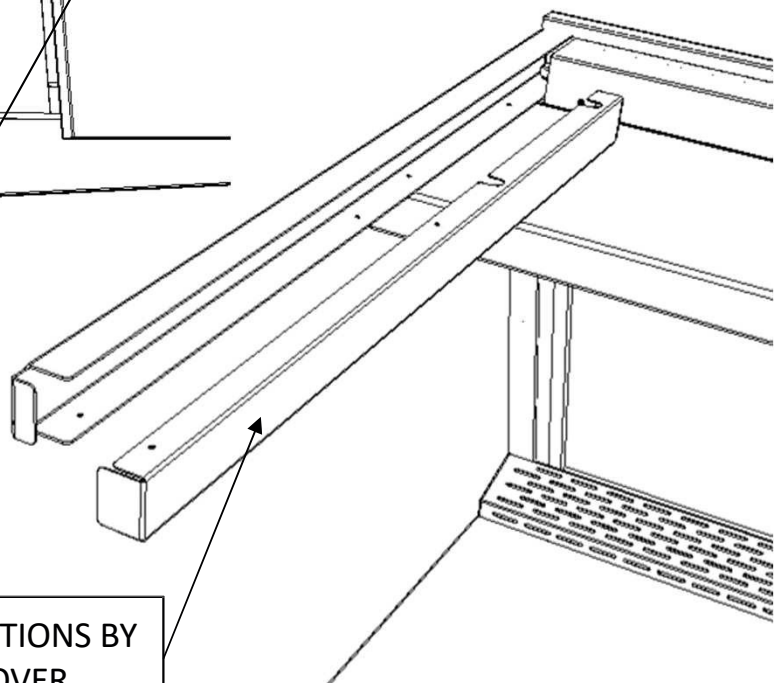


CAUTION

Do not use bolts to pull cases together.



ACCESS LOWER BOLT LOCATIONS
BY REMOVING FRONT AND REAR
BODY PANELS



ACCESS UPPER BOLT LOCATIONS BY
REMOVING INNER ARM COVER

Installation (cont'd)

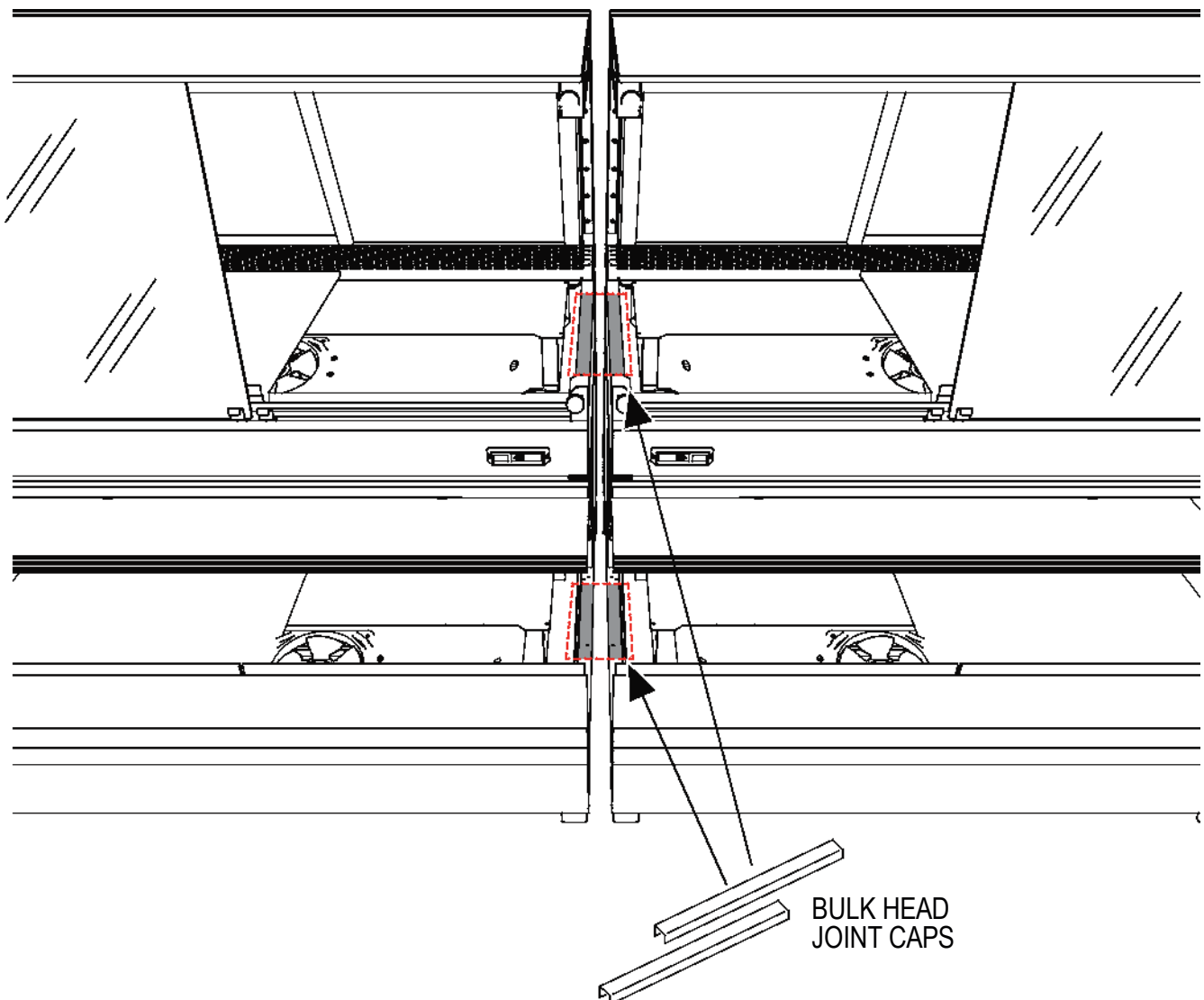
STEP 4. Apply liberal bead of case joint sealant (Silicone) to first case. Sealant area is shown in illustration. Apply heavy amount to cover entire shaded area. (pg12)

STEP 5. Slide second case up to first case snugly. Then level second case to the first case so glass front, bumper and top are flush.

STEP 6. To compress butyl at joint, use two Jurgenson wood clamps. Make sure case is level from front to back and side to side on inside bulkheads at joint.

STEP 7. Attach sections together.

STEP 8. Apply bead of butyl to top of bulk heads and slide on stainless steel bulkhead cap as pictured below. Also apply silicone to seam between joints.



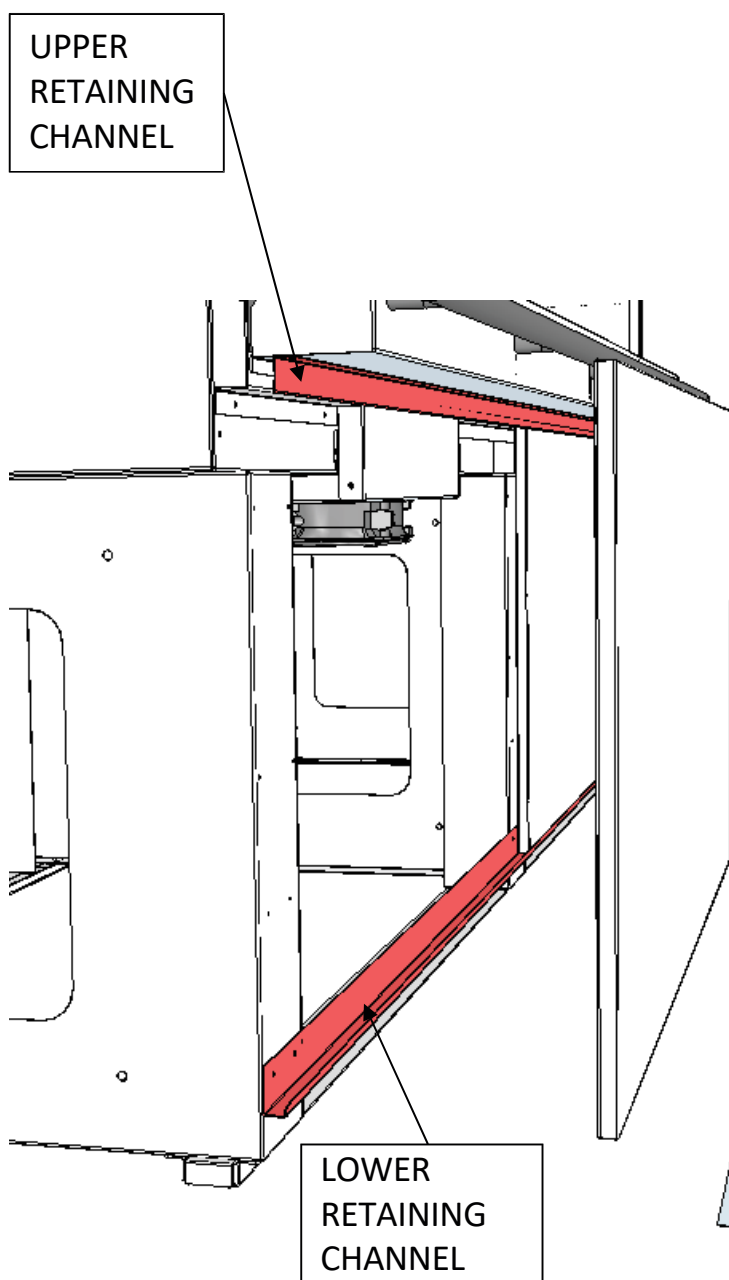
Installation (cont'd)

Front Body Panel Install

-No tools will be needed to install body the front panels.

-The front body panel will slide behind the upper retaining channel and rest atop the lower retaining channels (parts shaded in graphic below)

-After case is set, finish with front toe-kick.

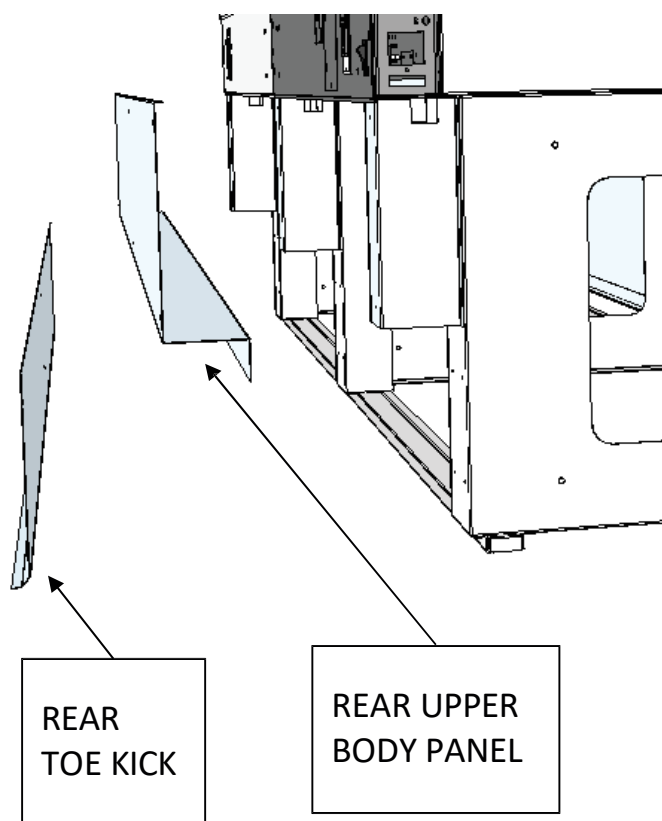


Rear Body Panel Install

A screwdriver or battery powered driver will be required for the rear panels

-Fasten the rear upper body panel using (6) stainless steel finish screws

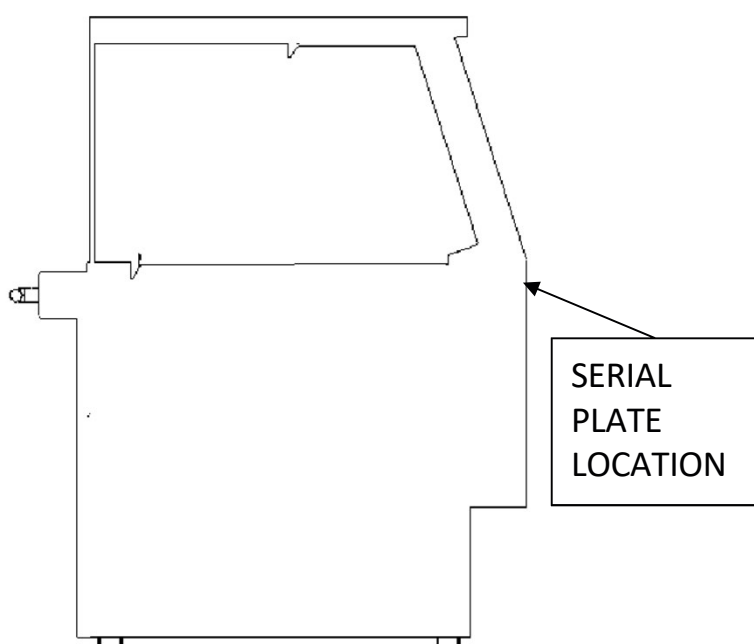
-Fasten rear toe kick



Refrigeration

Refrigerant

The correct type of refrigerant will be stamped on each merchandiser's serial plate. **The case refrigeration piping is pressurized with a nitro-gen holding charge, leak tested and factory sealed.** Before making refrigeration hookups, depress universal line valve (Shraeder Valve) to ensure that coils have maintained pressure during shipment. If in the case pressure was not maintained, contact your Hussmann Service Technician for further assistance.



CAUTION

Refrigeration lines are under pressure. Refrigerant must be recovered before attempting to make any connections.

Refrigerant piping

The refrigerant line connections are at the right hand end of the case (as viewed from the front) beneath the display pans. The merchandiser will beforehand ensure an earlier cut hole through the pod to exit the merchandiser for the refrigeration lines. After connections have been made, make certain to seal this outlet thoroughly if not sealed at factory already. Seal both the inside and outside. We recommend using an expanding polyurethane foam insulation.

Line Sizing

Refrigerant should be sized as shown on the refrigeration legend that is furnished for the store or according to the ASHRAE guidelines.

P-traps

P-traps must be installed at the base of all refrigerated cases. The 1 ½" P-TRAP and threaded adapter must be installed to prevent air leakage and insect entrance into the fixture.

Oil Traps

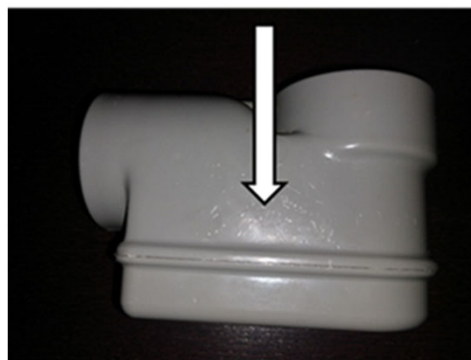
Oil traps must be installed at the base of all suction line vertical risers on refrigerated cases.

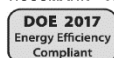


It is the contractor's responsibility to install case(s) according to local construction and health codes.

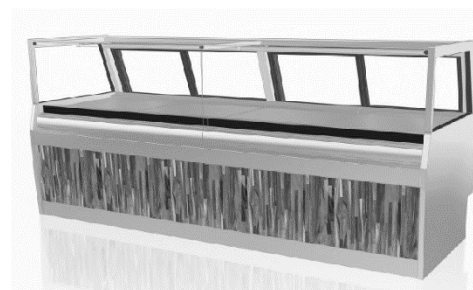
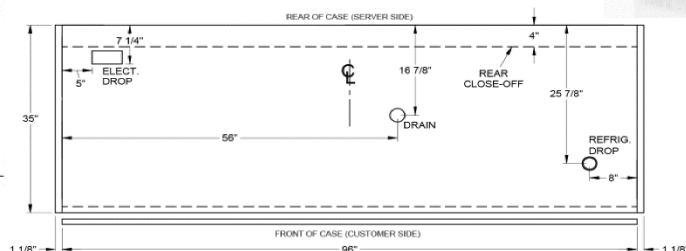
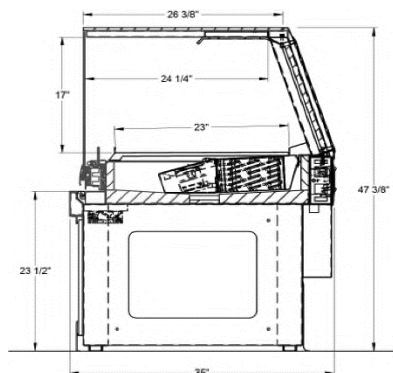
WARNING!

Do NOT apply thread sealer to ABS P-Trap.




DELI SERVICE
HUSSMANN - VR1-D (CHINO)


Hussmann refrigerated merchandisers configured for sale for use in the United States meet or surpass the requirements of the DOE 2017 energy efficiency standards.

REVISION DATE
05/08/17

REFRIGERATION DATA:

CASE LENGTHS	CASE USAGE	CAPACITY *** (BTU/HR/FT)		TEMPERATURE (°F)			VELOCITY (FT/MIN)
		RATING CONDITION		EVAPORATOR		DISCHARGE AIR ** (°F)	
		NSF 7	AHRI 1200	NSF 7	AHRI 1200	NSF 7	
4', 6', 8', 12'	DELI / BAKERY	240	240	26	26	30~32	225~250

CASE LENGTHS	EST. REFG. CHRG. (LBS) R404A	20°F GLYCOL 6° RISE	
		GPM	PSI
4'	0.2	0.4	5.7
6'	0.3	0.6	3.1
8'	0.4	0.7	5.7
12'	0.6	1.1	5.8

****FRONT DISCHARGE AIR MEASURED INSIDE AIR CURTAIN HONEYCOMB**
*****REFRIGERATION NOTES:**

- 1) BTU'S DO NOT INCLUDE LIGHTS
- 2) ADD 10 BTU'S PER FOOT/PER SHELF ROW FOR OPTIONAL LED SHELF LIGHTS
- 3) AHRI 1200 RATING POINT FOR ENERGY CONSUMPTION COMPARISON ONLY
- 4) USE DEW POINT FOR HIGH GLIDE REFRIGERANTS. CARE SHOULD BE TAKEN TO USE THE DEW POINT IN P/T TABLES FOR MEASURING AND ADJUSTING SUPERHEAT. ADJUST EVAPORATOR PRESSURE AS NEEDED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SHOWN.
- 5) RATING CONDITION IS NSF TYPE I, 75°F/55% RH

REFRIGERATION DATA CONTINUED:

ELEC. THERMOSTAT / AIR SENSOR SETTINGS			DEFROST TYPE	TIME (MIN)	DEFROST FREQUENCY (#/DAY)	TERM. TEMP (°F) COIL ONLY	DRIP TIME	DEFROST WATER (LBS/DAY/FT)
USAGE	CUT IN (°F)	CUT OUT (°F)						
DELI / BAKERY	32	30	OFF TIME	30	4	43	N/A	0.625

END PANEL WIDTH KEY		
# OF END PNLS	END PNL WIDTH (IN.)	TOTAL ADDED LENGTH (IN.)
1	1.125	1.125
2	1.125	2.25

ELECTRICAL DATA:
STANDARD FANS, HEATERS, LED LIGHTS (115 VOLT)

CASE LENGTH	EVAPORATOR FANS					AIR SWEEP FANS			CANOPY LIGHTS LED		OPTIONAL LED SHELF LIGHTS		MAX. LED LOAD (W/ ALL OPTIONS)		ANTI-SWEAT HEATERS		CONVENIENCE OUTLETS (OPTIONAL)		
	# OF EVAP FANS	BLADE DIA. (IN.)	BLADE PITCH (°)	AMPS	WATTS	# OF AIR SWEEP FANS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	# OUTLETS	VOLTS	AMPS
4'	1	6.7	20	0.1	8	1	0.1	9	0.4	42	0.1	10	0.5	53	1.3	150	1	115	15
6'	2	6.7	20	0.2	16	2	0.2	18	0.5	60	0.1	15	0.7	75	2.0	225	1	115	15
8'	2	6.7	20	0.2	16	2	0.2	18	0.7	84	0.2	21	0.9	105	2.6	300	1	115	15
12'	3	6.7	20	0.4	24	3	0.2	26	1.1	127	0.3	31	1.4	158	3.9	450	2	115	30

OPTIONAL HIGH OUTPUT LED LIGHTS (115 VOLT)

CASE LENGTH	CANOPY LIGHTS H.O. LED		OPTIONAL SHELF		MAX. H.O. LED LOAD	
	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
4'	0.4	42	0.1	10	0.5	53
6'	N/A	N/A	N/A	N/A	N/A	N/A
8'	0.7	84	0.2	21	0.9	105
12'	1.1	127	0.3	31	1.4	158

Electrical

Merchandiser Electrical Data

Technical data sheets are shipped with this manual. The data sheets provide merchandiser electrical data. Refer to the technical data sheets and merchandiser serial plate for electrical information.

Electrical Connections

All wiring must be in compliance with NEC and local codes. All electrical connections including both supply circuits are to be made in the electrical J-Box.

ALWAYS CHECK THE SERIAL PLATE FOR COMPONENT AMPERES

Field Wiring

Field wiring must be sized for component amperes stamped on the serial plate (refer to pg 16 for location). Actual ampere draw may be less than specified.

Identification of Wiring

Leads for all electrical circuits are identified by colored plastic bands. These bands correspond to the color code sticker (shown below) located inside the merchandiser's wireway cover.



--LOCK OUT/ TAG OUT--

To avoid serious injury or death from electrical shock, 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 doors, lights, fans, heaters, and thermostats.

WIRING COLOR CODE

Leads for all electrical circuits are identified by a colored plastic band: neutral wire for each circuit has either white insulation or a white plastic sleeve in addition to the color band.

Pink Refrig, Thermostat Low Temp Orange OR
 Light Blue Refrig, Thermostat Norm Temp Tan Lights
 Dark Blue Defrost Term, Thermostat Maroon Receptacles
 Purple Condensate Heaters Yellow Defrost Heaters 120V
 Brown Fan Motors Red Defrost Heaters 208V
 Green* Ground *Either Colored Sleeve or Colored Insulation

ELECTRICIAN NOTE: Use proper conductor wire only.

MERCHANDISER MUST BE GROUNDED

These are marker colors, wire may vary.

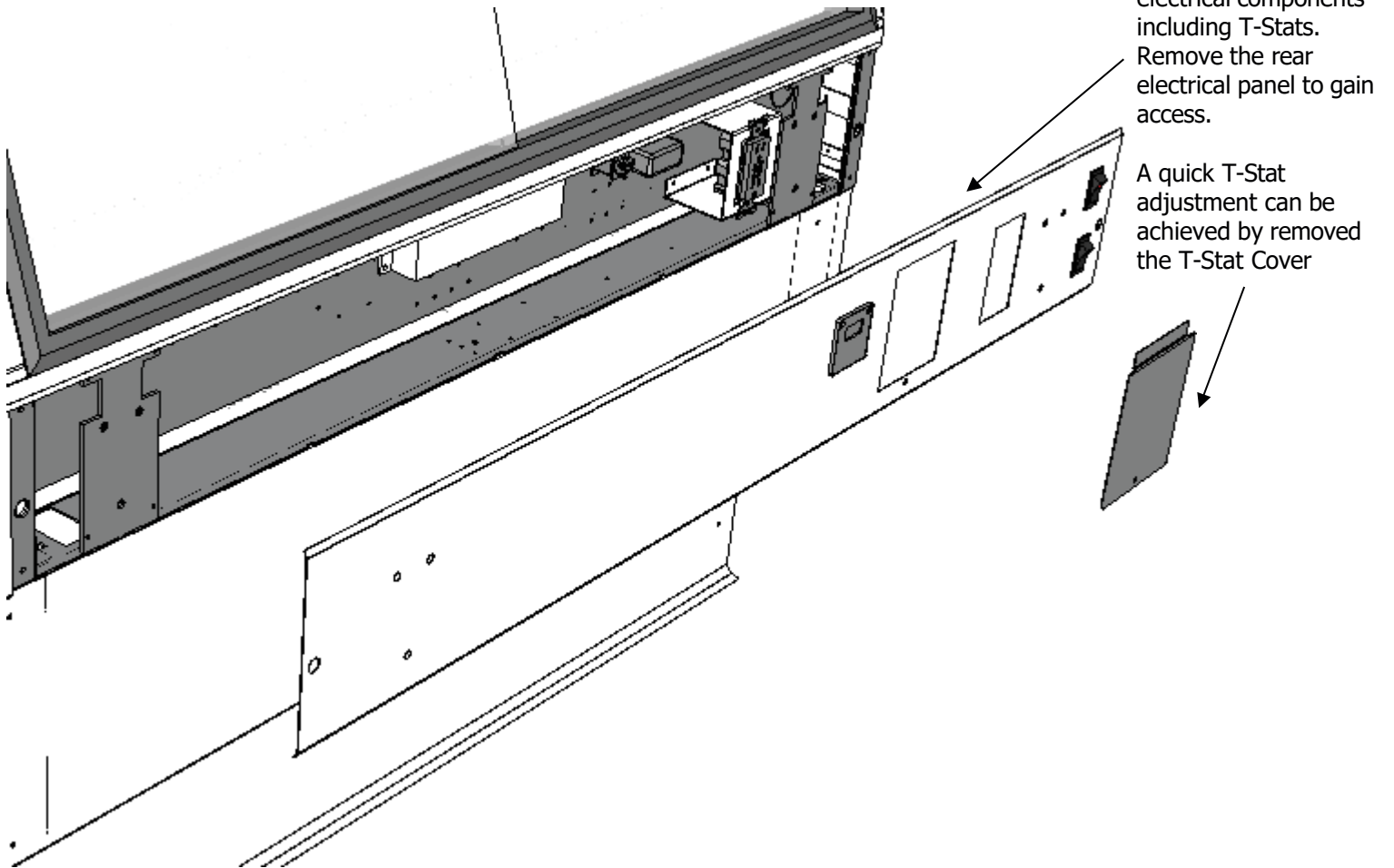
Electrical Cont'd

Remove Rear Raceway

The merchandisers electrical access is located at the rear of the case. Fasteners must be removed in order to gain access. See illustration below.

Electrical Conduit (Electrical Box)

The merchandisers electrical conduit can be found inside the compartment at the rear. Removing the raceway will gain access to the electrical components inside the J-Box allowing any maintenance necessary.

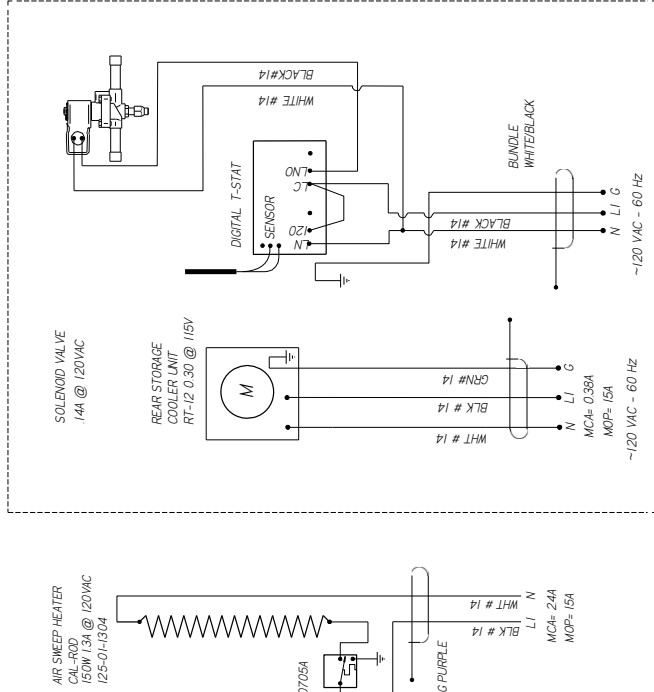
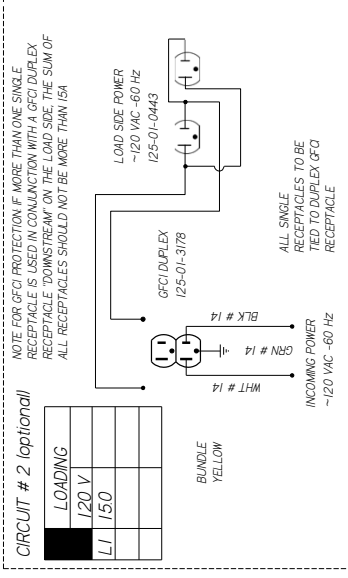
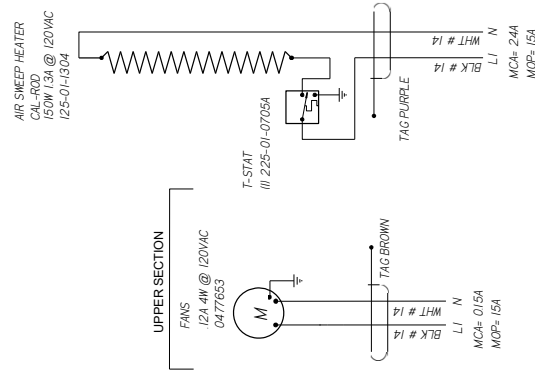
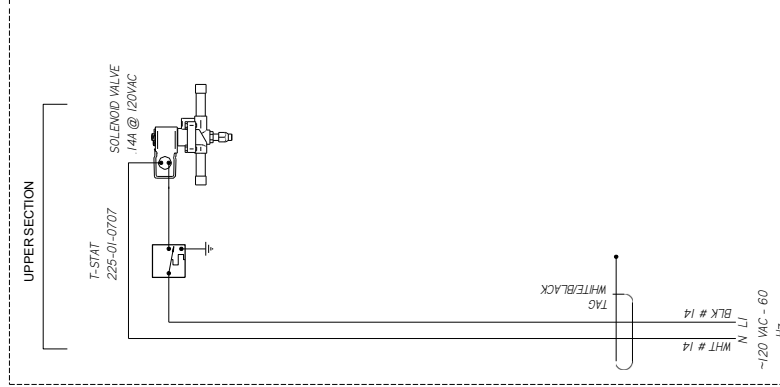
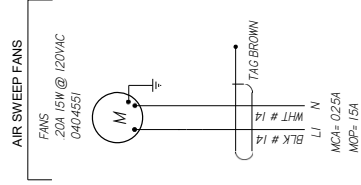
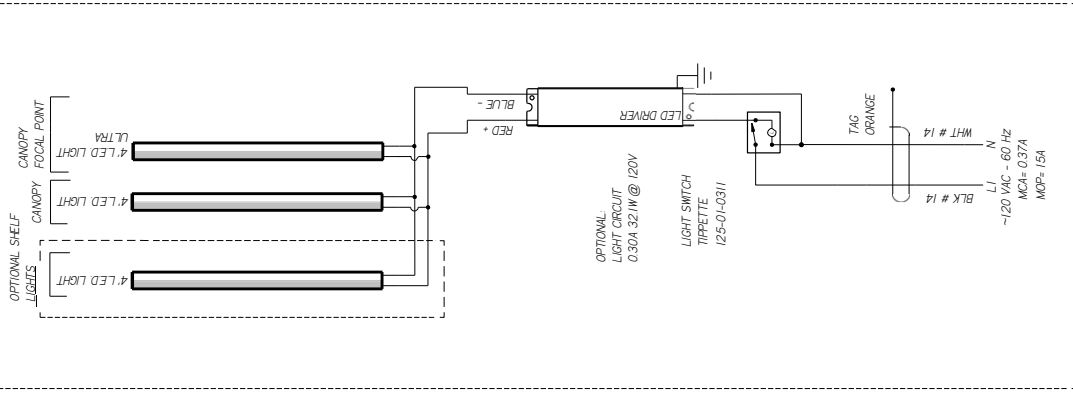


Wiring Diagram Index

VR1-D-4-R	4'	3015037
VR1-D-6-R	6'	3015038
VR1-D-8-R	8'	3015039
VR1-D-12-R	12'	3015040

CIRCUIT #1	LOADING	120V	12/17

REVISION HISTORY						
REV	EON	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
A	EON-CAP-0003965	2016/09/15	RELEASED TO PRODUCTION	CB	CB	CB
B	EON-CAP-0006460	2017/03/01	REVISED REAR STORAGE COIL	CB	CB	CB
C	EON-CAP-001850	2020/01/09	REVISED AIR SWEEP HEATER	CB	CB	CB



NOTES:
CASE MUST BE GROUNDED
WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

HUSSMANN®
DIAGRAM-VRI-D-4-R

MATERIAL -	NA
DATE DRAWN -	9-15-16
DRAWN BY -	CRAIG BOOREY
	ECN-CAP-0003965

MATERIAL - N/A

DATE DRAWN - 9-15-16

DATE DRAWN = 9-13-10
DRAWN BY - CRAIG BOOREY

DRAWN BY - CRAIG BOORE
REVIEWED BY - CRAIG BOORE

APPROVED BY - CRAIG BOOTH

UNLESS OTHERWISE SPECIFIED

TOLERANCES ARE:

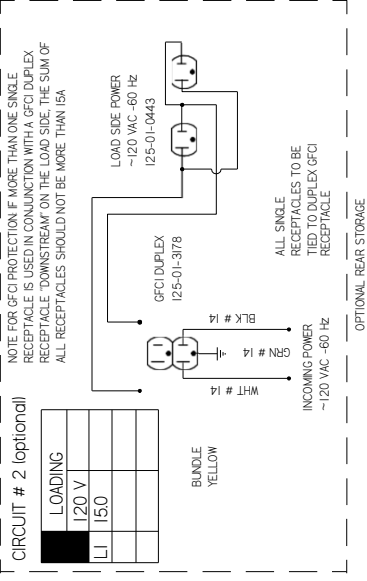
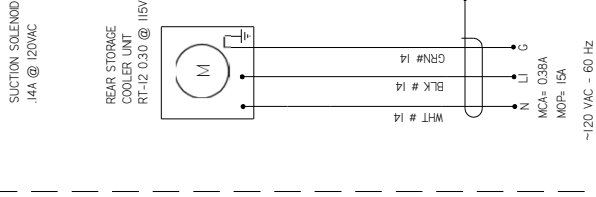
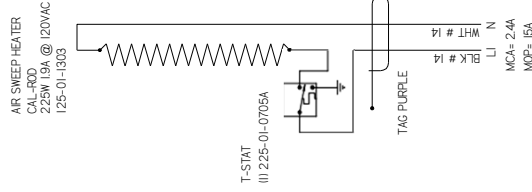
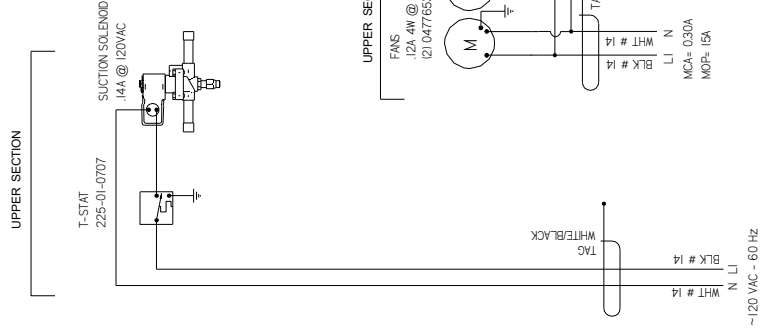
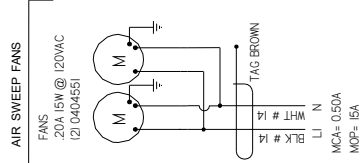
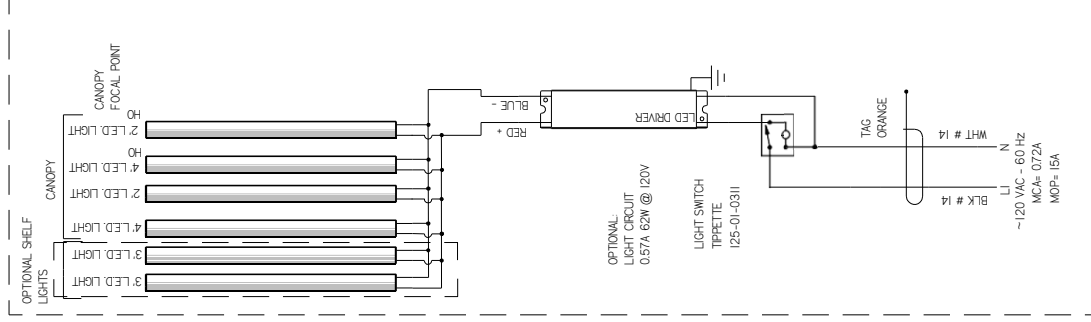
DECIMALS $XX \pm .03$, XXX

PROJECTION



CIRCUIT #1			
LOADING	120V		
	LI 3.1		

REVISION HISTORY						
REV	ECN	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
A	ECN-CAP-00033965	2016/09/15	RELEASED TO PRODUCTION	CB	CB	CB
B	ECN-CAP-00060460	2017/03/01	REVISED REAR STORAGE COIL	CB	CB	CB

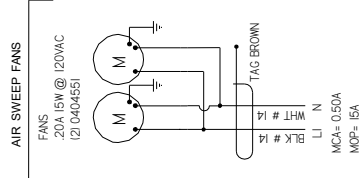
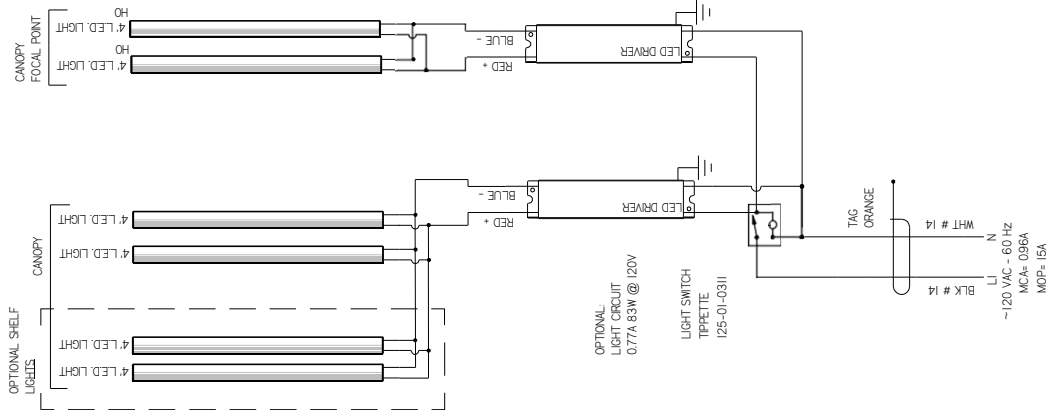


NOTES:
CASE MUST BE GROUNDED
WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

MATERIAL - N/A		Hussmann®	
DATE DRAWN - 9-15-16	ECN-CAP-0003965	DIAGRAM-VRI-D-6-R	
DRAWN BY - CRAIG BOOREY	REF -		
REVIEWED BY - CRAIG BOOREY	SHEET 1 OF 1		
APPROVED BY - CRAIG BOOREY	THIRD		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
TOLERANCES ARE			
DECIMALS .XX +0.3, .XXX +0.10	ANGLE	3015038	B
	ANGLES ± 2°		

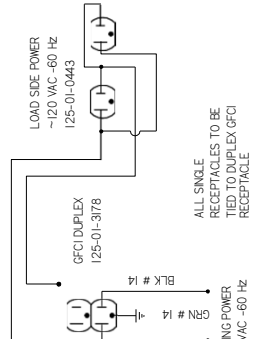
CIRCUIT #1
LOADING

LI	3.9				



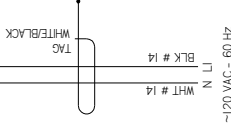
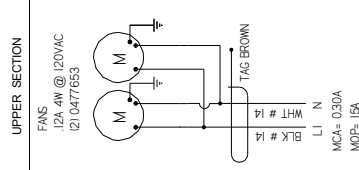
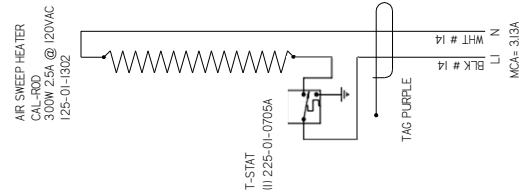
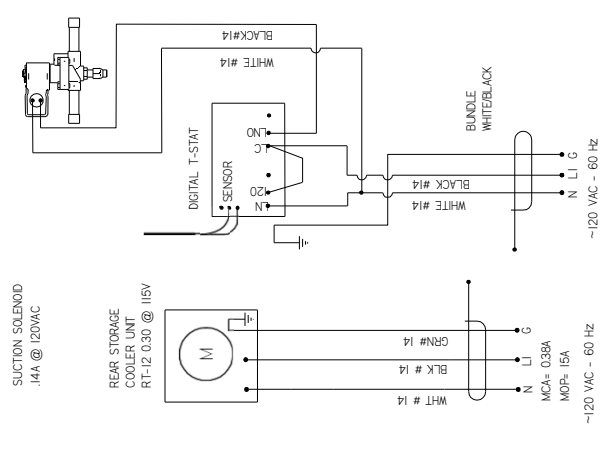
LOADING	120 V				
LI	150				

NOTE FOR GFCI PROTECTION IF MORE THAN ONE SINGLE RECEPTACLE IS USED IN CONJUNCTION WITH A GFCI DUPLEX RECEPTACLE, DOWNSTREAM ON THE LOAD SIDE, THE SUM OF ALL RECEPTACLES SHOULD NOT BE MORE THAN 15A



ALL SINGLE RECEPTACLES TO BE TIED TO DUPLEX GFCI RECEPTACLE

OPTIONAL REAR STORAGE



REVISION HISTORY

REV	EN	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
1	EN	20060815	RELEASED TO PRODUCTION	CB	CB	CB
2	EN	20070301	RELEASED REAR STORAGE COIL	CB	CB	CB

CIRCUIT #2 optional

LOADING	120 V				
LI	150				

MATERIAL - NA

DATE DRAWN - 9-15-16

DRAWN BY - CRAIG BOOREY

REVISED BY - CRAIG BOOREY

APPROVED BY - CRAIG BOOREY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ARE:

DECIMALS .XX ±0.3 .XXX ±0.10

ANGLES ± 2°

PROJECTION

ANG

E

30I5039

B

HUSSMANN

DIAGRAM-VRI-D-8-R

ECN-CAP-0003965

REF -

SHEET 1 OF 1

THIRD

THIRD

NOTES:
CASE MUST BE GROUNDED
WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

User Information

Start Up

See the merchandisers Data Sheet Set for refrigerant settings and defrost requirements. Bring merchandisers down to the operating temperatures listed on the Data Sheet.

WARNING

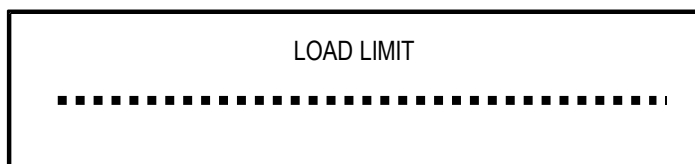
--LOCK OUT/ TAG OUT--

To avoid serious injury or death from electrical shock, 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 doors, lights, fans, heaters, and thermostats.

Load Limit

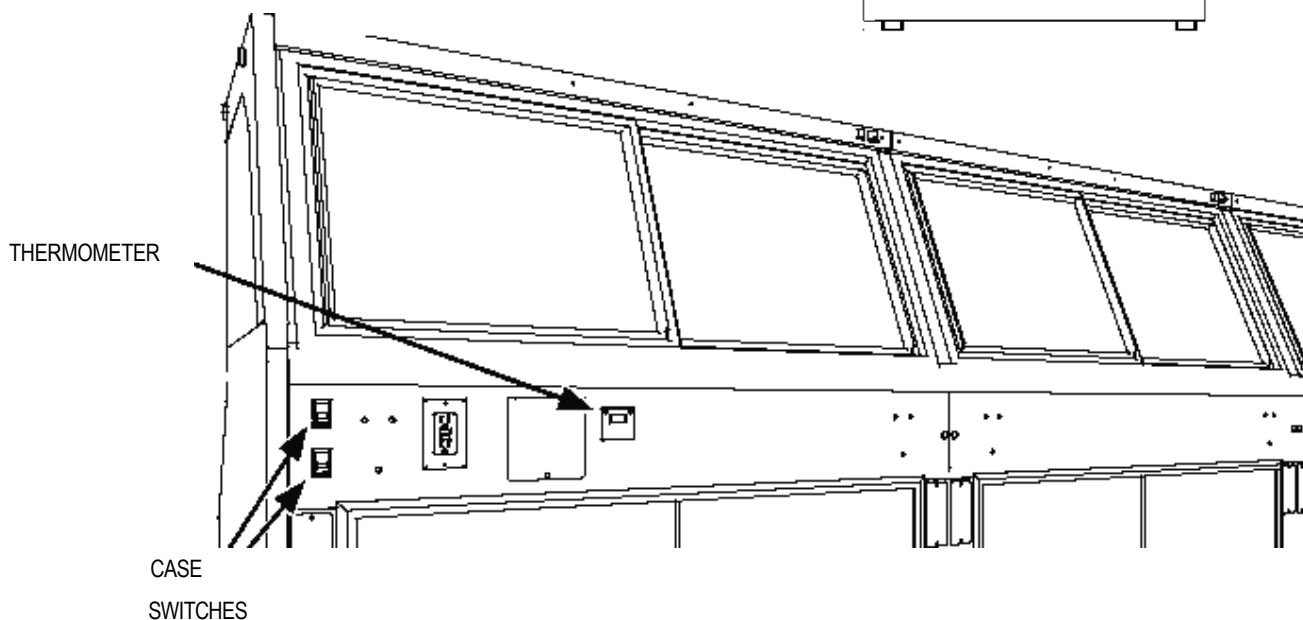
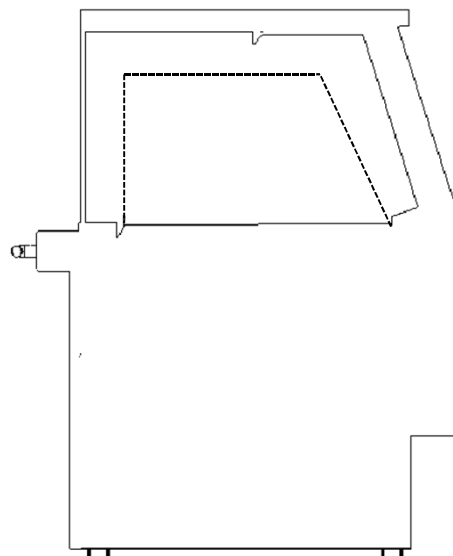
Each Merchandiser has a load limit. Shelf life of perishables will shorten if load limit is violated.

AT NO TIME SHOULD THE MERCHANDISER BE STOCKED BEYOND THE LOAD LIMITS INDICATED.



Load Limit Line

DO NOT LOAD PAST THE FOLLOWING LOAD LIMIT LINES



Maintenance

Case Cleaning

Long life and satisfactory performance of any equipment are dependent upon the care it receives. To insure long life, proper sanitation and minimum maintenance costs, the merchandiser should be thoroughly cleaned, all debris re-moved and interiors washed down, weekly.



WARNING

TO PREVENT INJURY ALWAYS SHUT OFF
POWER DURING CLEANING PROCESS.

Exterior Surfaces

The exterior surfaces must be cleaned with a mild detergent without chloride and warm water to protect and maintain their attractive finish. **NEVER USE ABRASIVE CLEANSERS OR SCOURING PADS.**

Cleaning Bumpers

Clean bumpers with household spray cleaners.

Cleaning Under Merchandiser

Remove lower body panels. Use a vacuum with a long wand attachment to remove accumulated dust and debris from under the merchandiser.

Cleaning Stainless Steel Surfaces

Use non abrasive cleaning materials, and always polish with the grain of the steel. Use warm water or add a mild detergent to the water and apply with a cloth. Always wipe dry after wetting.

Use non-chlorine containing cleaners such as window cleaners and mild detergents. Do not use cleaners containing salts as this may cause pitting and rusting of the stainless steel finish. Do not use bleach.

Clean frequently to avoid build-up of hard, stubborn stains. A stainless steel cleaning solution may be used periodically to minimize scratching and remove stains.

Rinse and wipe dry immediately after cleaning. Never use hydrochloric acid (muriatic acid) on stainless steel.

Interior Surfaces

The interior surfaces may be cleaned with most domestic detergents, ammonia based cleaners and sanitizing solutions that do not contain chlorine with no harm to the surface.

Cleaning Coils

NEVER USE SHARP OBJECTS AROUND COILS.

Use a soft brush or vacuum brush to clean debris from coils. Do not puncture Coils! Do not bend fins. Contact an authorized service technician if a coil is punctured, cracked, or otherwise damaged.

ICE in or on the coil indicates the refrigeration and defrost cycle is not operating properly. Contact an authorized Service Technician to determine the cause of icing and to make proper adjustments as necessary. To maintain product integrity, if not done so already, move all product to a cooler until the merchandiser has returned to normal operating temperatures.

Do Not Use:

- Abrasive cleaners and scouring pads, as these will damage the finish.
- A hose on lighted shelves or submerge lighted shelves in water.
- Solvent, oil or acidic based cleaners on any interior surfaces.
- A hose on LED Lights or any other electrical component.

Maintenance Cont'd

Do:

- Remove the product and all loose debris to avoid clogging the waste outlet.
- Store product in a refrigerated area such as a cooler during the cleaning process. Remove only as much product as can be taken to the cooler in a timely manner.
- **First turn off refrigeration, then disconnect electrical power to merchandiser.**
- Thoroughly clean all surfaces with soap and hot water. Do not use steam or high pressure water hoses to wash the interior. These will destroy the merchandisers' sealing causing leaks and poor performance.
- Avoid direct contact between fan motors and cleaning or rinse water.
- Rinse with hot water, but DO NOT flood. Never introduce water faster than the waste outlet can drain.
- Allow merchandiser to completely dry before resuming operation.
- LED lights are magnetized to each shelf and can be removed easily for any shelf cleaning.
- After cleaning has been completed, remember to restore power back to merchandiser.



WARNING

Product will be degrade and may spoil if allowed to sit in non-refrigerated area.

Troubleshooting

Problem	Possible Cause	Possible Solution
Case temperature is too warm.	Ambient conditions may be affecting the case operation.	Check case position in store. Is the case located near an open door, window, electric fan or air conditioning vent that may cause air currents? Case must be located minimum 15 Ft away from doors or windows. Cases are designed to operate at 55% Relative humidity and a temperature of 75°F.
	Discharge air temp is out of spec.	Check evaporator fan operation. Check electrical connections and input voltage.
		Fans are installed backwards. Check airflow direction.
		Fan blades are installed incorrectly. Make sure fan blades have correct pitch and are per specification.
		Check to see that fan plenum is installed correctly. It should not have any gaps.
		Check suction pressure and insure that it meets factory specifications.
	Case is in defrost.	Check defrost settings. See Technical Specifications section.
	Product load may be over its limits blocking airflow.	Redistribute product so it does not exceed load level. There is a sticker on the inside of the case indicating what the maximum load line is.
	Coil is freezing over.	Return air is blocked, make sure debris is not blocking the intake section.
		Coil close-offs are not installed. Inspect coil to make sure these parts are on the case.
Case temperature is too cold.	Condensing coil or evaporator coil is clogged or dirty.	Clean coil.
	The t-stat temp is set too low.	Check settings. See Technical Specifications section.
Condensation on glass.	Ambient conditions may be affecting the case operation.	Check case position in store. Is the case located near an open door, window, electric fan or air conditioning vent that may cause air currents? Case must be located minimum 15 Ft away from doors or windows. Cases are designed to operate at 55% Relative humidity and a temperature of 75°F.
	Ambient conditions may be affecting the case operation.	Check case position in store. Is the case located near an open door, window, electric fan or air conditioning vent that may cause air currents? Case must be located minimum 15 Ft away from doors or windows. Cases are designed to operate at 55% Relative humidity and a temperature of 75°F.
	Inadequate air circulation.	Check if air sweep fans are functioning, check electrical connections.
	There is not enough heat provided in the airflow.	Check if air sweep heater is functioning, check electrical connections.
	There are glass gaps on the side of the case.	See glass adjustment section.
	Glass is not completely shut.	Close glass correctly.

Troubleshooting Cont'd

Problem	Possible Cause	Possible Solution
Water has pooled under case.	Case drain is clogged.	Clear drain.
	PVC drains under case may have a leak.	Repair as needed.
	Case tub has unsealed opening.	Seal as needed.
	If the case is in a line-up, case to case joint is missing or unsealed.	Install case to case joint and seal as needed.
	Evaporator pan is overflowing (if applicable).	Check electrical connection to evaporator pan. Check float assembly, it should move freely up and down the support stem. Clear any debris.
Case is not draining properly.	Case is not level.	Level the case.
	Drain screen is plugged.	Clean drain screen and remove any debris.
	Drain or P-trap is clogged.	Clear any debris.
Frost or ice on evaporator coil.	Evaporator fans are not functioning.	Check electrical connections.
	Defrost clock is not functioning.	Case should be serviced by a qualified service technician.
	Coil is freezing over.	Return air is blocked, make sure debris is not blocking the intake section.
		Coil close-offs are not installed. Inspect coil to make sure these parts are on the case.
Lights do not come on.	Ballast/light socket wiring.	Check electrical connections. See Electrical Section and check wiring diagram.
	Ballast needs to be replaced.	Case should be serviced by a qualified service technician. See Electrical Section.
	Lamp socket needs to be replaced.	Case should be serviced by a qualified service technician.
	Lamp needs to be replaced.	See Maintenance Section.
	Light Switch needs to be replaced.	Case should be serviced by a qualified service technician.



This warning does not mean that Hussmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State government, Proposition 65 can be considered more of a ‘right to know’ law than a pure product safety law. When used as designed, Hussmann believes that our products are not harmful. We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State government website.



HUSSmann®

**To obtain warranty information
or other support, contact your
Hussmann representative.
Please include the model and
serial number of the product.**

**Hussmann Warranty / Technical Assistance
(800) 592-2060**

Hussmann Corporation, Corporate Headquarters: Bridgeton, Missouri 63044 2014