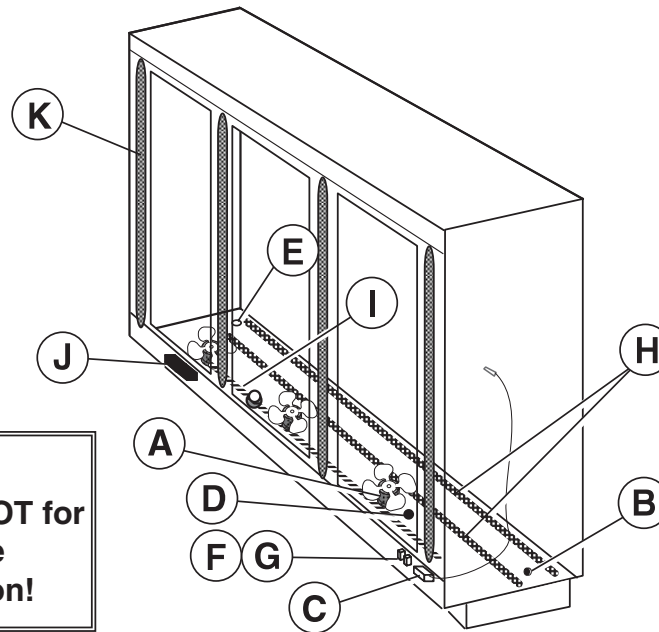


We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.



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

Item	Part #	Description	Wiring Item #	Item	Part # (Qty.)	Description	Wiring Item #
FAN ASSEMBLIES, AND THERMOSTATS				HEATERS			
A.	12W Standard Energy Efficient Fan Assembly (1)			H.	Electric Defrost Heaters – Front (208V) (8)		
	0477655	Fan Motor, Evaporator (MO.4410546)			3015518 (1)	1 Door Models	
	0461805	Fan Blade (FB.4780446)			3015372 (1)	2 Door Models (HE.4850346)	
B.	0474033	Standard Non-adjustable Defrost Thermostat (CT.4440726)	(2)		3015373 (1)	3 Door Models (HE.4850337)	
C.		Optional Adjustable Refrigeration Thermostat	(3)		3015374 (1)	4 Door Models (HE.4850347)	
D.	0344662	Defrost Limit Thermostat (CT.4440261)	(4)		3015375 (1)	5 Door Models (HE.4850323)	
E.	0461814	Relay Control Thermostat or Fan and Anti-sweat Heater Thermostat (CT.4481296) (KG Only)	(5)		Electric Defrost Heaters — Rear (208V) (8)		
RELAYS					3015519 (1)	1 Door Models	
F.	0342598	Anti-Sweat Control Relay (120V KoolGas) (RL.4480238)	(6)		3015376 (1)	2 Door Models (HE.4850358)	
G.	0342599	Fan Control Relay (208V) (RL.4480237)	(7)		3015377 (1)	3 Door Models (HE.4850359)	
					3015378 (1)	4 Door Models (HE.4850360)	
					3015379 (1)	5 Door Models (HE.4850361)	
				I.	Drain Pan Heater (Electric & KoolGas) (120V) (9)		
					0489708 (1)	1 Door Models	
					0387036 (1)	2 Door Models (HE.4850239)	
					0387037 (1)	3 Door Models (HE.4850240)	
					0387038 (1)	4 Door Models (HE.4850241)	
					0387039 (1)	5 Door Models (HE.4850242)	
Refer to INNOVATOR REACH-IN GLASS DOOR INSTALLATION AND SERVICE manual, P/N 0425683, for Innovator, Innovator II and Innovator III door and frame replacement parts.				LED FIXTURES AND POWER SUPPLY			
	J.	0499399	LED Power Supply (EP.4481668)				
	K.		LED Fixture			Replace with like fixtures	

Data sheet-Reach-in RLN

Note: Revision K: Updated wiring diagrams on page 6 and 7.

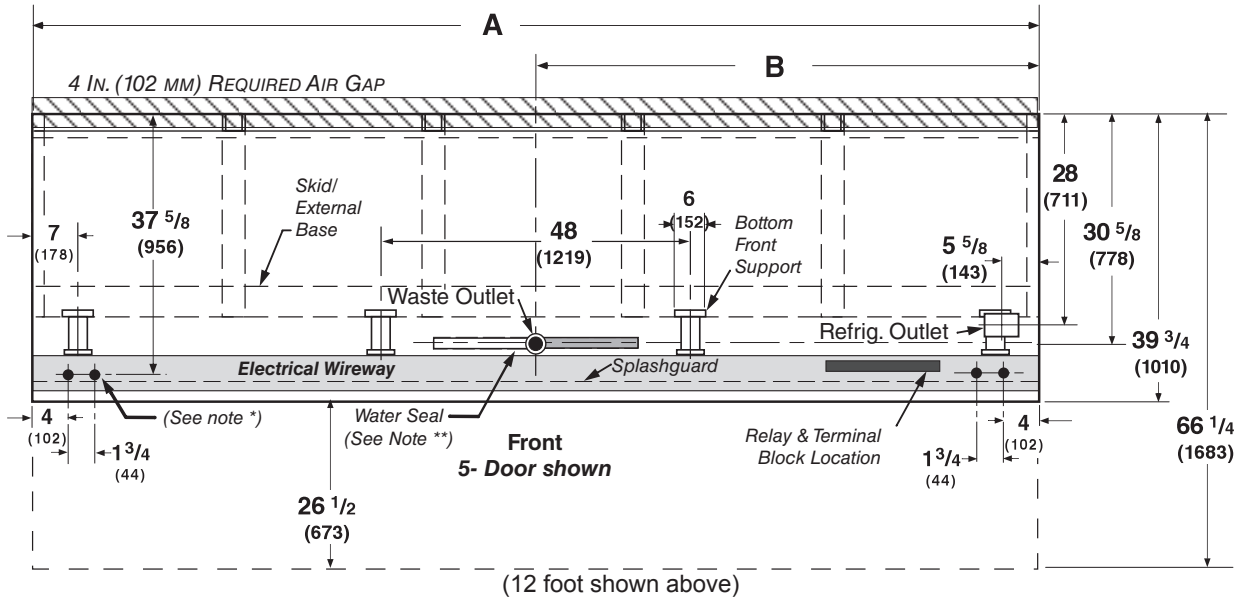
Engineering Plan Views

RLN - RMN Plan View

PHYSICAL DATA	
Merchandiser Drip Pipe (in.)	1 1/4
Merchandiser Liquid Line (in.)	3/8
Merchandiser Suction Line (in.)	5/8

Narrow Reach-In 2, 3, 4 & 5 Door

Dimensions shown as in. & (mm).



	1 Dr	2 Dr	3 Dr	4 Dr	5 Dr
General					
(A) Case Length (without ends or partitions)	31 1/2 (800)	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 bumper. Add 26 1/2 in. (673 mm) for door swing.)	39 3/4 (1010)	39 3/4 (1010)	39 3/4 (1010)	39 3/4 (1010)	39 3/4 (1010)
Back of case to rear of splashguard	35 3/4 (908)	35 3/4 (908)	35 3/4 (908)	35 3/4 (908)	35 3/4 (908)
Width of Skidrail	4 1/2 (114)	4 1/2 (114)	4 1/2 (114)	4 1/2 (114)	4 1/2 (114)
Width of Bottom Front Support	6 (152)	6 (152)	6 (152)	6 (152)	6 (152)
Stub-up area between front support and splashguard	6 3/8 (162)	6 3/8 (162)	6 3/8 (162)	6 3/8 (162)	6 3/8 (162)
Electrical Service					
RH end of case to the center of nearest knockout	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
RH end of case to the center of LH knockout	27 1/2 (698)	58 (1473)	88 1/2 (2248)	118 7/8 (3019)	149 3/8 (3794)
Back O/S of case to center of knockout	37 5/8 (956)	37 5/8 (956)	37 5/8 (956)	37 5/8 (956)	37 5/8 (956)
* NOTE: Electrical Field Wiring Connection Point is at terminal.					
Waste Outlet					
(B) Right end of case to center of waste outlet	15 3/4 (400)	23 3/4 (603)	54 1/4 (1378)	46 1/4 (1175)	76 5/8 (1946)
Back O/S of case to center of waste outlet	30 5/8 (778)	30 5/8 (778)	30 5/8 (778)	30 5/8 (778)	30 5/8 (778)
Water Seal					
Edge of water seal to center of waste outlet	13 (330)	13 (330)	13 (330)	13 (330)	13 (330)
Schedule 40 PVC drip pipe	1 1/4 (32)	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					
RH end of case to center of RH refrigeration outlet	5 3/8 (137)	5 3/8 (137)	5 3/8 (137)	5 3/8 (137)	5 3/8 (137)
Back O/S of case to center of refrigeration outlet	32 (813)	32 (813)	32 (813)	32 (813)	32 (813)
Outside bottom front supports from end of case	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)	6 3/4 (170)
Center bottom front support from Centerline	NA	24 (610)	24 (610)	24 (610)	24 (610)
Distance between Center and Outside supports will vary					

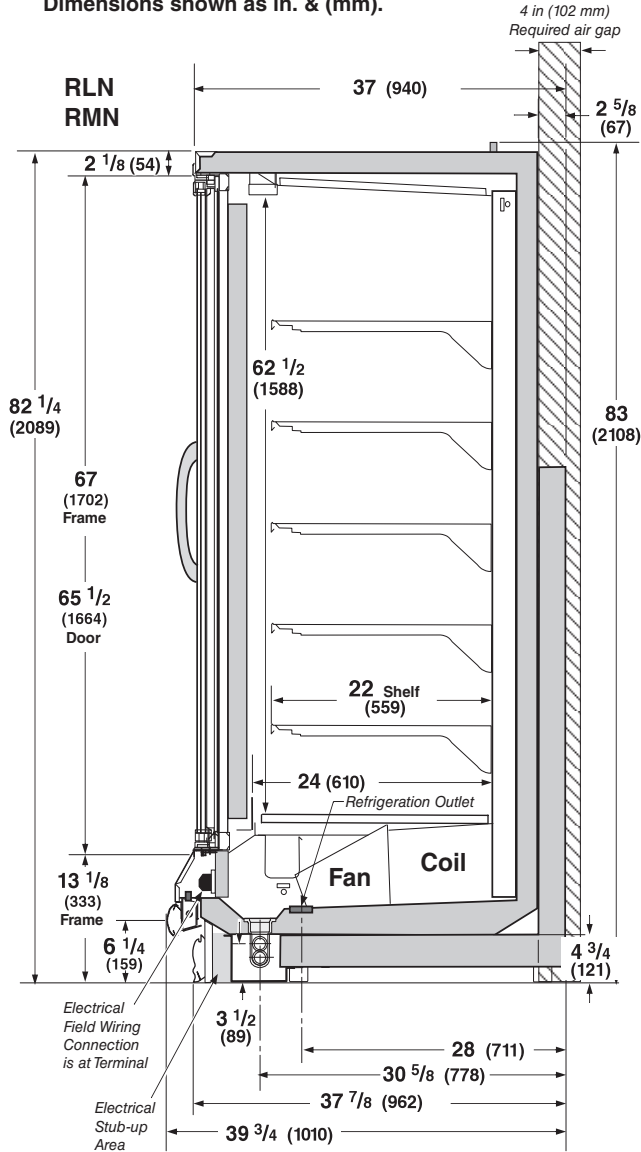
Narrow Reach-in 2, 3, 4 and 5 Door Models INNOVATOR Doors Standard

DOE 2017
Energy Efficiency
Compliant

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

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

Dimensions shown as in. & (mm).



PHYSICAL DATA

Estimated Charge ***

1Dr	0.9 lb	14 oz	0.4 kg
2Dr	1.8 lb	29 oz	0.8 kg
3Dr	2.7 lb	43 oz	1.2 kg
4Dr	3.6 lb	58 oz	1.6 kg
5Dr	4.6 lb	74 oz	2.1 kg

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

NSF Certification

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

RLN

**With Innovator Doors or Innovator III Doors
Low Temperature**

REFRIGERATION DATA§

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

	2, 3, 4, 5 Door		1 Door	
	FF	IC	FF	IC
Discharge Air (°F)	-5	-12	2	-5
Evaporator (°F)	-11	-19	-11	-19
Unit Sizing (°F)	-14	-22	-14	-22

AHRI Rating*

Discharge Air (°F)	-2
Evaporator (°F)	-7
Unit Sizing (°F)	-10

*With A/S controller

Btu/hr/Door

	INNOVATOR		INNOVATOR III	
	Parallel	Conventional	Parallel	Conventional
Parallel	955	1065	1095	1200
Conventional	970	1085	1115	1225
AHRI Rating				
Parallel	910		1000	
Conventional	940		1030	
Parallel	935	1035	1075	1165
Conventional	955	1055	1100	1190

§ Average evaporator temperature shown. Use dew point for high glide refrigerants for unit sizing. Care should be taken to use the dew point in PT tables for measuring and adjusting superheat. Adjust evaporator pressure as needed to maintain discharge air temperature shown.

DEFROST DATA

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

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

ELECTRIC	FF	IC
Temp Term (°F)	48°	48°
Failsafe (minutes)	45	45

GAS	FF	IC
Duration (minutes)	20	20

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.

Anti-sweat controls are standard for all low temperature Reach-in cases with Innovator I doors.

RLN

With Innovator Doors or Innovator III Doors
Low Temperature

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

Electrical Data

Number of Fans—12W 2	1Dr	2Dr	3Dr	4Dr	5Dr					
	1	2	3	4	5					
Merchandise	Amperes					Watts				
	1Dr	2Dr	3Dr	4Dr	5Dr	1Dr	2Dr	3Dr	4Dr	5Dr
Energy Efficient Evaporator Fan										
120V 50/60Hz	0.30	0.60	0.90	1.20	1.50	18	36	54	72	90
240V 50/60Hz Export Innovator	NA	0.30	0.45	0.60	0.75	NA	36	54	72	90
Door Anti-sweat Heaters (on fan circuit)										
120V 50/60Hz Innovator*	0.76	1.5	2.3	3.0	3.8	91	182	273	364	455
120V 50/60Hz Innovator III	0.43	0.9	1.3	1.7	2.2	52	104	156	208	260
240V 50/60Hz Export Innovator	NA	0.8	1.2	1.5	1.9	NA	183	275	367	459
220V 50/60Hz Export Innovator III	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
* Maximum door watts without anti-sweat cycling controls shown.										
Frame Anti-sweat Heaters (on fan circuit)										
120V 50/60Hz	0.39	0.78	1.18	1.57	1.97	47	94	141	188	236
240V 50/60Hz Export	NA	0.45	0.67	0.89	1.12	NA	107	161	215	269
Minimum Fan Circuit Ampacity										
120V 50/60Hz Innovator	3.0	3.1	4.9	6.8	8.6					
120V 50/60Hz Innovator III	2.7	2.5	3.9	5.5	7.0					
240V 50/60Hz Export Innovator	NA	1.8	2.9	4.0	4.9					
240V 50/60Hz Export Innovator III	NA	1.0	1.6	2.3	2.8					
Maximum Over Current Protection 120V	20	20	20	20	20					
Maximum Over Current Protection 240V	15	15	15	15	15					
Defrost										
Drain Heaters (120V)	1.67	0.63	1.25	2.00	2.57	200	75	150	240	300
(Export: 220V 50 Hz)	NA	0.34	0.76	1.22	1.53	NA	84	168	269	336
(Export: 240V 50 Hz)	NA	0.41	0.83	1.33	1.67	NA	100	200	320	400
208V 1Ø Electric Defrost	2.88	6.72	10.08	13.46	16.82	600	1400	2100	2800	3500
(Export: 220V 50 Hz)	NA	7.11	10.66	14.24	17.79	NA	1564	2345	3133	3914
(Export: 240V 50 Hz)	NA	7.76	11.65	15.53	19.42	NA	1864	2796	3728	4660
Standard Vertical LED Lighting	1Dr	2Dr	3Dr	4Dr	5Dr	1Dr	2Dr	3Dr	4Dr	5Dr
Husmann EcoShine II™ - A (120V)	0.18	0.31	0.46	0.62	0.77	18.5	37.1	55.6	74.2	92.7
Husmann EcoShine II™ - A (220V Export)	0.10	0.17	0.25	0.34	0.42	18.5	37.1	55.6	74.2	92.7
Optional Vertical LED Lighting										
Husmann EcoShine II™ - B (120V)	0.20	0.36	0.52	0.68	0.84	21.6	43.2	62.3	81.4	100.5
Husmann EcoShine II™ - B (220V Export)	0.10	0.20	0.28	0.37	0.46	21.6	43.2	62.3	81.4	100.5

Anti-sweat controls are standard for all low temperature Reach-in cases with Innovator I doors.

Product Data

<i>Recommended Usable Cube</i> ¹ (Cu Ft/Dr)	22.80 ft ³ /Dr (0.65 m ³ /Dr)
<i>AHRI Total Display Area</i> ² (Sq Ft/Dr)	13.04 ft ² /Dr (1.21 m ² /Dr)
<i>Shelf Area</i> ³ (Sq Ft/Dr)	28.50 ft ² /Dr (2.65 m ² /Dr)

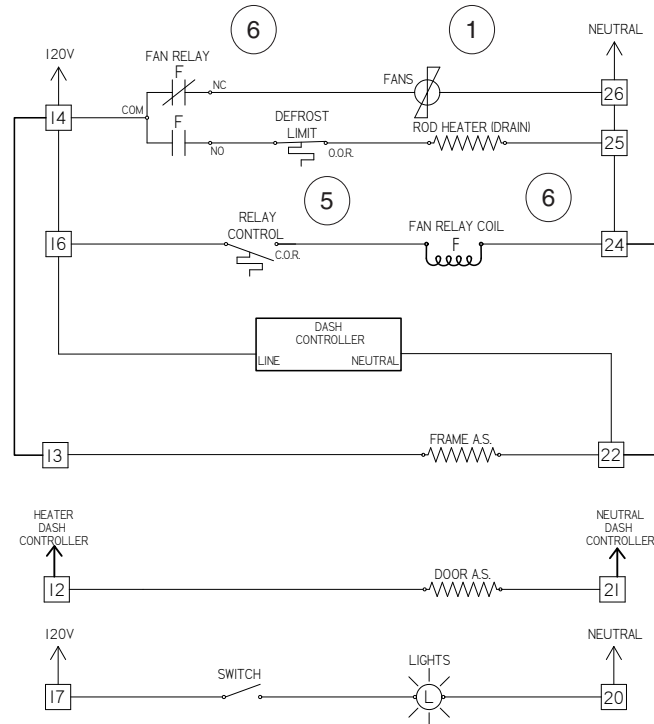
¹ AHRI Refrigerated Volume less shelving and other unusable space: Refrigerated Volume/Unit of Length, ft³/ft [m³/m]
² Computed using AHRI 1200 standard methodology: Total Display Area, ft² [m²]/Unit of Length, ft [m]
³ Shelf surface area is composed of bottom deck plus standard shelf complement, as shown in the Hussmann *Product Reference Guide*. The standard shelf complement for this model is (5) rows of 22-inch shelves.

ESTIMATED SHIPPING WEIGHT ⁴						
Case	<i>1 Dr</i>	<i>2 Dr</i>	<i>3 Dr</i>	<i>4 Dr</i>	<i>5 Dr</i>	Solid End
						<i>(each)</i>
lb (kg)	617 (80)	895 (407)	1122 (510)	1518 (690)	1870 (850)	55 (25)
⁴ Actual weights will vary according to optional kits included.						

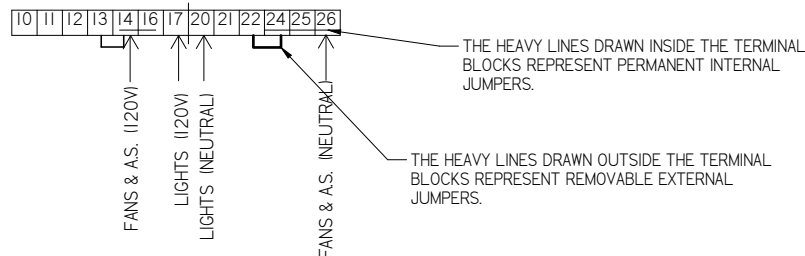
Fan and Heater Circuits - Gas Defrost (optional)

Low Temperature

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS
 R = Red P = Purple 2P = Purple (2 Bands) DB = Dark Blue BK = Black
 LB = Light Blue 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.



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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 (7) and Control Relay Coil (6) circuit. The Coil opens the Fan, Door Heater, and Frame Heater circuits, while energizing the Drain Pan Heater (9).
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.
4. Standard low temperature Reach In cases with Innovator I doors are shipped with the DASH controller for door anti-sweat heater control installed. Do not connect the DASH controller input to a centralized anti-sweat system. It must be connected to a continuous 120V circuit for proper operation.
5. If the case is connected to a centralized anti-sweat controller that meets DOE compliance requirements, the DASH controller is not installed on the case. Feed the 120V controller output into terminal #12.
6. Options may be installed that have additional or replacement wiring diagrams.
7. Reach In cases with Innovator III doors do not have the DASH controller.