



HUSSMANN⁷CHINO ENTYCE ISLAND CASE

Installation & Operation Manual

REV. 0317

SELF-CONTAINED

Table of Contents	
General Information	5
Cut and Plan Views	6
Spec Sheet	8
Installation	13
Close-off Removal	15
Lifting Instructions	16
Electrical	19
Electrical Wiring Diagram Index	19
Wiring Daigrams	20
Starrt Up	24
Parameter Programmed Report	25
Safenet III Operation	26
Maintenance	32
Service Tips	33
User Information	34



- 1. Do Not Push, Pull, Adjust, or Manipulate the Entyce case by any glass component
 - Doing so will result in severe damage to such components
 - Glass or Acrylic Breakage may result in serious injury
 - See lifting and transport instructions for proper moving technique ref. pg 7.
- 2. Never stand on the Entyce Top, Deck, or any Shelves for any reason.

These surfaces are not steps and are not designed to support such loads.

- Misusing these surfaces as steps will result in damage to the case
- Misusing these surfaces as steps may result in serious injury to the user
- These surfaces are intended for the storage and merchandising of food products
- Use a ladder or designed structure to work above the case (Do not lean on case)



Start up

- 1. Apply power to the merchandiser.
- 2. Wait for the self check to complete.
- During the self check, each LED flashes for one second, then all LEDs turn on for two seconds.
- If the LEDs do not flash, make sure the adjustment knob is not in the Off position.
- 3. The compressor will start for 30 seconds after the self check is complete.
- The merchandiser temperature displays at startup
- An initial defrost occurs two hours after startup
- The compressor runs until it reaches its setpoint tmeperature until defrost.
- 4. Rfrigeration: The compressor will continue to cycle on-and-off normall until defrost occurs.
- 5. Defrost: Defrost is scheduled to occur every 8 hours, or earlier if triggered by a demand defrost.
- Defrost continues for a set time period, or until the defrost termination temperature is reached.
- During defrost the display shows the initial defrost temperautre (temperature at start of defrost)
- This initial defrost temperature is displayed for the set time period (even if refrigeration mode resumes before the end of this period).
- 6. If power is interrupted, the process will start over at step 1.

Operation

- 1. DO NOT LOAD PRODUCT until case reachess desired operationg temperature (approx. 4 hrs).
- 2. Food Product temperature must be below 38°F when loading a case. Case is not designed to chill food.

3. Check shelf loading. Overstock will reduce case performance and operation.

4. DO NOT block discharge or return air. DO NOT display packages over the air inlet located at the front of the lowest deck. This restricts airflow, and will result in warmer temperature in the case. 5. DO NOT display more than 150 pounds of product per shelf. Additional weight will damage the shelves.

Temperature Adjustment

1. Rotate the (SafeNet 3) controller adjustment dial clockwise for a colder setpoint, or counter clockwise for a warmer setpoint.

- For most food products the optimal dial setting is 5 (the factory setting)
- For packaged meats and or fish, change the controller setting to 7.
- To save energy (for beverages and other non critical food products) the conteoller dial may be set to 1.
- . Check internal product temperautures (IPTs) periodically with a pocket thermometer when adjusting case temperatures.

2. While adjusting the temperature, the display shows the setpoint. A few seconds after the tempreature is set, the controller reverts to the sensed temperature in the merchandiser.

Alarms and codes

Audible sensor (beep) alarm and/or flashing temperature (E1 or E2) LED codes,

- 1) If tyhe temperature Alarm LED () on the controller display is il luminated, accompanied by an audible beep, the temperature within the refrigerated space has exceeded the safe food display temperature. Check for airflow obstructions both to and from the refrigerator and to and from the compressing unit under the case.
- 2) If the audible alarm occurs E1 or E2 error is displayed, a temperature sensor has failed and the controller canno longer intelligently control the refrigeration of the case. if this occurs, the display case will default to a Safe Mode, duty cycle: 6 minutes ON, 2 minutes OFF, wioth normal defrost cycle.

Service Note: The display shows E1 if the Discharge Air sensor has failed or E2 if the evaporator sensor has failed.

3) If alarm/error message continues for 1 hour unload food product turn off case (turn dial to full counter clockwise) or unplug the case, and contact Hussmann Service.

1H62575650

Safenet

Maintenace

Case cleaning

- WARNING! DO NOT USE WATER HOSES! A self contained case empties into an evaporator pan that WILL OVERFLOW IF TOO MUCH WATER IS INTRODUCED during cleaning.
- To insure long life, proper sanitation and minimum maintenace costs, the case should be thoroughly cleaned frequently. SHUT OFF FAN BEFORE CLEANING: turn controller dial to full counter-clockwise, or shut off case power at the source.
- USE WATER AND MILD DETERGENT FOR EXTERIOR USE ONLY
- Wipe interior with damp non abrasive cloth. Soap and hot water are not enough to kill bacteria; a sanitizing solution must be included with each cleaning process to eliminate bacteria.
- Clean any visible debris on-or near the case drain (drain is located under Before calling for service: the deck pans).
- DO NOT USE A CHLORINATED CLEANER ON ANY SURFACE.
- DO NOT USE ABRAISIVES OR STEEL WOOL SCOURING PADS (these will mar the finish)
- DO NOT USE A CLEANING OR SANITIZING SOLUTION THAT HAS AN OIL BASE (these will dissolve the butyl sealants) or an AMMONIA BASE (this • will corrode the copper components of the case)

Filter Replacements

REPLACE FILTER EVERY 6 MONTHS, or as needed. A dirty/clogged air filter restricts the airflow. this will result in warmer temperatures in the case, and premature compressor failure.

Service SCHEDULE SERVICE EVERY 6 MONTHS. To maintain good refrigerator performance, a refrigeration service technician should regularly clean the discharge Honeycomb and remove any accumilated dirt from the condenser coil and condensate evaporator pan.

POOR AIR CIRCULATION THROUGH THE CONDENSER WILL RESULT IN POOR REFRIGERATION PERFORMANCE, IN INCREASED PRODUCT TEM-PERATURES, AND PERMANENT COMPRESSOR FAILURE

Dirt accumilation inside the condensate evaporator pan will reduce the pan's capacity and reduce the efficiency of the heater causing a burned out heater an an overflow of defrost water onto the store floor.

Tips and Troubleshooting

- Check power. Ensure reliable electrical power supply to the equipment.
- Check shelf loading. Overstocking will adversely affect case performance.
- If Frost is collecting on fixture or product, verify that store Humidity Control is working properly, and that no outside doors or windows allow moisture into store.

Installation

Store Conditions

- ٠ Case is designed to operate at temperatures 80°F at 55% relative humidity. Case must be kept in that environment to ensure case performance and product safety.
- ٠ DO NOT position the case near HVAC vent. a minimum of 15' clearance is required.
- DO NOT position the case near an entrance door. Outside ٠ Ambient conditions have adverse affect on refrigeration performance.
- DO NOT position case against ceiling or soffit. a minimum clearnace of 8" above the unit is required for proper compressor discharge airflow.
- DO NOT block case front panel vent (supplies critical intake ٠ airflow to the compressor). INTAKE AIR temperature should not exceed 80°F.

For prompt service when contacting the factory regarding problems, be sure to have the Case Model and Serial Number handy. This imformation is on a platelocated on itself. www.hussmann.com (909) 590-4910 (800) 395-9229



General Information

Case Description: This Booklet specifically covers the following models:

- TY3

- TY4



Description: The ENTYCE-SC model series are multi-deck, spot merchandisers designed for medium temperature applications such as: Deli/Dairy/Beverage. They are available as either remote type models, which require separate condensing unit connections, or self-contained models. Each self-contained model will have it's own condensing unit, factory installed beneath the display area of the case ready for operation when electrical service is connnected.

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.

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.

Location/Store Conditions: The refrigerated merchandisers have been designed for use only in air conditioned stores where temperature and humidity are maintained either 75°F ambient and 55% RH or 80°F aND 55% RH . 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.

Shortages: Check your shipment for any possible shortages of material. 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 has 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.

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

HUSSMANN® Chino

13770 Ramona Avenue • Chino, California 91710 (909) 628-8942 FAX (909) 590-4910 (800) 395-9229



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

Cut and Plan Views

(1254)



TY3-6 6' wide Merchandiser



TY3-6X(case length) E - Flat End Merchandiser







Spec Sheet



971/2 1211/2 1451/2 (2477) (3086) (2000)

41 1/2 325/8

consult factory

731/2 (1867)

255/8 (651)

"B" 231/2

"A"

351/2 445/8 (1133) consult factory

SS DELI	1500	32~36

CONVENTIONAL

CAPACITY **

(BTU/HR/FT)

403/8 (1026)

493/8

CASE USAGE

5 -(127)

REFRIGERATION DATA:

CASE LENGTHS

61, 81, 101,

4E, 6E, 8E

*FRONT DISCHARGE AIR MEASURED INSIDE AIR CURTAIN HONEYCOMB **REFRIGERATION NOTES: 1) CAPACITY FOR REFERENCE ONLY.

2) USE DEW POINT FOR HIGH GLIDE REFRIGERANTS. CARE SHOULD BE TAKEN TO USE THE DEW FOR MEASURING AND ADJUSTING SUPERHEAT. ADJUST EVAPORATOR PRESSURE AS NEEDED

VELOCITY

(FT/MIN)

125~175

DISCHARGE AIR TEMPERATURE SHOWN. 3) RATING CONDITION IS NSF TYPE I, 75°F/55% RH

AVERAGE

DISCHARGE AIR*

(°F)

(SEE SETPOINTS BELOW)

32~36

REFRIGERATION DATA CONTINUED:

CONTROLLER	/ AIR SEN	SOR		FAILSAFE	DEFROST FRE	TERM.	DRIP	DEFROST WATER
USAGE	CUT IN (°F)	CUT OUT (°F)	DEFROST TYPE	TIME (MIN)	QUENCY (#/DAY)	TEMP (°F) AIR	TIME (MIN)	(LBS/DAY /FT)
WARM	38	30	OFE TIME	50	6	52	ΝΔ	NΔ
COLD	31	23	OTT TIME	50	0	52	114	INA.

4) DEFROST IS BASED ON TERMINATION TEMP, WHICH UNDER NORMAL CIRCUMSTANCES,

IS SHORTER THAN FAILSAFE TIME.

ELECTRICAL DATA:

STANDARD FANS, HEATERS, LED LIGHTS (115 VOLT)

		EVAPORATOR FANS CANOPY LIGH			LIGHTS D	OPTIONAL LED MAX. LED LOAD SHELF LIGHTS (W/ ALL OPTIONS)			ANTI-SWEAT HEATERS (ON FAN CIRCUIT)		CONVENIENCE OUTLETS (OPTIONAL)		LIGHT MATRIX				
	# OF EVAP FANS	BLADE DIA. (IN.)	BLADE PITCH (°)	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	# OUTLETS	VOLTS	AMPS	FT OF LEDS
61	6	8	15	1.8	48	0.12	14	0.25	29	0.37	43	0.61	70	1	115	15	18'
81	6	8	15	1.8	48	0.22	25	0.44	50	0.65	75	0.78	90	1	115	15	30'
101	8	8	15	2.4	64	0.30	35	0.61	70	0.91	105	0.78	90	1	115	15	42'
4E	4	8	15	1.2	32	0.10	12	0.21	24	0.31	36	0.26	30	1	115	15	15'
6E	6	8	15	1.8	48	0.20	23	0.40	46	0.60	68	0.61	70	1	115	15	27'
8E	8	8	15	2.4	64	0.28	33	0.57	65	0.85	98	0.78	90	1	115	15	39'

CONDENSING UNIT AND EVAPORATIVE PANS

CASELENGTH		0	EVAPORATIVE PAN						
CASE LENGIN	NOM. HP	REFRIG.	Hz/Ph	Volts	RLA	FUSE AMPS	VOLTS	AMPS	WATTS
61	2	R-404A	60 / 1	240	12.0	25	208	7.2	1500
81	2 1/4	R-404A	60 / 1	240	15.7	35	208	7.2	1500
101	3	R-404A	60 / 1	240	18.0	40	208	9.1	2000
4E	1	R-404A	60 / 1	240	9.3	20	208	7.2	1500
6E	2	R-404A	60 / 1	240	15.7	25	208	7.2	1500
8Ē	2 1/4	R-404A	60/1	240	18.0	35	208	7.2	1500

OPTIONAL HIGH OUTPUT LED LIGHTS (115 VOLT)

CASE LENGTH	CANOPY LIGHTS H.O. LED		OPTIONA	SHELF	MAX. H.O. LED LOAD		
			AMPS	WATTS	AMPS	WATTS	
61	N/A	N/A	N/A	N/A	N/A	N/A	
81	N/A	N/A	N/A	N/A	N/A	N/A	
101	N/A	N/A	N/A	N/A	N/A	N/A	
4E	N/A	N/A	N/A	N/A	N/A	N/A	
6E	N/A	N/A	N/A	N/A	N/A	N/A	
8E	N/A	N/A	N/A	N/A	N/A	N/A	

6I N/A							
8I N/A							
10I N/A							
4E N/A							
6E	N/A						
8E	N/A						
POINT IN P/T TABLES							
TO MAI	NTAIN THE						

CASE

LENGTHS

485/8 (1235)

255/8

"**A**" 231/2 563/4 (1441) 803/4 (2051)

"B"

EST. REFG.

CHRG. (LBS)

751/2 965/8 (2454)

835/8 (2124) 595/8 (1514)

End Panels

21/8 (54)

END	END PANEL WIDTH KEY						
# OF END PNLS	END PNL WIDTH (IN.)	TOTAL ADDED LENGTH (IN.)					
1	1 1 2 5	1 1 2 5					



SELF-SERVICE DELI CHEESE

HUSSMANN - TY3-5I-SC (CHINO) DGE 2017 Energy Efficiency for use in the United States meet or surpass the requirements of the DDE 2017 energy efficiency standards.

Intertek Intertek Compl TY3-5 Entyce 3 level 5' wide island



TY-5 5' wide Island Merchandiser





REFRIGERATION DATA:

CASE LENGTHS	CASE USAGE	CONVENTIONAL CAPACITY ** (BTU/HR)	AVERAGE DISCHARGE AIR* (°F) (SEE SETPOINTS BELOW)	VELOCITY (FT/MIN)
71	SS DELI	12,385	29~33	125~175

CASE LENGTHS	EST. REFG. CHRG. (LBS)
71	

*FRONT DISCHARGE AIR MEASURED INSIDE AIR CURTAIN HONEYCOMB **REFRIGERATION NOTES: 1) CAPACITY FOR REFERENCE ONLY.

1) USE DEW POINT FOR REFERENCE UNLT.
) 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.

3) RATING CONDITION IS NSF TYPE I, 75°F/55% RH

REFRIGERATION DATA CONTINUED:

CONTROLLER SETT	/ AIR SEN INGS	SOR		FAILSAF	DEFROST	TERM.	DRIP	DEFROST
USAGE	CUT IN (°F)	CUT OUT (°F)	DEFROST TYPE	E TIME (MIN)	QUENCY (#/DAY)	TEMP (°F) AIR	TIME (MIN)	(LBS/DAY/ FT)
WARM	38	30		50	6	50	NA	11
COLD	31	23		50	0	52	INA	11

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					

4) DEFROST IS BASED ON TERMINATION TEMP, WHICH UNDER NORMAL CIRCUMSTANCES, IS SHORTER THAN FAILSAFE TIME.

ELECTRICAL DATA:

STANDARD FANS, HEATERS, LED LIGHTS (115 VOLT)

		EVA	PORATOR	FANS		CANOPY LE	LIGHTS D	OPTIONAL LED SHELF LIGHTS		MAX. LED LOAD (W/ ALL OPTIONS)		ANTI-SWEAT HEATERS (ON FAN CIRCUIT)		CONVENIENCE OUTLETS (OPTIONAL)		LIGHT MATRIX	
CASE LENGTH	# OF EVAP FANS	BLADE DIA. (IN.)	BLADE PITCH (°)	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	# OUTLETS	VOLTS	AMPS	FEET
71	6	8	15	1.8	48	0.12	14	0.29	33	0.41	47	0.43	50	1	115	15	22

CONDENSING UNIT AND EVAPORATIVE PANS

			C	EVAPORATIVE PAN						
CASE LENGTH	NOM. HP	REFRIG.	Hz/Ph	Volts	RLA	FUSE AMPS	VOLTS	AMPS	WATTS	
ſ	71	2	R-404A	60 / 1	240	12.0	25	208	7.2	1500

CASE LENGTH	CANOPY LIGHTS H.O. LED		OPTIONA	LSHELF	MAX. H.O. LED LOAD		
	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	
71	N/A	N/A	N/A	N/A	N/A	N/A	



SELF-SERVICE DELI / PRODUCE HUSSMANN - TY3-6 I-SC (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.

DOE 2017

nergy Efficiency Compliant

REVISION DATE 02/22/17

221/2 ___ Optional black 8(203) angled shelf Inserts 243/8 12(305) ⁽⁶¹⁹⁾ -**571/2** (1461) 27(686) 30 **35** (889) (762 TY3-6, TY3-6-S **25** (635) **26**7/8 (683) **12**1/8 (308) **47**_{1/2} (1206) 713/4





REFRIGERATION DATA:

(1822)

CASE LENGTHS	CASE USAGE	CONVENTIONAL CAPACITY ** (BTU/HR/FT)	AVG DISCHARGE AIR* (°F) (SEE SETPOINTS)	VELOCITY (FT/MIN)	DEFROST WATER (LBS/DAY/FT)	CASE LENGTHS 81
81		14720			N/A	101
101	SS DELI	18400	28~32	100~150	N/A	121
121		22080			N/A	

*FRONT DISCHARGE AIR MEASURED INSIDE AIR CURTAIN HONEYCOMB

**REFRIGERATION NOTES:

1) CAPACITY FOR REFERENCE ONLY.

) 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.

3) RATING CONDITION IS NSF TYPE I, 75°F/55% RH

REFRIGERATION DATA CONTINUED:

CONTROLLER	I / AIR SEN	SOR		FAILSAF	DEFROST	TERM.	DRIP	
USAGE	CUT IN (°F)	CUT OUT (°F)	DEFROST TYPE	E TIME (MIN)	QUENCY (#/DAY)	TEMP (°F) AIR	TIME (MIN)	
WARM	38	30		50	6	50	NIA	
COLD	31	23		50	0	52	INA	

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							

EST.

REFG.

CHRG. (LBS)

4) DEFROST IS BASED ON TERMINATION TEMP, WHICH UNDER NORMAL CIRCUMSTANCES, IS SHORTER THAN FAILSAFE TIME.

13 SHORTER THAN FAILSAFE

ELECTRICAL DATA:

STANDARD FANS, HEATERS, LED LIGHTS (115 VOLT)

		EVA	PORATOR	FANS		CANOPY	LIGHTS	OPTIONAL LED MAX. LE SHELF LIGHTS (W/ ALL C		IAX. LED LOAD // ALL OPTIONS) ANTI-SWEAT HEATERS (ON FAN CIRCUIT)		CONVENIENCE OUTLETS (OPTIONAL)			LIGHT MATRIX		
CASE LENGTH	# OF EVAP FANS	BLADE DIA. (IN.)	BLADE PITCH (°)	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	# OUTLETS	VOLTS	AMPS	FT OF LEDS
81	6	8	20	1.8	48	0.12	14	0.33	37	0.45	52	0.43	50	1	115	15	22
101	8	8	20	2.4	64	0.22	25	0.51	59	0.73	84	0.61	70	1	115	15	36
121	10	8	20	3.0	80	0.30	35	0.68	79	0.99	113	0.78	90	1	115	15	46

CONDENSING UNIT AND EVAPORATIVE PANS

CASELENCTH		CONDENSING UNIT									
CASE LENGTH	NOM. HP	REFRIG.	Hz/Ph	Volts	RLA	FUSE AMPS	VOLTS	AMPS	WATTS		
81	2 1/4	R-404A	60 / 1	240	15.7	35	208	7.2	1500		
101	2 1/2	R-507	60 / 1	240	17.9	40	208	7.2	1500		
121	3 1/2	R-404A	60 / 1	240	23.6	50	208	7.2	1500		

CASE LENGTH	LIG H.O.	HTS LED	OPTIONA	L SHELF	MAX. H.O. LED LOAD		
	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	
81	N/A	N/A	N/A	N/A	N/A	N/A	
101	N/A	N/A	N/A	N/A	N/A	N/A	
121	N/A	N/A	N/A	N/A	N/A	N/A	



REFRIGERATION DATA:

CASE LENGTHS	CASE USAGE	CONVENTIONAL CAPACITY ** (BTU/HR/FT)	DISCHARGE AIR * (°F) (SEE SETPOINTS BELOW)	VELOCITY (FT/MIN)
6I, 8I, 10I, 4E, 6E, 8E	DELI	2240	28~32	100~150

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

(S):
 (APACITY FOR REFERENCE ONLY
 (APACITY FOR REFERENCE ONLY
 (S) 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.
 (A) RATING CONDITION IS NSF TYPE II, 80°F/55% RH

REFRIGERATION DATA CONTINUED:

/ AIR SE INGS	NSOR	DEEDOOT	FAIL-	DEFROST	TERM.	DRIP	DEFROST
CUT IN (°F)	CUT OUT (°F)	TYPE	TIME (MIN)	FREQ. (#/DAY)	TEMP (°F) AIR	TIME (MIN)	WATER (LBS/DAY/FT)
39	30		50	6	54	NIA	14
31	23		50	0	54	INA	14
	7 AIR SE INGS CUT IN (°F) 39 31	CUT IN (°F) CUT OUT (°F) 39 30 31 23	AIR SENSOR INGS CUT IN (°F) 39 30 31 23 CUT CUT OUT (°F) DEFROST TYPE DEFROST TYPE OFF TIME	CUT IN (°F) CUT OUT (°F) CUT OUT (°F) CUT OUT (°F) FAIL- SAFE TIME (°F) 39 30 30 OFF TIME 50	CUT IN (°F) CUT OUT (°F) CUT OUT (°F) DEFROST TYPE FAIL- SAFE TIME DEFROST FREQ. (#/DAY) 39 30 0FF TIME 50 6	CUT IN (°F) CUT OUT (°F) CUT OUT (°F) DEFROST TYPE FAIL- SAFE TIME (MIN) DEFROST FREQ. (#/DAY) TERM. TEMP (°F) AIR 39 30 OFF TIME 50 6 54	AIR SENSOR INGS CUT OUT CUT OUT CUT OUT CUT OUT DEFROST OUT FAIL- SAFE TIME (MIN) DEFROST FREQ. (#/DAY) TERM. (°F) AIR DRIP TIME (MIN) 39 30 30 OFF TIME 50 6 54 NA

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

4) DEFROST IS BASED ON TERMINATION TEMP, WHICH UNDER NORMAL CIRCUMSTANCES, IS SHORTER THAN FAILSAFE TIME.

ELECTRICAL DATA:

STANDARD FANS, HEATERS, LED LIGHTS (115 VOLT)

		JIAND	AND I ANO,	LAILNG	, LLD LIGH	13(113 00											
		EVAPORATOR FANS					LIGHTS D	OPTIONAL LED MAX. LED LOAD SHELF LIGHTS (W/ ALL OPTIONS)			ANTI-S HEATE FAN CI	SWEAT RS (ON IRCUIT)	CONVENIENCE OUTLETS (OPTIONAL)			LIGHT MATRIX	
CASE LENGTH	# OF EVAP FANS	BLADE DIA. (IN.)	BLADE PITCH (°)	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	# OUTLETS	VOLTS	AMPS	FT OF LED
61	6	8	15	1.8	48	0.12	14	0.45	52	0.57	66	0.43	50	1	115	15	26
81	6	8	15	1.8	48	0.22	25	0.73	84	0.95	109	0.61	70	1	115	15	42
101	8	8	15	2.4	64	0.30	35	0.99	113	1.29	148	0.78	90	1	115	15	58
4E	4	8	15, 20	1.2	32	0.10	12	0.35	41	0.46	53	0.26	30	1	115	15	22
6E	6	8	15, 20	1.8	48	0.20	23	0.63	73	0.83	96	0.61	70	1	115	15	38
8E	8	8	15 20	24	48	0.28	33	0.80	102	1 1 7	135	0.78	90	1	115	15	54

CONDENSING UNIT AND EVAPORATIVE PANS

CASELENGTH			CONDEN	SING UNIT			EVAP	ORATIV	E PAN	EST. REFG. CHRG.
CASE LENGTH	NOM. HP	REFRIG.	Hz/Ph	Volts	RLA	FUSE AMPS	VOLTS	AMPS	WATTS	(R404A) (LBS)
61	2 1/4	R-404A	60 / 1	240	15.7	35	120	8.3	2000	1.1
81	3	R-404A	60 / 1	240	18.0	40	208	7.2	1500	1.1
101	3 1/2	R-404A	60 / 1	240	23.6	50	208	7.2	1500	1.3
4E	1	R-404A	60 / 1	240	10.0	20	208	7.2	1500	0.8
6E	2	R-404A	60 / 1	240	12.0	25	240	6.3	1500	1.1
8F	2 1/2	R-404A	60 / 1	240	17 9	40	208	72	1500	13

CASE LENGTH	LIGHTS H.O. LED		OPTIONA	SHELF	MAX. H.O. LED LOAD			
	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS		
61	N/A	N/A	N/A	N/A	N/A	N/A		
81	N/A	N/A	N/A	N/A	N/A	N/A		
101	N/A	N/A	N/A	N/A	N/A	N/A		
4E	N/A	N/A	N/A	N/A	N/A	N/A		
6E	N/A	N/A	N/A	N/A	N/A	N/A		
8E	N/A	N/A	N/A	N/A	N/A	N/A		



REFRIGERATION DATA:

1.1						
	CASE LENGTHS	CASE USAGE	CONVENTIONAL CAPACITY **	AVERAGE DISCHARGE AIR* (°F)	VELOCITY (FT/MIN)	VELOCITY (FT/MIN)
			(BIU/HR/FI)	(SEE SETPOINTS BELOW)	, ,	NSF 7
Ì	61		15200			100~150
[81	I	20250			100~150
[101	DELL	25250	28~22	100~150	100~150
[4E	DLLI	9660	20-32	100-130	100~150
[6E		14700			100~150
[8E		19700			100~150

CASE LENGTHS	EST. REFG. CHRG. (LBS) (R404A)
61	1.1
81	1.1
101	1.3
4E	0.8
6E	1.1
8E	1.3

*FRONT DISCHARGE AIR MEASURED INSIDE AIR CURTAIN HONEYCOMB

**REFRIGERATION NOTES:

1) CAPACITY FOR REFERENCE ONLY. 1) 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.

3) RATING CONDITION IS NSF TYPE I, 75°F/55% RH

REFRIGERATION DATA CONTINUED:

TELLINGENATION												
CONTROLLER	AIR SEN	SOR						DEEDOOT	Ţ	END I	PANEL WI	DTH KEY
SETT	NGS			FAILSAF	DEFROST	TERM.	DRIP	WATER		# 05		TOTAL
USAGE	CUT IN (°F)	CUT OUT (°F)	DEFROST TYPE	E TIME (MIN)	FREQUENCY (#/DAY)	TEMP (°F) AIR	TIME (MIN)	(LBS/DAY/ FT)		END PNLS	WIDTH (IN.)	ADDED LENGTH (IN.)
WARM	38	30		50	c	E 2	NIA	NIA		1	1.125	1.125
COLD	31	23	OFF HIVE	50	0	52	INA	INA				

4) DEFROST IS BASED ON TERMINATION TEMP, WHICH UNDER NORMAL CIRCUMSTANCES, IS SHORTER THAN FAILSAFE TIME.

ELECTRICAL DATA:

STANDARD FANS, HEATERS, LED LIGHTS (115 VOLT)

CASE LENGTH						CANOPY LIGHTS OPTIONAL LED LED SHELF LIGHTS			MAX. LED LOAD (W/ ALL OPTIONS) ANTI-SWEAT HEATERS (O) FAN CIRCUIT		SWEAT ERS (ON IRCUIT)	CONVENIENCE OUTLETS (OPTIONAL)			LIGHT MATRIX		
	# OF EVAP	BLADE DIA.	BLADE PITCH (°)	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	# OUTLETS	VOLTS	AMPS	FT OF LED
61	6	8	15	18	48	0.12	14	0.45	52	0.57	66	0.43	50	1	115	15	26
81	6	8	15	1.8	48	0.22	25	0.73	84	0.95	109	0.61	70	1	115	15	42
101	8	8	15	2.4	64	0.30	35	0.99	113	1.29	148	0.78	90	1	115	15	58
4E	4	8	15, 20	1.2	32	0.10	12	0.35	41	0.46	53	0.26	30	1	115	15	22
6E	6	8	15, 20	1.8	48	0.20	23	0.63	73	0.83	96	0.61	70	1	115	15	38
8E	8	8	15, 20	2.4	48	0.28	33	0.89	102	1.17	135	0.78	90	1	115	15	54

CONDENSING UNIT AND EVAPORATIVE PANS

		c	ONDENS	ING UNIT	-		EVA	PORATIVE	PAN
CASE LENGTH	NOM. HP	REFRIG.	Hz/Ph	Volts	RLA	FUSE AMPS	VOLTS	AMPS	WATTS
61	2	R-404A	60 / 1	240	12.0	25	208	7.2	1500
81	2 1/4	R-404A	60 / 1	240	15.7	35	208	7.2	1500
101	3	R-404A	60 / 1	240	18.0	40	208	9.1	2000
4E	1	R-404A	60 / 1	240	9.3	20	208	7.2	1500
6E	2	R-404A	60 / 1	240	15.7	25	208	7.2	1500
8E	2 1/4	R-404A	60 / 1	240	18.0	35	208	7.2	1500

	CAN		OPTIONAL		INAX. F	1.O. LED
CASE LENGTH	LIG	HTS	OFIIONA		LC	DAD
	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
61	N/A	N/A	N/A	N/A	N/A	N/A
81	N/A	N/A	N/A	N/A	N/A	N/A
101	N/A	N/A	N/A	N/A	N/A	N/A
4E	N/A	N/A	N/A	N/A	N/A	N/A
6E	N/A	N/A	N/A	N/A	N/A	N/A
8E	N/A	N/A	N/A	N/A	N/A	N/A

Installation

Store Conditions

- Case is designed to operate at temperatures at either 75°F at at 55% relative humidity or 80°F at 55% relative humidity. Case must be kept in that environment to ensure case performance and product safety.
- Do not position the case near an HVAC vent.
- Do not position the case near an entrance door. Outside ambient conditions may have an adverse affect on the refrigeration performance, a minimum of 15' clearance is required from doors.
- Do not position the case tight against a ceiling or soffit. A minimum clearance 10" above the unit is required for proper compressor discharge air flow.
- Do not block case front panel vent (supplies critical intake air flow to the compressor)



BEFORE SERVICING ALWAYS DISCONNECT ELECTRICAL POWER AT THE MAIN DISCONNECT WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT This includes (but not limited to) Fans, Hea Thermostats, and Lights

Uncrating the Stand

Place the fixture as close to its permanent position as possible. Remove the top of the crate. Detach the walls from each other and remove from the skid. Unbolt the case from the skid. The fixture can now be lifted off the crate skid. Lift only at base of stand!

Do Not Install the Vented Panels of the self-contained model against a wall or other storage fixture.

Located in the lower front and rear of the self-contained models are vented panels. These panels allow air circulation to the condensing unit. Blocking or restricting air circulation through these panels can cause poor performance and damage the refrigeration system.

Exterior Loading

These models have not been structurally designed to support excessive external loading. **Do not walk on their tops;** This could cause serious personal injury and damage to the fixture.



Leveling

A LEVEL CASE IS NECESSARY TO INSURE PROPER OPERATION AND WATER DRAINAGE.

Note: To avoid removing concrete flooring, begin lineup leveling from the highest point of the store floor.

Condensate Pan Setup and Maintaintence

Setup:

There are two condensate evaporator pans on this unit. The drain pipes from the case feed into the "Primary Condensate Pan". This condensate pan will turn on when the float switch level is triggered. If the volume of water is above the capacity of this pan, excess water will flow into the "Secondary Condensate Pan". Both the Primary and Secondary condensate pans are placed into a metal receiver. The metal receiver is there to collect excess water that may overspill in case of (a) failure of the condensate pans or (b) store conditions being above design specification causing more condensate water to be formed than expected.

Maintaintence:

Care must be taken to ensure that the condensate pans operate properly at the store. These units are designed to operate at either 75°F ambient and 55% RH or 80°F ambient and 55% RH. If stores are operating above this condition, case performance will be severely affected. If such a condition is noted, the metal receiver under the condensate pans must be checked periodically to see if excess water is being collected. If water has accumulated, water must be siphoned out of the receiver. Care must be taken while performing this step. Unit power should be shut off for electrical safety. Once water has been removed and metal receiver is dried out, unit power can be turned back on.

Figure1

Figure2



Clearances

Minimum Clearances for Self-Contained cases are to be followed as instructed for proper placement inside store locations.

- Intake and exhaust clearances are to be a minimum of 8' when placed next to a solid w
- Height clearance measured from floor follows as a minimum of 10
- Minimum of 36" clearance if near an open aisle is required for proper cycle (Assumed 8' clearance from solid wall)



Close-off Removal

Step 1 Slide bottom of close-off in upward motion to remove from tabs.



Step 2

Pull Close-off in outward then downward motion to completely remove side panel close-off

Step 3

Once side panel close-off has been removed from case four screws will be visible which fasten the round close-off to the case. Remove the four screws 2 on each end to remove the end close-off.



Lifting Instructions

Entyce Lifting and Transport Instructions



1. The Entyce can be lifted by a forklift only at the specified location in the diagram



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

- 2. Remove close-offs and lower body panels before lifting with a fork. Serious damage will occur if the body panels are not removed.
 - Remove the end case lower and bottom panels first
 - Then remove the side case lower and bottom panels
 - A Phillips head screwdriver/drill is needed for lower and bottom panel removal
- 3. Make sure that fork spacing and width will not damage drain, piping, or electrical lines
- 4. Be sure that the forks are long enough to support beyond the center of the case. Check for proper balance before moving. A minimum fork length of 36" is recommended for 68" wide cases
- 5. The Entyce can be raised at one end with a forklift to allow the placement of rollers or dollies. See figure on page 13 for J-bar and jacking instructions
- 6. Never drag or push the Entyce by ANY COMPONENT including ANY GLASS COMPONENT. This will result in damage to the base, and possibly damage to other components
- 7. Evenly support the entire base structure on rollers or dollies before attempting to move. Each Base Leg must have its own dollie to properly support the case.



- 8. If using J-Bars, use the specified jacking points to raise the case
 - Raise one side of the case first.
 - Use as many J-Bars as possible to lift from the base channels
 - A minimum of 2 J-Bars is required
 - Place Dollies and chock wheels before lifting the other side. Be sure that the dollies are evenly spaced to carry to weight of the case



- 9. If using Floor-jacks or Bottle-jacks, use the recommended lifting points located at the underside of the case
 - These points will be visible channels
 - Lift simultaneously to place dollies or rollers



- 8. If using J-Bars, use the specified jacking points to raise the case
 - Raise one side of the case first.
 - Use as many J-Bars as possible to lift from the base channels
 - A minimum of 2 J-Bars is required
 - Place Dollies and chock wheels before lifting the other side. Be sure that the dollies are evenly spaced to carry to weight of the case



9. For Dollies use recommended lift points, each Base Leg will need a Dollie for proper support.

RECOMMENDED NO FORKLIFT UNDER TUB.

-Using a forklift may damage condensing unit, Refrigeration Piping, Electrical Conduit, or Drainage Components

COLOR DESCRIPTION	DESCRIPCION	DESCRIPTION
GROUND	TIERRA MASA	MASSE
ANTI-SWEAT	ANTICONDENSACION	ANTI-SUINTEMENT
LIGHTS	LUCES	ECLAIRAGE
RECEPTACLES	ENCHUFES	PRISE DE COURANT
T-STATISOLENOID 200VAG	TERMOSTATO/SOLENOIDE (230VAC)	SOUPAPE A SOLENOID (230 YAC)
T-STAT/SOLENOD 115V//C	TERMOSTATO/SOLENOIDE (115VAC)	SOUPAPE A BOLENOID (115 VAC)
T-STAT/SOLENOID 24VAC	TERMOSTATO/SOLENOIDE (24VAC)	SOUPAPE & SOLENOID (24 VAC)
E FAN MOTORS	VENTILADORES	VENTILATEUR
ILUE CONDENSING UNIT	UNIDAD DE CONDENSACIÓN	UNITE DE CONDENSATION.

UTILISEZ LES CONDUCTEURS DE CUIVRE SEULEMENT UTILICE LOS CONDUCTORES DE COBRE SOLAMENTE 430-01-0338 R101003

CASE MUST BE GROUNDED

NOTE: Refer to label affixed to case to determine the actual configuration as checked in the "TYPE INSTALLED" boxes.

Standard lighting for all refrigerated models will be full length LED Lights located within the case at the top.

Electrical Wiring Diagram Index

Field Wiring and Serial Plate Amperage

Field Wiring must be sized for component amperes printed on the serial plate. Actual ampere draw may be less than specified. Field wiring from the refrigeration control panel to the merchandisers is required for refrigeration thermostats. Case amperes are listed on the wiring diagram, but always check the serial plate.



Model Tier Description Size Diagram # Entyce TY3 ECSQ-4X6I-S 6' 3003957 examples 5X7I-S 7' 1H86057 TY4 3X5.5E-S 5.5' 3004407 TY4 4 X 6E S 6' 1H78329









Starrt Up

- 1. Apply power to the merchandiser.
- 2. Wait for the self check to complete.
- During self check each LED flashes for one second, then all LEDs turn on for two seconds.
- If the LEDs do not flash, make sure the adjustment knob is not in the "OFF" position.
- 3. The compressor will start 30 seconds after the self check is complete.
- The merchandiser temperature displays at startup.
- An initial defrost occurs two hours after startup.
- The compressor runs until it reaches its setpoint temperature or until defrost.
- 4. Refrigeration: The compressor will continue to cycle on-and-off normally until scheduled- or demand- defrost occurs.
- 5. Defrost is triggered by a demand defrost setup (for models equipped with demand defrost)
 - During defrost the display shows the initial defrost temperature (temperature at the start of defrost).
 - This initial defrost temperature is displayed for the full preset time period (even if refrigeration mode resumes before the end of this period).
- 6. The refrigeration/defrost cycle repeats (steps 4, 5) until the power is interrupted.
- 7. If power is interrupted, the process will start over at step 1
 - The time to subsequent scheduled defrost will reset.
- 8. NOTE: Do NOT load product until AFTER merchandiser reaches desired operating temperature (approximately 4 hours).

OPERATION- Check shelf loading. Overstocking case will affect its proper operation. Do not block discharge and return air.

1. Do not display packages over the air inlet located at the front of the lowest deck - this restricts the airflow and results in warmer temperatures in the case.

- 2. Product must be at temperature when loading case. Case is not designed to cool food.
- 3. Do not display more than 150 pounds of product per shelf. Additional weight will cause deflection in the display shelves.

Temperature Adjustment

- 1. Rotate the (SafeNet 3) controller adjustment dial clockwise for a colder setpoint, or counter-clockwise for a warmer setpoint.
 - For medium temp (41° F) products the optimal dial setting is "Cold" (the factory setting). .
 - To save energy (for beverages and other non-critical food products) the controller dial may be set to "Warm".
- Check internal product temperatures (IPTs) periodically with a pocket thermometer when adjusting case temperatures.
- 2. While adjusting the temperature, the display shows the setpoint. A few seconds after the temperature is set, the controller reverts to the sensed temperature in the merchandiser.

Alarms And Codes flashing temperature sensor alarm LED, E1 or E2]

- If the Temperature or Sensor Alarm LED (red) on the controller and display is flashing, a temperature sensor has failed. The display shows E1 if the Discharge Air sensor has failed or E2 if the evaporator sensor has failed.
- If the Discharge Air sensor fails, refrigeration will run. Refrigeration will default to a Safe Mode Duty cycle 45 minutes ON 6 minutes OFF including normal defrost cycle.

Parameter Programmed Report

Parameter	Description	Value
1	Freezer Cut-in warm	38°F
2	Freezer Cut-out warm	30°F
3	Freezer Cut-in cold	30°F
4	Freezer Cut-out cold	22°F
5	Compressor ON time delay at Controller Power Up	0 min 30 sec
6	Compressor Minimum (ON) time	1 min 0 sec
7	Compressor Minimum (OFF) time	2 min 0 sec
8	Potentiometer off position	10°
9	Potentiometer on position	15°
10	On-Off logical function	1
11	Controller Operation Temperature Units	1
12	Sensor failure mode	3
	(compressor and fan relay	
	failure mode)	
13	Compressor On Time if Sensor failed	0 hour 45 min
10	Compressor Off Time if Sensor failed	0 hour 6 min
15	Defrost Function	1
16	Defrost Method	2
17	Time to first defrost(Initial frost build time)	2 hour 0 min
18	Time to subsequent defrost	6 hour 0 min
19	Defrost duration Time (failsafe)	0 hour 50 min
20	Defrost Termination temperature	52°F
21	Drip time	0 min 0 sec
22	Defrost Cycle at power on	0
23	Evanorator Temp. Sensor	1
20	Defrost Termination Method	1
25	Tomporatura Initiated Defract Eurotian	1
20	Temperature Initiated Defrost (T = Tenace Teven)	I
20	Temperature Initiated Defrost (1 – Tspace-Tevap.)	4 F
27	Temperature Initiated Defrost Time Delay	5 min 0 sec
28	After Defrect	59 min 0 sec
00	After Defrost	
29		1
30	High Temperature Alarm - Warm	46°⊢
31	Low Temperature Alarm - Warm	<u>15°</u> ⊢
32	High Lemperature Alarm - Cold	32°F
33	Low Temperature Alarm - Cold	15°F
34	Temperature Alarm Differential	4°F
35	Temperature Alarm Time delay	0 hour 20 min
36	Temperature Alarm Disable Time after Start Up	3 hour 0 min
37	Temperature Alarm Delay after Defrost	0 hour 50 min
38	Buzzer Function	0
39	Buzzer Period	24.9 sec
40	Led Alarm Function	1
41	Led Alarm Period	2.0 sec
42	Defrost Display Lock	1
	(display indication during defrost)	
43	Sensor Fault Monitoring Time	1 min 0 sec
44	Display Temperature Offset	0°F
45	Display Unlock Time	0 hour 45 min
46	Show Parameter Code Number	1
47	Parameter Code Number	5
48	Maximum Compressor Run Function	0
49	Maximum Compressor Run Time	2 hour 0 min
50	Defrost Heater Duty Cycle Function	0
<u> </u>	Heater On Time	
52		0 min 30 coo
52		

Min	Max
-40°C (-40°F)	40°C (104°F)
_40°C (_40°E)	40°C (104°E)
	40°C (104°E)
-40°C (-40°F)	40°C (104°F)
-40°C (-40°F)	40°C (104°F)
0 sec	59 min 59 sec
0 sec	30 min 59 sec
0 sec	59 min 59 sec
5°	57°
9°	61°
0=disable o	or 1=enable
0=Celsius or	1=Fahrenheit
0=Relays	fail OPFN
2=Relays	
2-1\Clays 1	
1 min	50 hour 50 min
	59 hour 59 min
1 min	59 nour 59 min
0=dis	sable
1=Systen	n run time
2=Compres	sor run time
1=El	ectric
2=Off	-cvcle
3=rovor	se cycle
10 min	71 hour 50 min
10 min	71 hour 50 min
1 min	4 nour 59 min
-40°C (-40°F)	40°C (104°F)
0 sec	59 min 59 sec
0=disable o	or 1=enable
0=disable o	or 1=enable
0=dis	sable
1=Evap	Sensor
2=Contro	Sensor
2-Digital St	vitch (close)
	$\frac{1}{2}$
	40°C (72°F)
0 sec	59 min 59 sec
0 sec	59 min 59 sec
0=disable o	or 1=enable
-40°C (-40°F)	40°C (104°F)
-40°C (-40°F)	40°C (104°F)
-40°C(-40°F)	40°C (104°F)
-40°C (-40°F) -40°C (-40°F)	40°C (104°F) 40°C (104°F)
<u>-40°C (-40°F)</u> <u>-40°C (-40°F)</u> 1°C (2°F)	40°C (104°F) 40°C (104°F) 40°C (104°F)
-40°C (-40°F) -40°C (-40°F) 1°C (2°F)	40°C (104°F) 40°C (104°F) 40°C (104°F) 10°C (18°F)
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min	40°C (104°F) 40°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 50 min
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min	40°C (104°F) 40°C (104°F) 10°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 59 min
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 min	40°C (104°F) 40°C (104°F) 10°C (104°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 min 0 edisable o	40°C (104°F) 40°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min 0r 1=enable
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 min 0=disable 0 0.2 sec	40°C (104°F) 40°C (104°F) 10°C (104°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min 24.9 sec
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 min 0=disable o 0.2 sec 0=disable o	40°C (104°F) 40°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min 24.9 sec or 1=enable
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 min 0=disable o 0.2 sec 0=disable o 0.4 sec	40°C (104°F) 40°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min or 1=enable 24.9 sec or 1=enable 24.8 sec
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 min 0=disable o 0.2 sec 0=disable o 0.4 sec 0=display tem	40°C (104°F) 40°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min 24.9 sec or 1=enable 24.8 sec perature read
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 disable of 0.2 sec 0=disable of 0.4 sec 0=display tem 1=lock the dis	$\begin{array}{r} 40^{\circ}\text{C} (104^{\circ}\text{F}) \\ 40^{\circ}\text{C} (104^{\circ}\text{F}) \\ 10^{\circ}\text{C} (18^{\circ}\text{F}) \\ 4 \text{ hour 59 min} \\ 17 \text{ hour 59 min} \\ 24.9 \text{ sec} \\ 24.9 \text{ sec} \\ 1 \text{ enable} \\ 24.8 \text{ sec} \\ 1 \text{ enable} \\ 28.8 en$
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 disable of 0.2 sec 0=disable of 0.4 sec 0=display tem 1=lock the dis 2=disr	$\begin{array}{r} 40^{\circ}\text{C} (104^{\circ}\text{F}) \\ 40^{\circ}\text{C} (104^{\circ}\text{F}) \\ 10^{\circ}\text{C} (18^{\circ}\text{F}) \\ 4 \text{ hour 59 min} \\ 17 \text{ hour 59 min} \\ 24.9 \text{ sec} \\ 24.9 \text{ sec} \\ 24.8 \text{ sec} \\ 124.8 \text{ sec} \\ 12$
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 disable of 0.2 sec 0=disable of 0.4 sec 0=display tem 1=lock the dis 2=disp	$\begin{array}{r} 40^{\circ}\text{C} (104^{\circ}\text{F}) \\ 40^{\circ}\text{C} (104^{\circ}\text{F}) \\ 10^{\circ}\text{C} (18^{\circ}\text{F}) \\ 4 \text{ hour 59 min} \\ 17 \text{ hour 59 min} \\ 24.9 \text{ sec} \\ 24.9 \text{ sec} \\ 11 \text{ enable} \\ 24.8 \text{ sec} \\ 12 \text{ more than 50 mem} \\ 12 \text{ more than 50 mem} \\ 13 $
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 disable of 0.2 sec 0=disable of 0.4 sec 0=display tem 1=lock the dis 2=disp 5 sec -40°C (-72°E)	$40^{\circ}C (104^{\circ}F)$ $40^{\circ}C (104^{\circ}F)$ $10^{\circ}C (18^{\circ}F)$ $4 hour 59 min$ $17 hour 59 min$ $24.9 sec$ $24.8 sec$ $24.8 sec$ $24.8 sec$ $24.8 sec$ $24.8 sec$ $35 min 59 sec$ $40^{\circ}C (72^{\circ}E)$
-40°C (-40°F) -40°C (-40°F) 1°C (2°F) 0 min 0 min 0 edisable of 0.2 sec 0=disable of 0.4 sec 0=display tem 1=lock the dis 2=disp 5 sec -40°C (-72°F)	40°C (104°F) 40°C (104°F) 10°C (18°F) 4 hour 59 min 17 hour 59 min 17 hour 59 min 17 hour 59 min or 1=enable 24.9 sec or 1=enable 24.8 sec perature read splay on temp. blay DF 59 min 59 sec 40°C (72°F) 1 hour 59 min
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Safenet III Operation



Safe-NET III™ TEMPERATURE AND DEFROST CONTROLLER

SAFE-NET III™ USER INSTRUCTIONS

Your refrigerated case uses a Hussmann Safe-NET III[™] temperature and defrost controller to precisely maintain the temperature and prevent frost buildup on the cooling coil. LEDs indicate when the compressor or refrigeration is on, when the case is in a defrost cycle, if the temperature is outside the desired range, or if there is a sensor failure.

An adjustment knob allows the temperature to be set within the configured range and can power off the controller and compressor. Your controller has been custom-configured to provide the best temperature and defrost control for your chilled or frozen food.

The front of the controller has an adjustment knob and status LEDs. The back of the controller has connections for sensors and switched equipment.



The Safe-NET III controller includes the following features and connections.

Adjustment knob:

Adjusts the temperature setpoint.

Turn adjustment knob to OFF to turn off refrigeration system. Unplug merchandiser from power before servicing the unit.



Controller LEDs:

- Compressor Powered On LED (green): Lights while the compressor is running or the refrigeration valve is open.
- Defrost Cycle LED (yellow): Lights while the refrigeration coil is defrosting.
- Temperature or Sensor Alarm (red): Lights if the temperature is too warm or too cold. Flashes if a sensor fails.

- Rear connections
- Case temperature sensor;
 - Typically senses the temperature of the air in the case.

Used by the controller to determine when to power on or power off the compressor or refrigeration.

- Evaporator temperature sensor:
 - Senses the temperature of the refrigeration coil. Terminates a defrost cycle when refrigeration coil ice melts.
- Compressor or refrigeration relay:
 - Switches on the compressor or refrigeration valve for cooling.

🗥 WARNING

The optional evaporator fan remains ON when the adjustment knob is in the OFF position.

DISPLAY

The display includes three red LEDs and two digits for temperature, defrost status, and error codes.

The three display LEDs are red, and their behavior matches the LEDs on the controller.



START-UP

1. Plug in the merchandiser.

The OFF Position does not disconnect line voltage to the case, refrigeration unit, fan, or heater.

- 2. Wait for the self check to complete. During the self check, each LED flashes for one second, then all LEDs turn on for two seconds. If the LEDs do not flash, make sure the adjustment knob is not in the Off position.
 - After the self check, all LEDs turn off until the compressor starts. There may be a delay before the compressor starts. If the red Temperature or Sensor Alarm LED stays on after the self check.
 - The green Compressor Powered On LED turns on when the compressor starts.

NOTE: Do NOT load product until AFTER merchandiser operates for 24 hours and reaches desired operating temperature.

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



- 1. Apply power to the merchandiser. Wait for the self check to complete. During the self check, each LED flashes for one second and then all LEDs turn on for two seconds If the LEDs do not flash, make sure the adjustment knob is not in the "OFF" position.
- 1A.The merchandiser temperature displays at startup. The initial defrost starts two hours later. The display will show the temperature at the start of defrost. This reading will remain displayed during defrost and until it times out, even though the refrigeration mode has been initiated. (The green LED will be lit.)
- 2. The compressor will start after a 30 second delay once power is applied.
- 3. The compressor will continue to run until it reaches its cut-out temperature (Pulldown).
- 4. The refrigeration cycle will continue for the next subsequent scheduled (5-hours) or demand defrost.
- 5. The above process will repeat (steps 3 and 4) until the power is interrupted.
- 6. If power stops, the process will start over at step 1, and the time to subsequent defrost will reset.

TEMPERATURE ADJUSTMENT

Rotate the adjustment knob counter clockwise for a warmer setpoint or clockwise for a colder setpoint.

• While the temperature is being adjusted, the optional display shows the setpoint (cut out value). A few seconds after the temperature is set, the display reverts to showing the sensed temperature in the merchandiser.

ALARMS AND CODES

FLASHING TEMPERATURE OR SENSOR ALARM LED, E1 OR E2

If the Temperature or Sensor Alarm LED (red) on the controller and display is flashing, a temperature sensor has failed. The display shows E1 if the case sensor has failed or E2 if the evaporator sensor has failed.



If the merchandiser sensor fails, refrigeration will run continuously. Turn off, or repeat a duty cycle of a few minutes on and a few minutes off.

DEFROST TERMINATION SWITCH

Merchandisers may use a defrost termination switch, instead of an evaporator sensor to terminate a defrost cycle. The defrost termination switch is temperature activated and senses the completion of defrost.



MANUAL DEFROST



Note: This procedure initiates a manual or forced defrost

1. Note location of knob setting



 Rotate knob fully counterclockwise until it stops (full warm- "OFF" position)



 After 10 seconds, but before 20 seconds, rotate knob fully clockwise until it stops (full cold position)

IMPORTANT: Return the control knob to its original setting (Step 1) once the manual defrost has been

initiated.







Display - at Full Cold



Safe-NET III Control # 1 Position



Display - at #1 Position



Display - at #1 Position

TEMPERATURE ADJUSTMENT

- 1. Rotate the adjustment knob counter clockwise for a warmer setpoint or clockwise for a colder setpoint.
- 2. While adjusting the temperature, the display shows the setpoint (cut out value). A few seconds

after the temperature is set, the controller reverts to the sensed temperature in the merchandiser.

3. To verify merchandiser settings, turn the dial to warm and cold as shown above. Output readings should be within one degree of the temperatures shown above.



Maintenance

Case Cleaning

To insure long life, proper sanitation and minimum maintenance costs, the refrigerator should be thoroughly cleaned frequently. SHUT OFF FAN BEFORE CLEANING: It can be unplugged within the case, or shut off entire case at the source. The interior bottom may be wiped with any domestic soap or detergent based cleaners. Sanitizing solutions will not harm the interior bottom,

WARNING! DO NOT USE WATER HOSES! A self contained case empties into an evaporator pan that WILL OVERFLOW IF TOO MUCH WATER IS INTRODUCED during cleaning

- USE WATER AND A MILD DETERGENT FOR THE EXTERIOR ONLY
- Wipe interior with damp non abrasive cloth. Soap and hot water are not enough to kill bacteria; a sanitizing solution must be included with each cleaning process to eliminate bacteria.
- Clean any visible debris surrounding or on top of the drain location. The drain is located under the deck pans.
- DO NOT USE A CHLORINATED CLEANER ON ANY SUR-FACE.
- DO NOT USE ABRASIVES OR STEEL WOOL SCOURING PADS (these will mar the finish)

• DO NOT USE A CLEANING OR SANITIZING SOLUTION THAT HAS AN OIL BASE (these will dissolve the butyl sealants) or an AMMONIA BASE (this will corrode the copper components of the case)

Service

- Replace Filter every 6 months or as needed to maintain efficient operation.(if applicable)
- To maintain good refrigeration performance, a refrigeration service person should be called periodically (at least twice a year) to clean the discharge honeycomb and remove any accumulated dirt from the condenser coil and condensate evaporator pan on self-contained models. POOR CIRCULATION OF AIR THROUGH THE CONDENSER COIL WILL RESULT IN POOR REFRIGERA-TION PERFORMANCE.
- Dirt accumulation inside the condensate evaporator pan will reduce the pan's capacity and affect the efficiency of the heater causing a burned out heater and an overflow of defrost water onto the store floor.

Tips and Troubleshooting

Before calling for service:

- Check power. Ensure reliable electrical power supply to the equipment
- Check shelf loading. Overstocking will adversely affect case performance.
- If frost is collecting on fixture or product, verify that store Humidity Control is working properly, and that no outside doors/windows allow moisture into store.

WARNING

ALWAYS DISCONNECT THE ELECTRICAL POWER AT THE MAIN DISCONNECT WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT OF THIS REFRIGERATOR. THIS INCLUDES, BUT IS NOT LIMITED TO SUCH ITEMS AS FANS AND THERMOSTATS.

Fan Blade Replacement

The evaporator fan is located directly under the deck pan. Should the fan blade ever need servicing. ALWAYS REPLACE THE FAN BLADE WITH THE RAISED EMBOSSING SIDE OF THE BLADE INSTALLED TOWARD THE MOTOR.

Honeycomb Removal & Cleaning

CAUTION: DO NOT TEAR THE HONEYCOMB

1) Remove the honeycomb assembly as follows:

Insert a small Phillips screwdriver behind the rear edge of the honeycomb on the right hand end and gently pull down. The bottom of the honeycomb will drop down. Continue down the length of the case, lifting the honeycomb out.

2) To clean honeycomb:

Mix powdered detergent, in warm water. (5 to 7 Tablespoons per gallon)

Immerse or spot clean the honeycomb. Use care not to damage the cell structure of the honeycomb.

Rinse thoroughly in clean water. Shake excess water from the honeycomb and dry. (if heat is used, do not exceed 140 F dry heat)

3) **Install honeycomb** by inserting the notched side up against the deflector and press upwards inserting the bottom of the honeycomb into the back ledge. Slide along the honeycomb, pressing the front edge upward into the ledge. Be careful no to damage the cells or cut yourself on the edges of the honeycomb.

Ballast Replacement

The power supply for the LED fixtures is located under the case in a dedicated electrical box.

For access to the ballast:

- Remove Close-off panels (See Close-off Removal for reference)
- Remove screws to grille to expose electrical conduit?
- Replace or service the ballast as required and replace the canopy in reverse order of removal.

User Information

Stocking

Improper temperature and lighting will cause serious product loss. Discoloration, dehydration and spoilage can be controlled with proper use of the equipment and handling of product. Product temperature should always be maintained at a constant and proper temperature. This means that from the time the product is received, through storage, preparation and display, the temperature of the product must be controlled to maximize life of the product. Hussmann cases were not designed to "heat up" or "cool down" product - but rather to maintain an item's proper temperature for maximum shelf life. To achieve the protection required always:

- 1. Minimize processing time to avoid damaging temperature rise to the product. Product should be at proper temperature.
- 2. Keep the air in and around the case area free of foreign gasses and fumes or food will rapidly deteriorate.
- 3. Maintain the display merchandisers temperature controls as outlined in the refrigerator section of this manual.
- 4. Do not place any product into these refrigerators until all controls have been adjusted and they are operating at the proper temperature. Allow merchandiser to operate a minimum of three (3) hours before stocking with any product.
- 5. When stocking, never allow the product to extend beyond the recommended load limit. Air discharge and return air flue must be unobstructed at all times to provide proper refrigeration.
- 6. Avoid the use of supplemental fl ood or spot lighting. Display light intensity has been designed for maximum visibility and product life at the factory.

Case Cleaning

Long life and satisfactory performance of any equipment are dependent upon the care given to it. To insure long life, proper sanitation and minimum maintenance costs, the refrigerator should be thoroughly cleaned frequently. SHUT OFF FAN DURING CLEANING PROCESS. It can be unplugged within the case, or shut off entire case at the source. The interior bottom may be cleaned with any domestic soap or detergent based cleaners. Sanitizing solutions will not harm the interior bottom, however, these solutions should always be used according to the Hussmann's directions. It is essential to establish and regulate cleaning procedures. This will minimize bacteria causing discoloration which leads to degraded product appearance and significantly shortening product shelf life.

Soap and hot water are not enough to kill this bacteria. A sanitizing solution must be included with each cleaning process to eliminate this bacteria.

- 1. Scrub thoroughly, cleaning all surfaces, with soap and hot water.
- 2. Rinse with hot water, but do not flood.
- 3. Apply the sanitizing solution according to Hussmann's directions.
- 4. Rinse thoroughly.
- 5. Dry completely before resuming operation.

Plexiglass and Acrylic Care

Improper cleaning not only accelerates the cleaning cycle but also degrades the quality of this surface. Normal daily buffing motions can generated static cling attracting dust to the surface. Incorrect cleaning agents or cleaning cloths can cause micro scratching of the surface, causing the plastic to haze over time.

Cleaning

Hussmann recommends using a clean damp chamois, or a paper towel marked as "dust and abrasive free" with 210[®] Plastic Cleaner and Polish available by calling Sumner Labs at 1-800-542-8656. Hard, rough cloths or paper towels will scratch the acrylic and should not be used.

Service Record

Last service date:	By:

HUSSMANN⁷/Chino

Additional copies of this publication may be obtained by contacting:

Hussmann® Chino 13770 Ramona Avenue • Chino, California 91710 (909) 628-8942 FAX (909) 590-4910 (800) 395-9229

www.hussmann.com

The MODEL NAME and SERIAL NUMBER is required in order to provide you with the correct parts and information for your particular unit.

They can be found on a small metal plate on the unit. Please note them below for future reference.

MODEL:

SERIAL NUMBER: