HUSSMANN® NSF®

RLTI with INNOVATOR III Doors

Technical Data Sheet

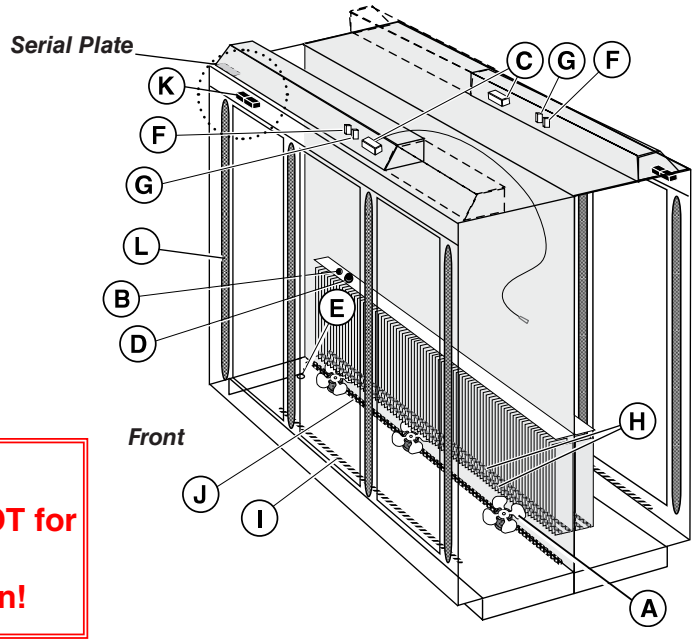
P/N 0520874_E

NSF® Certified

June 2015

DOE 2012
Energy Efficiency Compliant

We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.



Warning:
Terminal block NOT for case-to-case wire connection!

Refrigeration and electrical connections are on top. Overhead piping and electrical circuits are required.

Item	Part #	Description	Wiring Item #
FAN ASSEMBLIES, AND THERMOSTATS			
A.		Fan Assembly	(1)
	0477658	Standard Energy Efficient motor	
	0315470	Fan Blade	
B.	0331798	Standard Non-adjustable Defrost Thermostat	(2)
C.		Optional Adj. Refrigeration Thermostat	(3)
D.	0440423	Defrost Limit Thermostat	(4)
E.	0446007	Relay Control Thermostat or Fan and Anti-sweat Heater Thermostat	(5)
RELAYS			
F.	0342598	Anti-Sweat Control Relay (120V Koolgas)	(6)
G.	0342599	Fan Control Relay (208V)	(7)
HEATERS			
H.		Electric Defrost Heaters (208V)	(8)
	0461938	(2) 2 Door Models	
	0461939	(2) 3 Door Models	
	0461940	(2) 4 Door Models	
	0461941	(2) 5 Door Models	

Item	Part #	Description	Wiring Item #
HEATERS (CONTINUED)			
I.		Drain Pan Heater Electric & Kool Gas (120V)	(9)
	0508199	(2) 2 Door Models	
	0508200	(2) 3 Door Models	
	0508201	(2) 4 Door Models	
	0508202	(2) 5 Door Models	
J.		Kool Gas Supplemental Heater Plenum (120V)	(10)
	0452980	(2) 2 Door Models	
	0452981	(2) 3 Door Models	
	0452982	(2) 4 Door Models	
	0452983	(2) 5 Door Models	
LED FIXTURES AND POWER SUPPLY			
K.	0499399	Power Supply	
L.		LED Fixture	
		Replace with like fixtures	

***NOTE: For LED lighting parts contact your Hussmann service representative at 1-800-922-1919. Please have your model and serial number available. Descriptions including size and color are at* WWW.HUSSMANN.COM/SERVICEANDPARTS.**

Refer to* INNOVATOR REACH-IN GLASS DOOR INSTALLATION AND SERVICE *manual, P/N 0425683, for Innovator, Innovator II, or Innovator III door and frame replacement parts.

Data sheet-Reach-in RLTI

NOTE: Revision E adds NOTE on page 2. Other changes marked by bar, underline or circle.

U.S. & CANADA 1-800-922-1919 • MEXICO 1-800-890-2900 • WWW.HUSSMANN.COM

English P/N 0520874
Spanish P/N 0527122

Engineering Plan Views

RLTI Plan View
2, 3, 4, & 5 Door

Dimensions shown as in. & (mm).

PHYSICAL DATA	
Merchandiser Drip Pipe (in.)	1 1/4
Merchandiser Liquid Line (in.)	3/8
Merchandiser Suction Line (in.)	7/8

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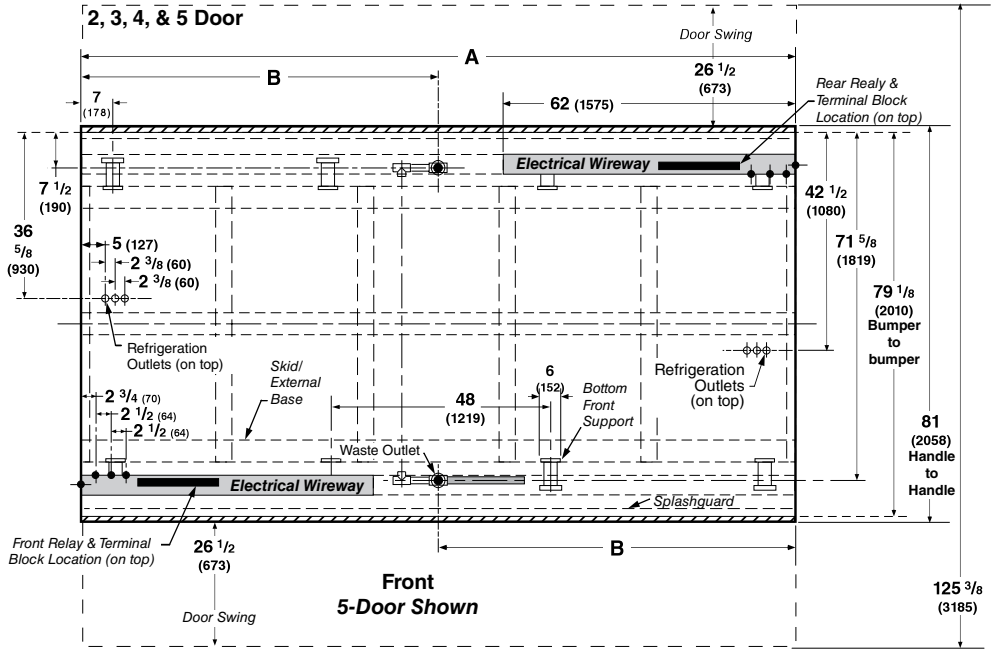


Refrigeration and electrical connections are on top. Overhead piping and electrical circuits are required.

Serial Plate attached to top left front of each case.	2 Dr	3 Dr	4 Dr	5 Dr
General				
(A) Case Length (without ends or partitions)	62 (1575)	92 1/2 (2350)	122 7/8 (3121)	153 3/8 (3896)
**NOTE: Each solid end adds approximately 2 3/8 in (60 mm) to length of line up; each partition add approximately 2 3/4 in (70 mm); case to case joints can add approximately 1/8 in (3 mm) for gasket material.				
Maximum O/S dimension of case back to front (Includes bumpers and handles)	81 (2068)	81 (2068)	81 (2068)	81 (2068)
Back of case to rear of splashguard	74 3/4 (1899)	74 3/4 (1899)	74 3/4 (1899)	74 3/4 (1899)
Width of Skid rail	3 3/4 (95)	3 3/4 (95)	3 3/4 (95)	3 3/4 (95)
Width of Bottom Front Support	6 (152)	6 (152)	6 (152)	6 (152)
Stub-up area between front skid rail and splashguard	6 3/8 (161)	6 3/8 (161)	6 3/8 (161)	6 3/8 (161)
Electrical Service				
Left hand end of case to the center of nearest knockout	2 3/4 (70)	2 3/4 (70)	2 3/4 (70)	2 3/4 (70)
Right hand end of case to the center of center knockout	56 3/4 (1441)	87 1/4 (2216)	117 5/8 (2988)	148 1/8 (3762)
Back O/S of case to center of front knockout	43 1/4 (1099)	43 1/4 (1099)	43 1/4 (1099)	43 1/4 (1099)
Back O/S of case to center of rear knockout	10 3/8 (264)	10 3/8 (264)	10 3/8 (264)	10 3/8 (264)
* NOTE: Electrical Field Wiring Connection Point is at terminal. Front and rear are wired separately.				
Waste Outlet				
(B) Right end of case to center of waste outlet	23 7/8 (606)	54 1/4 (1378)	46 1/4 (1175)	76 5/8 (1946)
Back O/S of case to center of waste outlet	71 3/8 (1814)	71 3/8 (1814)	71 3/8 (1814)	71 3/8 (1814)
Water Seal				
Edge of water seal to center of waste outlet	13 (330)	13 (330)	13 (330)	13 (330)
Schedule 40 drip piping	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)
** NOTE: Field installed water seal outlets, tees, and connectors are shipped with case				
Refrigeration Outlet (TOP OF MERCHANDISER)				
RH end of case to center of front refrigeration outlet	7 1/4 (184)	7 1/4 (184)	7 1/4 (184)	7 1/4 (184)
RH end of case to center of rear refrigeration outlet	54 3/4 (1391)	85 1/4 (2166)	115 5/8 (2937)	146 1/8 (3712)
Back O/S of case to center of front refrigeration outlet	43 1/4 (1099)	43 1/4 (1099)	43 1/4 (1099)	43 1/4 (1099)
Back O/S of case to center of rear refrigeration outlet	35 1/8 (892)	35 1/8 (892)	35 1/8 (892)	35 1/8 (892)
Outside bottom front supports from end of case	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)
Center bottom front support from Centerline	24 (610)	24 (610)	24 (610)	24 (610)
Distance between Center and Outside supports will vary				

Tall Reach-in Island 2, 3, 4 and 5 Door Models

Standard Tall Reach-in configuration consists of Innovator doors, energy efficient fan motors, and EcoShine II LED vertical lighting.

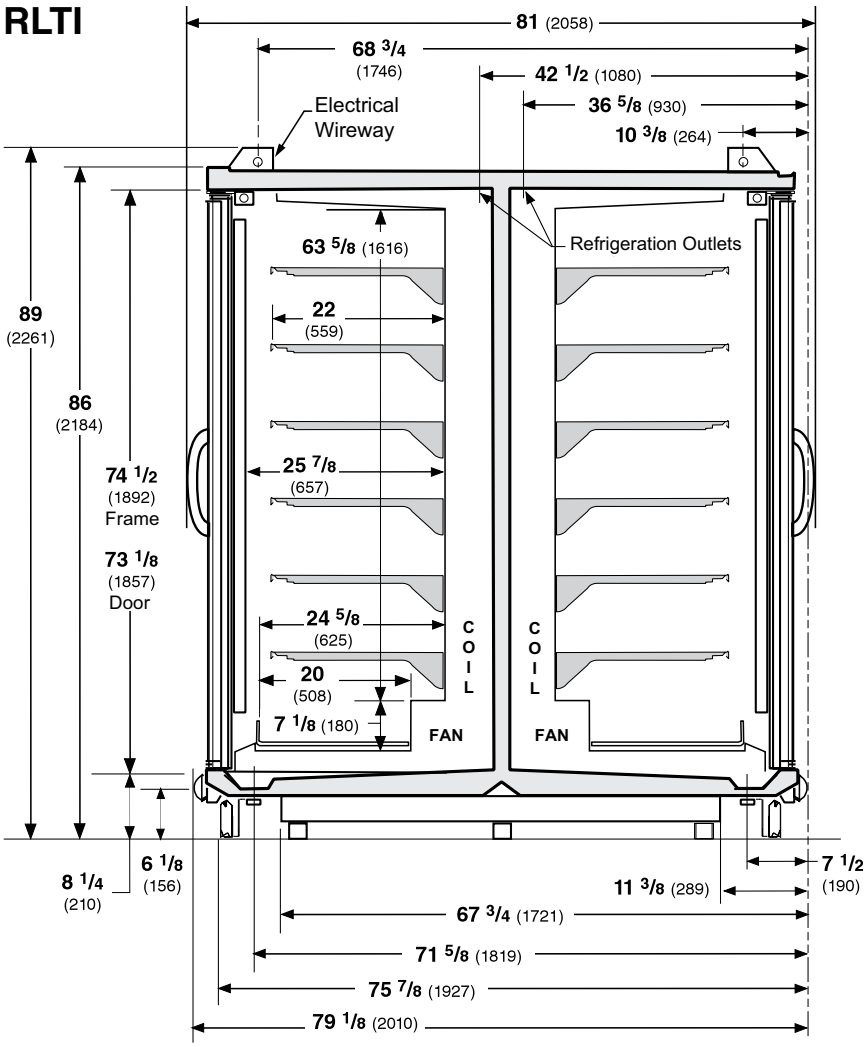
DOE 2012 Energy Efficiency Compliant

All RL and RM models meet or surpass the requirements of the DOE 2012 energy efficiency standards.

Refrigeration and electrical connections are on top. Overhead piping and electrical circuits are required.

Dimensions shown as in. & (mm).

RLTI



NSF Certification

This merchandiser model is manufactured to meet NSF/ANSI (National Sanitation Foundation) Standard #7 requirements for construction, materials & cleanability.

RLTI

With Innovator III Doors
Low Temperature

Refrigeration data is PER SIDE.

REFRIGERATION DATA

Note: This data is based on store temperature and humidity that does not exceed 75°F and 55% R.H.

	FF	IC
Discharge Air (°F)	–5	–12
Evaporator (°F)	–11	–19
Unit Sizing (°F)	–14	–22

Btu/hr/door/side*	FF	IC
INNOVATOR III		
Parallel	985	1055
Conventional	1005	1080

* Optional Ecoshine 27W LED's add 20 Btu/hr/door/side.

DEFROST DATA

	FF	IC
Frequency (hr)	24	24
Defrost Water (lb/Dr/side/day)	**1.2**	**1.2**

(± 15% based on case configuration and product loading).

ELECTRIC	FF	IC
Temp Term (°F)	54°	54°
Failsafe (minutes)	48	48
GAS		
Duration **(minutes)**	22	22
OFFTIME	Not Recommended	

CONVENTIONAL CONTROLS

Low Pressure Backup Control

	FF	IC
CI/CO (Temp °F)**	**–18°/–34°**	**–26°/–45°**

Indoor Unit Only, Pressure Defrost Termination (Temp °F)**

Not Recommended

**Use a Temperature Pressure Chart to determine PSIG conversions.

Estimated Charge per Side ***

2 Dr	2.3 lb	37 oz	1.0 kg
3 Dr	3.2 lb	51 oz	1.4 kg
4 Dr	4.1 lb	66 oz	1.8 kg
5 Dr	5.1 lb	82 oz	2.3 kg

***This is an average for all refrigerant types. Actual refrigerant charge may vary by approximately half a pound (8 oz / 0.2 kg).

RLTI
With Innovator III Doors
Low Temperature

Hussmann recommends against frame heater cycling with *Innovator III* doors to prevent door seals from freezing to the frames and tearing.

Electrical Data

Electrical data is per side — two circuits required per case.

	2Dr	3Dr	4Dr	5Dr
Number of Fans	**2**	**3**	**4**	**5**

	Amperes				Watts			
Merchandiser	**2Dr**	**3Dr**	**4Dr**	**5Dr**	**2Dr**	**3Dr**	**4Dr**	**5Dr**
Energy Efficient Evaporator Fan								
120V 50/60Hz Innovator III	1.65	2.5	3.3	4.1	125	188	250	313
220V 50/60Hz Export Innovator III	0.9	1.4	1.8	2.3	125	188	250	313
Door Anti-sweat Heaters (on fan circuit)								
120V 50/60Hz Innovator III	0.8	1.2	1.6	2.0	94	140	187	234
220V 50/60Hz Export Innovator III(ALWAYS*CLEAR)	NA	NA	NA	NA	NA	NA	NA	NA
Frame Anti-sweat Heaters (on fan circuit)								
120V 50/60Hz Innovator III	0.96	1.43	1.92	2.4	115	172	230	288
220V 50/60Hz Export Innovator III	0.5	0.8	1.1	1.3	115	172	230	288
Minimum Circuit Ampacity								
120V 50/60Hz Innovator III Electric Defrost	5.3	6.5	8.5	10.6				
120V 50/60Hz Innovator III Koolgas Defrost	5.1	8.0	10.9	13.8				
220V 50/60Hz Exp. Innovator III Electric Defrost	2.3	2.8	3.6	4.5				
220V 50/60Hz Exp. Innovator III Koolgas Defrost	2.9	4.6	6.3	7.8				
Maximum Over Current Protection 120V	20	20	20	20				
Maximum Over Current Protection 220V	20	20	20	20				
Defrost								
Drain Heaters (Kool-Gas or Electric)								
120V 50/60Hz Standard	2.5	2.6	3.1	3.5	297	317	366	419
220V 50/60Hz Export	1.35	1.44	1.6	1.9	297	317	366	419
Kool-Gas Supplemental Heaters								
120V 50/60Hzz Standard	2.3	3.8	5.2	6.6	276	456	624	792
220V 50/60Hz Export	1.8	2.9	3.9	5.0	404	633	861	1090
Electric Defrost Heater								
208V 50/60Hzz Standard	7.7	11.5	15.4	19.2	1600	2400	3200	4000
220V 50/60Hz Export	7.0	10.4	13.9	17.4	1600	2400	3200	4000

ONLY LIGHTING CONFIGURATIONS THAT ARE COMPLIANT WITH THE U.S. DEPT. OF ENERGY (DOE) 2012 REGULATION ARE AVAILABLE FOR SALE FOR USE IN THE U.S.A.

Standard Vertical LED Lighting 4100K	**2Dr**	**3Dr**	**4Dr**	**5Dr**	**2Dr**	**3Dr**	**4Dr**	**5Dr**
Hussmann EcoShine II ™ [22 W] (120V)	0.36	0.54	0.72	0.90	43	65	86	108
Hussmann EcoShine II ™ [22 W] (220V Export)	0.20	0.29	0.39	0.49	43	65	86	108
Optional Vertical LED Lighting								
EcoShine II Plus [24 W] (120V)	0.36	0.52	0.68	0.84	43	62	81	100
EcoShine II Plus [24 W] (220V) Export	0.18	0.26	0.34	0.42	43	62	81	100
GE Illumination (120V)	0.30	0.45	0.60	0.75	36	54	72	90
GE Illumination (220V Export)	0.16	0.25	0.33	0.41	36	54	72	90

Product data is PER SIDE.

Product Data

Recommended Usable Cube [1] ***(Cu Ft/Dr)***	24.95 ft^3/Dr (0.71 m^3/Dr)
AHRI Total Display Area [2] **(*Sq Ft/Dr*)**	13.59 ft^2/Dr (1.26 m^2/Dr)
Shelf Area [3] ***(Sq Ft/Dr)***	32.38 ft^2/Dr (3.01 m^2/Dr)

[1] AHRI Refrigerated Volume less shelving and other unusable space: Refrigerated Volume/Unit of Length, ft^3/ft [m^3/m]
[2] Computed using AHRI 1200 standard methodology: Total Display Area, ft^2 [m^2]/Unit of Length, ft [m]
[3] Shelf surface area is composed of bottom deck plus standard shelf complement, as shown in the Hussmann ***Product Reference Guide***. The standard shelf complement for this model is (6) rows of 22-inch shelves.

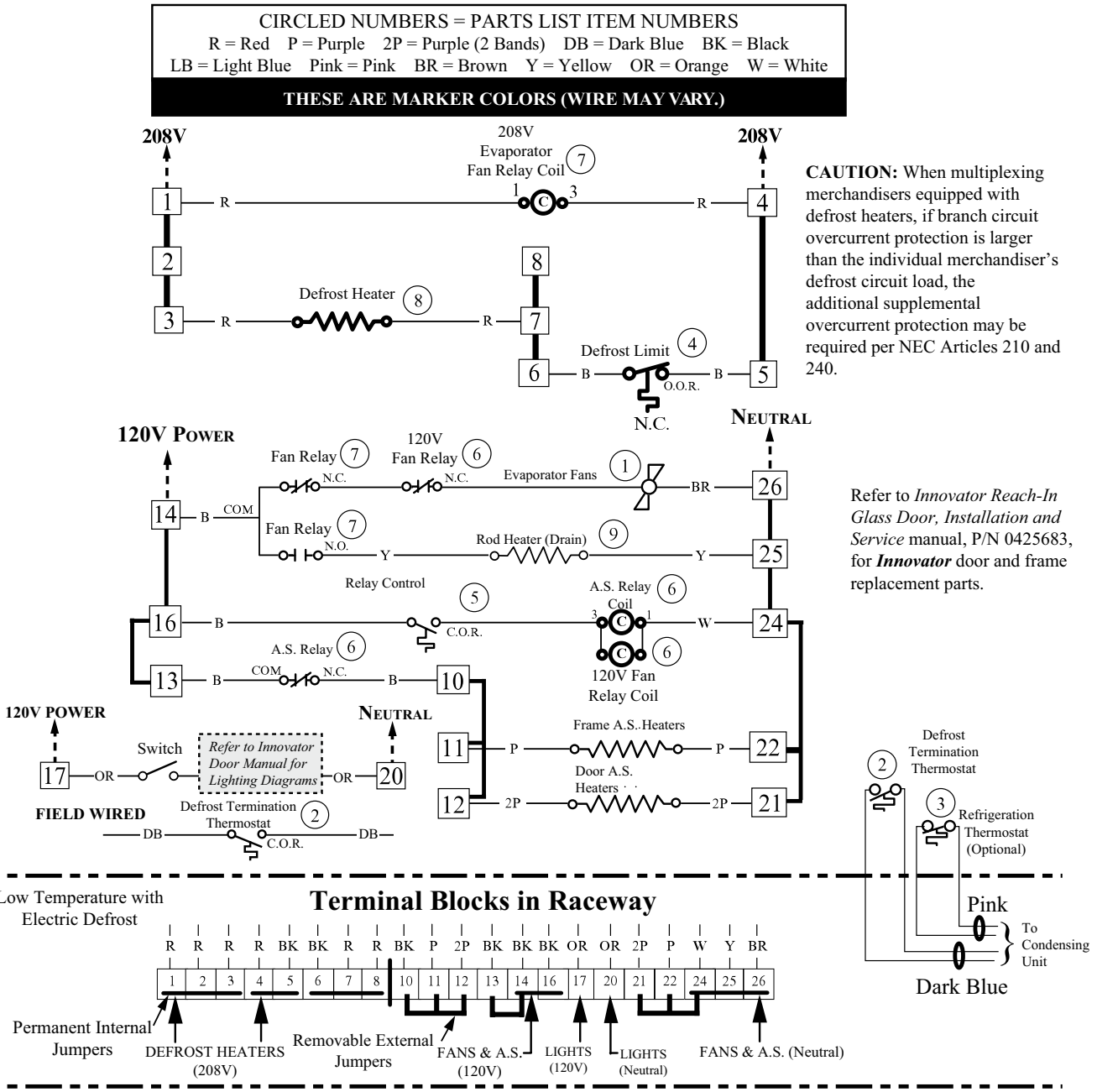
ESTIMATED SHIPPING WEIGHT [4]

Case						**Solid End**
	1 Dr	***2 Dr***	***3 Dr***	***4 Dr***	***5 Dr***	***(each)***
lb *(kg)*	NA (NA)	1667 (756)	2322 (1053)	2945 (1336)	3611 (1637)	120 (55)

[4] Actual weights will vary according to optional kits included.

Fan and Heater Circuits — Electric Defrost (standard)
Low Temperature

Wiring Diagram is per side — two circuits required per case.



CAUTION: When multiplexing merchandisers equipped with defrost heaters, if branch circuit overcurrent protection is larger than the individual merchandiser's defrost circuit load, the additional supplemental overcurrent protection may be required per NEC Articles 210 and 240.

Refer to *Innovator Reach-In Glass Door, Installation and Service* manual, P/N 0425683, for ***Innovator*** door and frame replacement parts.

Electric Defrost Sequence - Low Temperature

1. Power from the defrost contactor energizes Defrost Heaters and 208V Evaporator Fan Relay Coil (7). Relay Contacts open the fan circuit and energizes the Drain Pan Heater.
2. If the Defrost Heater raises internal air temperature above 90°F, the Defrost Limit Thermostat (4) will open.
3. Temperature rise of the evaporator closes the Relay Control Thermostat (5) at about 35°F, energizing 120V A.S. Relay Coils (6). These relays' contacts open the Frame and Door Heater Circuits, and prevent the Fan Circuit from energizing upon defrost termination.
4. When Defrost Termination Thermostat ends defrost period, the defrost contactor opens the Defrost Heater and Evaporator Fan Relay Coil Circuits. The Drain Pan Heater goes off.
5. Temperature fall of the evaporator opens the Relay Control Thermostat (5) at about 20°F, de-energizing 120V A.S. Relay Coils (6). A.S. Relay Contacts close the Frame and Door Heater Circuits, and Fan Circuit.

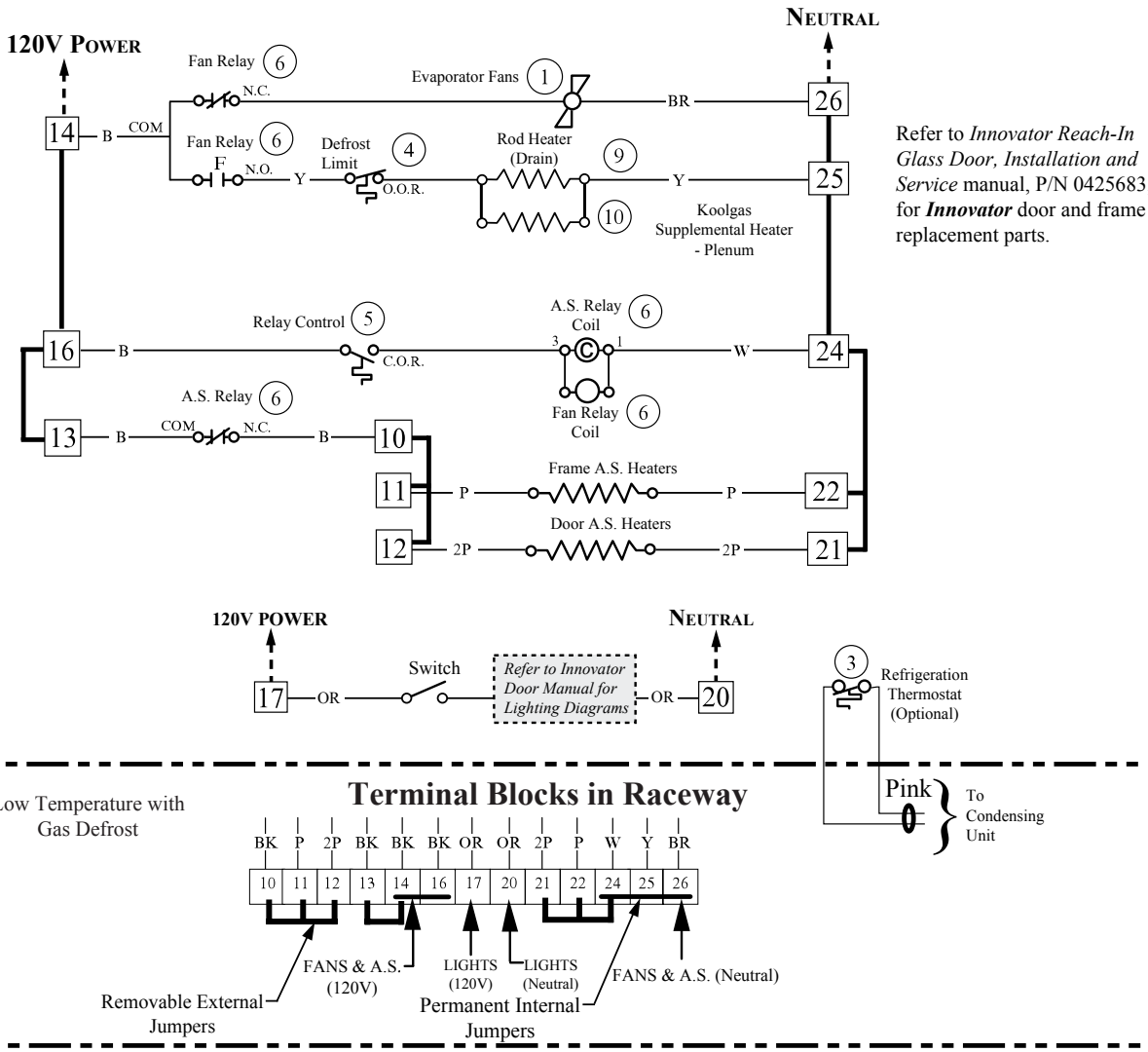
Wiring Diagram is per side — two circuits required per case.

Fan and Heater Circuits — Gas Defrost (optional)
Low Temperature

Wiring Diagram is per side — two circuits required per case.

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS
R = Red P = Purple 2P = Purple (2 Bands) DB = Dark Blue BK = Black
LB = Light Blue Pink = Pink BR = Brown Y = Yellow OR = Orange W = White

THESE ARE MARKER COLORS (WIRE MAY VARY.)



Refer to *Innovator Reach-In Glass Door, Installation and Service* manual, P/N 0425683, for ***Innovator*** door and frame replacement parts.

Gas Defrost Sequence - Low Temperature

1. Defrost vapor enters evaporator causing a rise in temperature. At about 35°F the Control Relay Thermostat (5) closes the Fan Relay Coil and Control Relay Coil (6) circuit. The Coil opens the Fan, Door Heater, and Frame Heater circuits, while energizing the Drain Pan, Bottom, and Plenum Heaters (9), (10) and (11).
2. If the Drain Pan Heater (9) raises internal air temperature above 90°F, the Heater Limit Thermostat (4) will open.
3. When the defrost timer ends a defrost period, the evaporator temperature will start to fall. At about 20°F, the Control Relay Thermostat will open, de-energizing the Control Relay Coil and Fan Relay Coil (7). Control and Fan Relay's will open the Drain Pan Heater circuits, and will close the Fan, Door Heater, and Frame Heater circuits.

Wiring Diagram is per side — two circuits required per case.