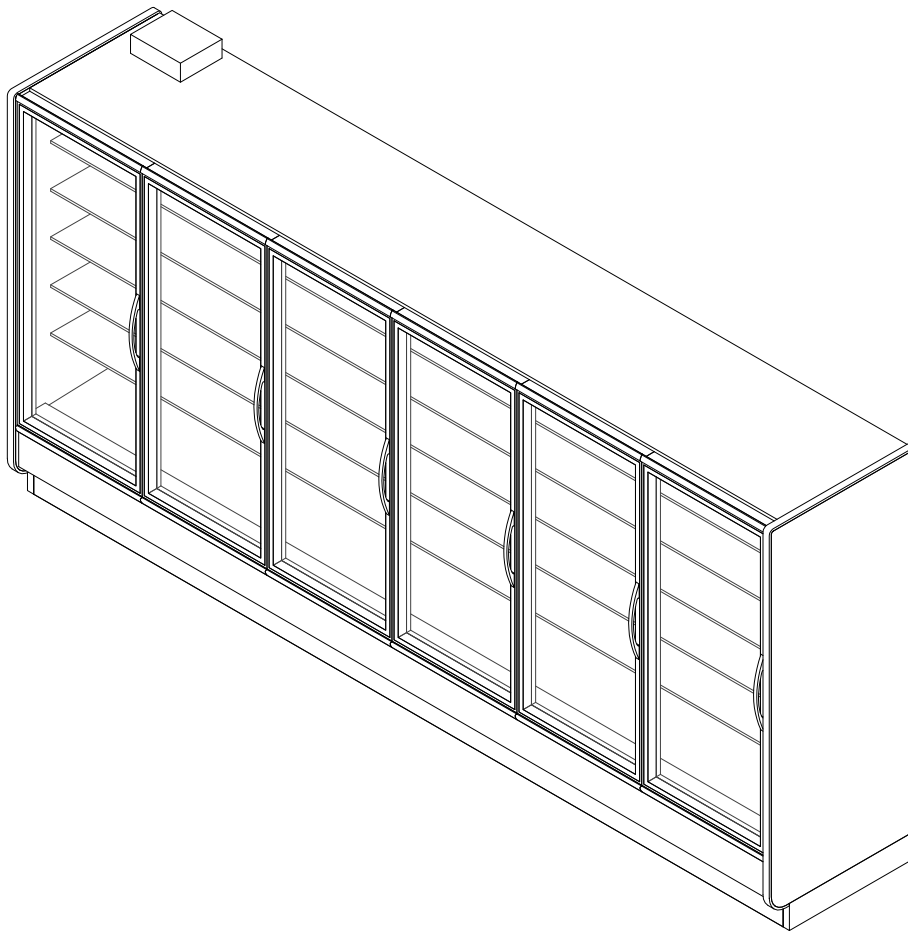


### GENERAL NOTES

- Light controls - occupancy sensors are required.  
Option 1: OEM Provided: OEM anti-condensate and lighting controls (on/off) are standard unless otherwise specified.  
Option 2: End User Provided: Light controls should be based on occupancy sensors. Store level A/S control should be set to 30% minimum off time at 75°F/55%RH.



SHIPPING WEIGHT	
Case	Weight
ONRZH	1000 - 2000 LBs

2017  
**DOE**  
COMPLIANT



COMPONENT

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**Hillphoenix**  
A DOVER COMPANY

ELECTRICAL DATA													
Case Length	Fans Per Case	High Efficiency Fans		Drain Heater		Defrost Heaters (1-Phase)				Defrost Heaters (3-Phase)			
		120 Volts		120 Volts		208 Volts		240 Volts		208 Volts		240Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
1 Door	1	0.3	25	0.09	113	3.27	680	3.78	906	2.85	680	3.31	906
2 Door	2	0.6	50	1.6	152	7.5	1552	8.6	2068	6.5	1552	7.5	2068
3 Door	3	1.0	75	1.5	171	10.9	2274	12.6	3018	9.5	2274	10.9	3018
4 Door	4	1.3	100	1.9	226	14.3	2984	16.6	3992	12.4	2984	14.4	3992
5 Door	5	1.6	125	2.3	275	17.5	3640	20.2	4840	15.1	3640	17.4	4840
6 Door	6	1.9	150	2.7	320	20.3	4224	23.4	5624	17.6	4224	20.3	5624

LIGHTING DATA					
Case Length	Door Size	OP45		Optimax Pro 24 Low	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1 Door	31"	0.18	21.0	0.16	18.8
2 Door	30"	0.36	43.1	0.31	36.8
3 Door	30"	0.54	65.2	0.46	54.8
4 Door	30"	0.73	87.3	0.61	72.8
5 Door	30"	0.91	109.4	0.76	90.8
6 Door	30"	1.10	131.5	0.91	108.8

ANTI CONDENSATE DATA											
Case Length	Door Size	Individual Circuits									
		I90 Doors				ELMD, ELMH, Doors				Door Frame	
		Heated Doors		Low E Doors		Heated Doors		Low E Doors		101-LE	
		120 V		120 V		120 V		120 V		120 V	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
1 Door	31"	0.28	34	0.17	20	0.32	38	0.19	23	0.76	91.2
2 Door	30"	0.56	67	0.34	40	0.64	76	0.38	45	1.26	151
3 Door	30"	0.84	101	0.51	61	0.95	114	0.57	68	1.76	211
4 Door	30"	1.12	135	0.67	81	1.27	152	0.76	91	2.29	275
5 Door	30"	1.40	169	0.84	101	1.59	191	0.95	114	2.78	334
6 Door	30"	1.69	202	1.01	121	1.91	229	1.14	136	3.28	394

### NOTES

- "----" indicates that this feature is not an option on this case model.
- Drain heater and fan motors share the same circuit (separate cycles). Electrical circuits must be properly sized to accommodate the higher current draw of the tank heater.
- Defrost heater 3-phase load is unbalanced.
- 3-phase defrost heater data listed represents the maximum amps per phase.
- Anti-condensate heat values for Low E doors represent a door with no heat on the glass.
- Listed discharge air velocity represents the average velocity at the peak of defrost.
- Temperature and defrost settings listed above are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- No run-off time required for electrical defrost.
- Typical electric defrost time is 20 minutes when ambient conditions are 75°F / 55%RH.
- Light and A/S wattages above reflect 100% run time. To determine actual daily energy usage at 75°F/55%RH conditions, reduce the light wattages above by 42% and reduce the A/S values above by the minimum off time.



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GUIDELINES & CONTROL DATA							
Application	Door	BTUH/Door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
		Conventional	Parallel				
Frozen	Heated	1044	1014	-7	3-5	-1	350
Frozen	Low E	988	960	-7	3-5	-1	350
Ice Cream	Heated	1091	1060	-15	3-5	-8	350
Ice Cream	Low E	1027	998	-15	3-5	-8	350

DEFROST CONTROLS						
Defrosts Per Day	Electric Defrost			Hot Gas Defrost		
	Fail-Safe (Min)	Termination Temp (°F)	Run-Off Time (Min)	Fail-Safe (Min)	Termination Temp (°F)	Run-Off Time (Min)
1	46	50	0	24	73	13-15

### NOTES

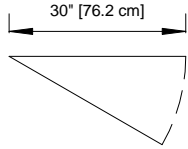
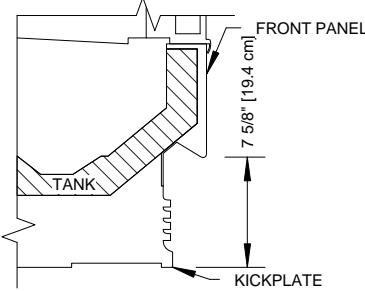
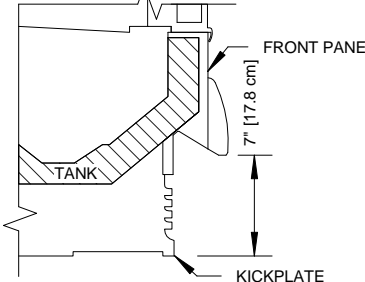
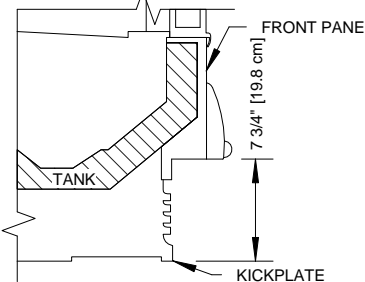
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- Defrost heater 3-phase load is unbalanced.
- 3-phase defrost heater data listed represents the maximum amps per phase.
- Data listed is for Optimax Radiant and low power Optimax Pro (high power available). For other lighting options please contact your sales representative.
- Listed discharge air velocity represents the average velocity at the peak of defrost.
- Temperature and defrost settings listed above are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- No run-off time required for electrical defrost.
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DOOR OPTIONS	FRONT OPTIONS
<p>STANDARD SWING DOOR 2,3,4,5 - DOOR CASES</p>  <p>30° [76.2 cm]</p>	<p><b>FLAT FRONT (O SERIES)</b></p>  <p>FRONT PANEL 7 5/8" [19.4 cm] TANK KICKPLATE</p>
	<p><b>STREAMLINE BUMPER</b></p>  <p>FRONT PANEL 7" [17.8 cm] TANK KICKPLATE</p>
	<p><b>HALF BUMPER</b></p>  <p>FRONT PANEL 7 3/4" [19.8 cm] TANK KICKPLATE</p>

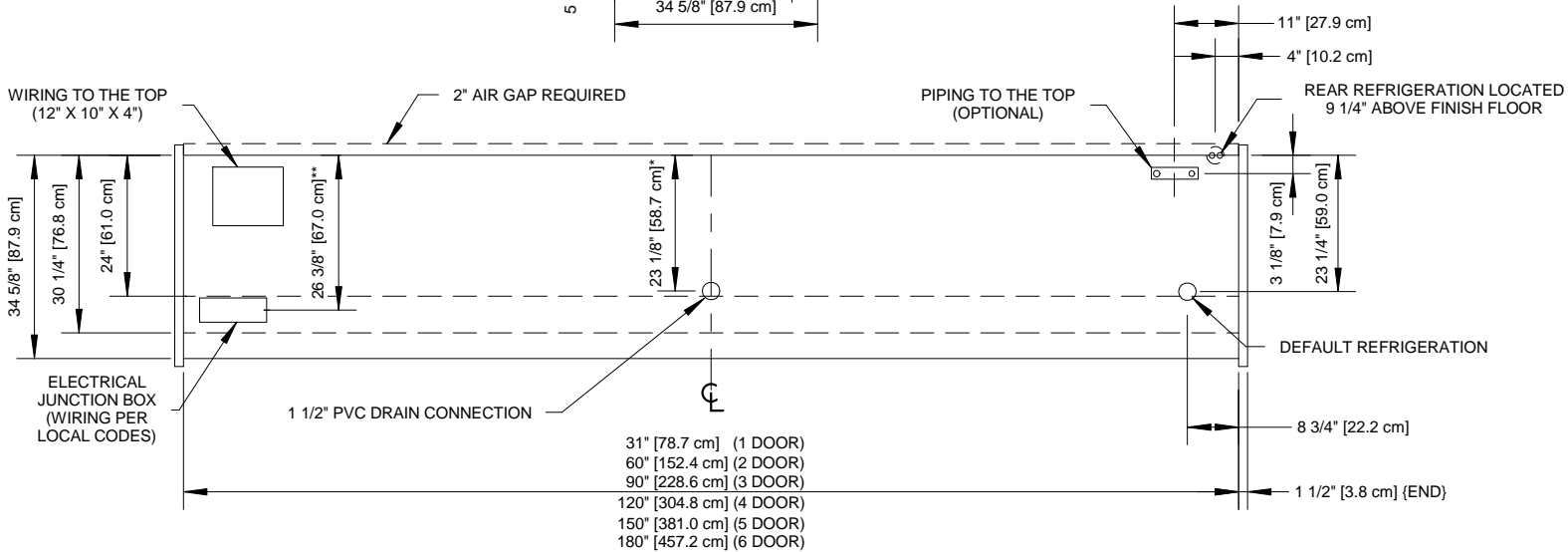
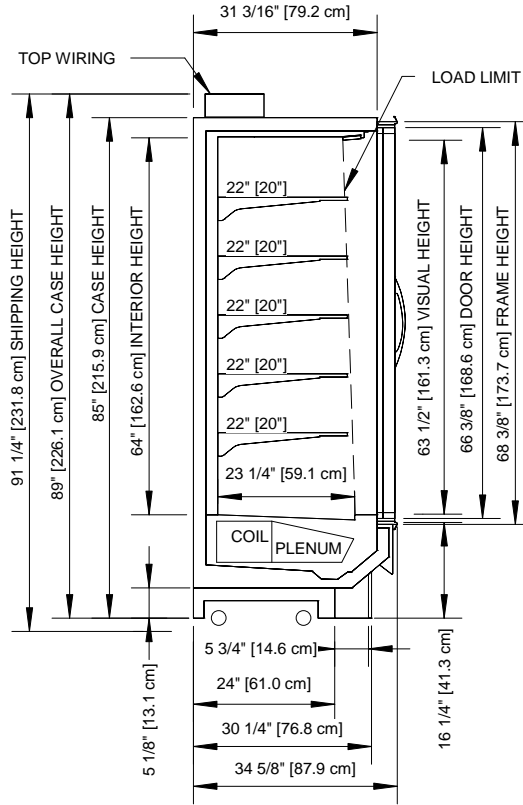


COMPONENT

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### NOTES

- \* : STUB-UP AREA.
- \*\* : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS .

- Ends add approximately 1" to case height, 1/2" to the back & 1" to the front.



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