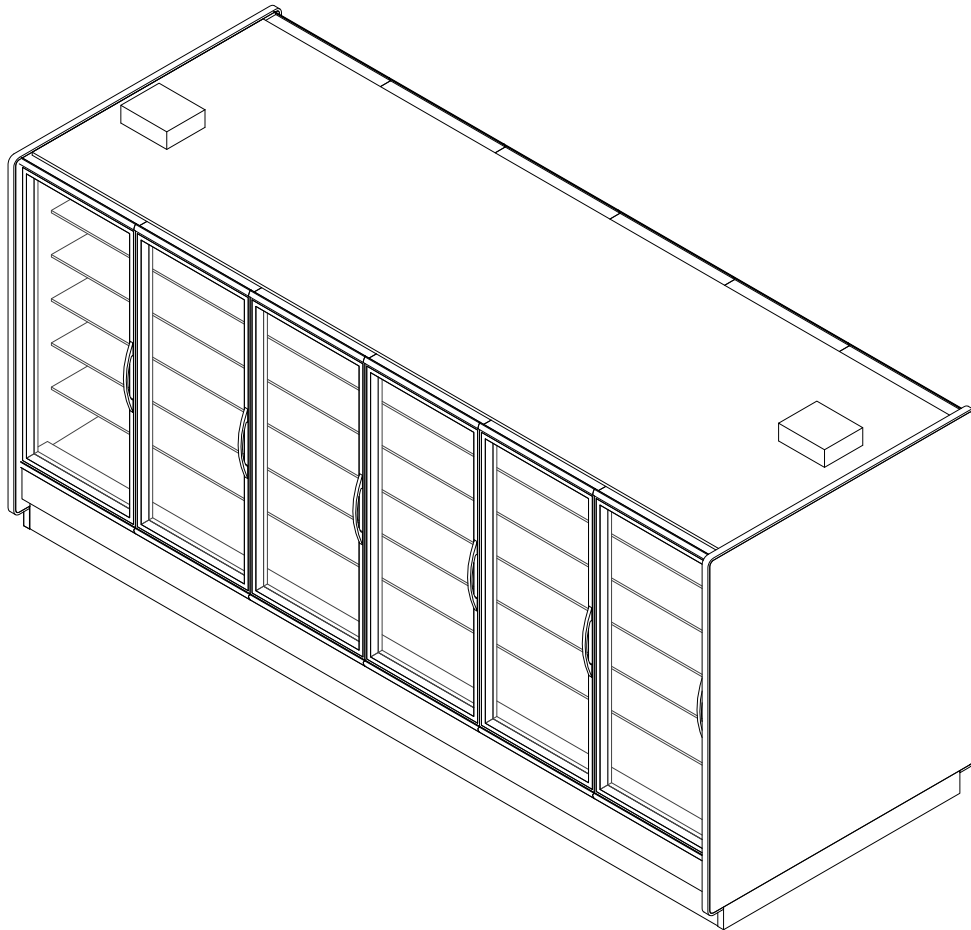


GENERAL NOTES

- For back-to-back configurations, customers are required to install separate current-limiting devices for each side of the case per the amperage values listed. (Current-limiting devices are available for purchase through Hillphoenix).
- Lighting 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
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ELECTRICAL DATA Single-Side

Case Length	Fans Per Case	High Efficiency Fans		Tank Heaters		Defrost Heaters (1-Phase)				Defrost Heaters (3-Phase)			
		120 Volt		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2 Door	2	0.60	50	1.30	152	7.50	1552	8.60	2068	6.50	1552	7.50	2068
3 Door	3	1.00	75	1.50	171	10.90	2274	12.60	3018	9.50	2274	10.90	3018
4 Door	4	1.30	100	1.90	226	14.30	2984	16.60	3992	12.40	2984	14.40	3992
5 Door	5	1.60	125	2.30	275	17.50	3640	20.20	4840	15.10	3640	17.40	4840
6 Door	6	1.90	150	2.70	320	20.30	4224	23.40	5624	17.60	4224	20.30	5624

ELECTRICAL DATA Back-To-Back

Case Length	Fans Per Case	High Efficiency Fans		Anti Condensate Heaters		Defrost Heaters (1-Phase)				Defrost Heaters (3-Phase)			
		120 Volt		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4 Door	4	1.20	100	2.60	304	15.00	3104	17.20	4136	13.00	3104	15.00	4136
6 Door	6	2.00	150	3.00	342	21.80	4548	25.20	6036	19.00	4548	21.80	6036
8 Door	8	2.60	200	3.80	452	28.60	5968	33.20	7984	24.80	5968	28.80	7984
10 Door	10	3.20	250	4.60	550	35.00	7280	40.40	9680	30.20	7280	34.80	9680
12 Door	12	3.80	300	5.40	640	40.60	8448	46.80	11248	35.20	8448	40.60	11248

LIGHTING DATA Single-Side

Case Length	Door Size	OP45		Optimax Pro 24 Low	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
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

LIGHTING DATA Back-To-Back

Case Length	Door Size	OP45		Optimax Pro 24 Low	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4 Door	30"	0.72	86.2	0.62	73.6
6 Door	30"	1.08	130.4	0.92	109.6
8 Door	30"	1.46	174.6	1.22	145.6
10 Door	30"	1.82	218.8	1.52	181.6
12 Door	30"	2.20	263.0	1.82	217.6

GUIDELINES AND CONTROL SETTINGS

Application	Door	BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
		Conventional	Parallel				
Frozen	Heated	891	866	3 - 5	- 7	- 1	350
Frozen	Low E	855	831	3 - 5	- 7	- 1	350
Ice Cream	Heated	928	902	3 - 5	- 15	- 8	350
Ice Cream	Low E	873	848	3 - 5	- 15	- 8	350



COMPONENT

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ANTI CONDENSATE DATA Single-Side											
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 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
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

ANTI CONDENSATE Back to Back											
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 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4 Door	30"	1.12	134	0.68	80	1.28	152	0.76	90	2.52	302
6 Door	30"	1.68	202	1.02	122	1.9	228	1.14	136	3.52	422
8 Door	30"	2.24	270	1.34	162	2.54	304	1.52	182	4.58	550
10 Door	30"	2.80	338	1.68	202	3.18	382	1.9	228	5.56	668
12 Door	30"	3.38	404	2.02	242	3.82	458	2.28	272	6.56	788

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

- "---" indicates that this feature is not an option on this case model.
- For back-to-back configurations, customers are required to install separate current-limiting devices for each side of the case per the amperage values listed. (Current-limiting devices are available for purchase through Hillphoenix).
- Door / Frame A/S circuits and fans share the same circuit (same cycle). Default jumpers can be removed in field if separate circuits are desired for A/S and fans.
- Drain heater and fan motors share the same circuit (seperate 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.
- Low energy doors (no heat on the glass) do not require anti-condensate or lighting controls. Frame A/S heat is cycled off during defrost cycles.
- Heated doors (heat on the glass) require anti-condensate and lighting controls. Frame A/S heat is cycled off during defrost cycles.
- 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 time off.

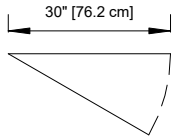
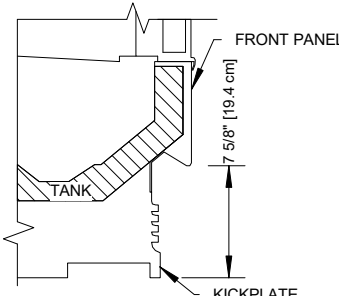
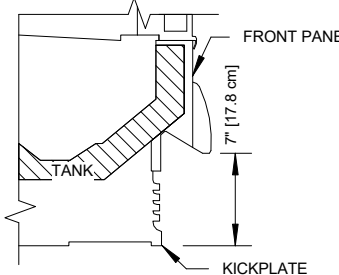
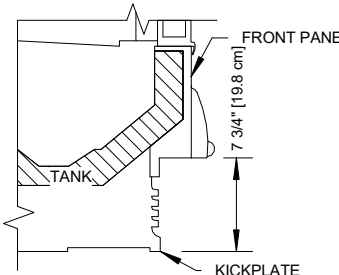
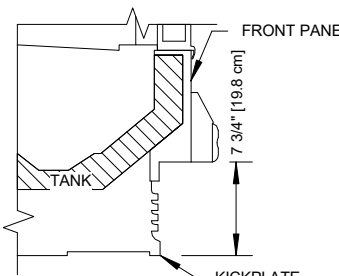


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DOOR OPTIONS	FRONT OPTIONS
<p>STANDARD SWING DOOR 4,6,8,10 & 12 - DOOR CASES</p> 	<p>FLAT FRONT (O SERIES)</p> 
	<p>STREAMLINE BUMPER</p> 
	<p>HALF BUMPER</p> 
	<p>CLASSIC 2 BUMPER</p> 

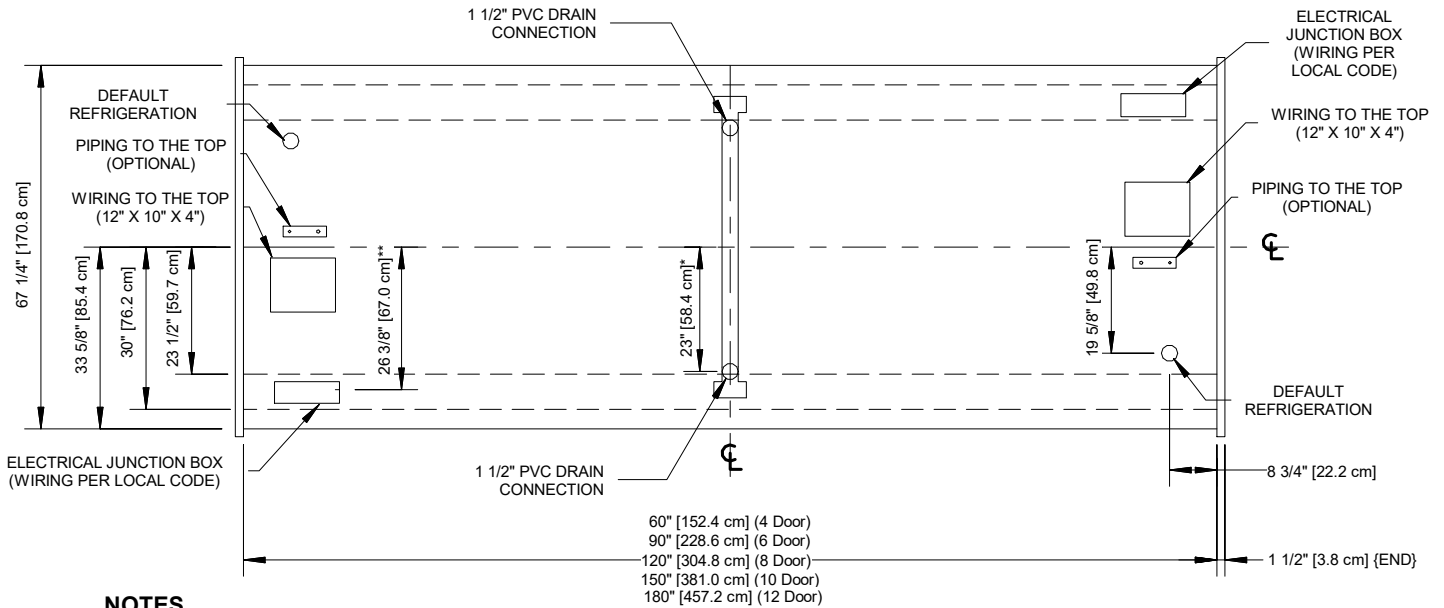
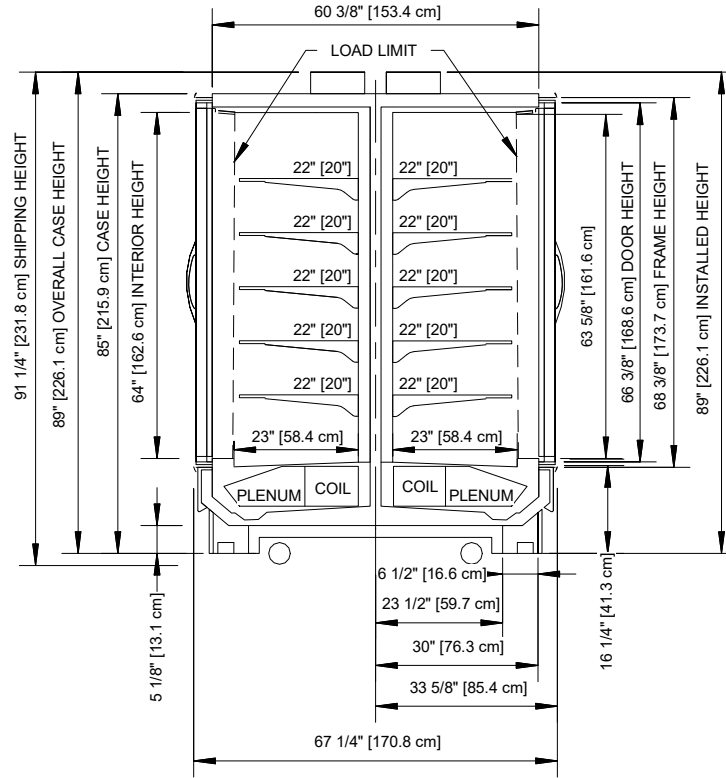


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NOTES

- * : 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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