

REFERENCE NOTES FOR ENGINEERING DATA

- "0.00" 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.
- Data listed is for Optimax Radiant and low power Optimax Pro (high power available). For other lighting options please contact your sales representative.
- Anti-condensate heat values for Low E 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 below 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.
- 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.
- Light and A/S wattages below reflect 100% run time. To determine actual daily energy usage at 75°F/55%RH conditions, reduce the light wattages below by 42% and reduce the A/S values below by the minimum off time.

REFERENCE NOTES FOR CROSS SECTIONS

* : 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
- Wiring to the top adds approximately 4 inches to the case height
- A 2" minimum air gap is required between the rear of the case and the wall
- Castors add approximately 2 1/4" to case height
- Suction line: (4 DR or less) - 1/2", suction lines (5DR & 6DR) - 5/8"
- Liquid line (all lengths)- 1/2", both electric & hot gas defrost
- Available shelf sizes: 20" & 22"
- Recommended configuration is (5) rows 20" shelves or (5) rows 22" shelves



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ELECTRICAL DATA													
Case Length	Fans Per Case	High Efficiency		Drain Heater		Defrost Heaters (1-Phase)				Defrost Heater (3-Phase)			
		120 Volts		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
1 Door	1	0.30	25.00	0.09	113.00	3.27	680.00	3.78	906.00	2.85	680.00	3.31	906.00
2 Door	2	0.60	50.00	1.32	152.00	7.50	1552.00	8.60	2068.00	6.50	1552.00	7.50	2068.00
3 Door	3	1.00	75.00	1.50	171.00	10.90	2274.00	12.60	3018.00	9.50	2274.00	10.90	3018.00
4 Door	4	1.30	100.00	1.90	226.00	14.30	2984.00	16.60	3992.00	12.40	2984.00	14.40	3992.00
5 Door	5	1.60	125.00	2.30	275.00	17.50	3640.00	20.20	4840.00	15.10	3640.00	17.40	4840.00
6 Door	6	1.90	150.00	2.70	320.00	20.30	4224.00	23.40	5624.00	17.60	4224.00	20.30	5624.00

LIGHTING DATA						
Case Length	Door Size	Optimax OP35		Optimax Pro 24 Low		
		120 Volts		120 Volts		
		Amps	Watts	Amps	Watts	Watts
1 Door	31"	0.09	10.2	0.16	18.8	
2 Door	30"	0.17	20.4	0.31	36.8	
3 Door	30"	0.26	30.6	0.46	54.8	
4 Door	30"	0.34	40.8	0.61	72.8	
5 Door	30"	0.43	51.0	0.76	90.8	
6 Door	30"	0.51	61.3	0.91	108.8	

ANTI CONDENSATE DATA													
Case Length	Door Size	Number of Doors	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	
1 Door	31"	1	0.26	32	0.16	19.00	0.30	36.00	0.18	21.0	0.72	86.0	
2 Door	30"	2	0.53	63	0.32	38.00	0.59	71.00	0.35	42.0	1.19	143.0	
3 Door	30"	3	0.79	95	0.48	57.00	0.89	107.00	0.53	63.0	1.67	200.0	
4 Door	30"	4	1.05	126	0.63	76.00	1.18	142.00	0.70	84.0	2.18	262.0	
5 Door	30"	5	1.32	158	0.79	95.00	1.48	178.00	0.88	105.0	2.64	317.0	
6 Door	30"	6	1.58	190	0.95	114.00	1.78	213.00	1.05	126.0	3.13	376.0	

GUIDELINES AND CONTROL DATA								
Application	Door	BTHU/Door		Evaporator	Super heat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)	
		Conventional	Parallel					
Frozen	Heated	910	895	-7	3 - 5	-1	350	
Frozen	Low E	892	850	-7	3 - 5	-1	350	
Ice Cream	Heated	1017	996	-15	3 - 5	-8	350	
Ice Cream	Low E	997	976	-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

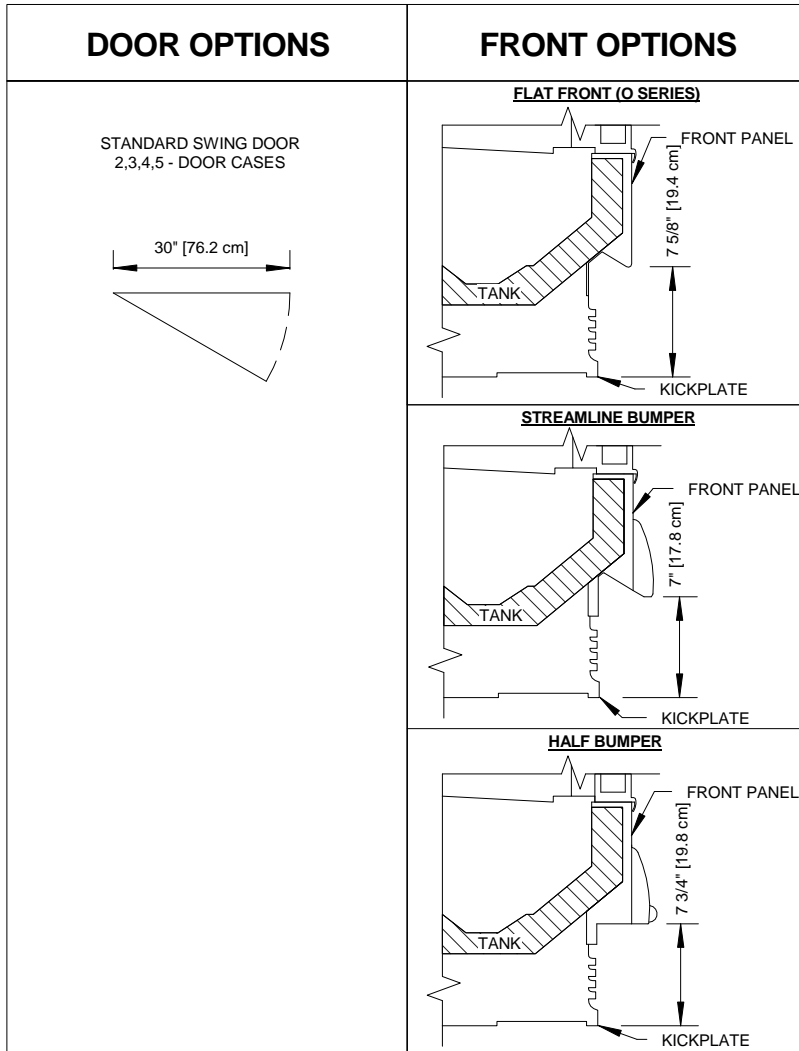


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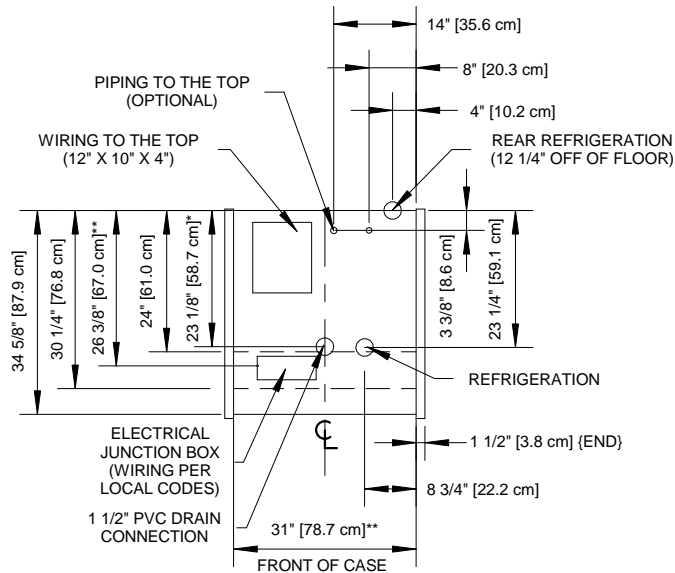
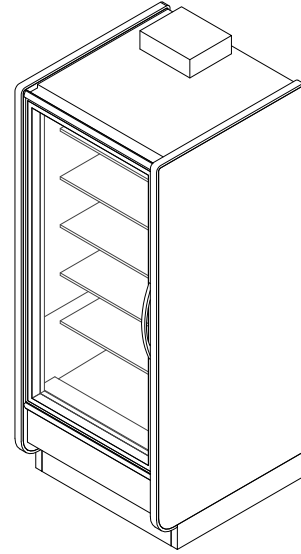
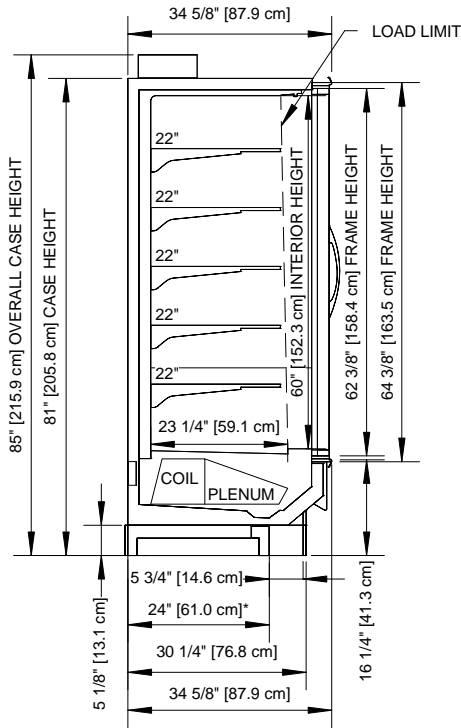




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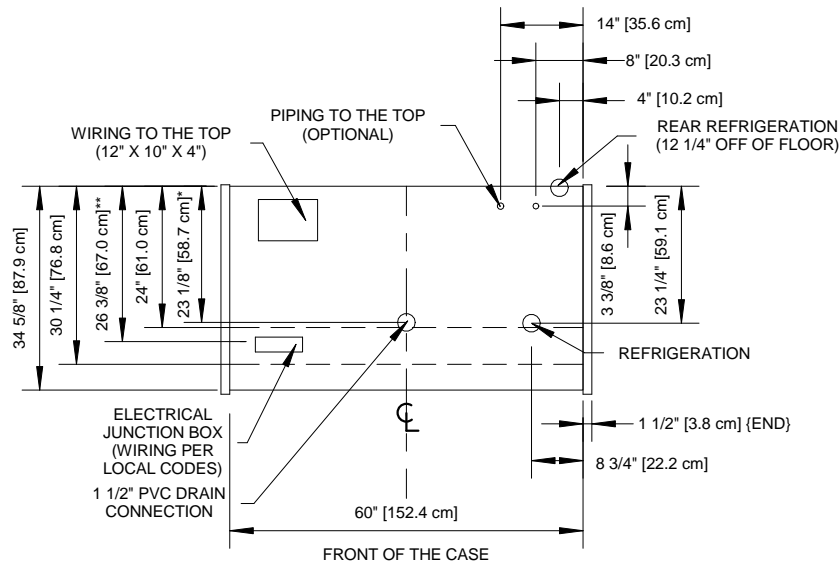
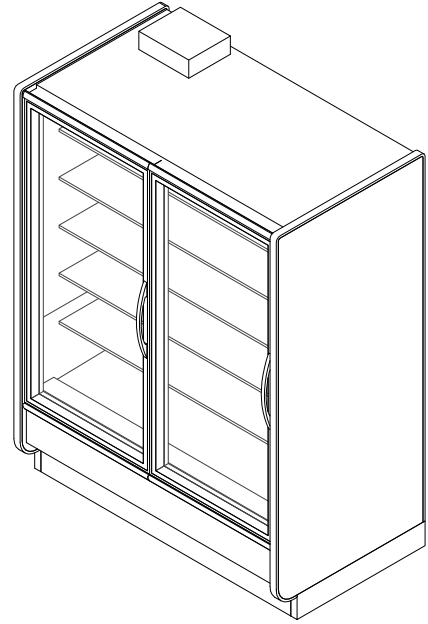
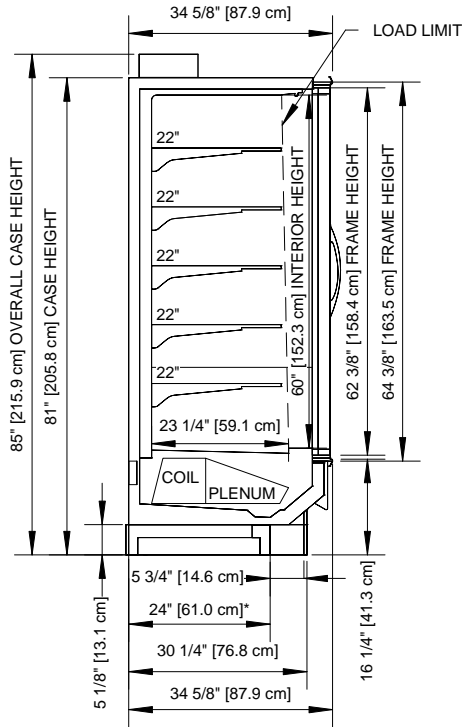
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ONRZ 1 DOOR

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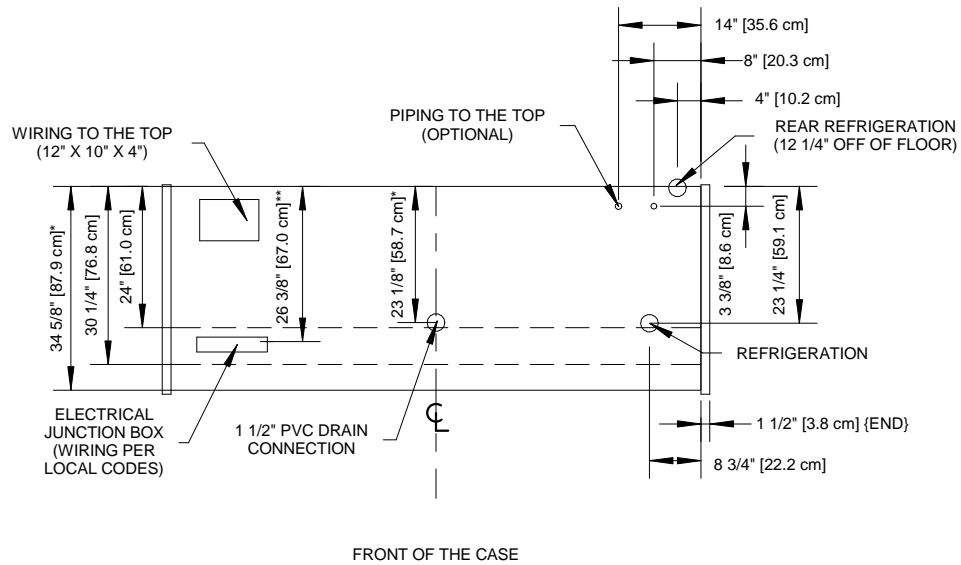
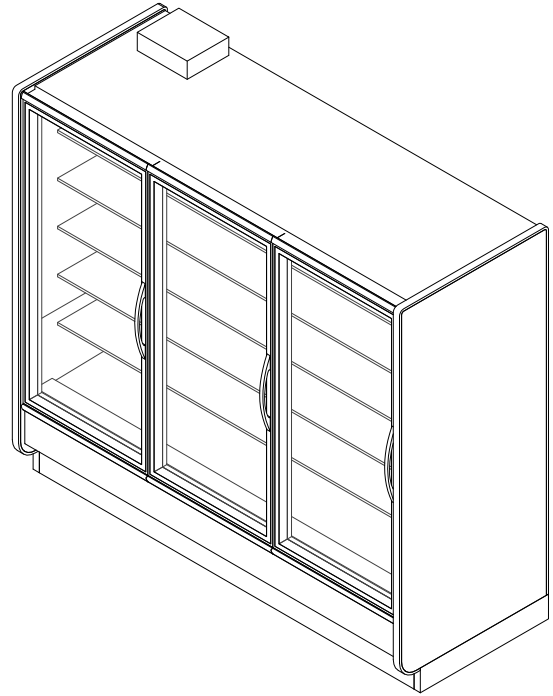
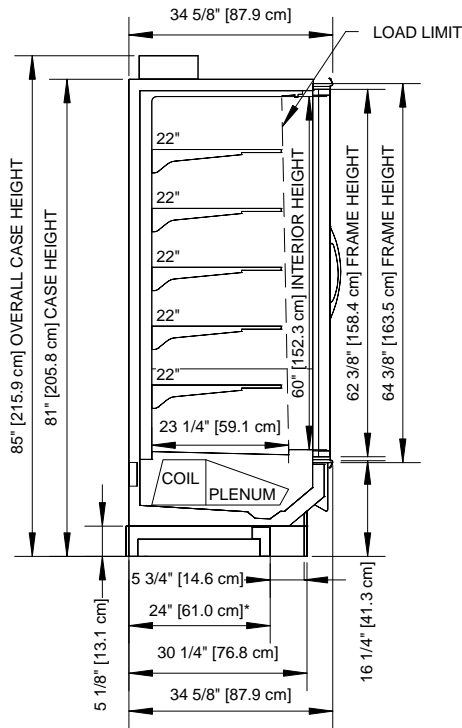
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ONRZ 2 DOOR

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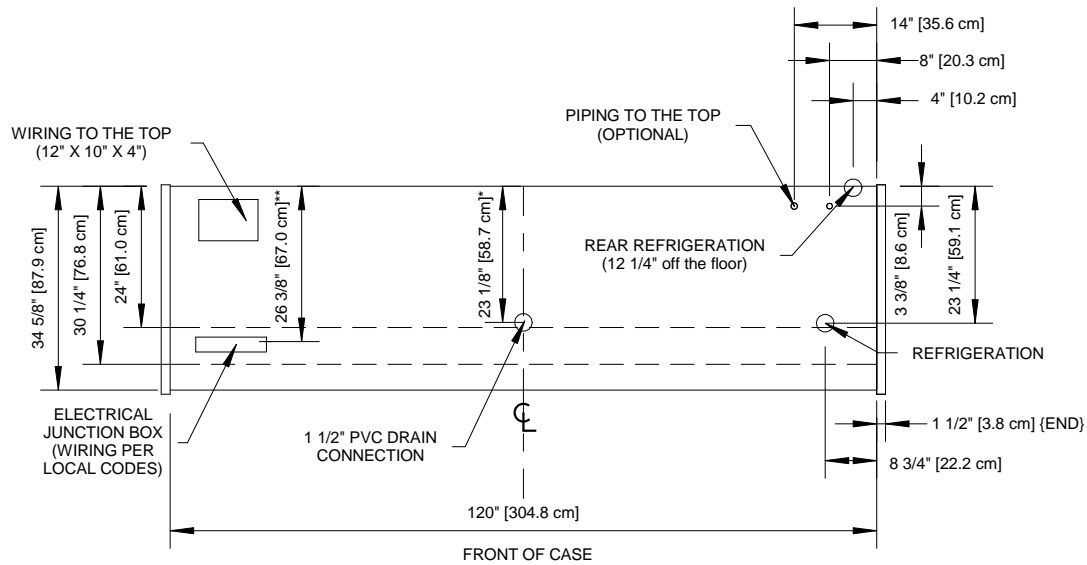
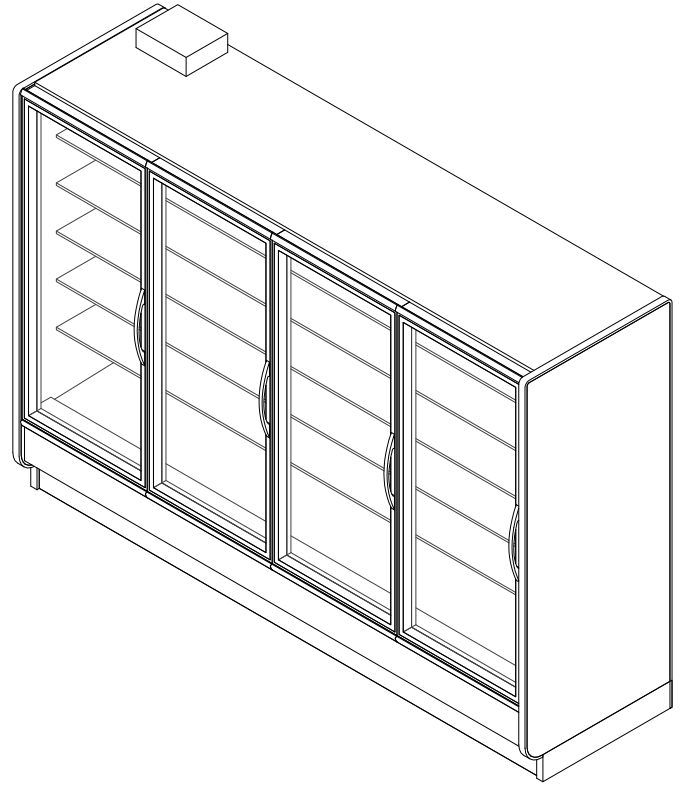
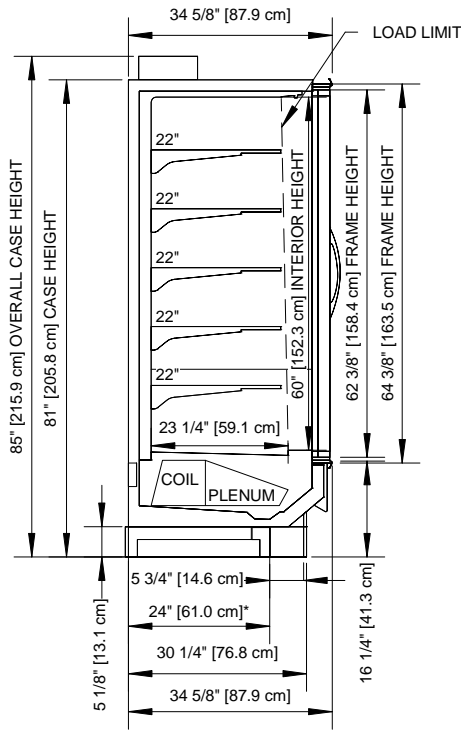
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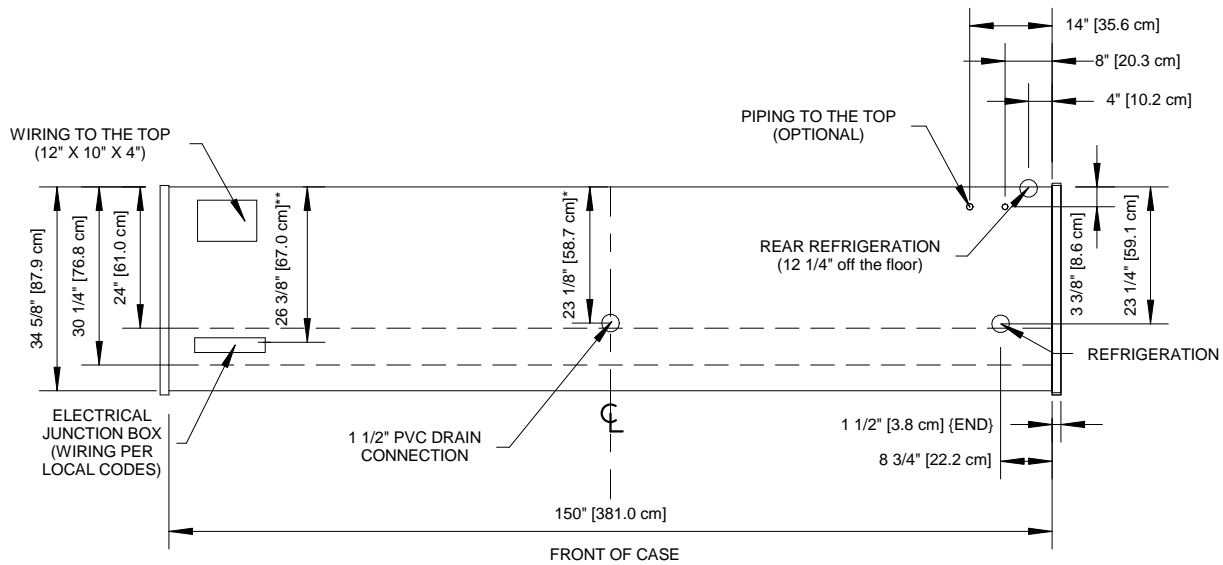
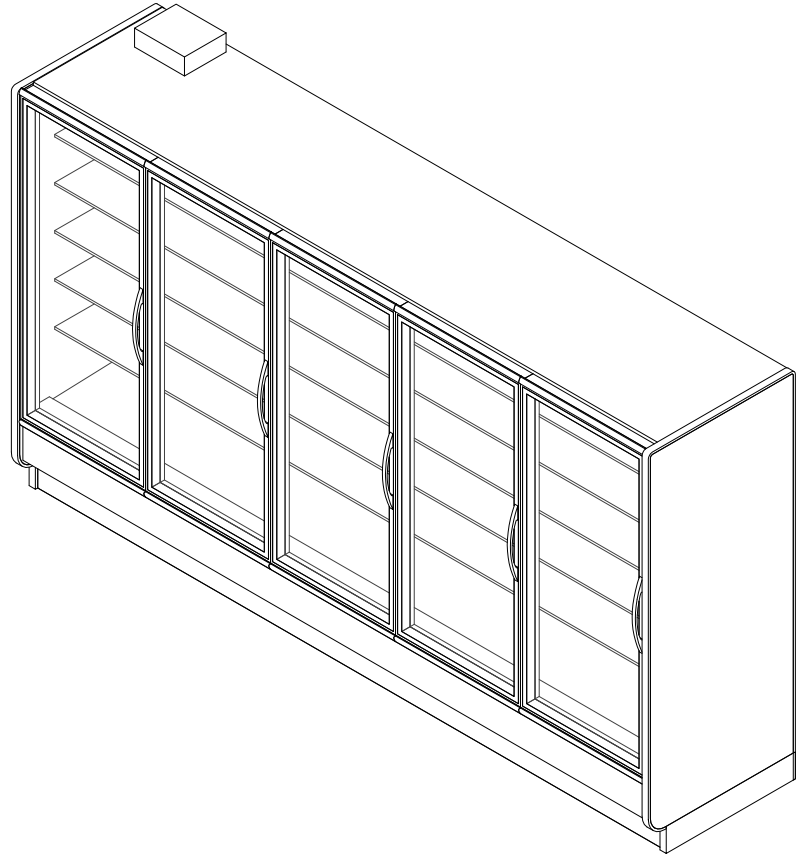
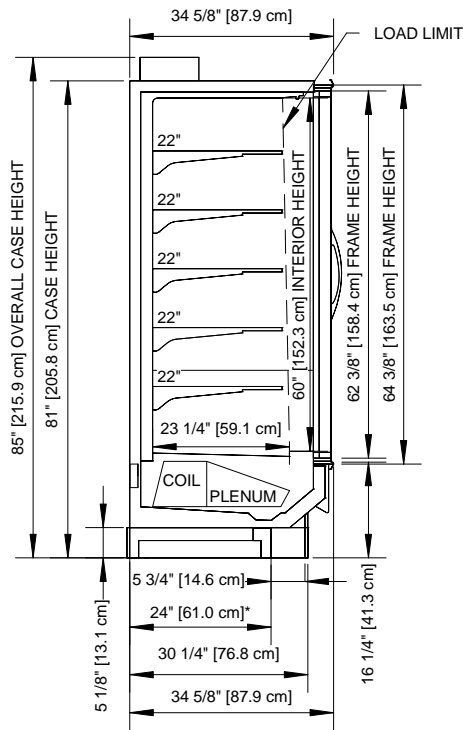
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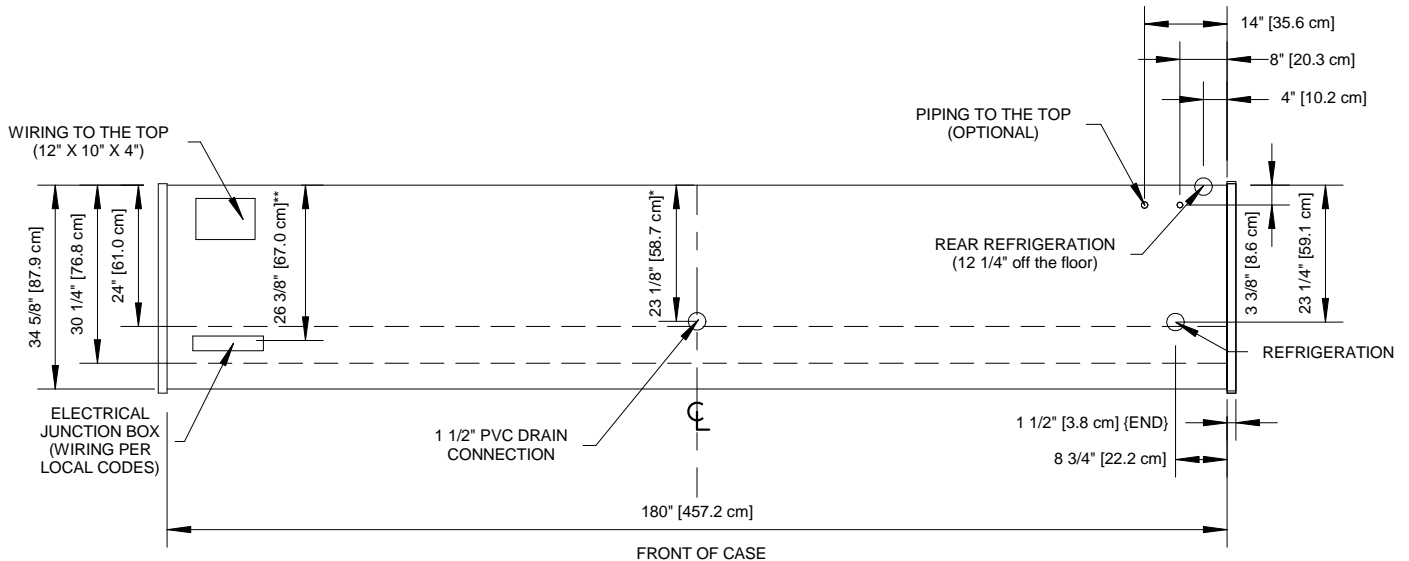
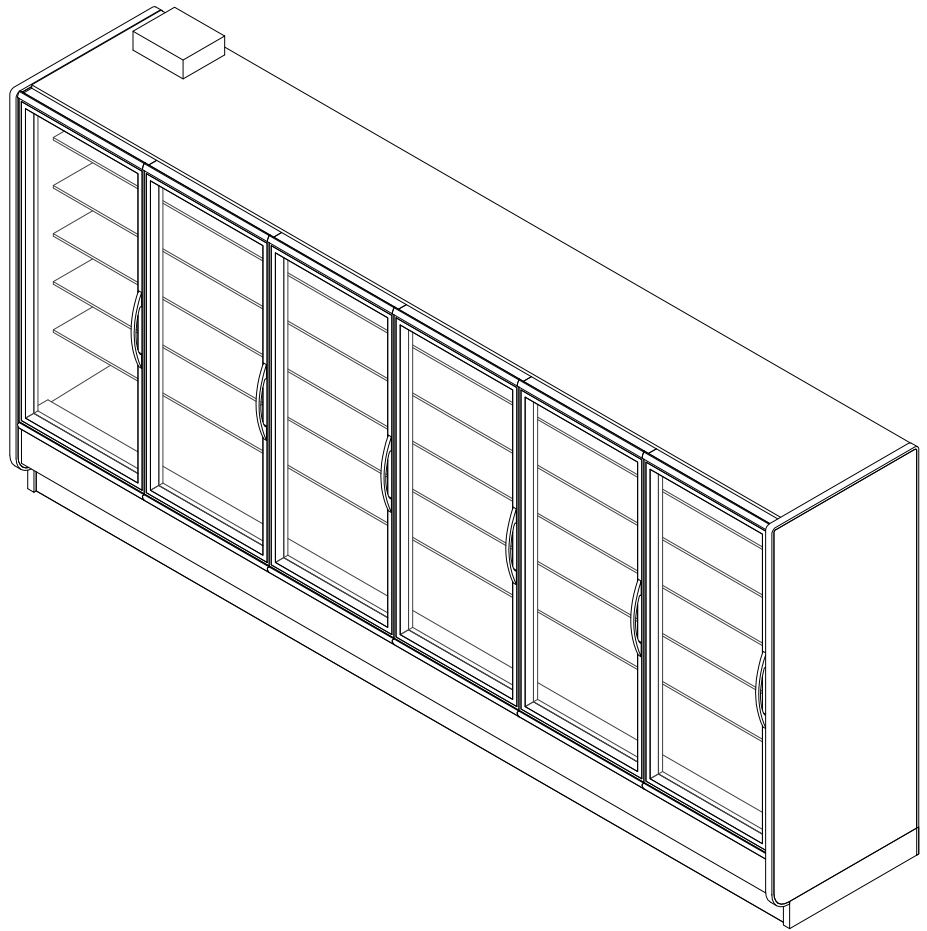
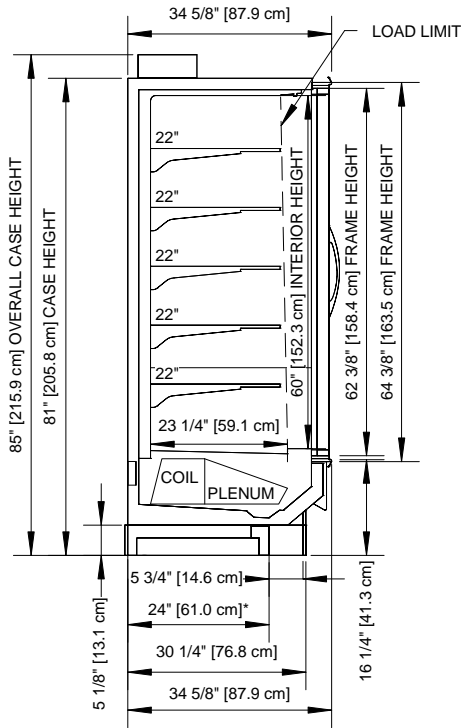
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