



CASE DIVISION TECHNICAL REFERENCE MANUAL

OBSOLETE



Welcome to the **2012 Merchandisers Engineering Reference Manual**. This manual provides detailed cross-sections, footprints and technical data for all of our current production models. The case data contained in this manual is organized into sections so that similar case models are grouped together (e.g. Multi-Deck merchandisers, Reach-In merchandisers, etc.). This makes it easier to find just the right case to fit your new or existing store layout.

The table of contents lists our cases by design application, giving you the ability to see which cases are available for specific functions. The index at the back of this manual lists the cases in alphabetical order, allowing you to find a specific case model at a glance. Additionally, the entire manual is posted in electronic format on the **"Engineering Reference"** page of our Web site at www.hillphoenix.com. Any revisions to the case data contained in this manual - as well as the technical specifications for any new cases that are released during 2012 - will also be posted to the Hill PHOENIX Web site on the **"Engineering Reference"** page.

If you have any questions or need more information about our display merchandisers, please contact one of our Sales Representatives toll-free at (800) 283-1109. Additional Hill PHOENIX contact information is available on our Web site.

Thank you for choosing Hill PHOENIX for your product merchandising needs!

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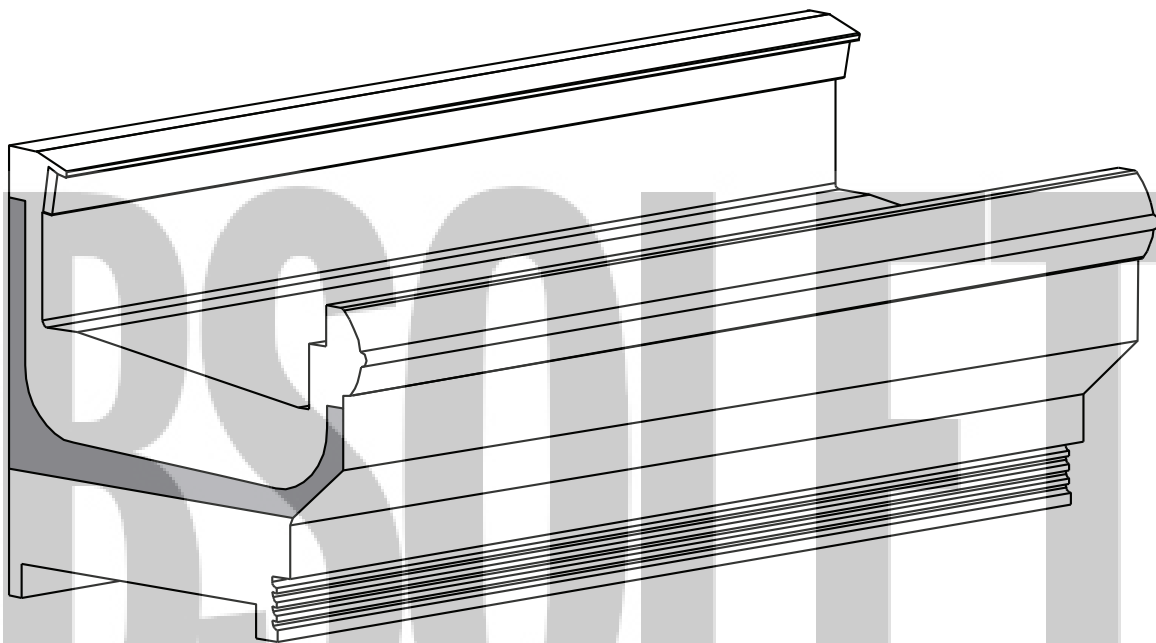
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OBSOLETE

SINGLE-DECK



NOTES

- Cases shown with an ANSI/NSF* mark are listed by NSF.
- Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Technical information contained herein is subject to change without notice.

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

OC Single-Deck Merchandiser

4', 6', 8' & 12' (Deli / Cheese)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	2	0.15	9.2	0.25	30	3.85	800	4.44	1065
12'	3	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Heights	¹ BTUH/ft		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ² Air Velocity (°F)
	Conventional	Parallel				
Standard	521	456	22	6 - 8	26	305
All Others	447	391	22	6 - 8	26	305

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	49	70	47	26	45	40	45

1 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

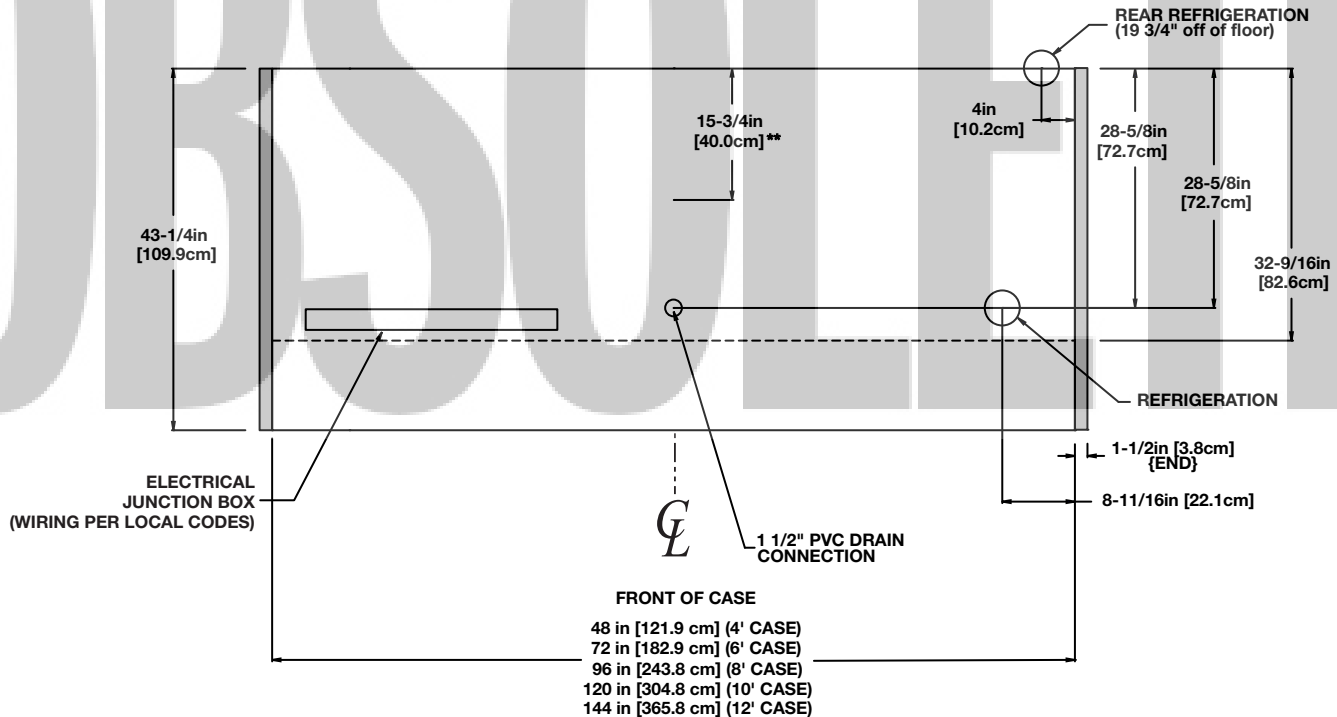
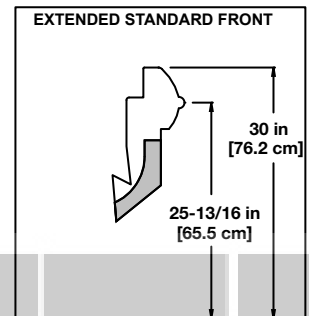
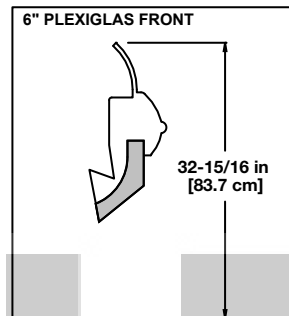
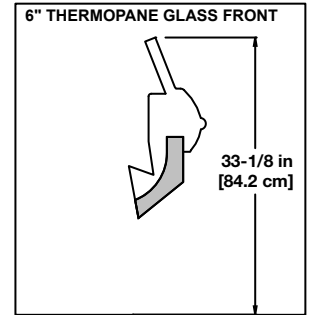
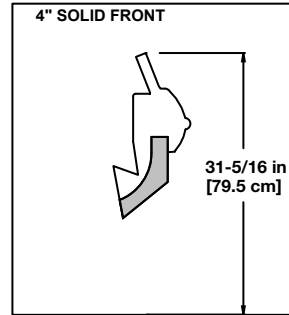
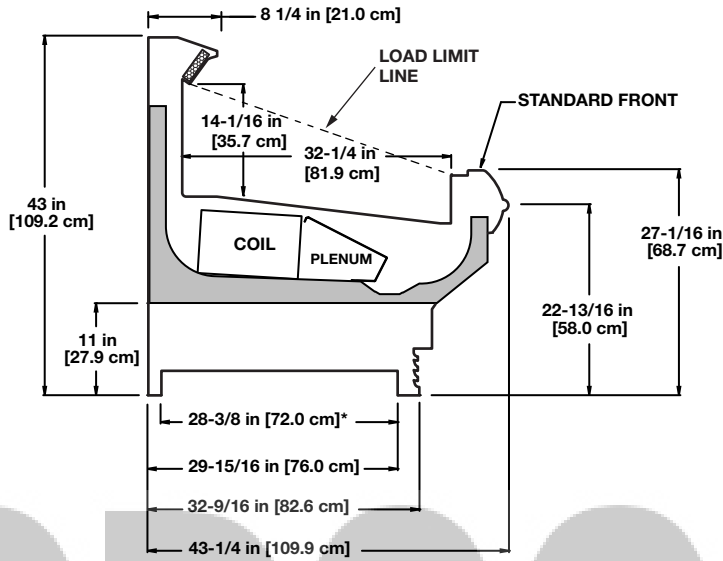
2 Average discharge air velocity at peak of defrost.

OC Single-Deck Merchandiser

4', 6', 8' & 12' (Deli / Cheese)

SINGLE-DECK

Deli / Cheese



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAIN

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OM Single-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	2	0.15	9.2	0.25	30	3.85	800	4.44	1065
12'	3	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Heights	2BTUH/ft		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (°F)
	Conventional	Parallel				
Standard	521	456	22	6 - 8	26	305
All Others	447	391	22	6 - 8	26	305

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	49	70	47	26	45	40	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

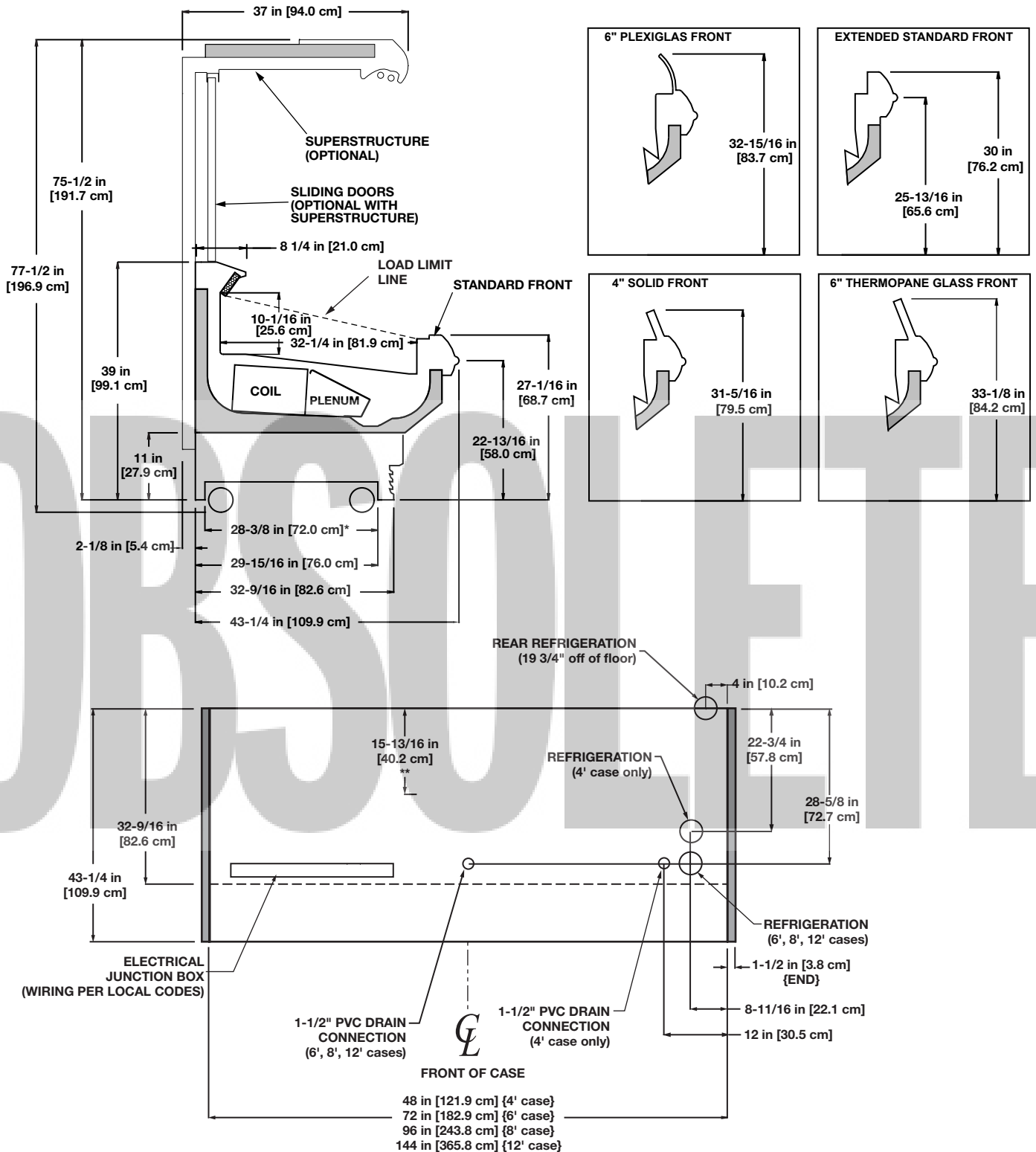
3 Average discharge air velocity at peak of defrost.

OM Single-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat / Seafood)

SINGLE-DECK

Deli / Meat / Seafood



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAIN

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND THE KICK-PLATE



OM-NRG Single-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.16	11	0.14	17
6'	2	0.32	21	0.20	24
8'	2	0.32	21	0.25	30
12'	3	0.48	32	0.38	46

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	¹ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ² (°F)	Discharge ³ Air (°F)	Discharge ⁴ Air Velocity (FPM)
	Conventional	Parallel				
Dairy - Deli - Produce	488	420	6 - 8	28	30	165
Meat	499	430	6 - 8	26	28	165

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	--- ⁵	---	60	47	---	---	---	---

1 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For T8 lighted shelves and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

2 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

3 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

4 Average discharge air velocity at peak of defrost.

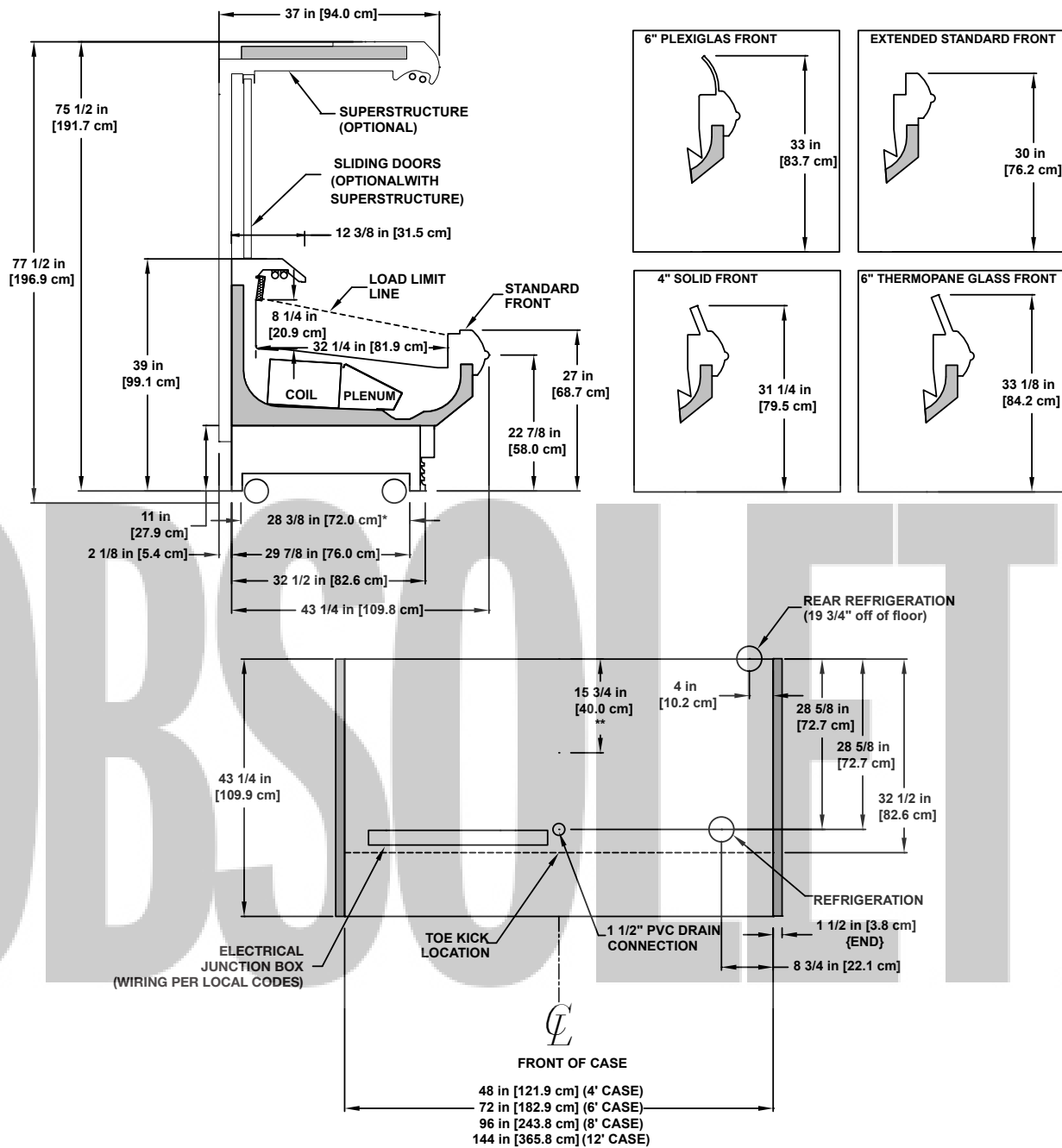
5 NOTE: " - - - " indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OM-NRG Single-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat / Seafood)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAIN

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND THE KICK-PLATE



OMZ Single-Deck Merchandiser

4', 6', 8', 10' & 12' (Frozen Meat)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps ¹	Watts	Amps ¹	Watts
4'	2	0.23	14	0.60	72	3.85	800	4.43	1064
6'	2	0.23	14	0.90	108	5.77	1200	6.65	1596
8'	2	0.23	14	0.96	115	7.69	1600	8.88	2130
12'	3	0.35	21	1.83	220	11.54	2400	13.33	3200

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
592	526	3 - 5	-22	-10	220

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	13 - 15	45	47	- - - ⁴	- - -	20	60	- - -	- - -

1 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

2 Average discharge air velocity at peak of defrost.

3 NOTE: "- - -" indicates that feature is not an option on this case model.



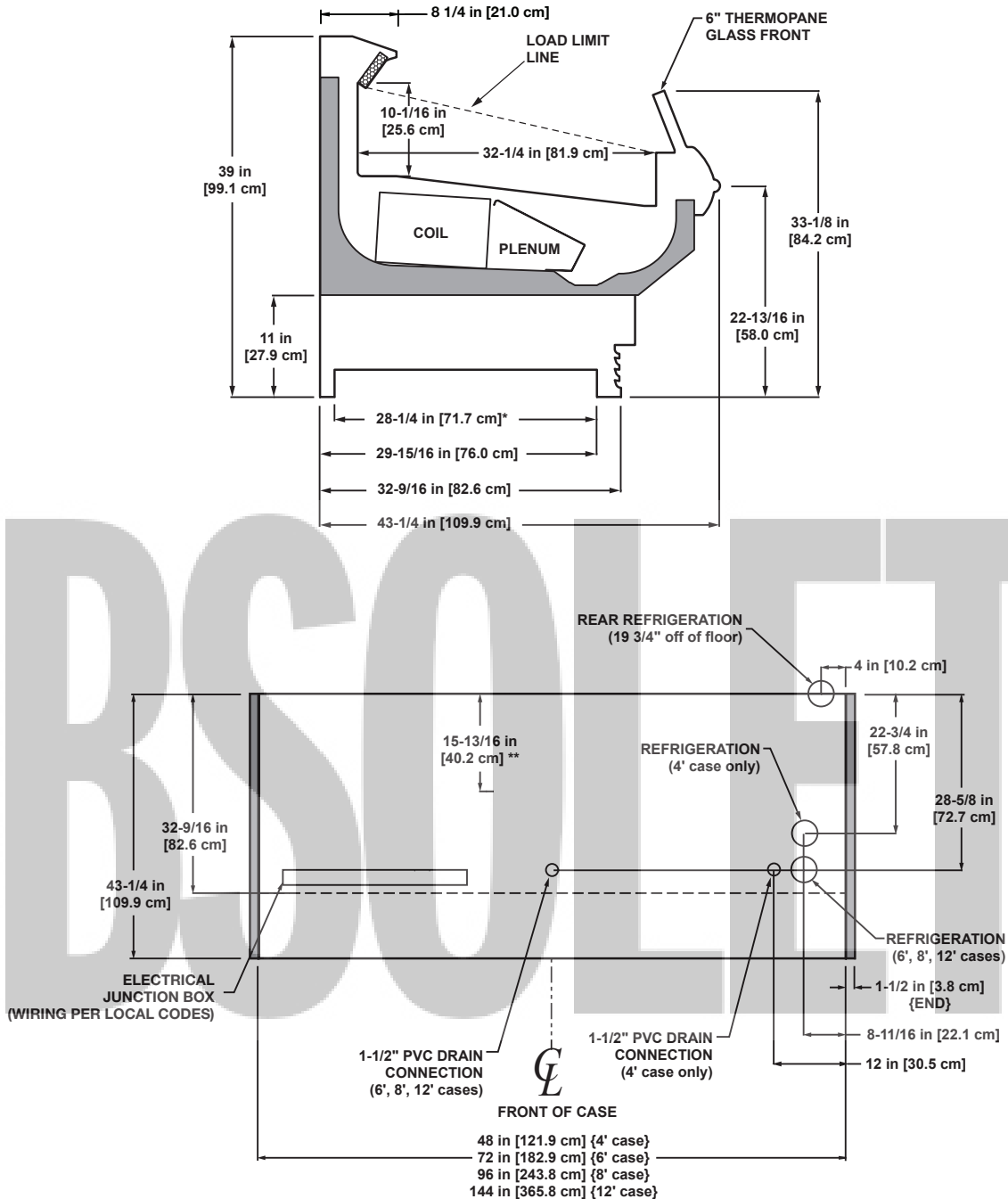
Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OMZ Single-Deck Merchandiser

4', 6', 8', 10' & 12' (Frozen Meat)

SINGLE-DECK

Frozen Meat



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND KICK-PLATE



OMZD Single-Deck Merchandiser

4', 6', 8' & 12' (Frozen Food / Ice Cream)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.30	22	1.14	137	7.69	1600	8.88	2130
6'	2	0.30	22	1.28	154	11.54	2400	13.31	3195
8'	2	0.45	33	1.45	174	15.38	3200	17.76	4261
12'	3	0.60	44	2.59	311	23.08	4803	26.64	6395

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	1 BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food	463	424	3 - 5	-17	-8	240
Ice Cream	484	444	3 - 5	-27	-18	240

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	13 - 15	45	50	--- ³	---	20	60	---	---

1 BTUH/ft notes:

- Standard fans (see *Appendix C*) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see *Appendix D*) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

2 Average discharge air velocity at peak of defrost.

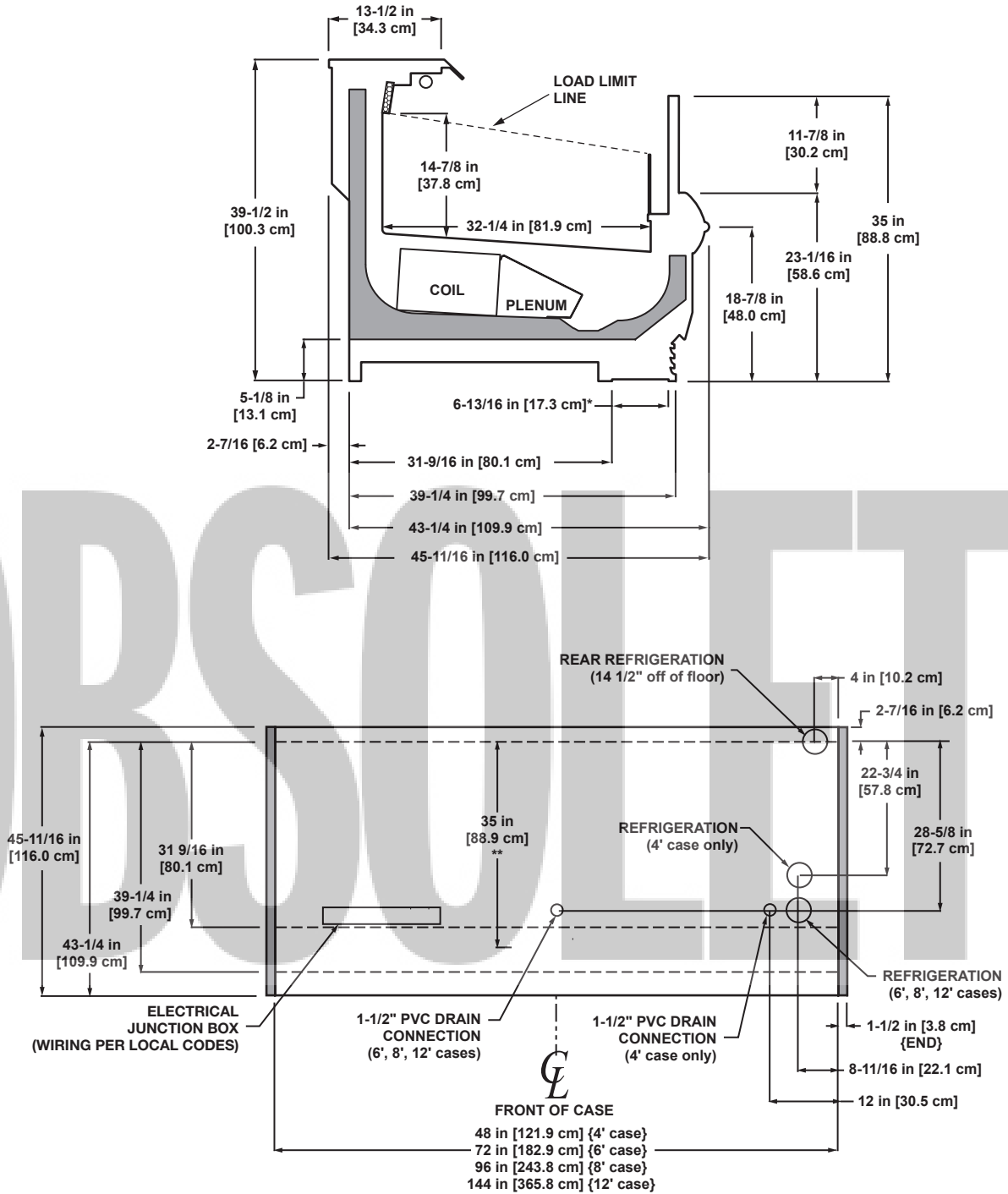
3 NOTE: " - - - " indicates that feature is not an option on this case model.

OMZD Single-Deck Merchiser

4', 6', 8' & 12' (Frozen Food / Ice Cream)

SINGLE-DECK

Frozen Food / Ice Cream



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- SUCTION LINE (4') - 1/2", SUCTION LINE (6' & 8') - 5/8", SUCTION LINE (12') - 7/8"
- LIQUID LINE (ALL LENGTHS) - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND KICK-PLATE



OP Single-Deck Merchandiser

4', 6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	2	0.15	9.2	0.25	30	3.85	800	4.44	1065
12'	3	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Rear Sill Heights	¹ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
		Conventional	Parallel				
Cut Produce	39"	284	264	6 - 8	26	31	180
	43"	405	377	6 - 8	26	30	210
Bulk Produce	39"	221	206	6 - 8	29	36	180
	43"	376	350	6 - 8	29	35	210

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	6 - 8	40	49	60	47	26	45	40	45

1 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

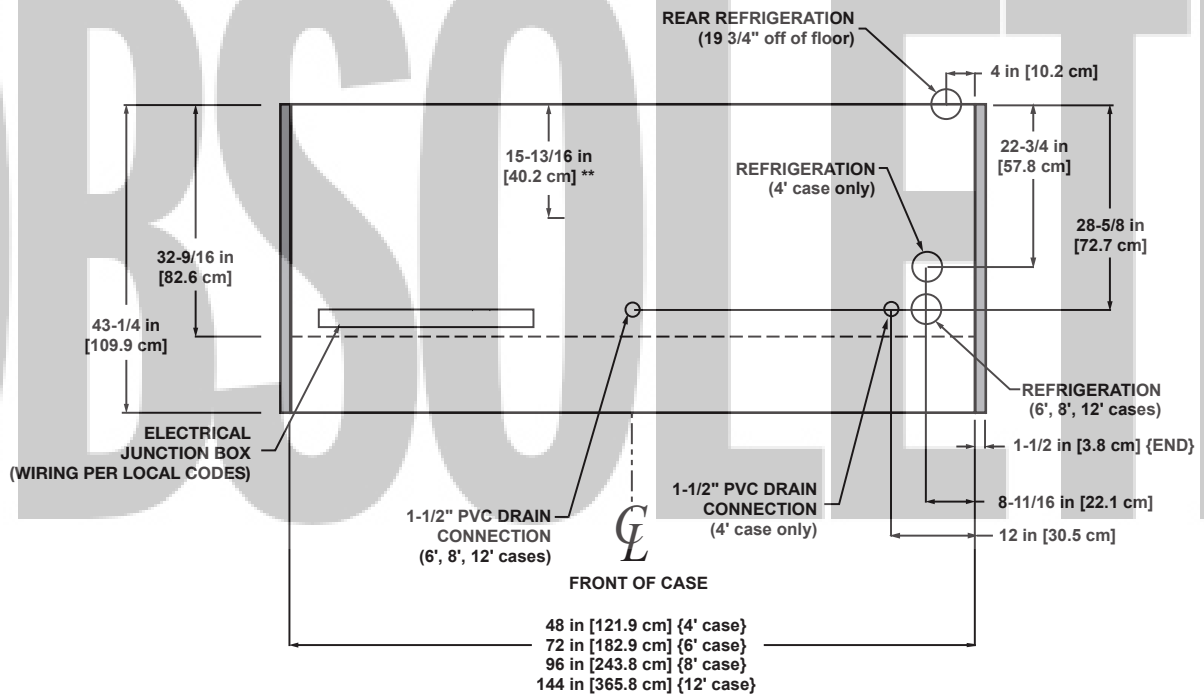
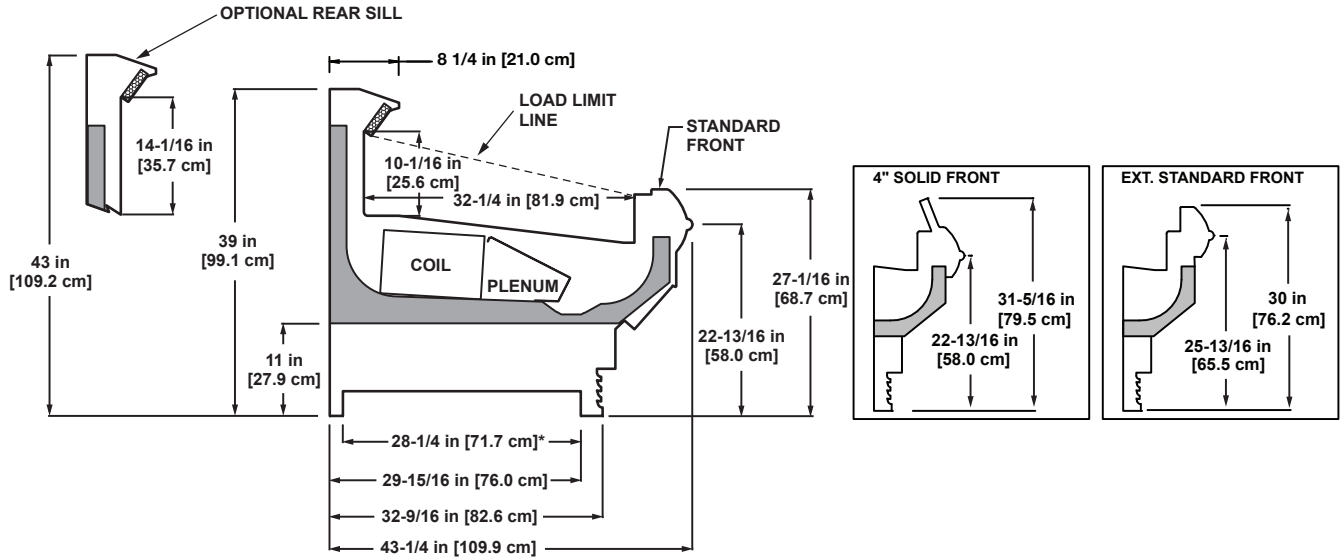
2 Average discharge air velocity at peak of defrost.

OP Single-Deck Merchandiser

4', 6', 8' & 12' (Produce)

SINGLE-DECK

Produce



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND KICK-PLATE



OEP Single-Deck End-Cap Merchandiser

(Bulk Produce)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.23	14	---	---	2.88	600	3.33	798

Guidelines & Control Settings

Model	² BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
	Conventional	Parallel				
Bulk Produce	2157	2052	6 - 8	29	NA ³	NA

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	6 - 8	40	47	45	47	---	---	---	---

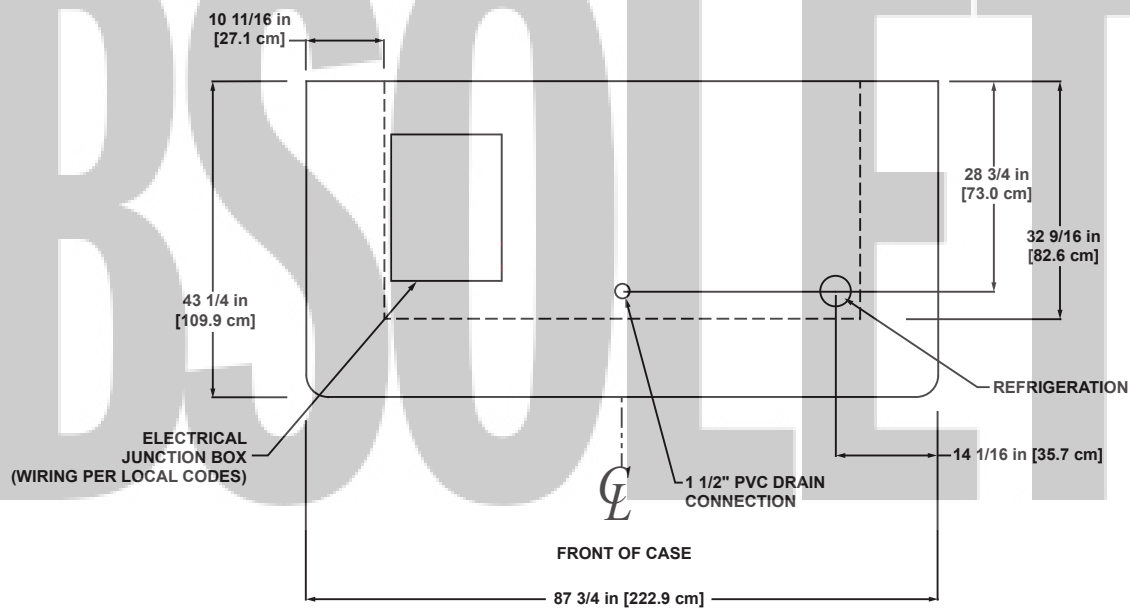
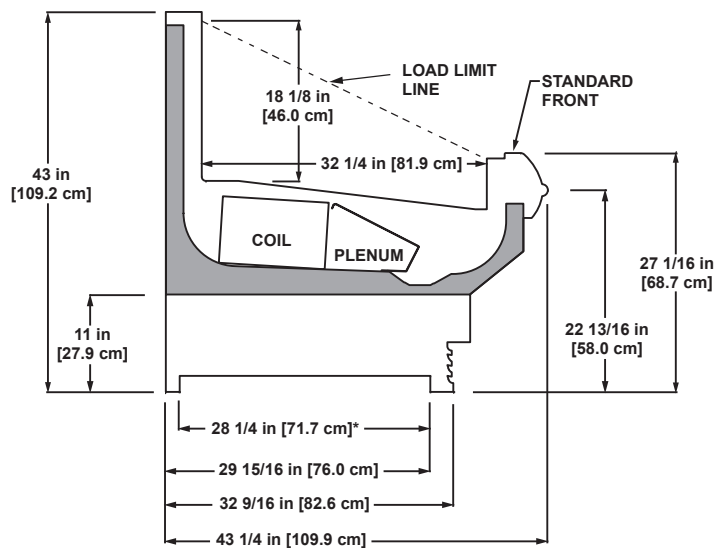
- 1 NOTE: "---" indicates that feature is not an option on this case model.
 - Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- 3 NOTE: "NA" indicates not applicable to this case model.

OEP Single-Deck End-Cap Merchandiser

(Bulk Produce)

SINGLE-DECK

Bulk Produce



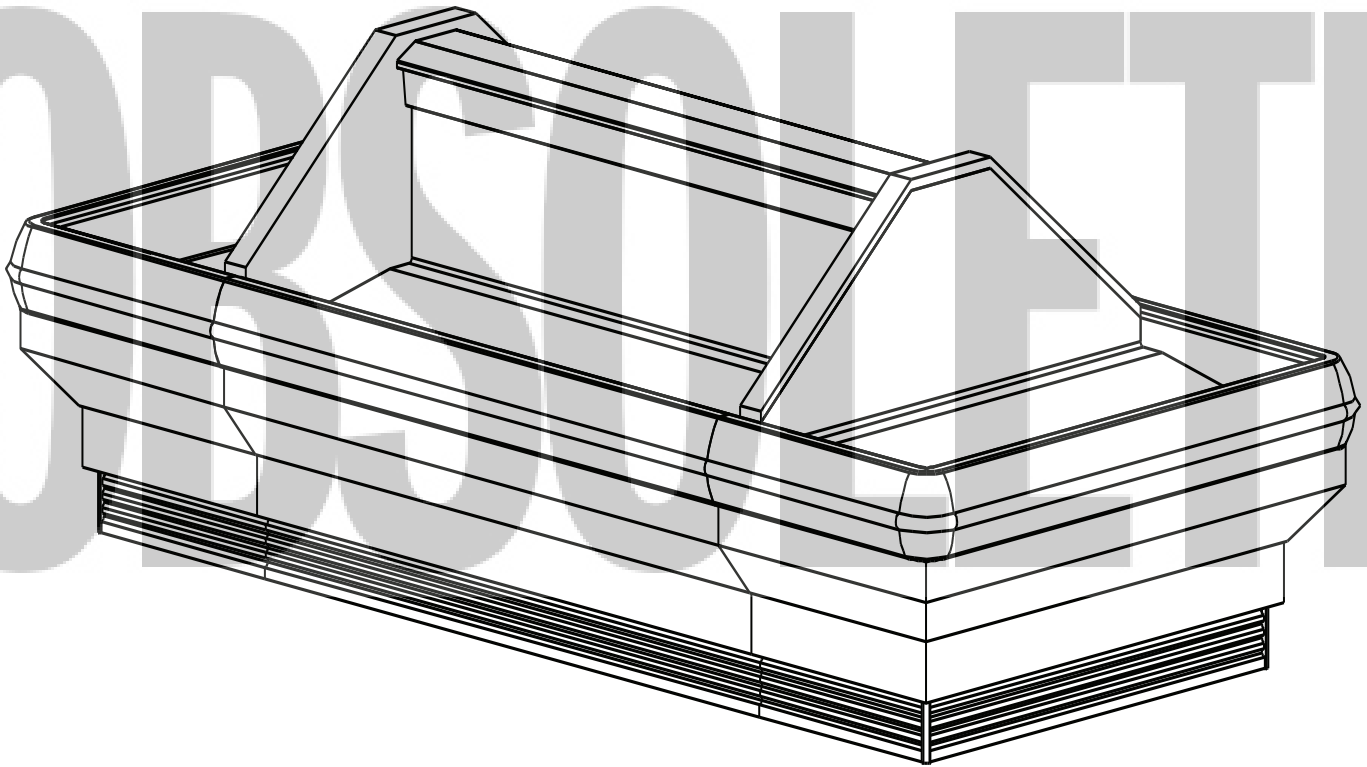
NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OEP/OP/OEP
(SHOWN)

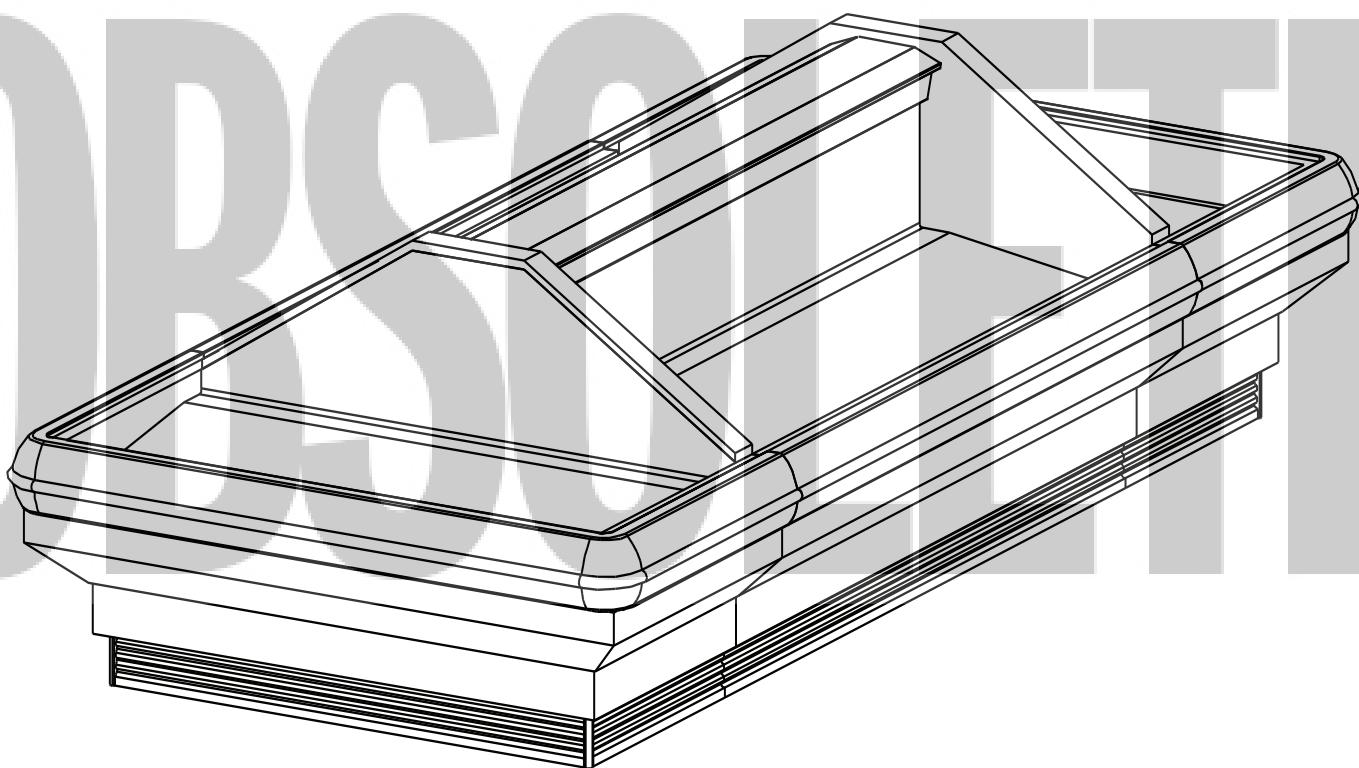


OEP Single-Deck End-Cap Merchandiser (Bulk Produce)

SINGLE-DECK

Bulk Produce

OEP/OP/OEP
(SHOWN)



OWP Wide Single-Deck Merchandiser

8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	2	0.15	9.2	0.25	30	3.85	800	4.44	1065
12'	3	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Rear Sill Heights	1 BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
		Conventional	Parallel				
Cut Produce	39"	379	353	6 - 8	26	31	180
	43"	538	501	6 - 8	26	30	210
Bulk Produce	39"	298	277	6 - 8	29	36	180
	43"	501	466	6 - 8	29	35	210

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	6 - 8	40	49	60	47	26	45	40	45

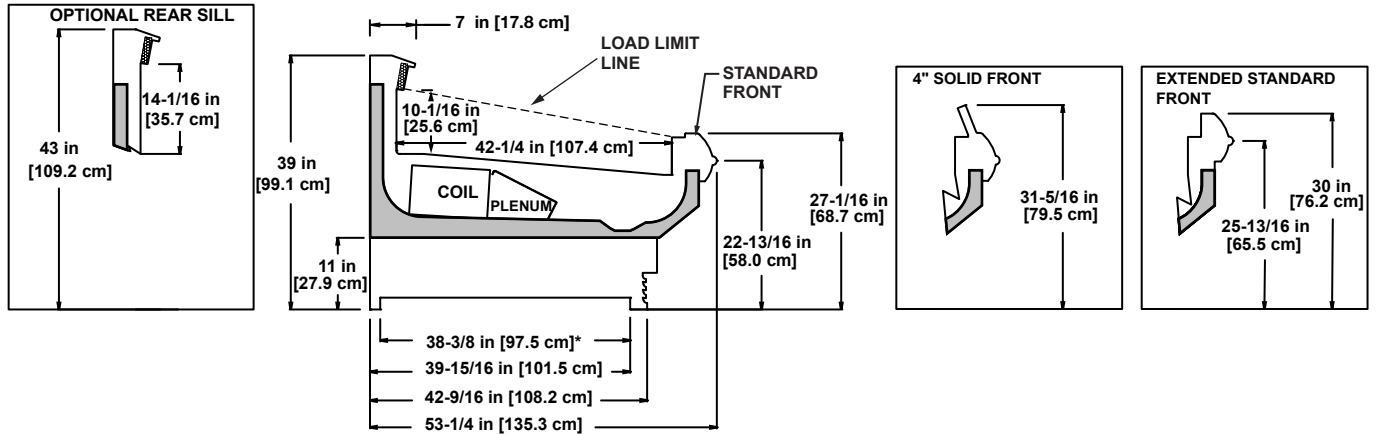
1 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

2 Average discharge air velocity at peak of defrost.

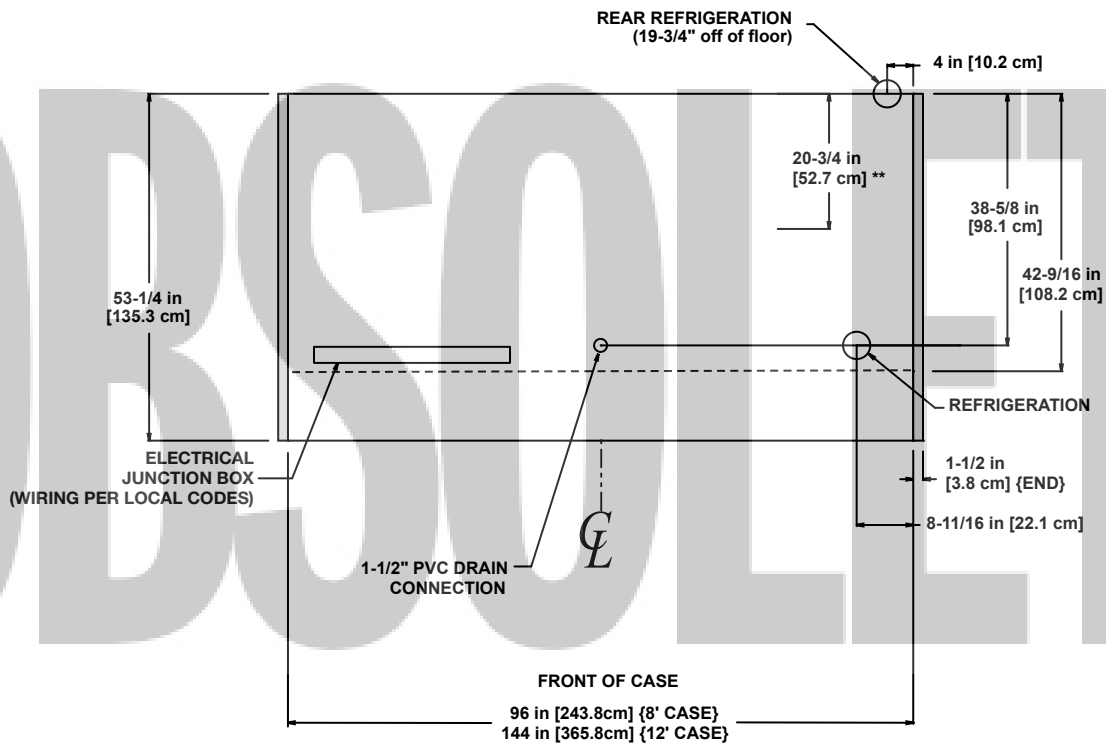
OWP Wide Single-Deck Merchandiser

8' & 12' (Produce)



SINGLE-DECK

Produce



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 5/8"; LIQUID LINE - 3/8"
- FRONT AND REAR SILLS HEIGHTS VARY WITH BASE FRAME HEIGHT
- DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND KICK-PLATE



OWZ Wide Single-Deck Merchandiser

8' & 12' (Frozen Food)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heater (Front Glass)		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	2	0.30	22	0.70	84.4	7.69	1600	8.87	2130
12'	3	0.45	33	1.06	126.6	11.54	2400	13.31	3195

Guidelines & Control Settings

Application	¹ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
	Conventional	Parallel				
Medium Temp.	256	245	6 - 8	20	27	255
Low Temp.	342	310	3 - 5	-22	-10	255

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Medium Temp.	2	5	35	47	--- ³	---	20	60	---	---
Low Temp.	3	5	50	45	---	---	20	60	---	---

¹ Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

² Average discharge air velocity at peak of defrost.

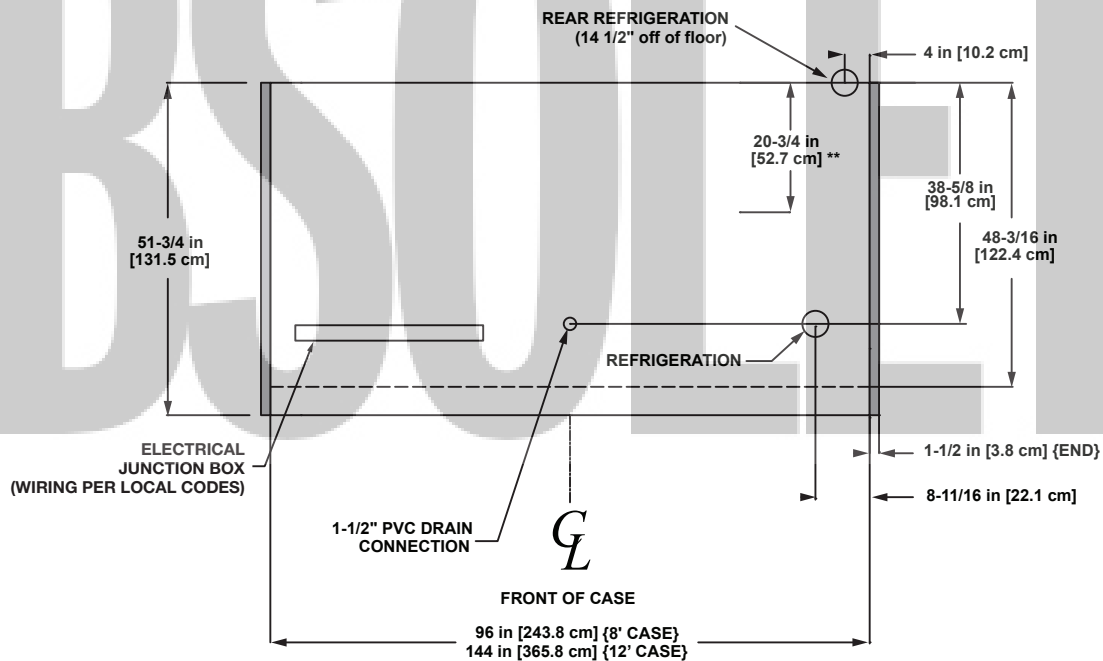
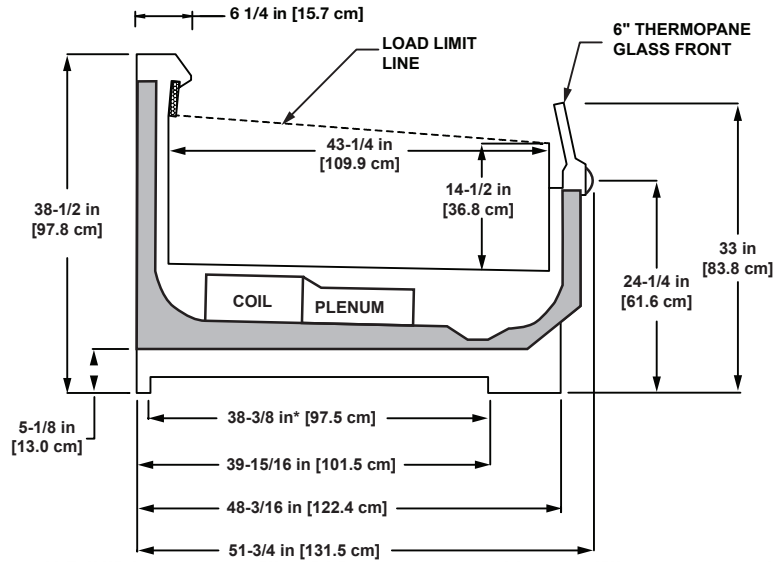
³ NOTE: "---" indicates that feature is not an option on this case model.

OWZ Wide Single-Deck Merchandiser

8' & 12' (Frozen Food)

SINGLE-DECK

Frozen Food



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

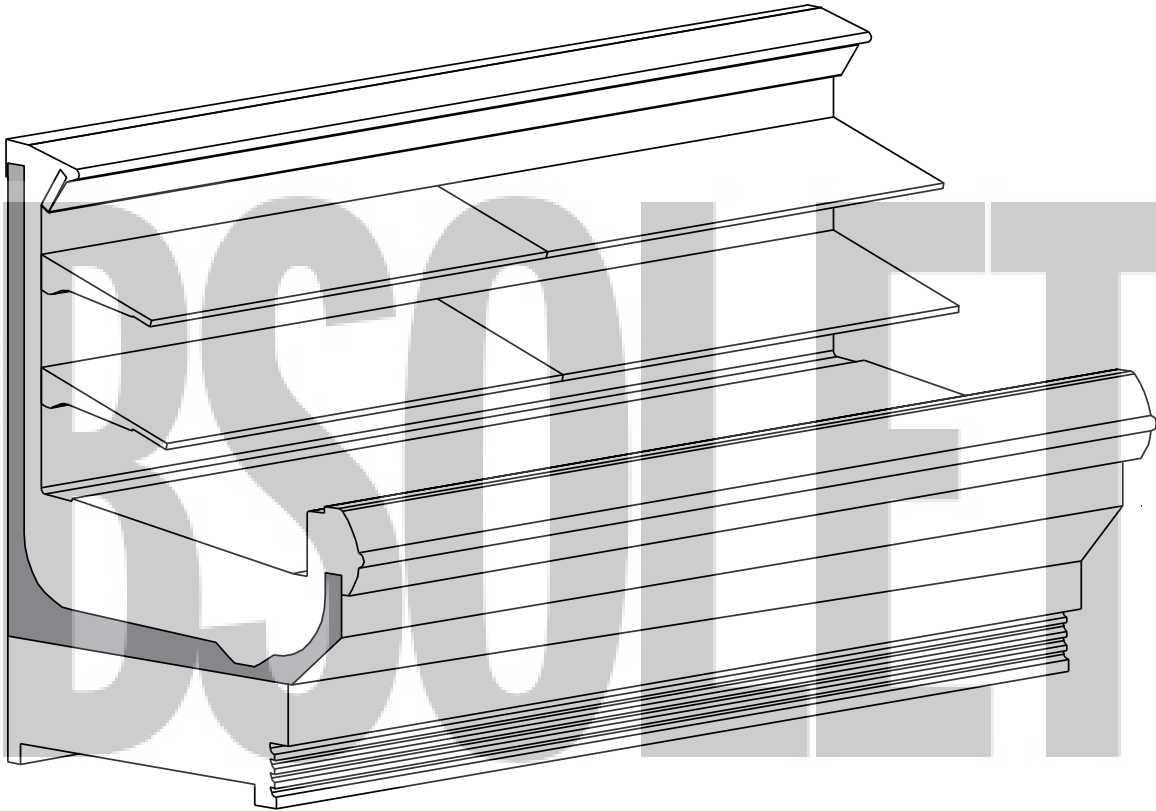
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL

- SUCTION LINE - 7/8"; LIQUID LINE - 1/2"



OBSOLETE

UTILITY



NOTES

- **Cases shown with an ANSI/NSF* mark are listed by NSF.**
- **Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.**
- **Allow for an extra 1/8" per joint when lining up merchandisers.**
- **Technical information contained herein is subject to change without notice.**

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

ONUM **Narrow Multi-Deck Merchandiser** 4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
516	478	6 - 8	22	28	280

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Rear refrigerated box increases refrigeration load by 110 BTUH/ft.
- Model ONUM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

ONUM

(11" BASEFRAME)



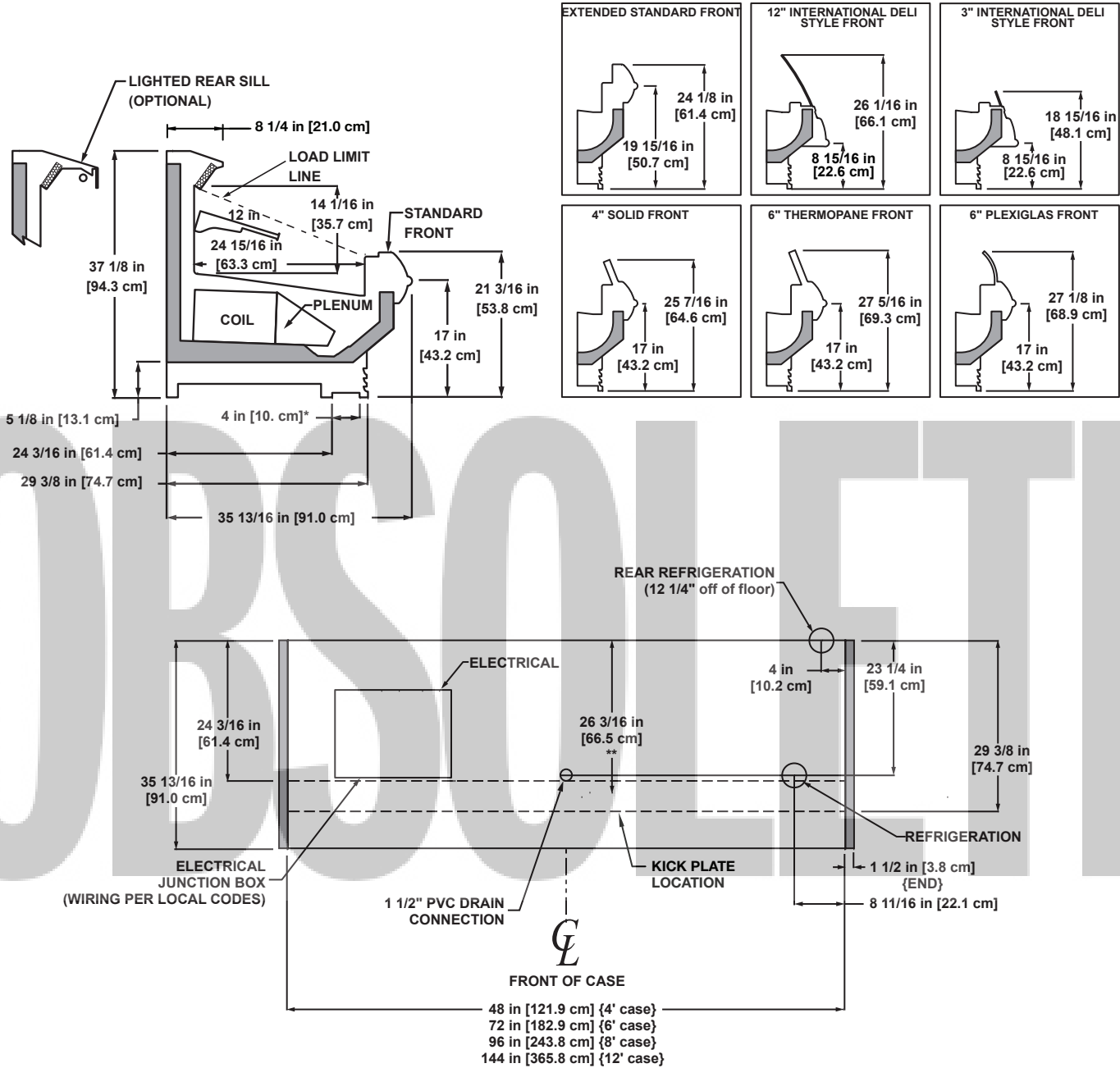
Dairy / Deli / Meat / Produce / Seafood

NOTES:

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



(5" BASEFRAME)



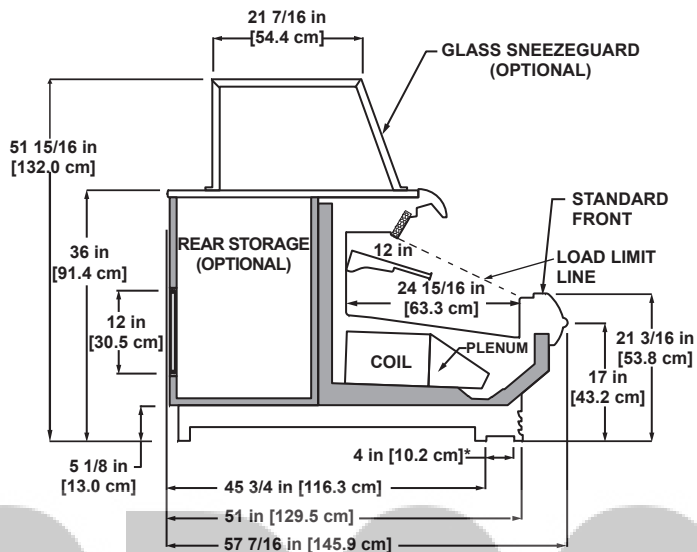
NOTES:

* STUB-UP AREA

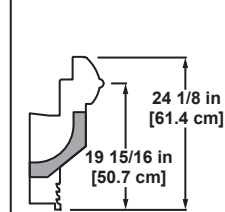
** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

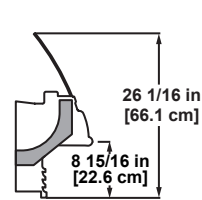
REAR REFRIGERATED BOX



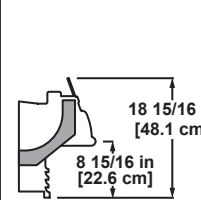
EXTENDED STANDARD FRONT



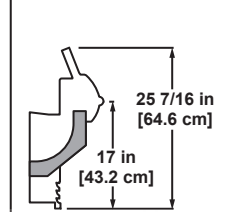
12" INTERNATIONAL DELI STYLE FRONT



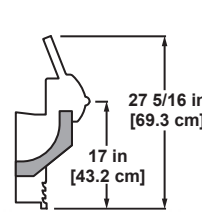
3" INTERNATIONAL DELI STYLE FRONT



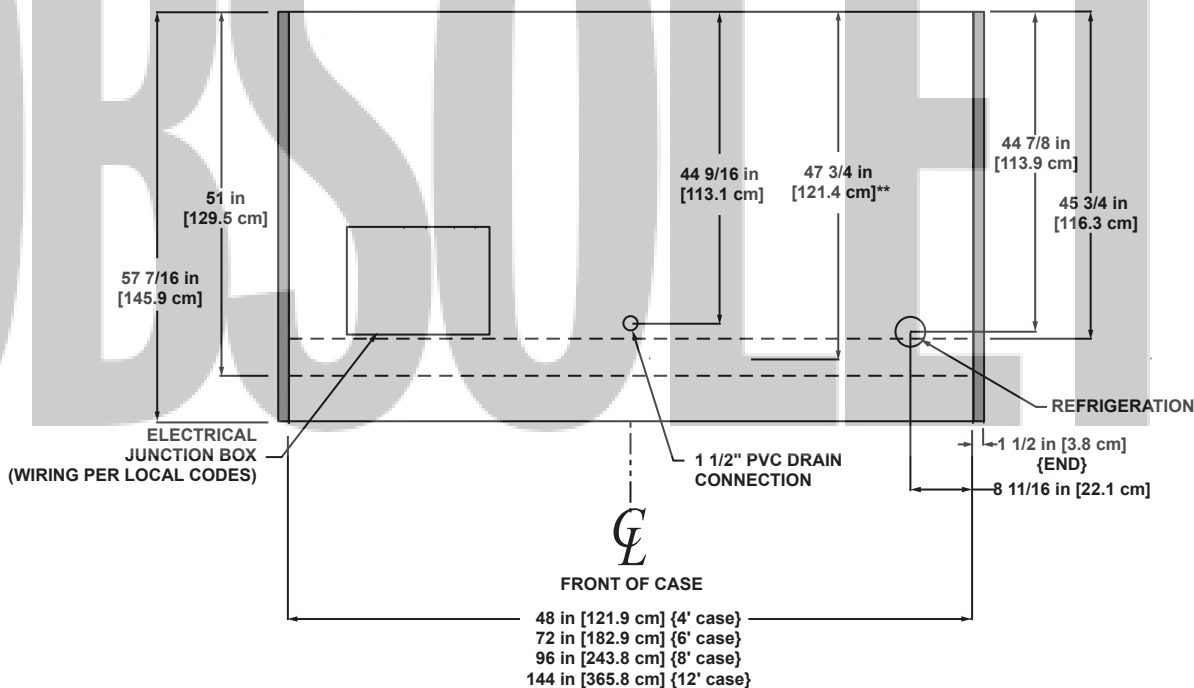
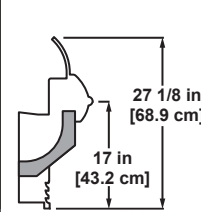
4" SOLID FRONT



6" THERMOPANE FRONT



6" PLEXIGLAS FRONT



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

ON3EP Narrow Multi-Deck End-Cap Merchandiser

(Bulk Produce)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.15	9.2	---	---	2.31	480	2.66	640

Guidelines & Control Settings

Application	² BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
	Conventional	Parallel				
Bulk Produce	4200	3908	6 - 8	29	NA ³	NA

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	6 - 8	40	49	60	47	26	45	---	---

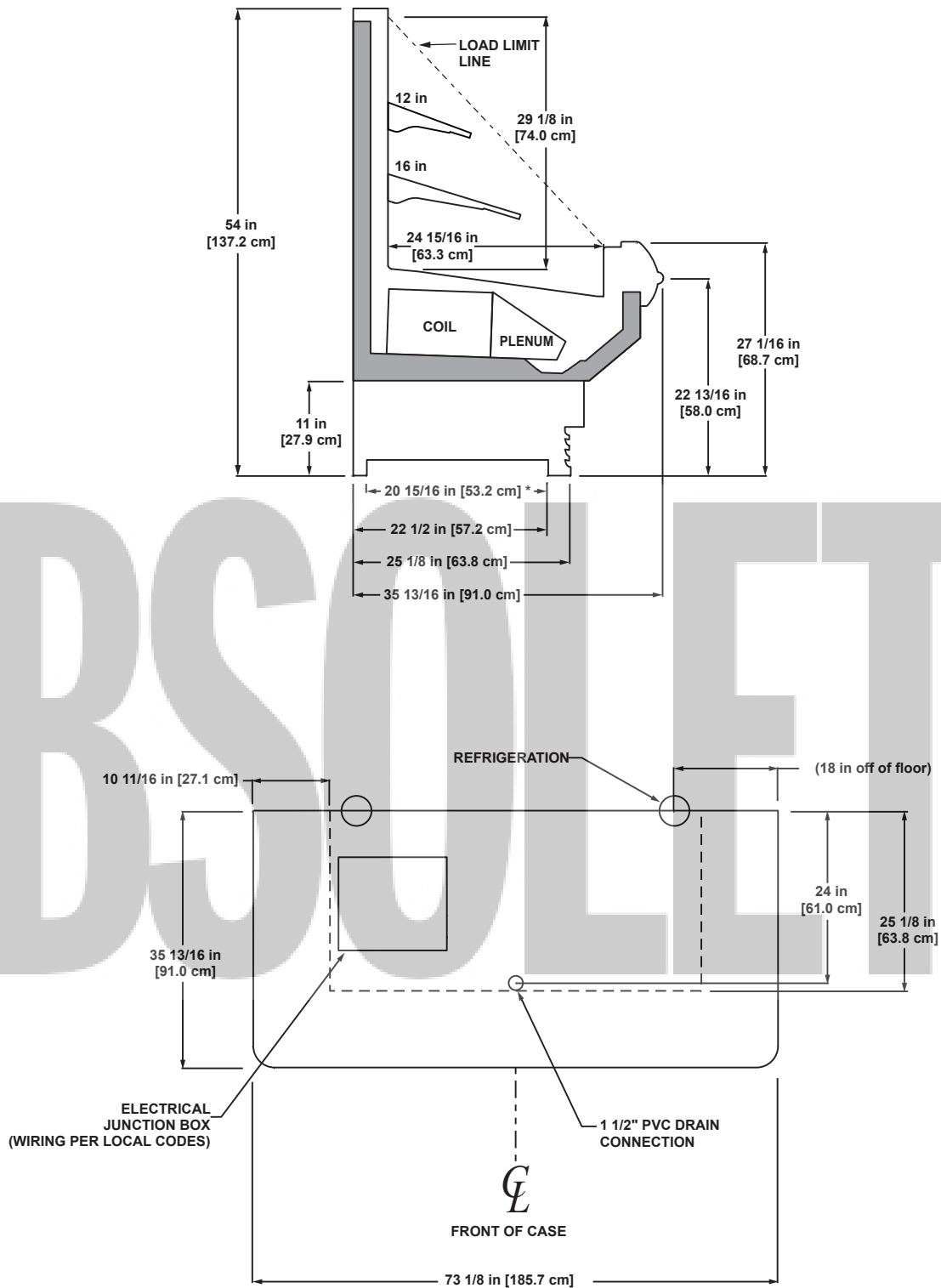
1 NOTE: "---" indicates that feature is not an option on this case model.

2 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

3 NOTE: "NA" indicates not applicable to this case model.

ON3EP Narrow Multi-Deck End-Cap Merchandiser

(Bulk Produce)



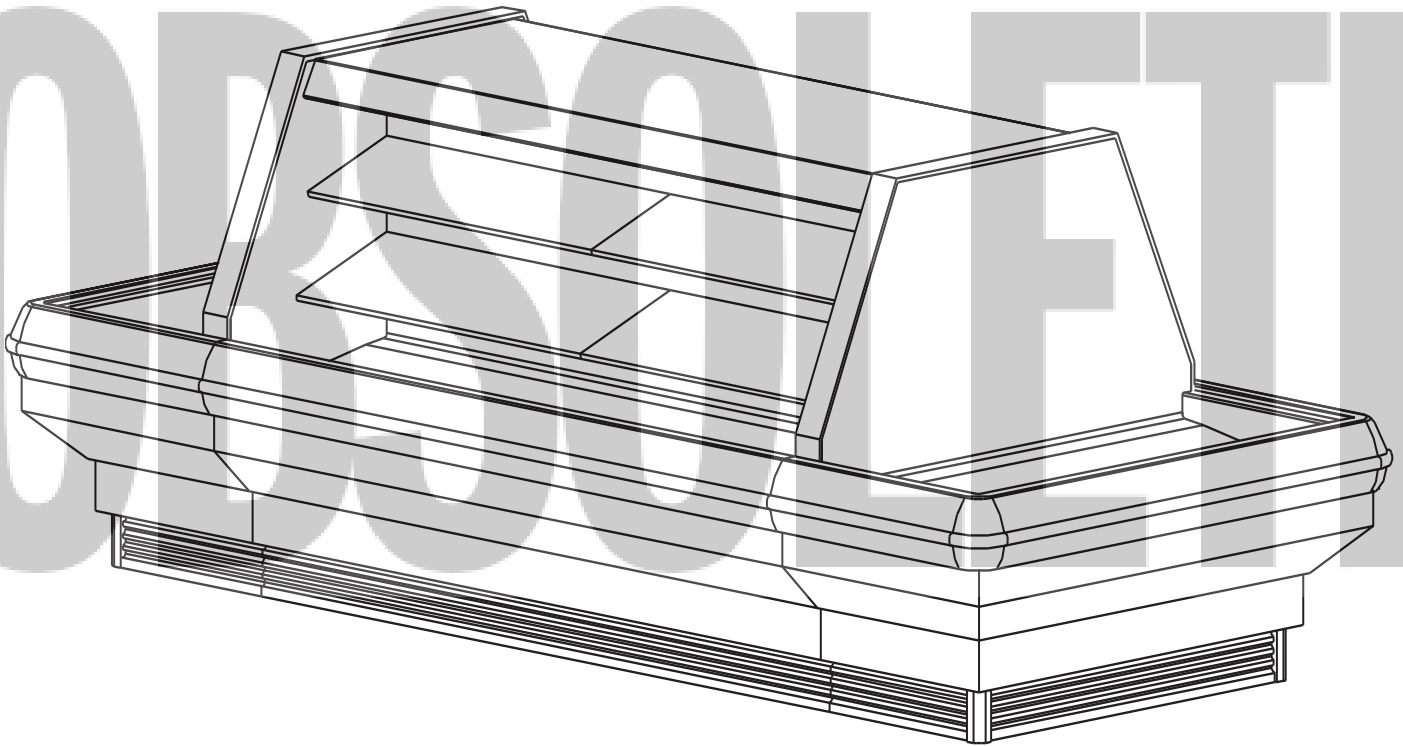
UTILITY

Bulk Produce

ON3EP

Narrow Multi-Deck End-Cap Merchandiser
(Bulk Produce)

ON3EP/ONUM/ON3EP
(SHOWN)



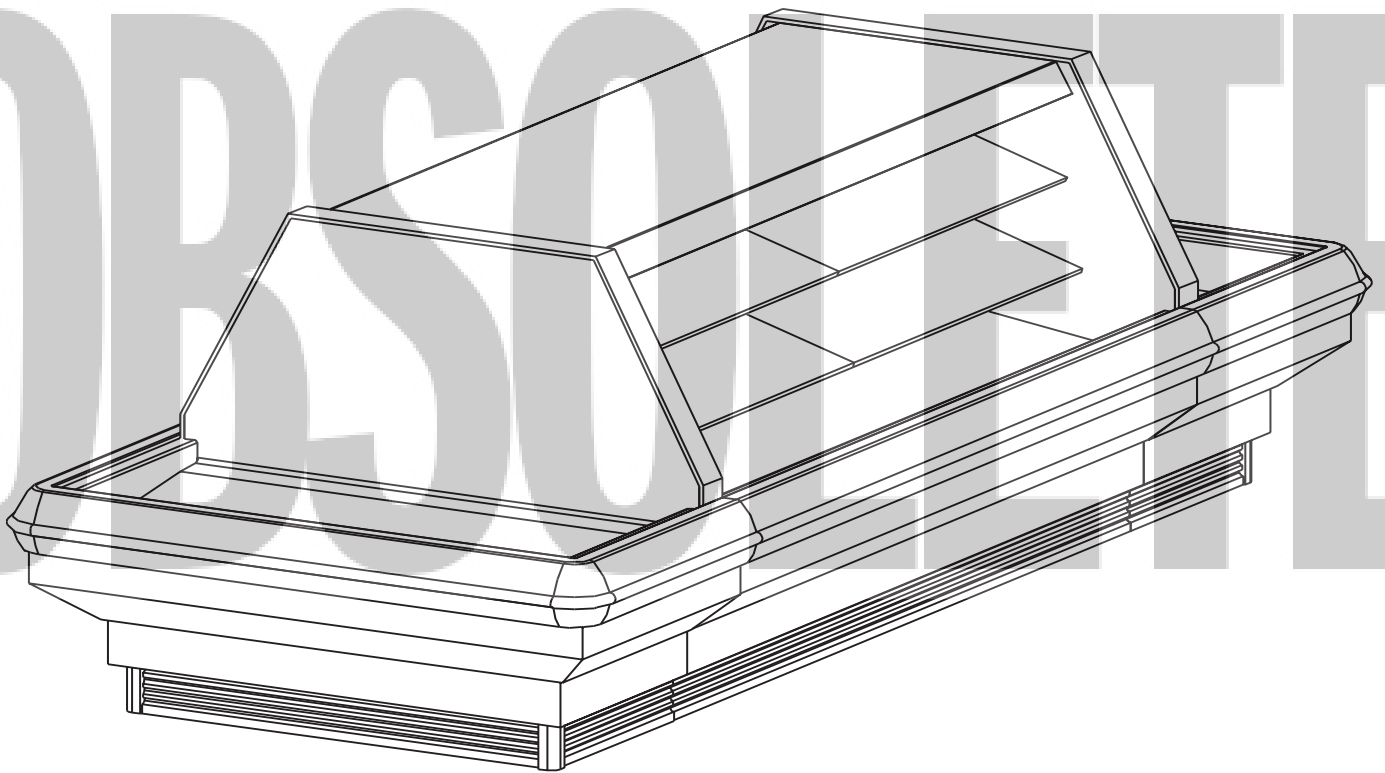
ON3EP

Narrow Multi-Deck End-Cap Merchandiser
(Bulk Produce)

ON3EP/ONUM/ON3EP
(SHOWN)

UTILITY

Bulk Produce



OUM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
818	758	6 - 8	22	27	340

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

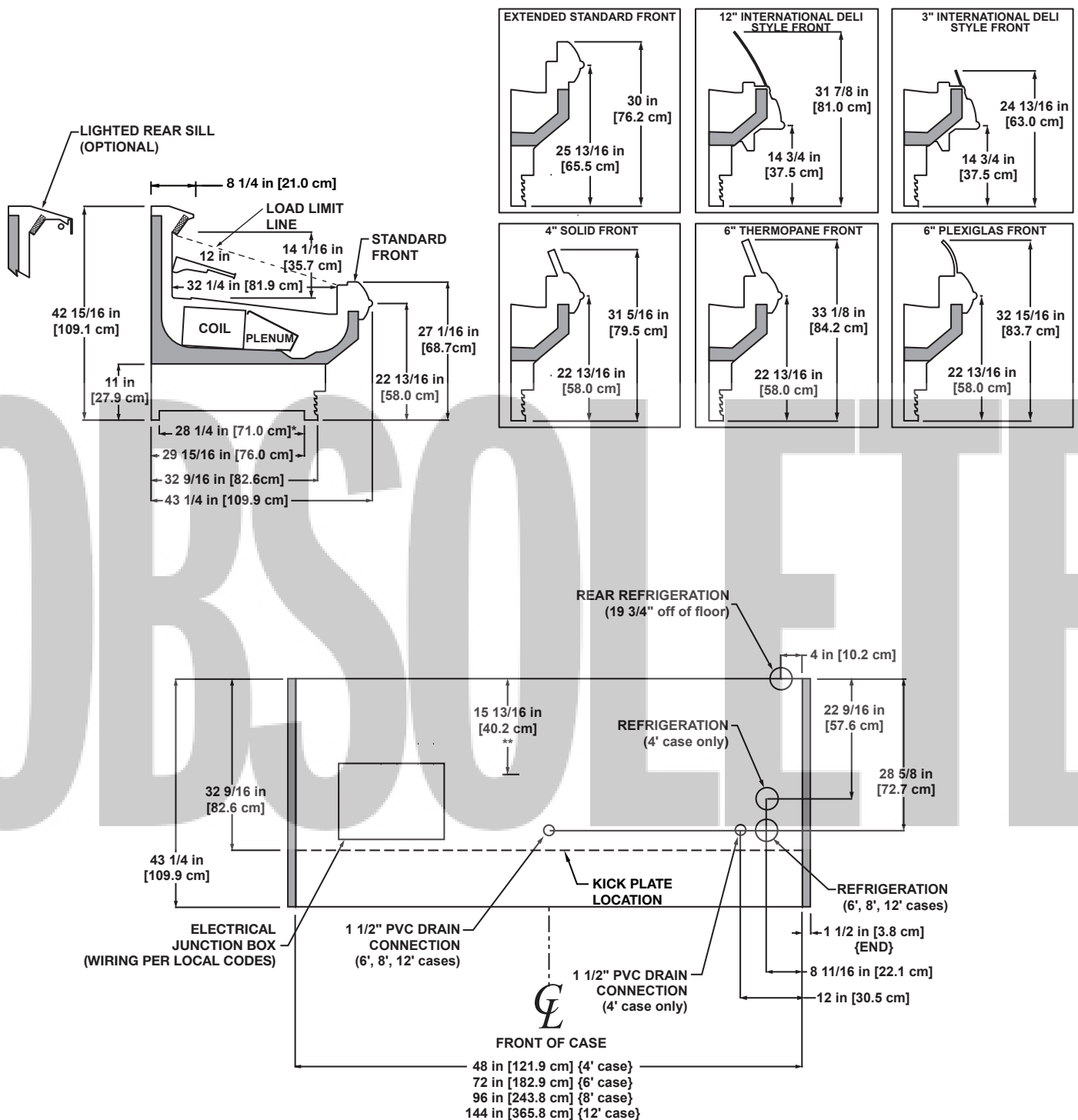
1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Rear refrigerated box increases refrigeration load by 110 BTUH/ft.
- Model OUM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

(11" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

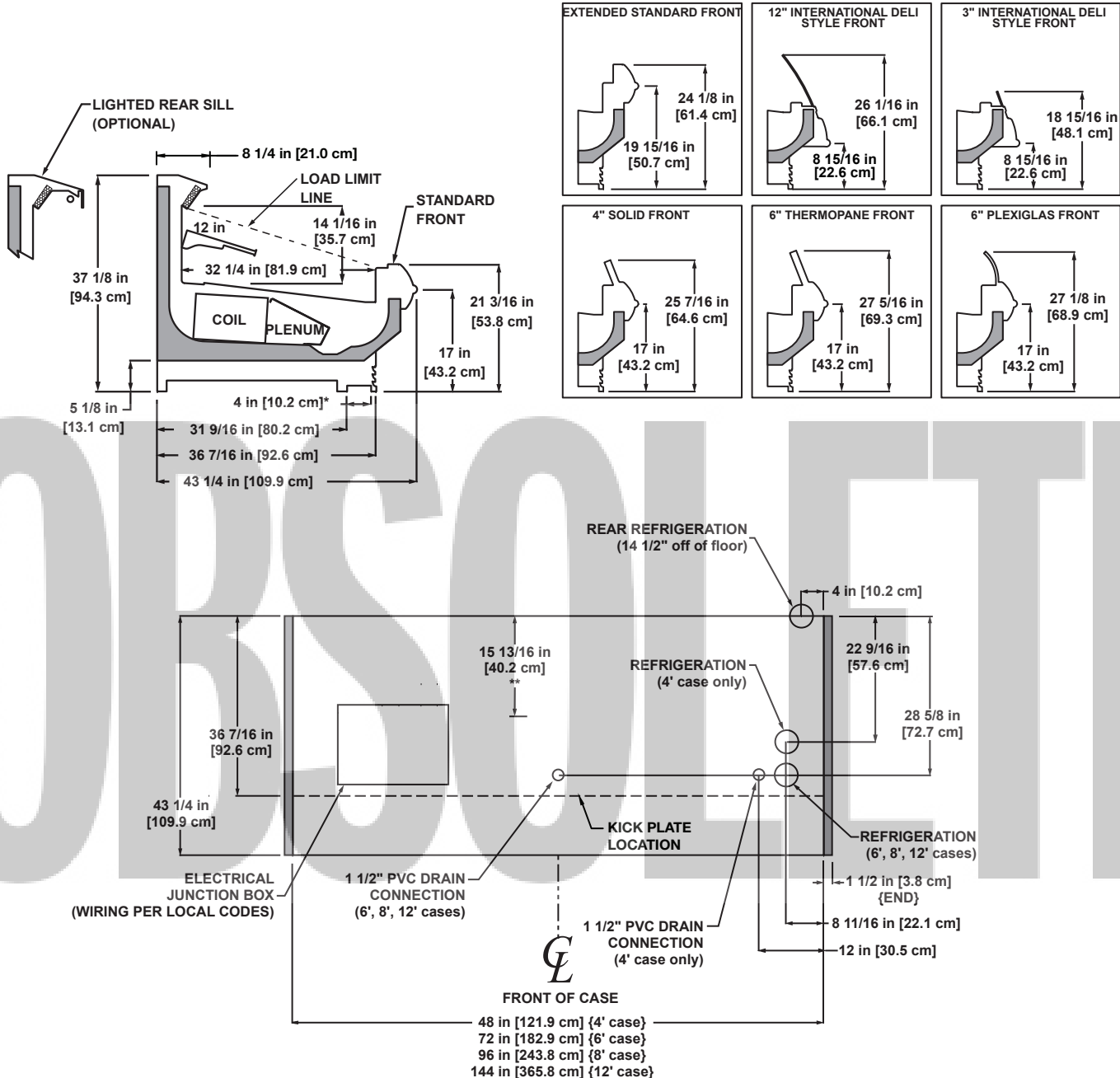
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OUM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(5" BASEFRAME)



NOTES:

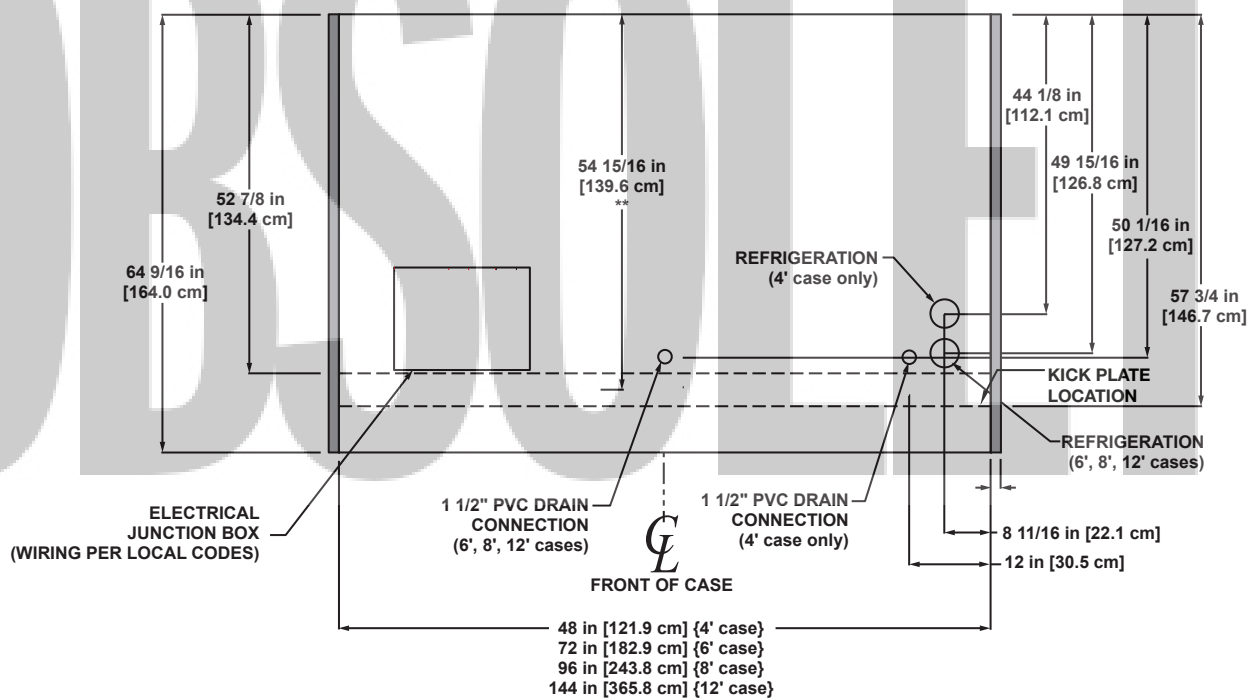
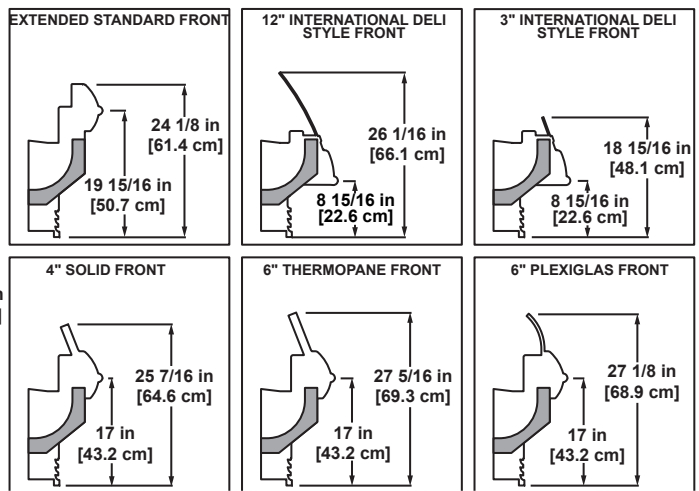
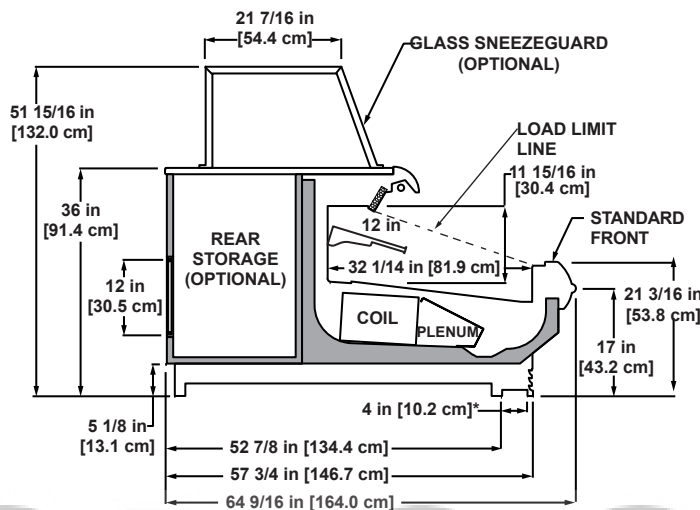
* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
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- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



REAR REFRIGERATED BOX



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OEM Single-Deck End-Cap Merchandiser (Deli / Meat)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.15	9.2	0.35	42	2.88	600	3.33	798

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
2974	2726	6 - 8	22	29	232

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	6 - 8	40	49	70	47	26	45	--- ³	---

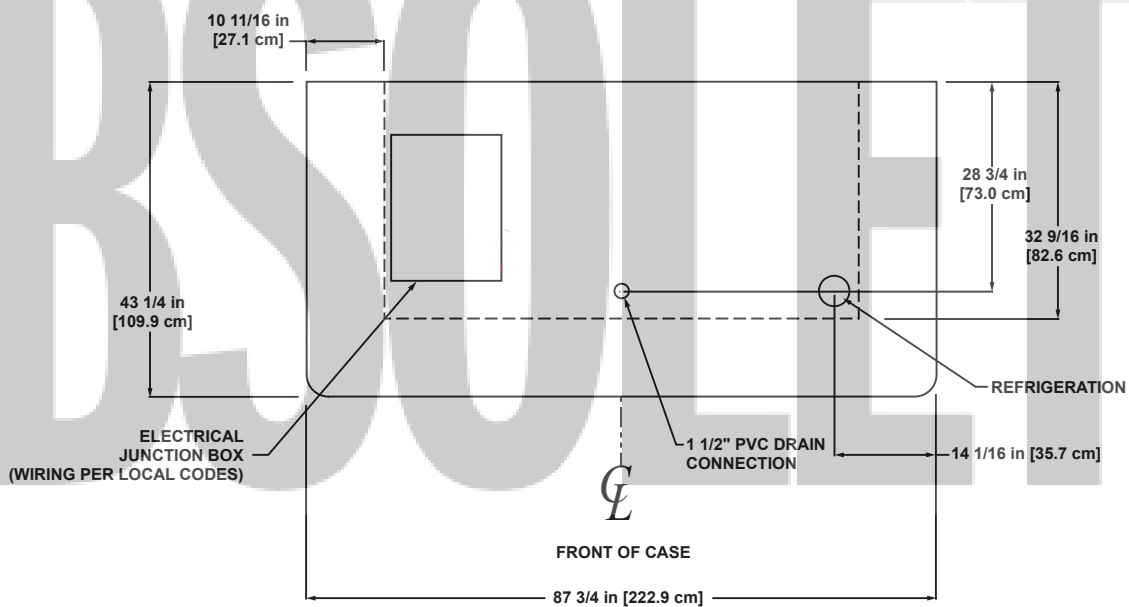
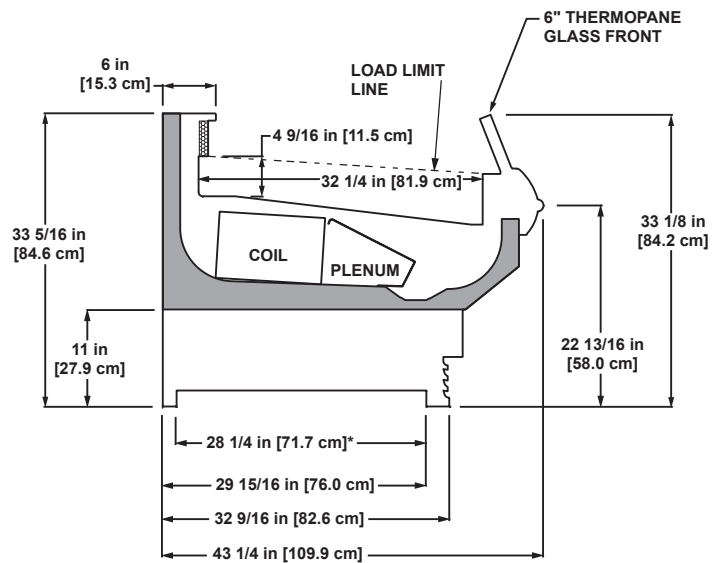
1 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

2 Average discharge air velocity at peak of defrost.

3 NOTE: "---" indicates that feature is not an option on this case model.

OEM Single-Deck End-Cap Merchandiser

(Deli / Meat)



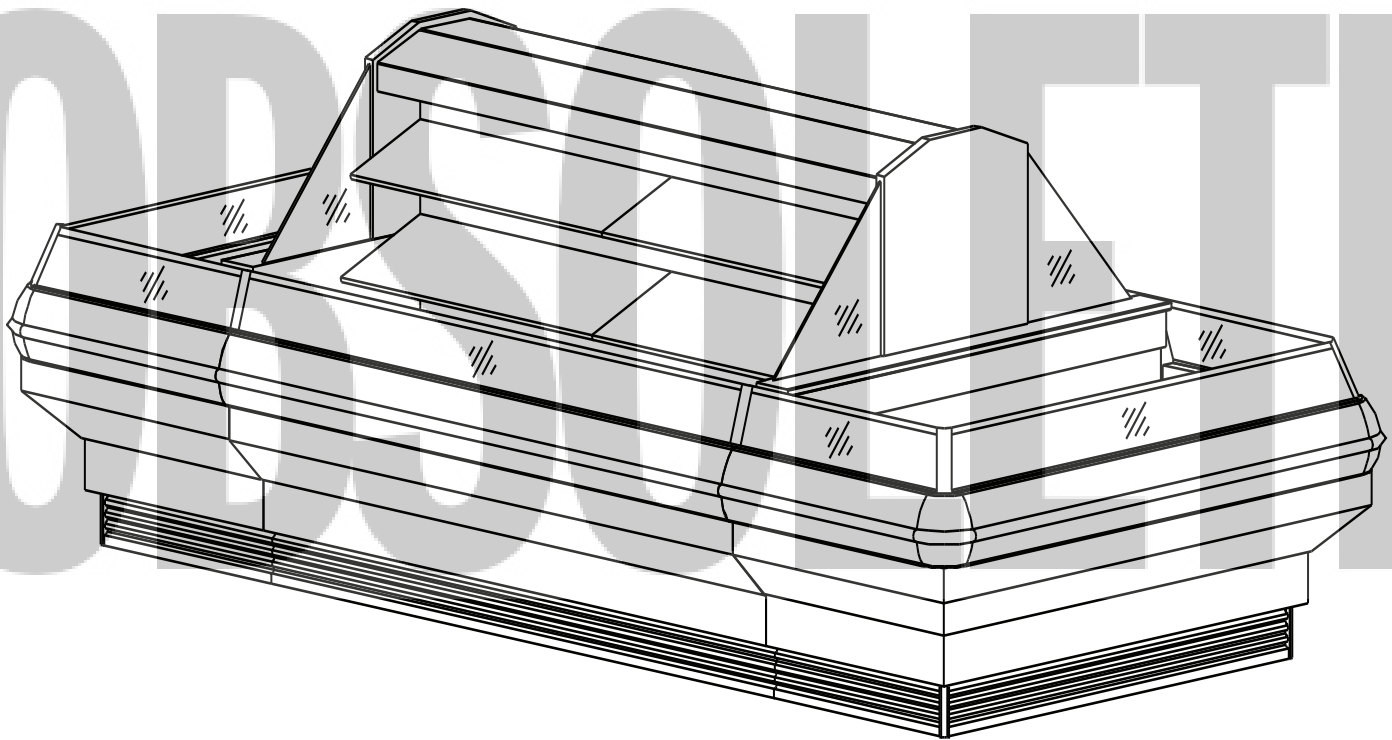
NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OEM Single-Deck End-Cap Merchandiser (Deli / Meat)

OEM/OUM/OEM
(SHOWN)

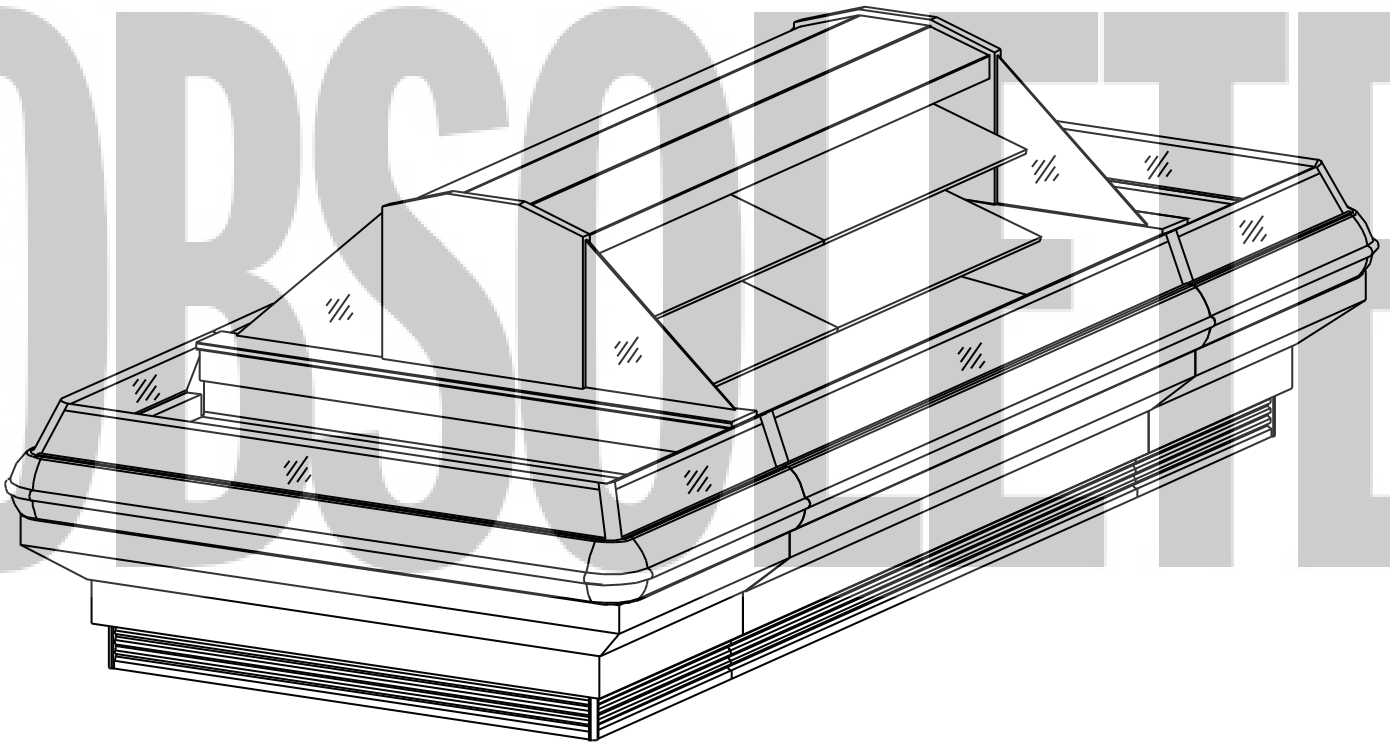


OEM Single-Deck End-Cap Merchandiser (Deli / Meat)

OEM/OUN/OEM
(SHOWN)

UTILITY

Deli / Meat



ON2UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
653	605	6 - 8	22	28	280

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model ON2UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

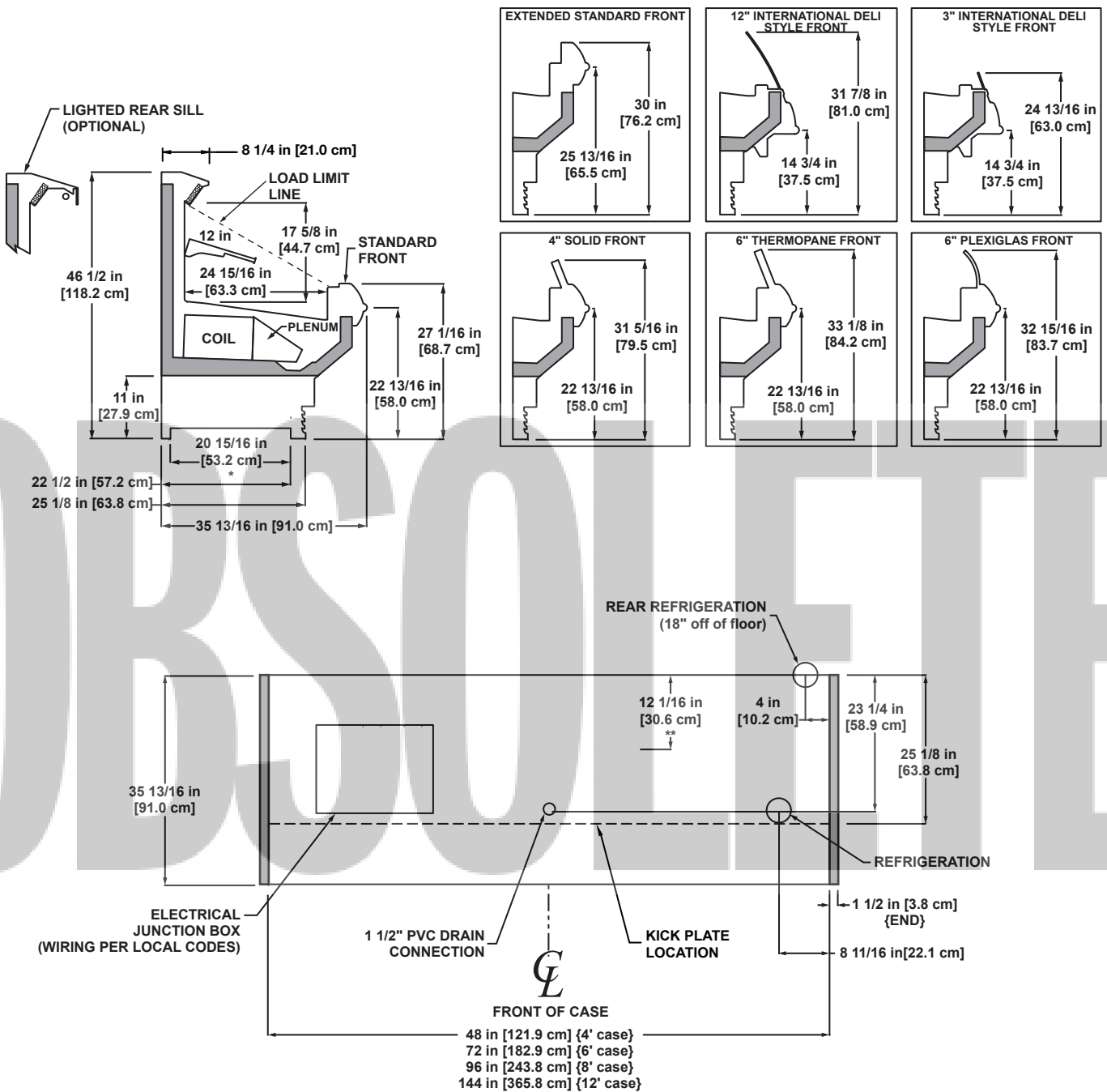


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

(11" BASEFRAME)

UTILITY

Dairy / Deli / Meat / Produce / Seafood



NOTES:

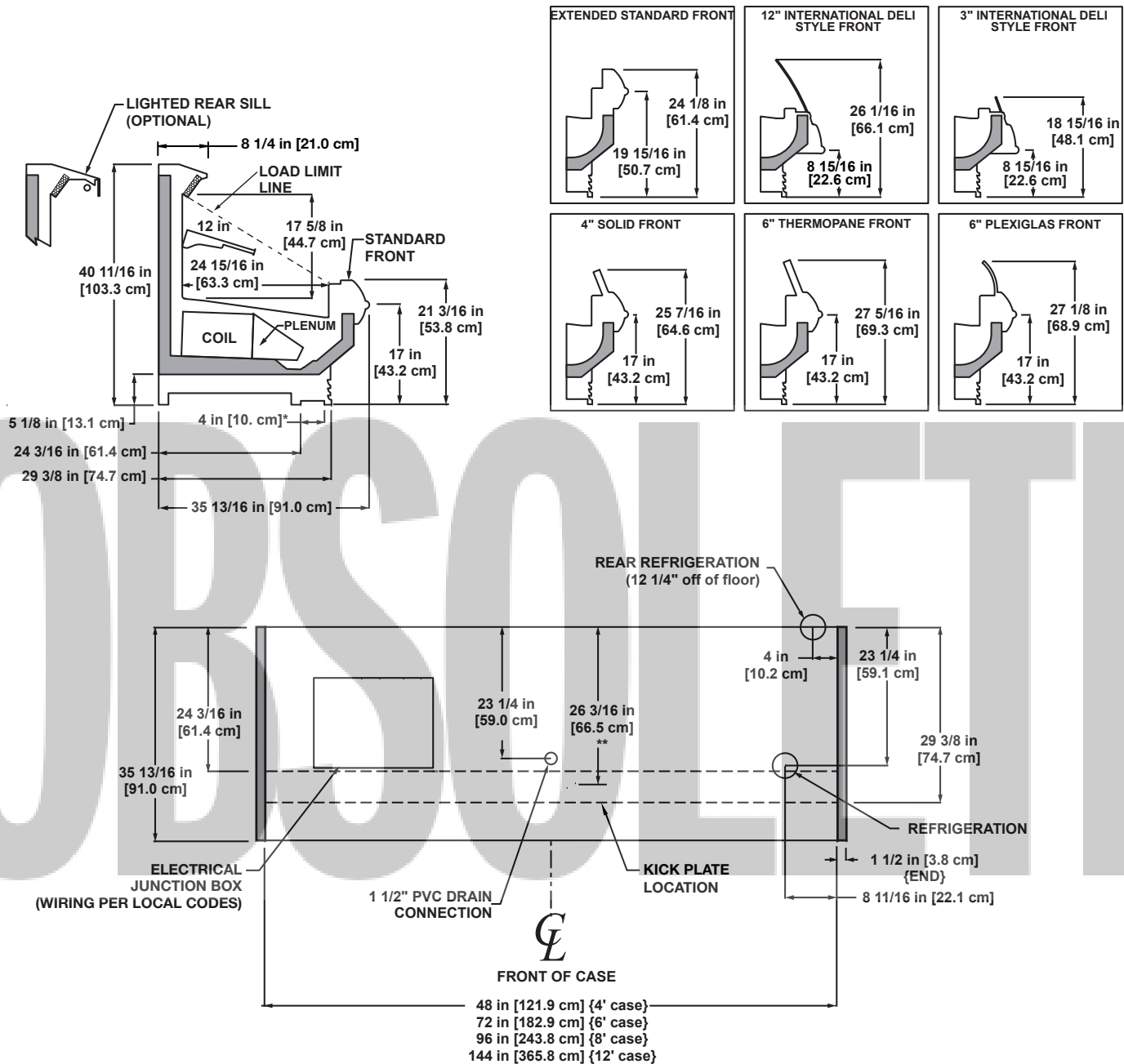
- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

ON2UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(5" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

ON2UM-NRG Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.16	11
6'	2	0.32	22
8'	2	0.32	22
12'	3	0.48	33

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Height	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	857	750	6 - 8	28	31	150
Meat	Ext. ¹	864	756	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	-- ⁶	---	40	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Rear refrigerated box increases refrigeration load by 110 BTUH/ft.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

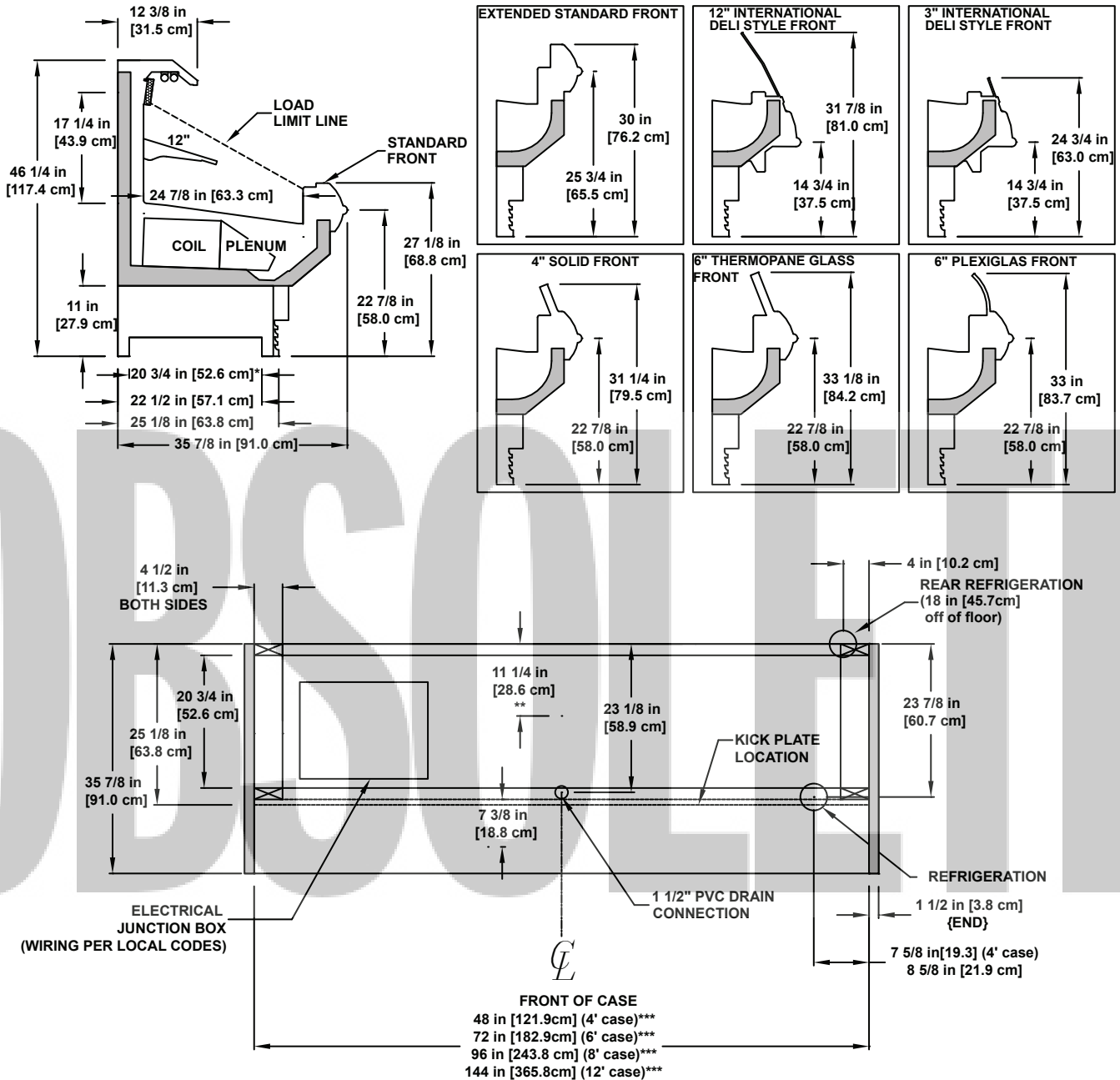
3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control - Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

6 NOTE: "--" indicates that feature is not an option with this case model.

(11" BASEFRAME)



NOTES:

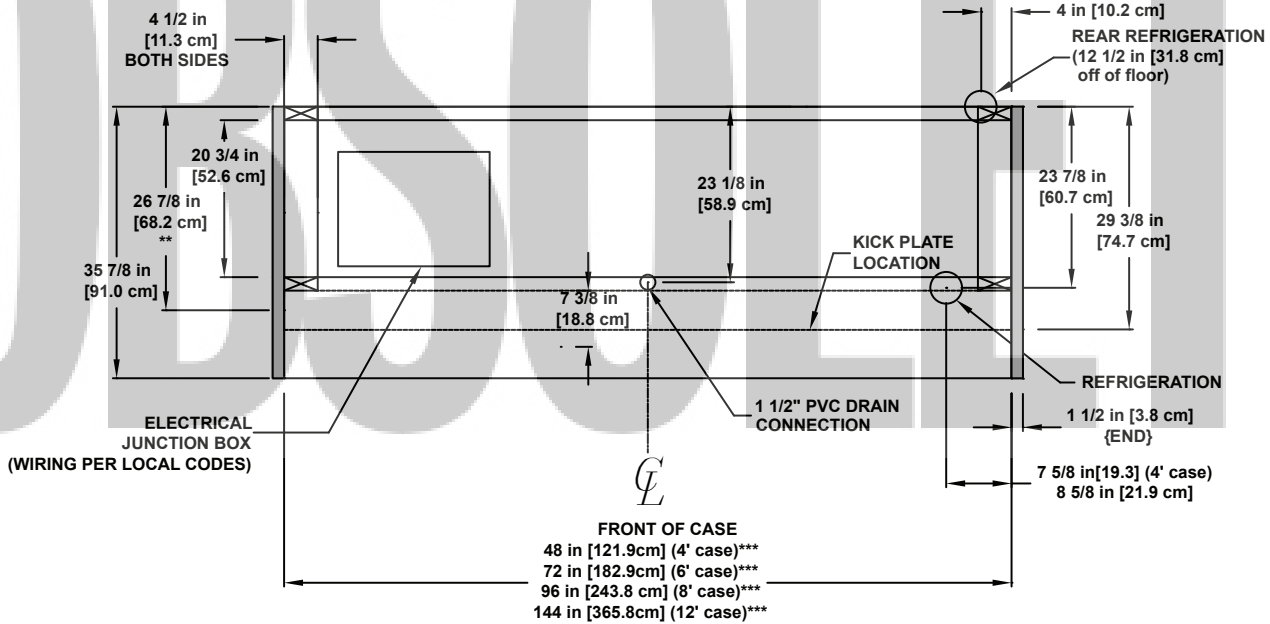
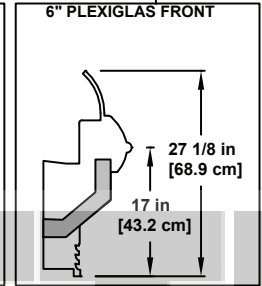
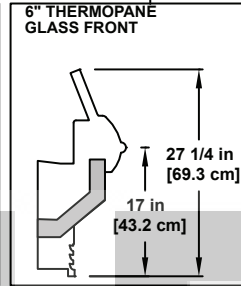
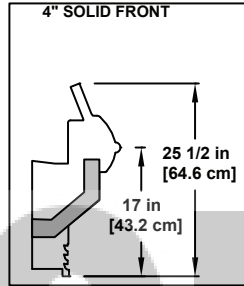
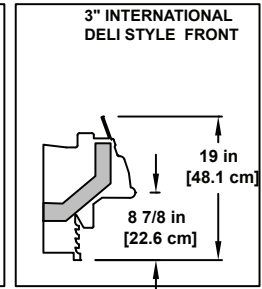
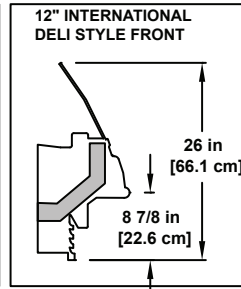
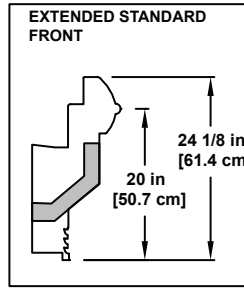
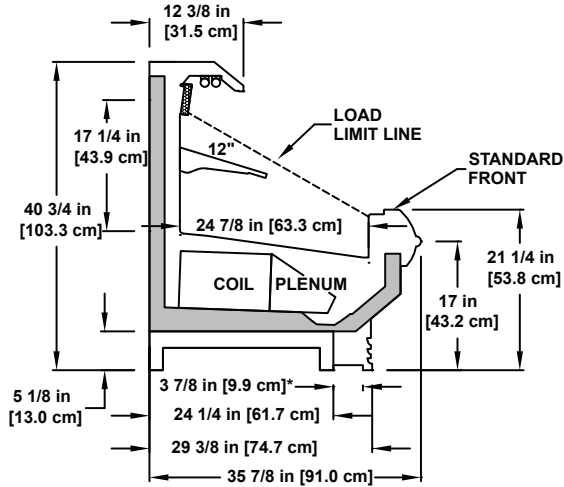
- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (4' & 6') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE

ON2UM-NRG Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(5" BASEFRAME)



NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
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- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



OBSOLETE

O2UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1023	948	6 - 8	22	27	340

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

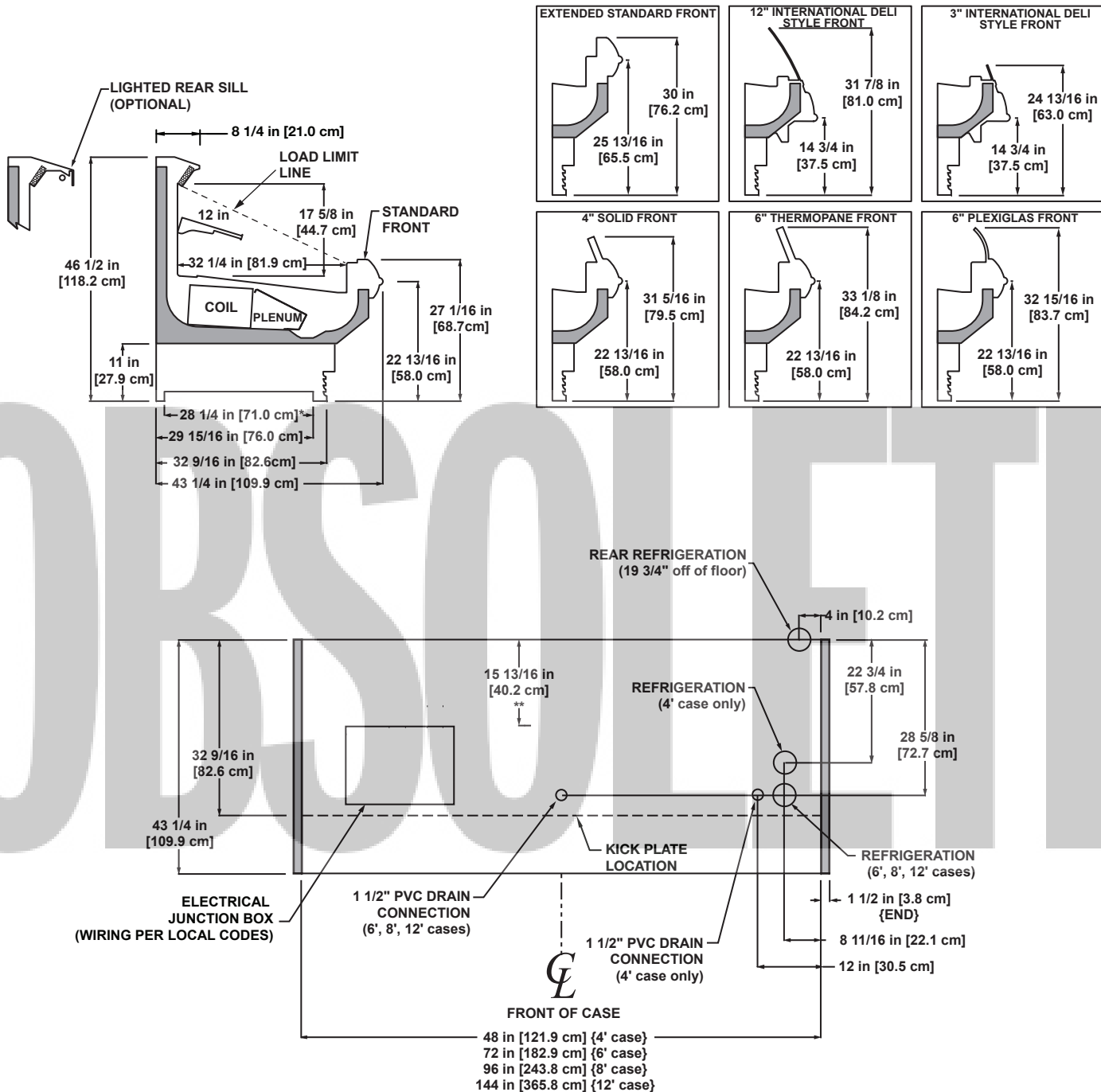
¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Model O2UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

(11" BASEFRAME)

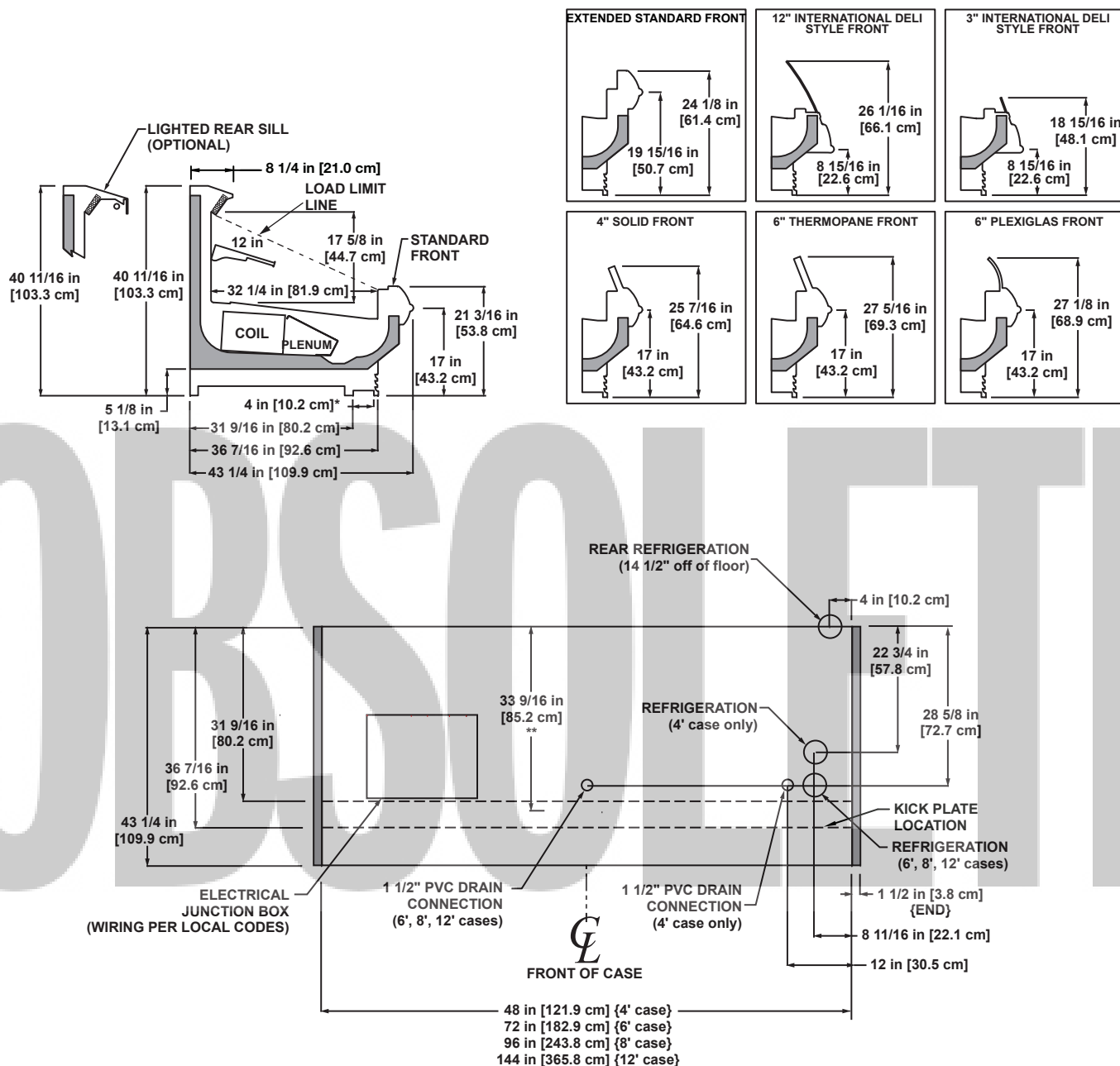


NOTES:

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

OW2UM Wide Multi-Deck Merchandiser

8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1277	1184	6 - 8	22	27	340

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

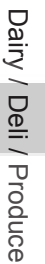
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model OW2UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

Wide Multi-Deck Merchandiser

8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

- * STUB-UP AREA**
**** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS**
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
 - ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 - A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
 - AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
 - PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
 - RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-24"
 - DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON2.5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
797	739	6 - 8	22	28	284

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

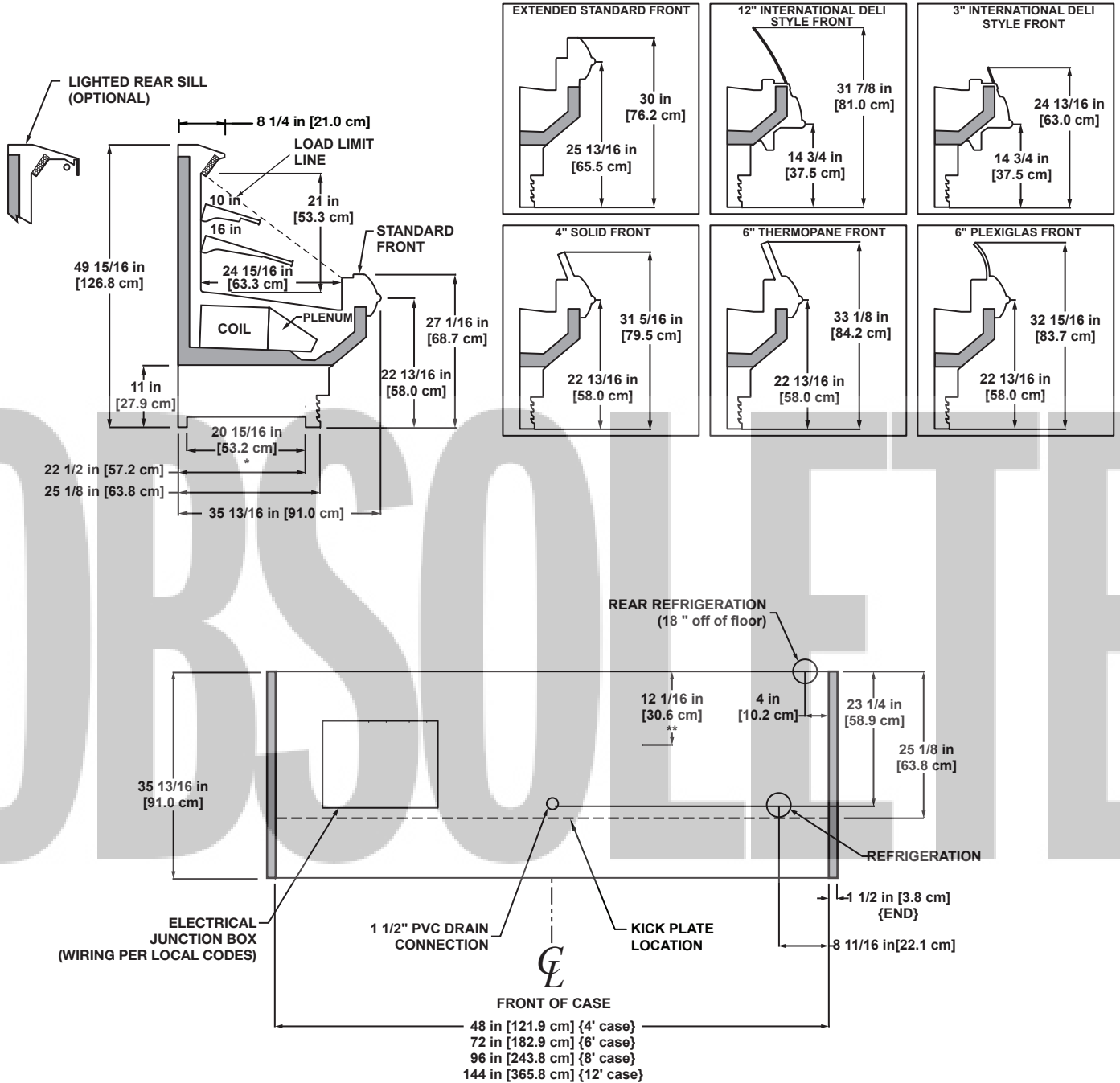
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Rear refrigerated box increases refrigeration load by 110 BTUH/ft.
- Model ON2.5UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

ON2.5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(11" BASEFRAME)



NOTES:

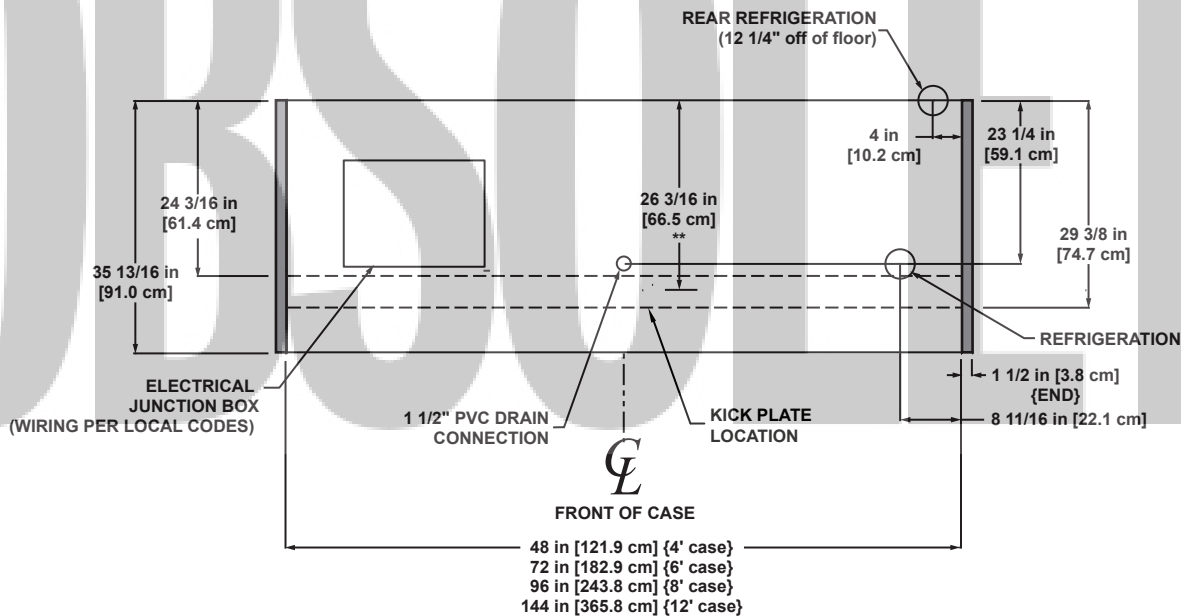
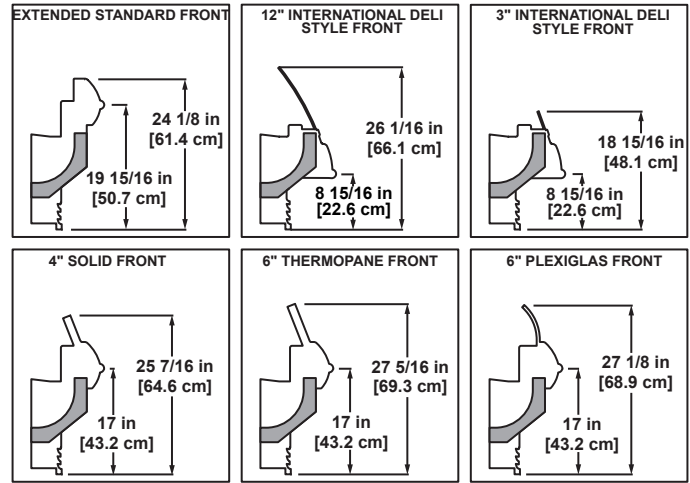
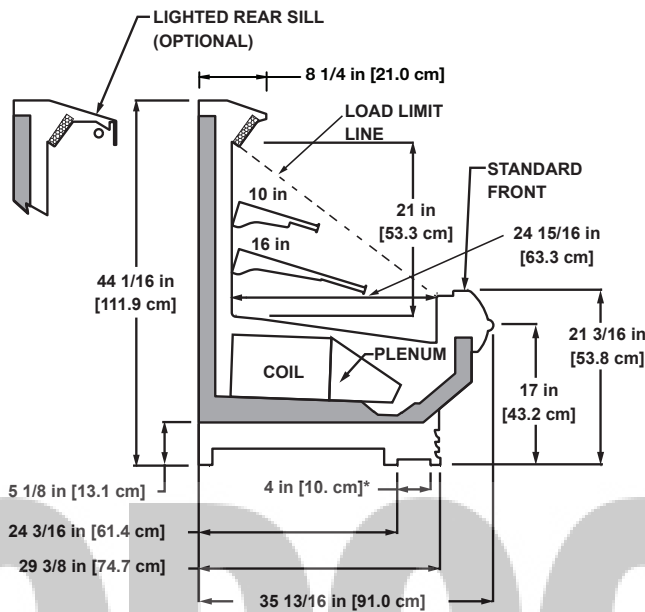
- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON2.5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(5" BASEFRAME)



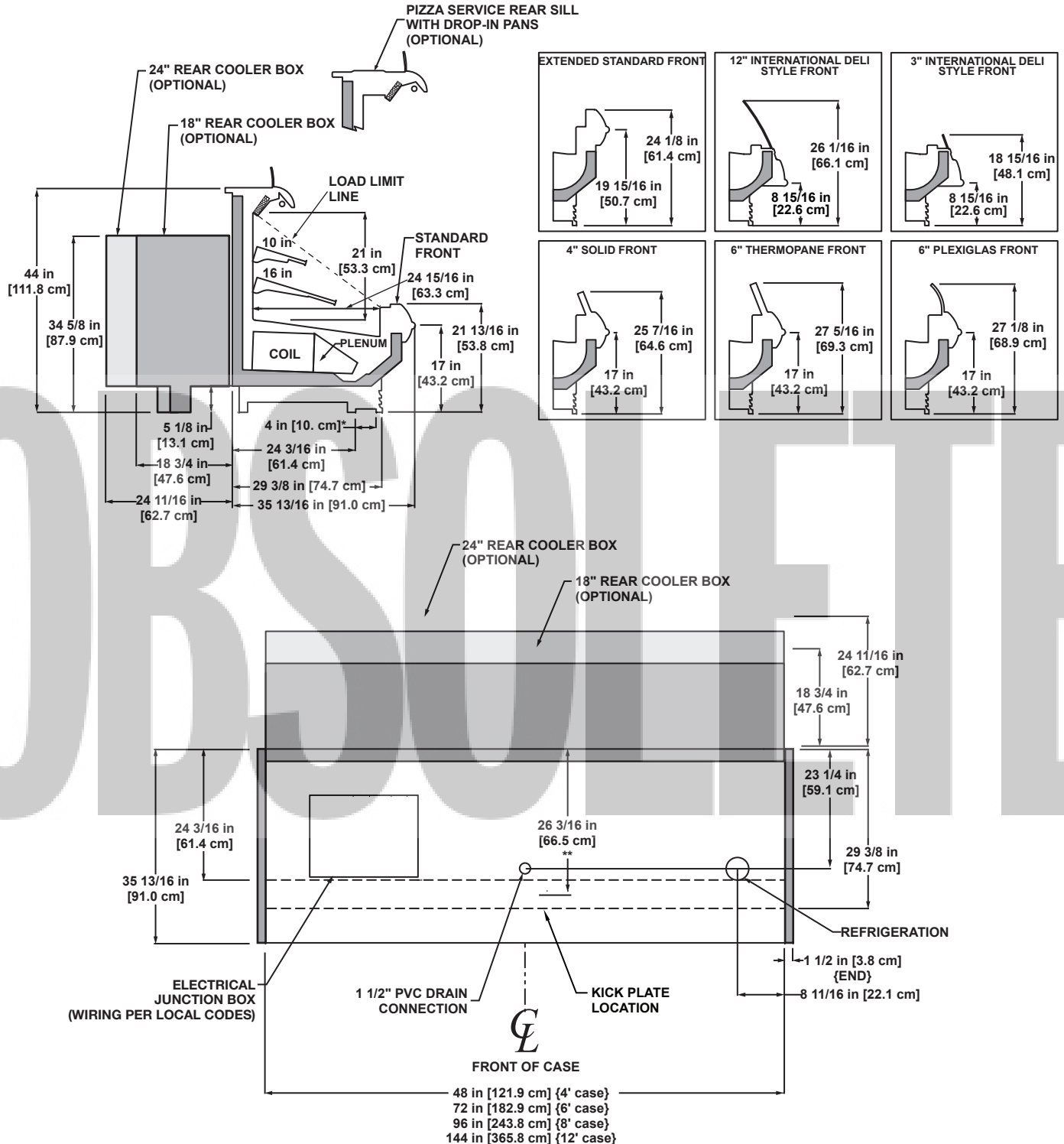
NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
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- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

REAR REFRIGERATED BOX



NOTES:

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O2.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Standard	1023	948	6 - 8	22	27	225
Plexi Dome	1411	1308	6 - 8	22	32	305

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Rear refrigerated box increases refrigeration load by 110 BTUH/ft.
- Model O2.5UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

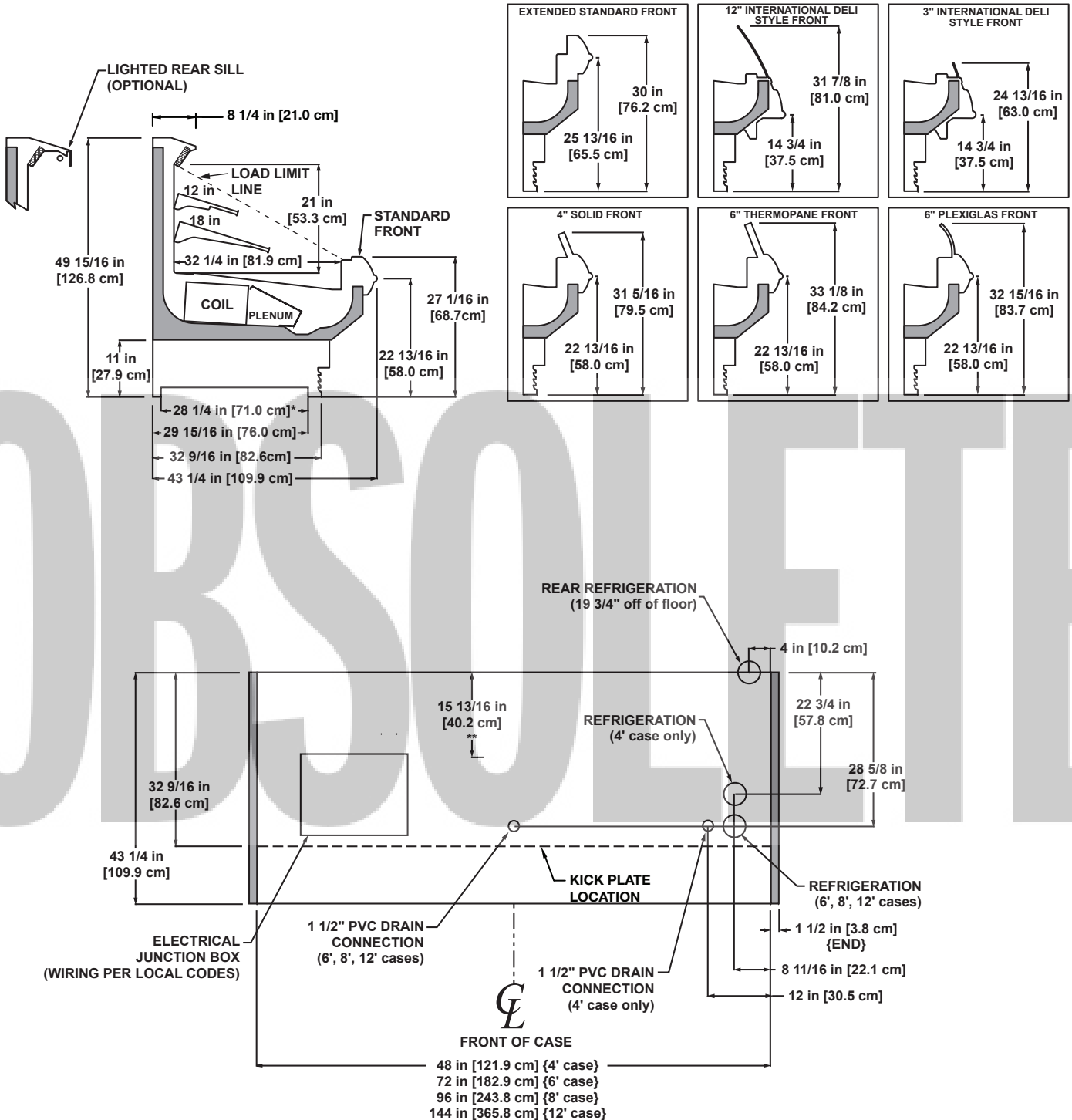
3 Average discharge air velocity at peak of defrost.

Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

02.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(11" BASEFRAME)



NOTES:

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

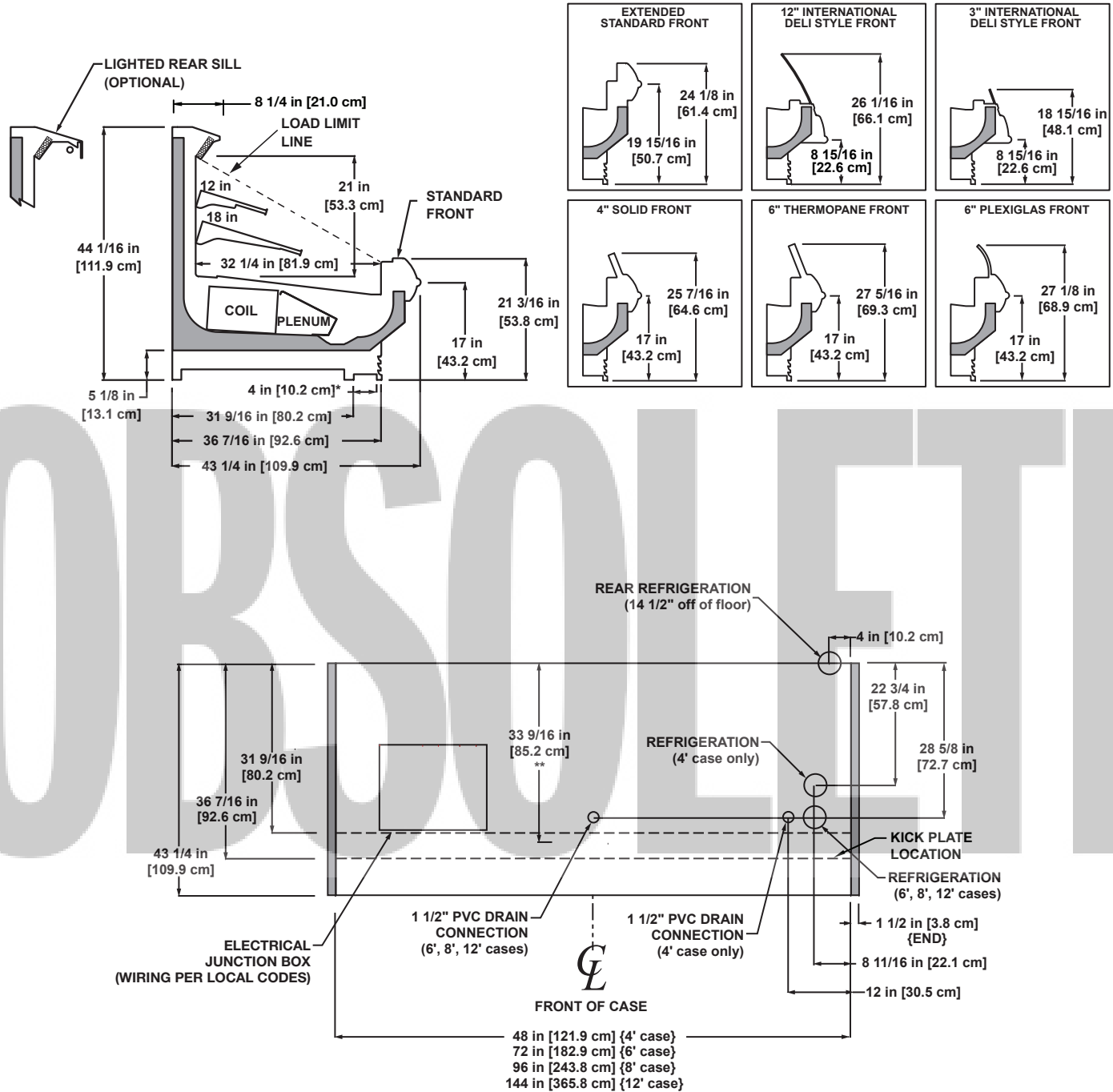
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



02.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

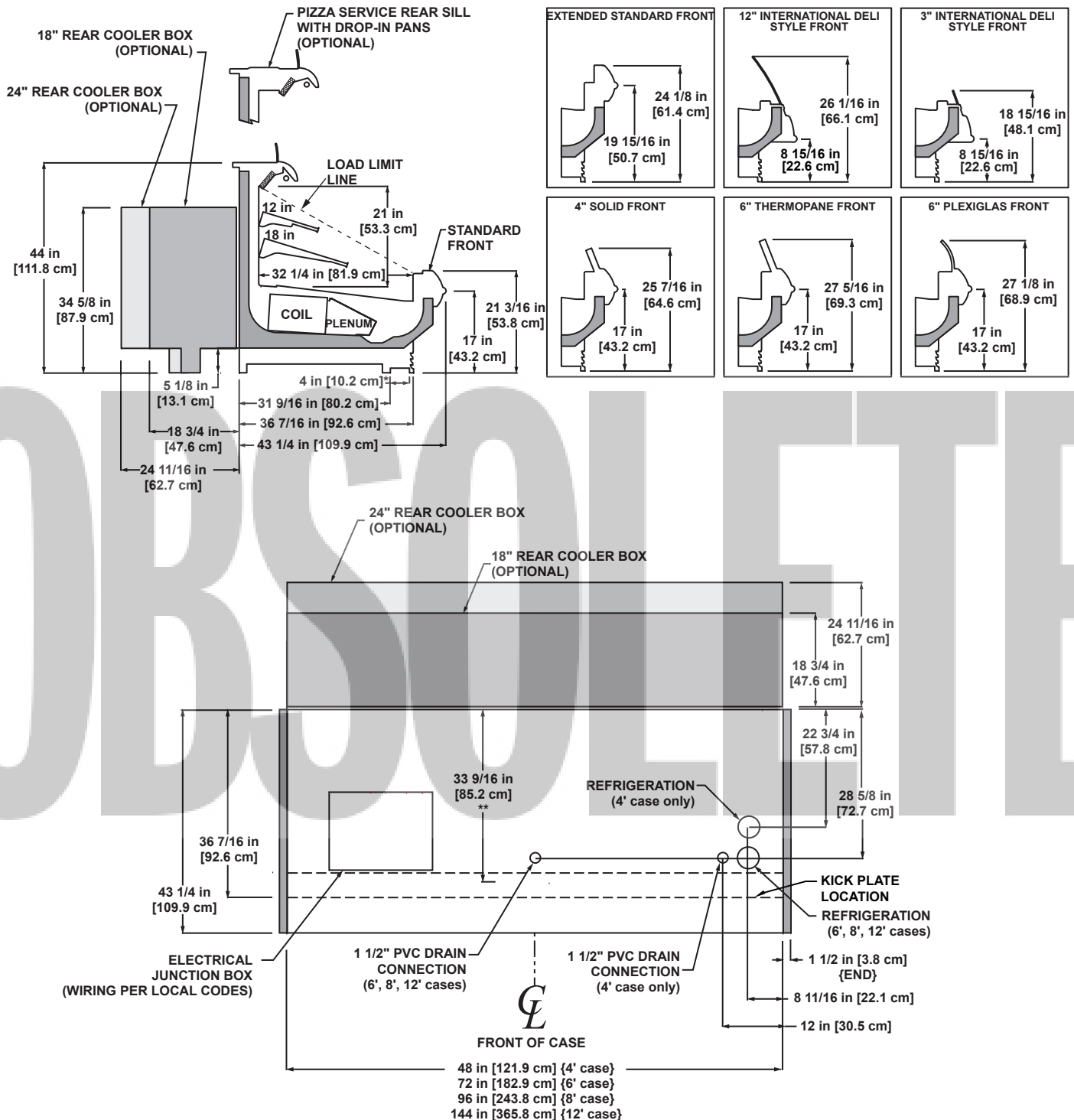
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



02.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

REAR REFRIGERATED BOX



NOTES:

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.16	11
6'	2	0.32	22
8'	2	0.32	22
12'	3	0.48	33

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Height	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	857	750	6 - 8	28	31	150
Meat	Ext.¹	864	756	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--⁶	---	40	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Rear refrigerated box increases refrigeration load by 110 BTUH/ft.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

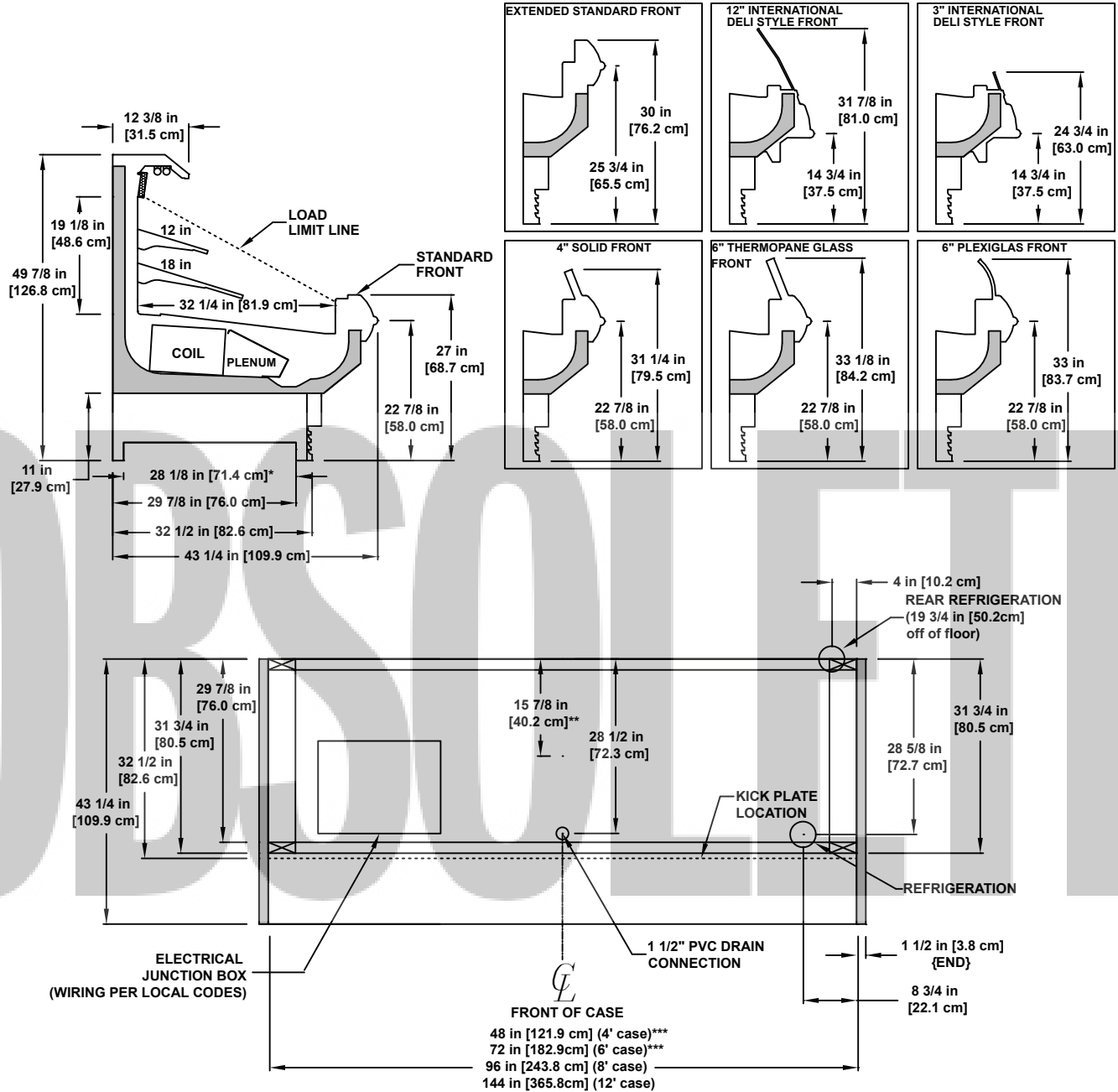
5 Average discharge air velocity at peak of defrost.

6 NOTE: "--" indicates that feature is not an option on this case model.

02.5UM-NRG

Multi-Deck Merchandiser with Synerg-E™ 4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(11" BASEFRAME)



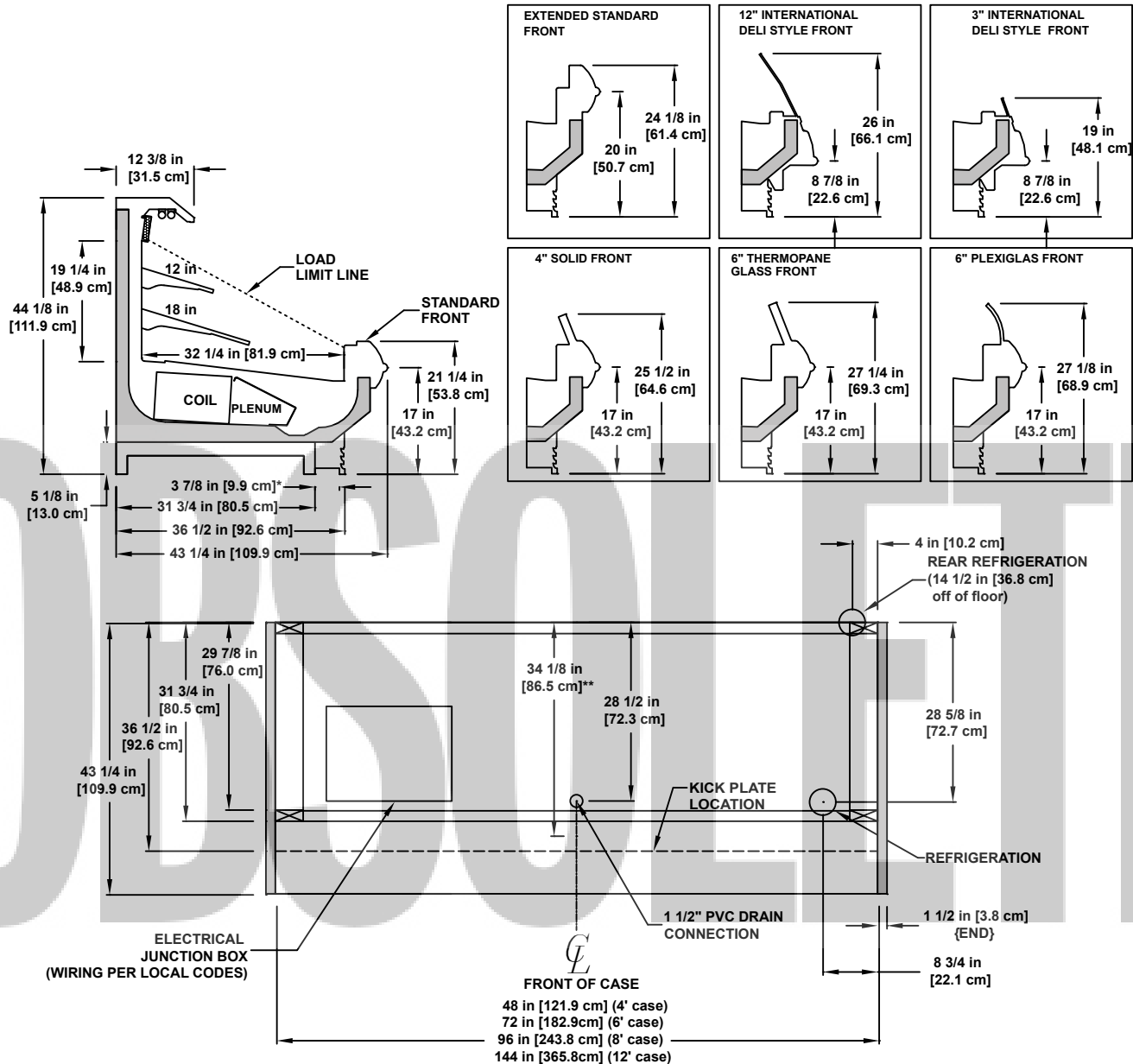
NOTES:

- *: STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
 ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
 SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
 AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
 PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
 RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12" & 1-18"
 DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



(5" BASEFRAME)



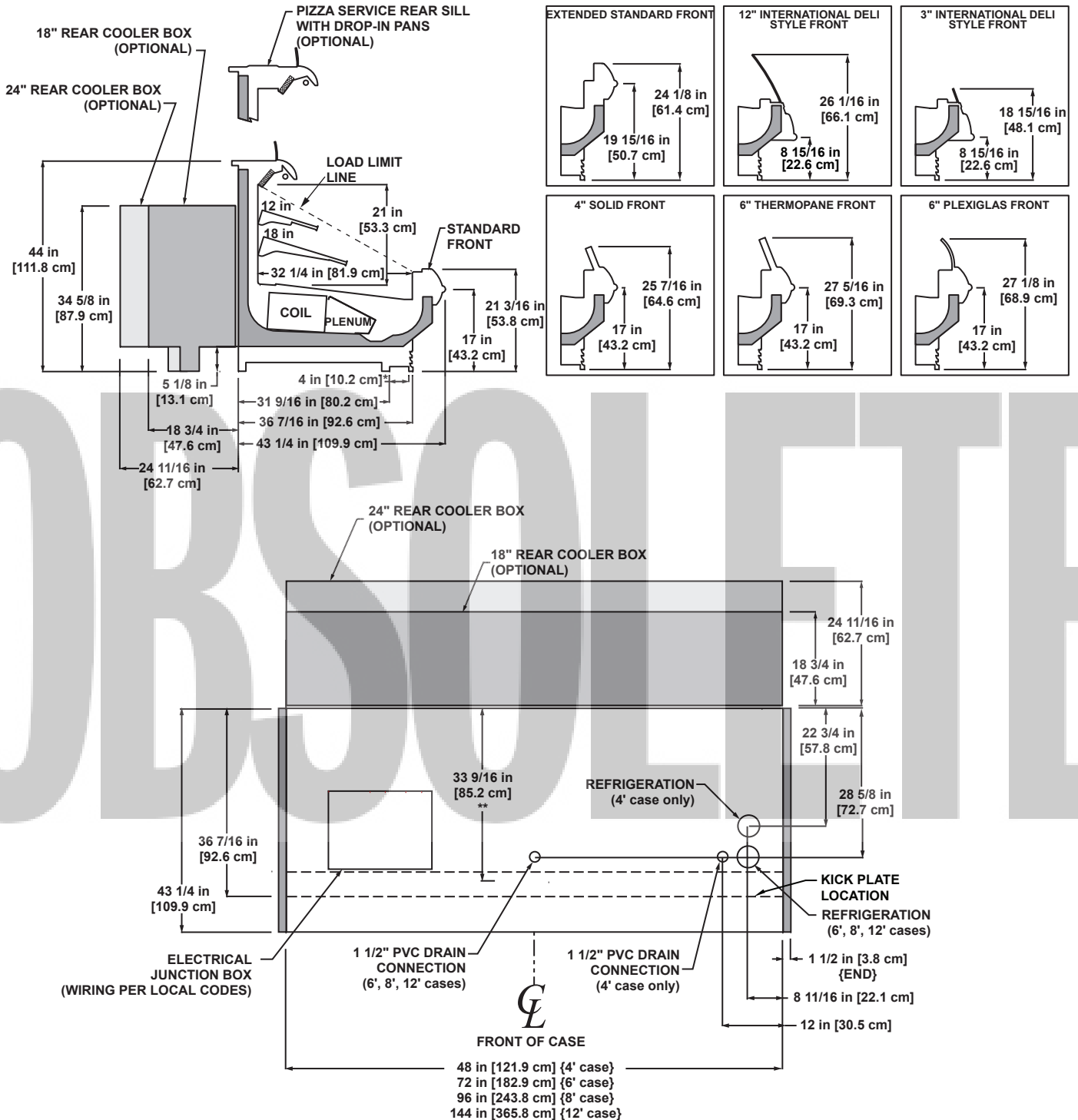
NOTES:

* :STUB-UP AREA

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6' 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE

REAR REFRIGERATED BOX



UTILITY

Dairy / Deli / Meat / Produce / Seafood

O2.5UMA Multi-Deck Self-Contained Merchandiser

4', 6' & 8' (Dairy / Deli / Meat / Produce / Seafood)

(See Mobile Self-Contained section for mobile version of O2.5UMA)

System Requirements

Case Length	Volts	Phase	Hz	Plug Style ¹	Cord Length
4'	120	1	60	NEMA L5-20	10'
6'	120	1	60	NEMA L5-30	10'
6'	208/230	1	60	NEMA L14-30	10'
8'	208/230	1	60	NEMA L14-30	10'

Guidelines & Control

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
40	6-8	26	225

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ³ (amps)	LRA ⁴ (amps)	Refrig.	Lbs. of Refrig.
4'	115	1	60	1/2	10.5	54.5	R404A	3.6
6'	115	1	60	3/4	15	70	R404A	4.3
6'	208/230	1	60	3/4	6.1	40	R404A	4.3
8'	208/230	1	60	1-1/4	11	51	R404A	5.3

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	40	47	45	45	-- ⁵	---	---	---

1 20 Amp plugs only apply to cases with a relay control on the drain pan.

2 Average discharge air velocity at peak of defrost.

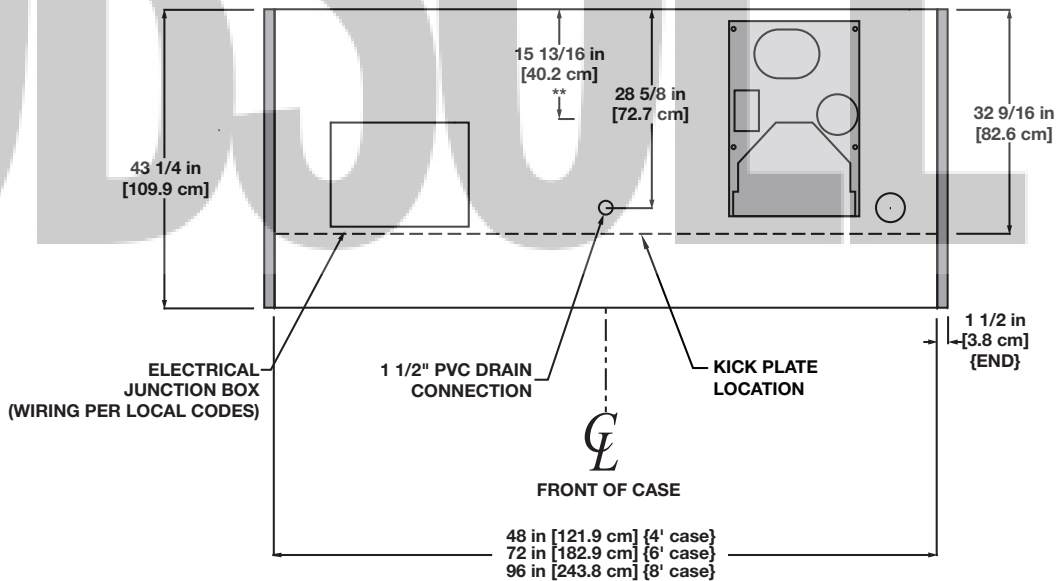
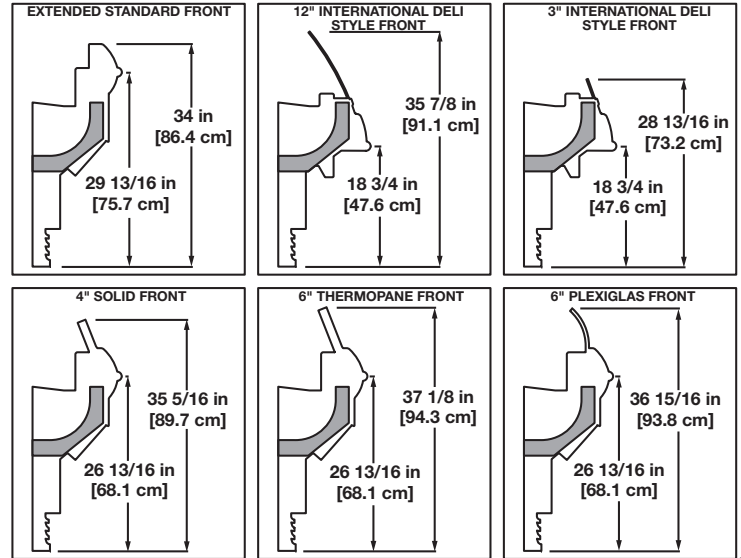
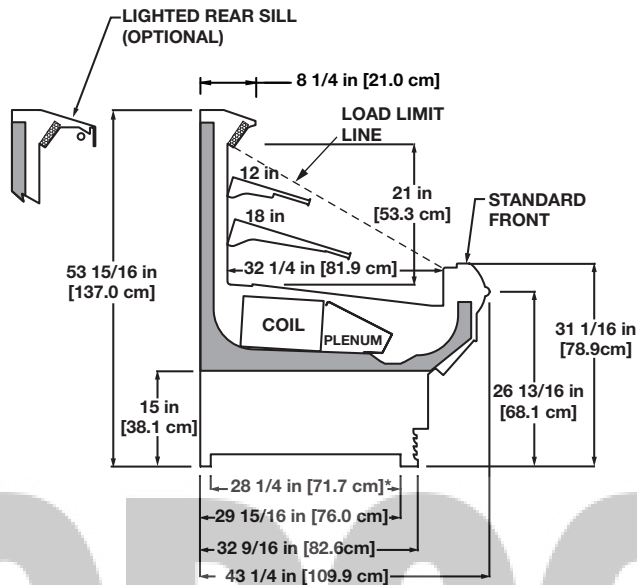
3 RLA = Running Load Amps

4 LRA = Locked Rotor Amps

5 NOTE: "--" indicates that feature is not an option on this case model.

02.5UMA Multi-Deck Self-Contained Merchandiser

4', 6' & 8' (Dairy / Deli / Meat / Produce / Seafood)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O2.75UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1028	953	6 - 8	22	37	225

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O2.75UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

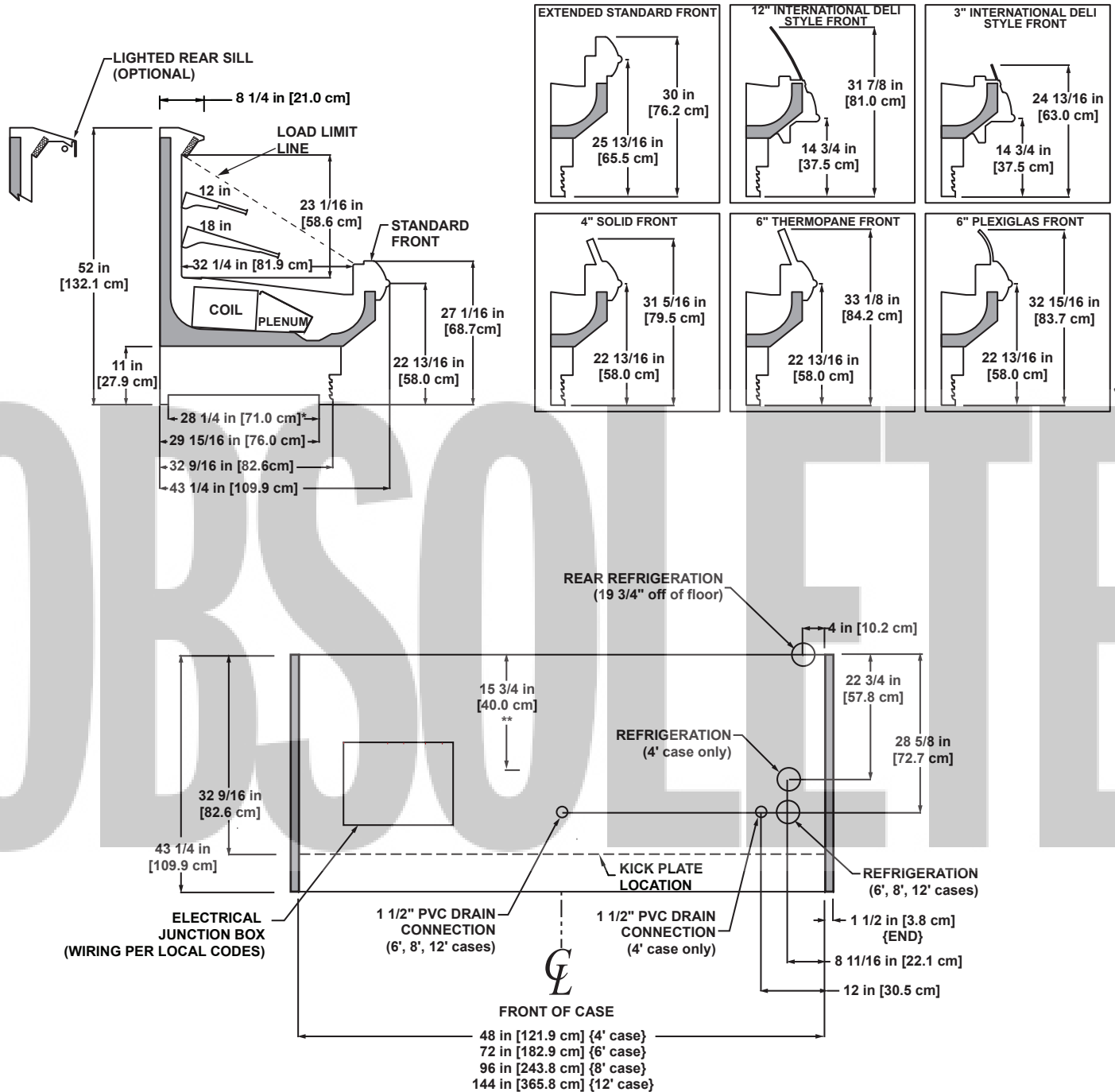
3 Average discharge air velocity at peak of defrost.

02.75UM

Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(11" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

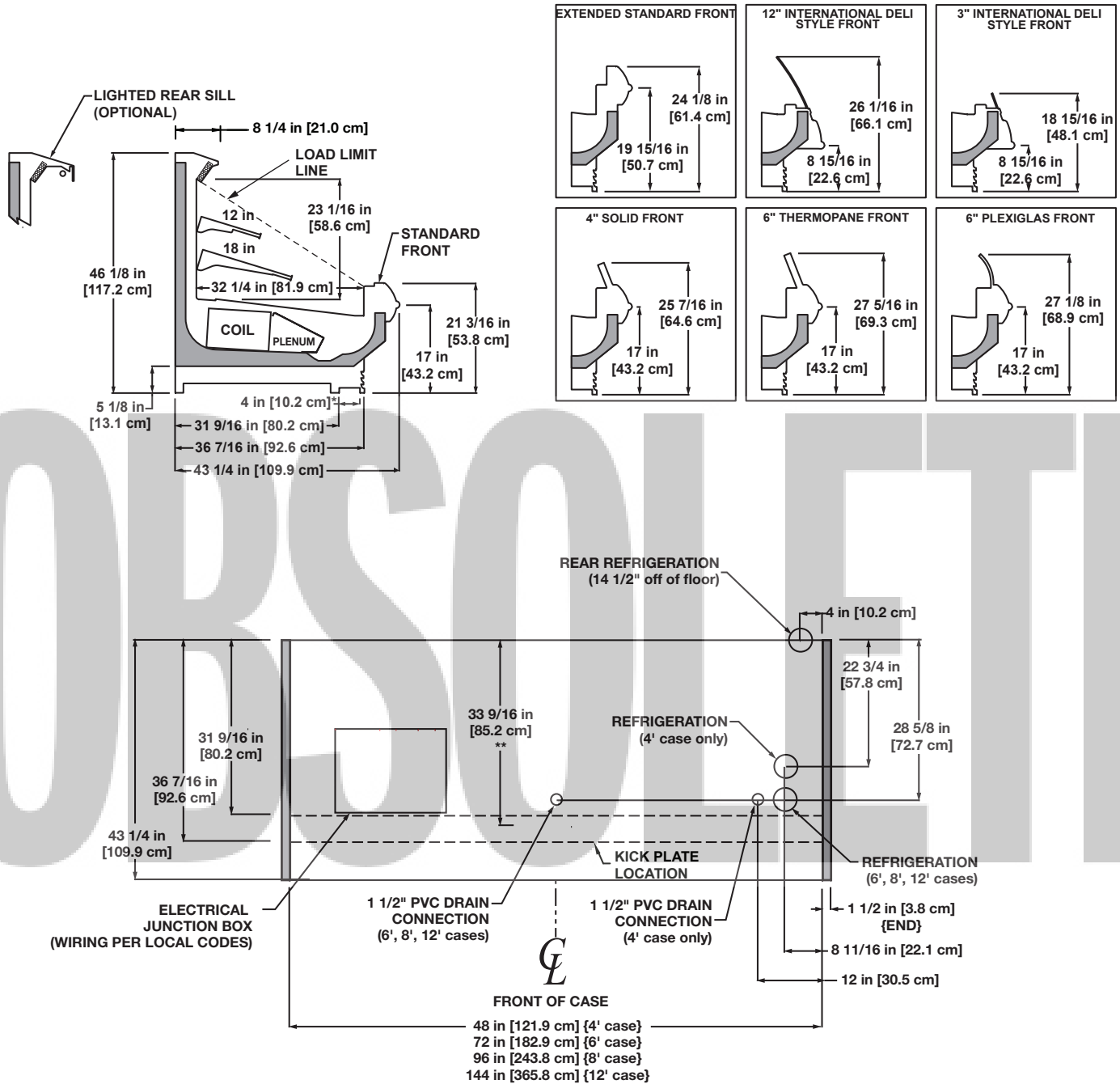
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



02.75UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce / Seafood)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

02.75MZD Multi-Deck Merchandiser

6', 8' & 12' (Frozen Food)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	2	0.30	22	1.15	138	11.54	2400	13.32	3196
8'	2	0.30	22	1.40	168	15.38	3200	17.75	4260
12'	3	0.45	33	2.14	257	23.08	4800	26.63	6390

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food	1068	949	3-5	-22	-8	340
Medium Temp.	633	620	6 - 8	17	27	340

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen Food	4	13 - 15	45	65	---	---	20	60	---	---
Medium Temp.	1	13 - 15	35	49	---	---	20	60	---	---

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

4 NOTE: " - - " indicates that feature is not an option on this case model.



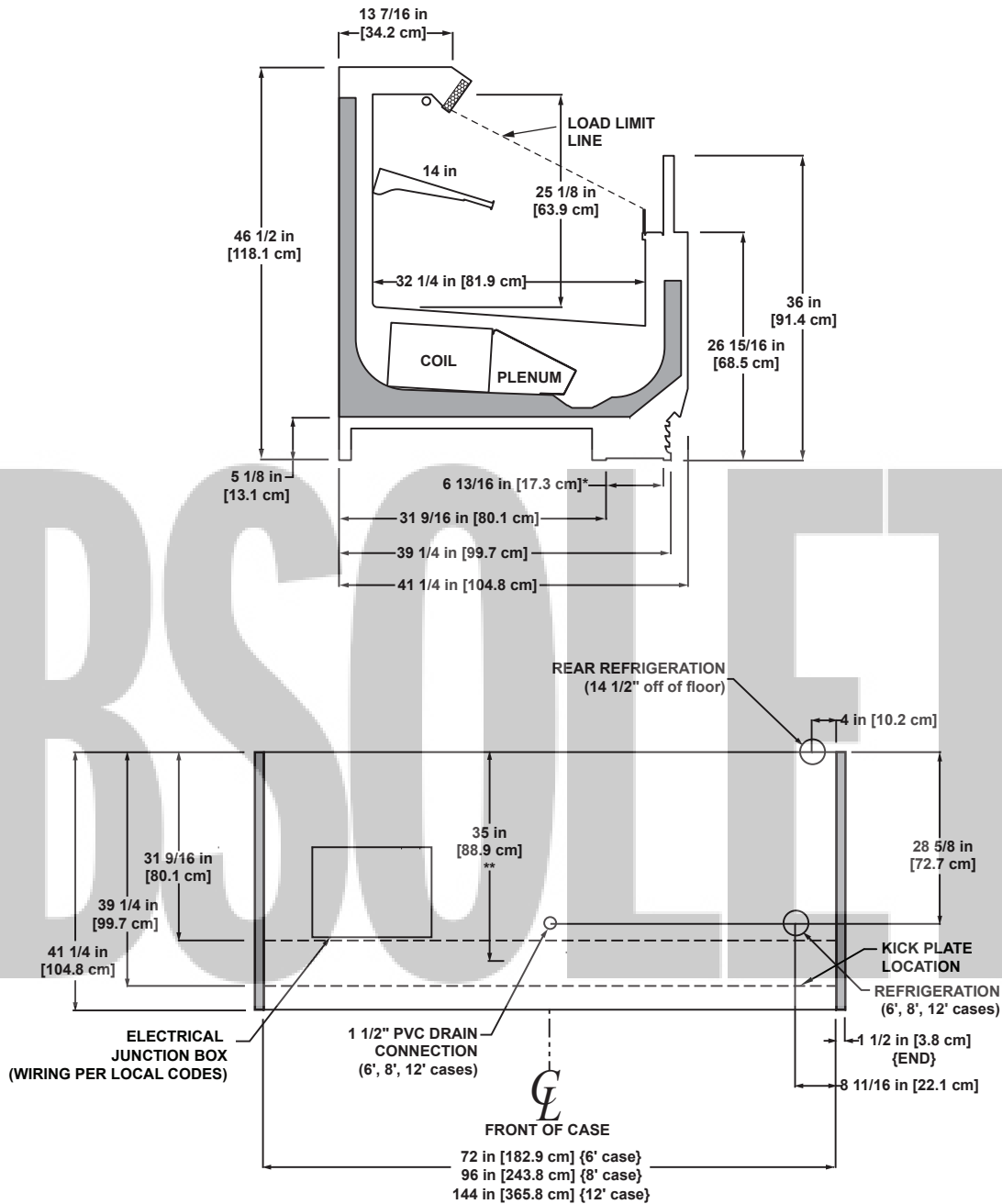
Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

02.75MZD

Multi-Deck Merchandiser

6', 8' & 12' (Frozen Food)

(5" BASEFRAME)



NOTES:

- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS**
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
 - ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 - A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
 - AVAILABLE SHELF SIZES: 14"
 - PRODUCT ON TOP SHELF SHOULD BE 4" BELOW DISCHARGE
 - RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-14"
 - DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON3UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
811	752	6 - 8	22	28	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

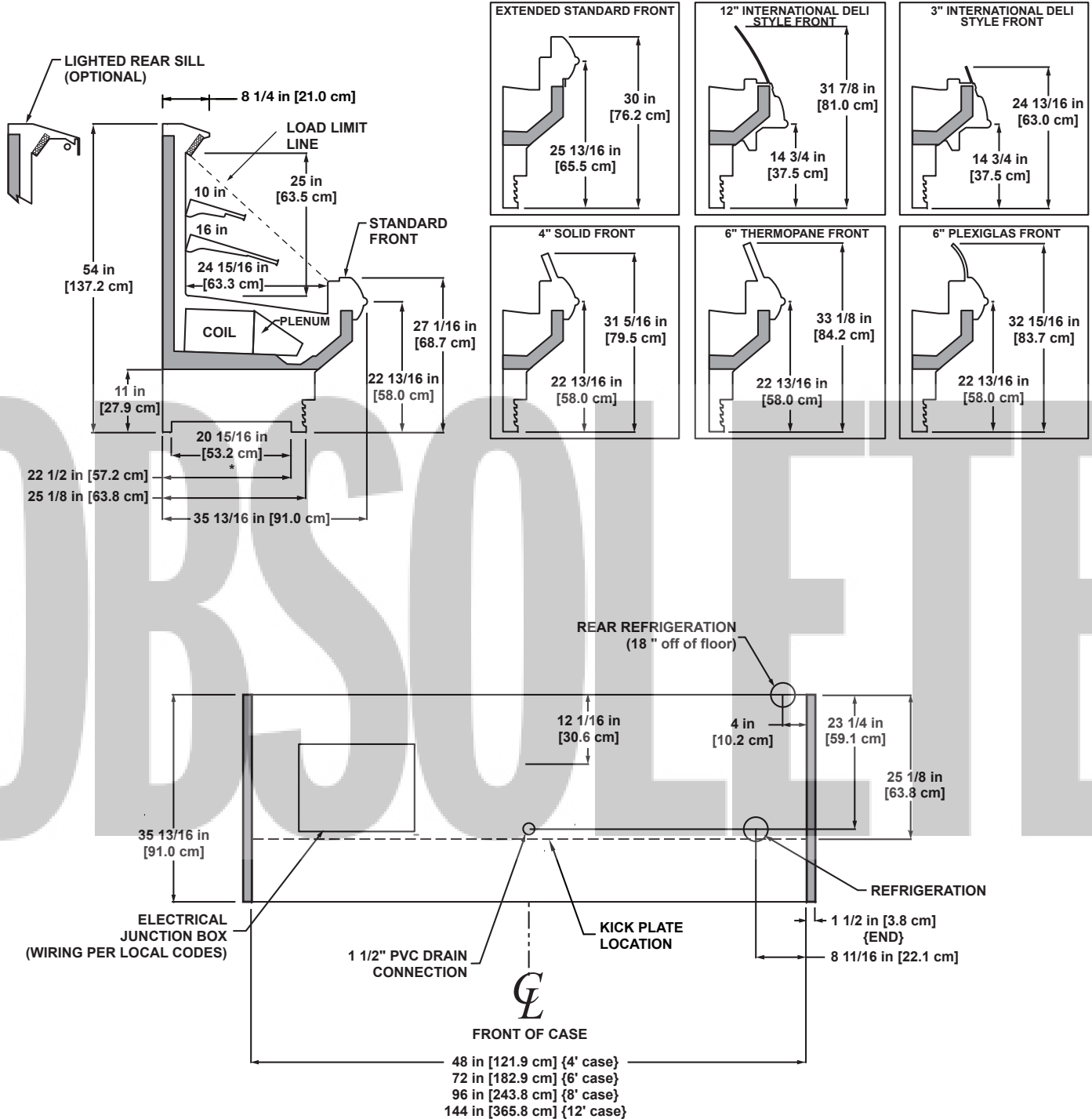
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model ON3UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

ON3UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

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

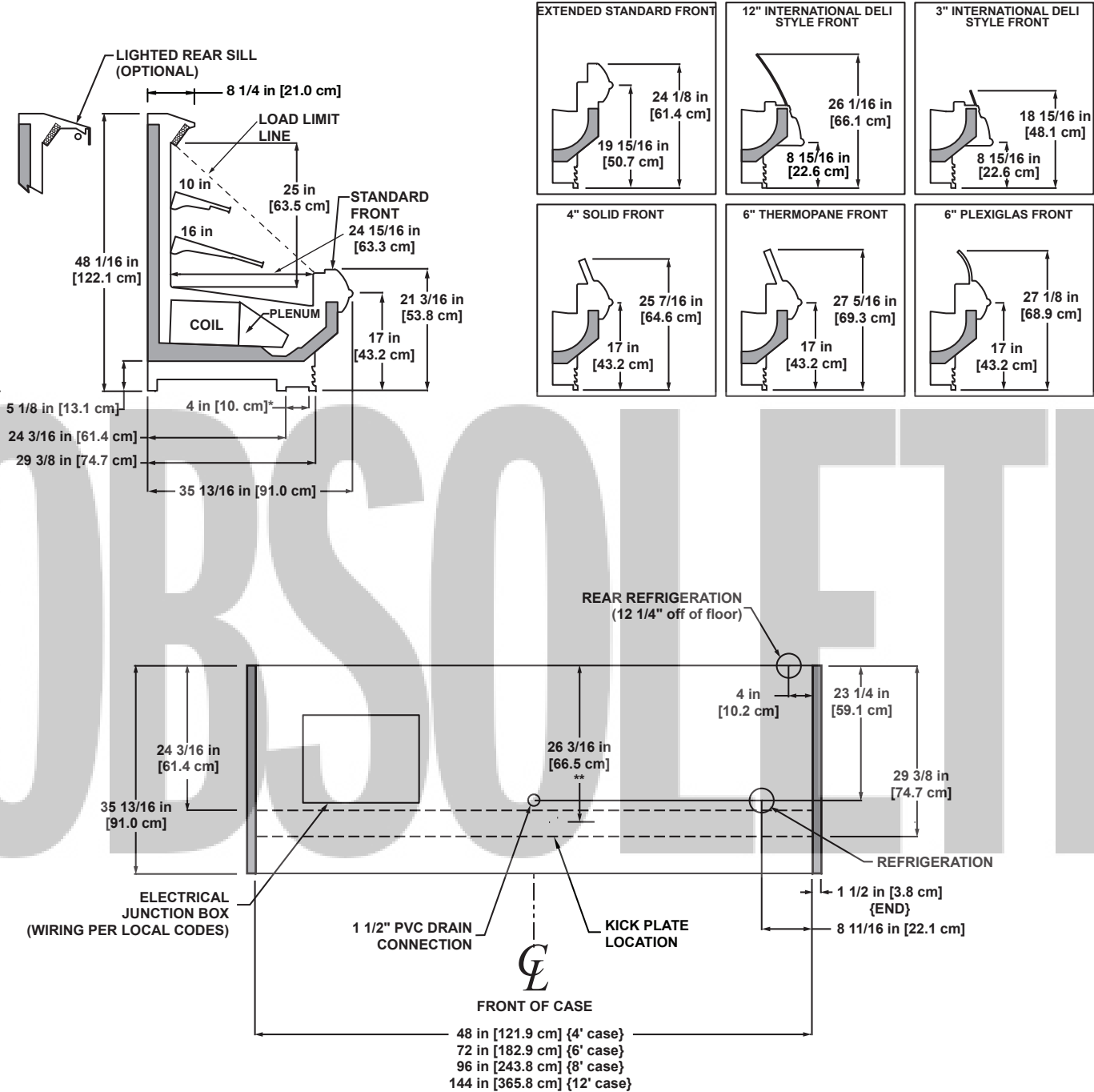
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON3UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

ON3EM Narrow Multi-Deck End-Cap Merchandiser

(Deli / Meat)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.23	14	1.89	227	2.31	480	2.66	640

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1	5'	0.12	14.3	0.22	26.3

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
6256	5648	6 - 8	22	33	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	40	47	45	45	---	---	---	---

1 BTUH/case notes:

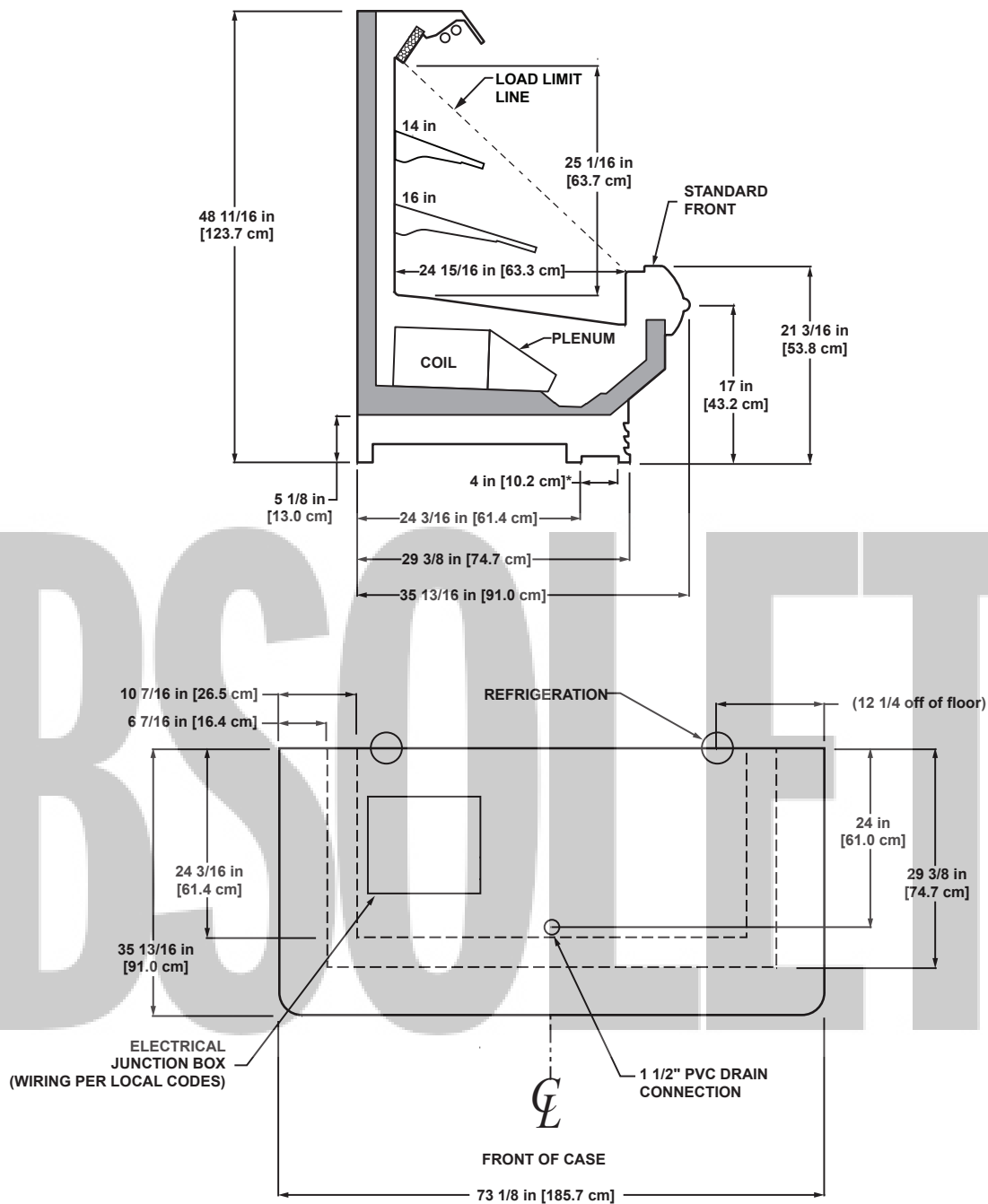
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/cs indicate unlighted shelves. For LED lighting, add 45 BTUH per 5' lighted shelf. For T8 lighted shelves (see Appendix D), add 100 BTUH per 5' lighted shelf.
- Add 132 BTUH/cs when aftermarket merchandising accessories are utilized to determine the total BTUH load.

2 Average discharge air velocity at peak of defrost.

3 NOTE: " - - - " indicates that feature is not an option on this case model.

ON3EM Narrow Multi-Deck End-Cap Merchandiser

(Deli / Meat)



NOTES:

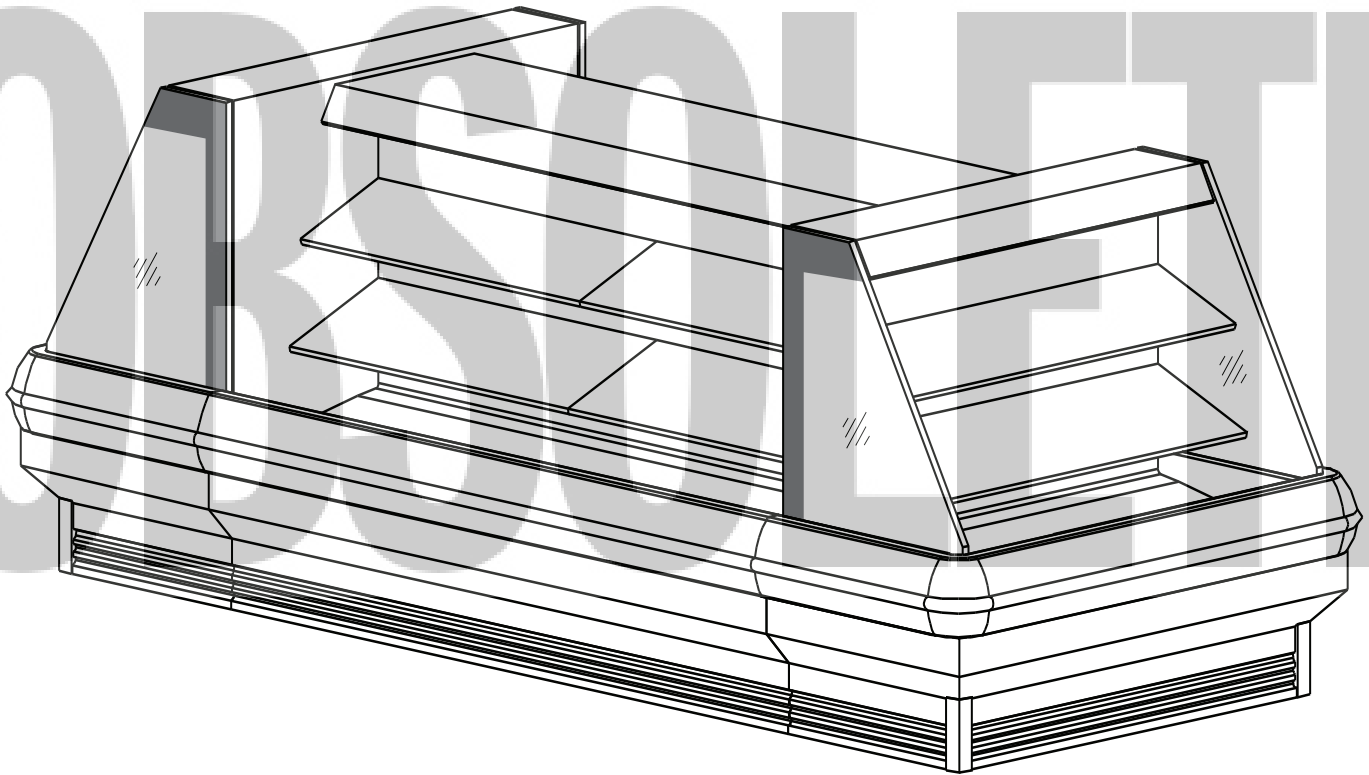
* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

ON3EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli / Meat)

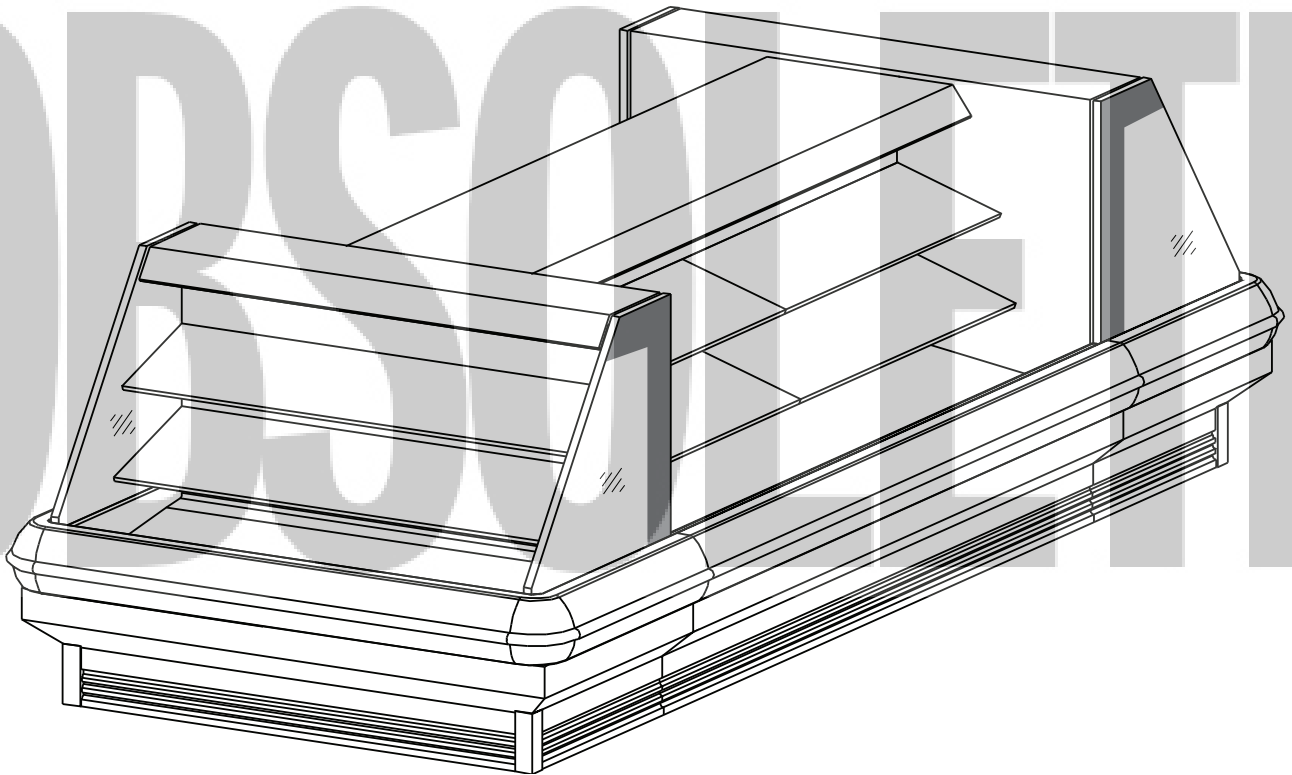
ON3EM/ON3UM/ON3EM
(SHOWN)



ON3EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli / Meat)

ON3EM/ON3UM/ON3EM
(SHOWN)



UTILITY

Dairy / Deli / Meat / Produce



ON3UM-NRG Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.16	11
6'	2	0.32	22
8'	2	0.32	22
12'	3	0.48	33

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Height	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	857	750	6 - 8	28	31	150
Meat	Ext. ¹	875	766	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--- ⁶	---	40	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.

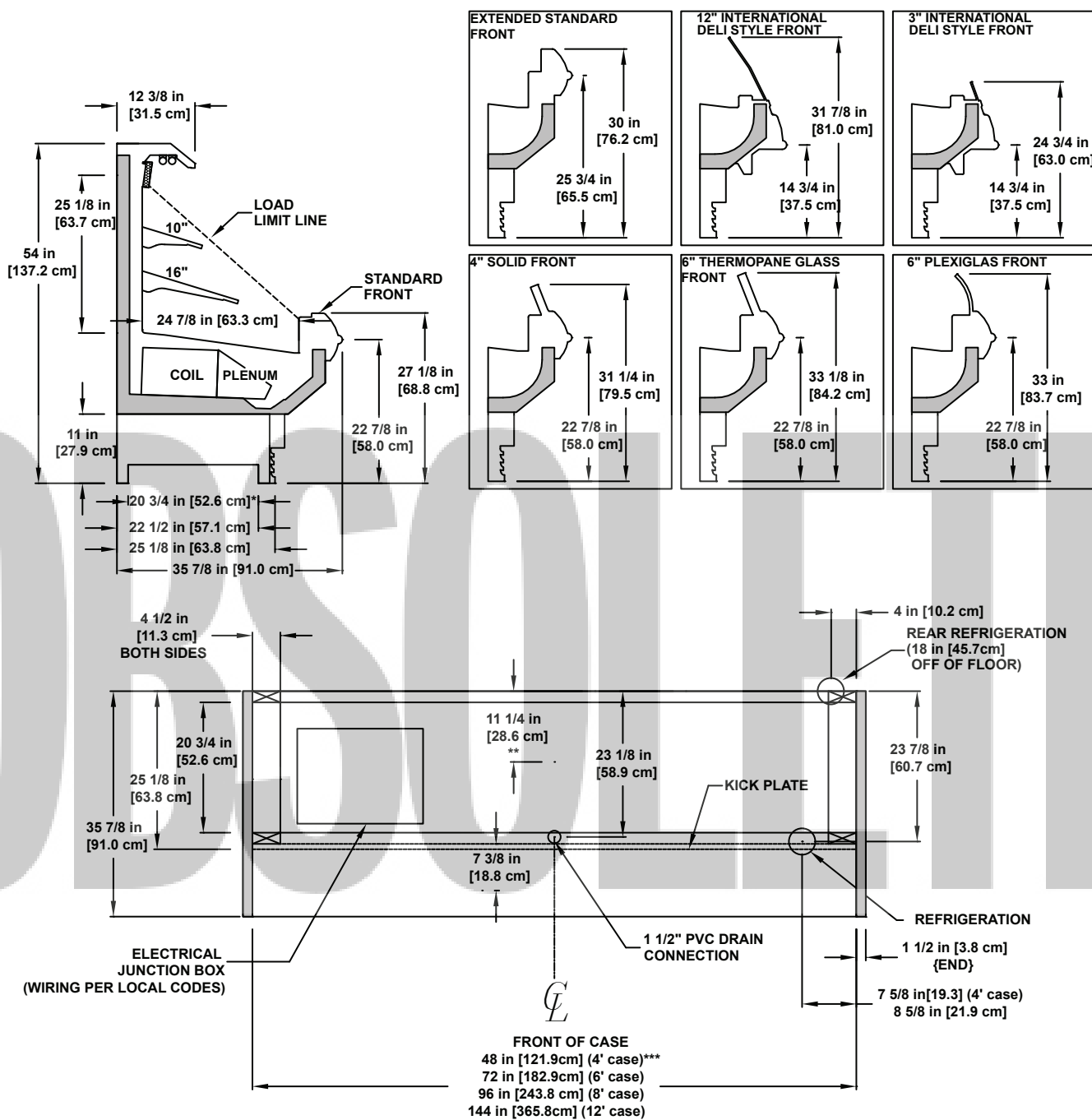


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON3UM-NRG

Narrow Multi-Deck Merchandiser with Synerg-E™
4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

- * : STUB-UP AREA
 ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
 *** : AVAILABLE UPON REQUEST

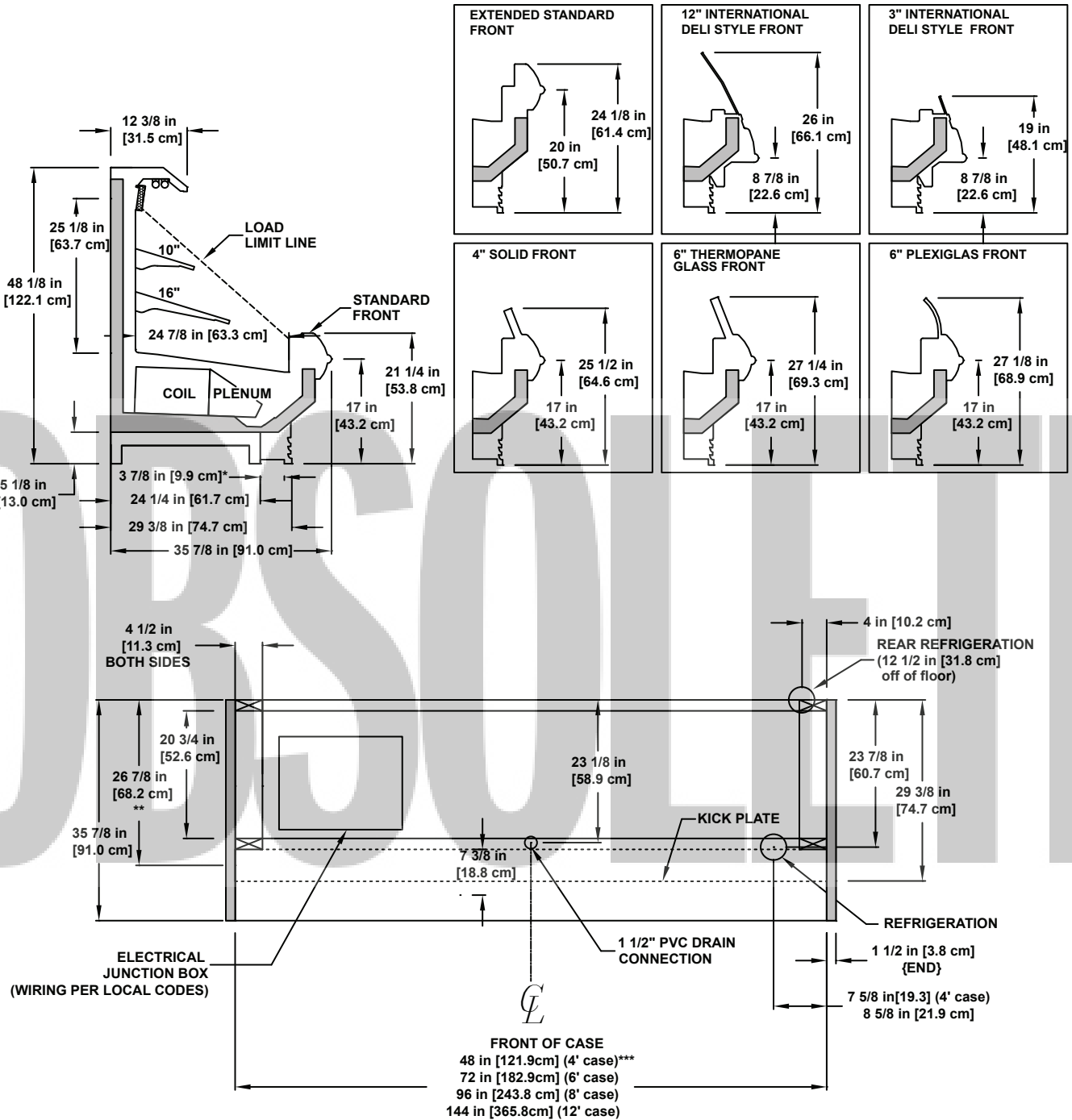
- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (4' & 6') 7/8" , LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



ON3UM-NRG Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (4' & 6') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



OBSOLETE

ON3EM-NRG Narrow Multi-Deck End-Cap Merchandiser w/ Synerg-E™

(Dairy / Deli / Meat / Produce)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
	120 Volts		120 Volts	
	Amps	Watts	Amps	Watts
2	0.40	28	1.89	227

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1	5'	0.12	14.3	0.22	26.3

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	4387	3747	6 - 8	28	31	150
Meat ¹	Ext.	4480	3827	6 - 8	26	30	150

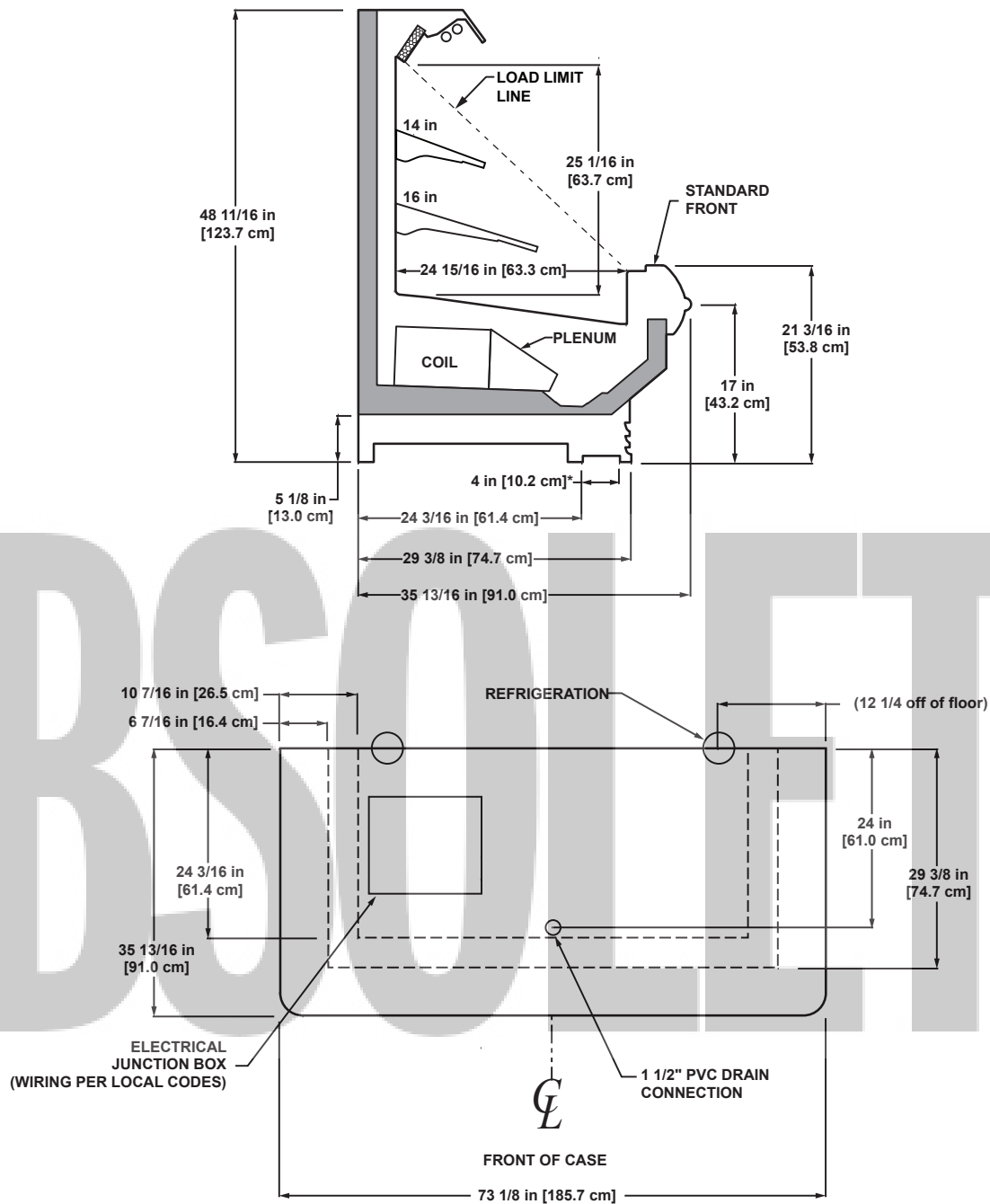
Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--- ⁶	---	45	45	---	---	---	---

- For meat application: extended front sills are required for maintaining proPer Case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)
- BTUH/cs notes:
 - Listed BTUH/cs indicate unlighted shelves. For LED lighting, add 45 BTUH per 5' lighted shelf. For T8 lighted shelves (see Appendix D), add 100 BTUH per 5' lighted shelf.
 - Add 132 BTUH/cs when aftermarket merchandising accessories are utilized to determine the total BTUH load.
- Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.
- Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F
- Average discharge air velocity at peak of defrost.
- NOTE: "---" indicates that feature is not an option on this case model.

ON3EM-NRG Narrow Multi-Deck End-Cap Merchandiser w/ Synerg-E™

(Dairy / Deli / Meat / Produce)



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

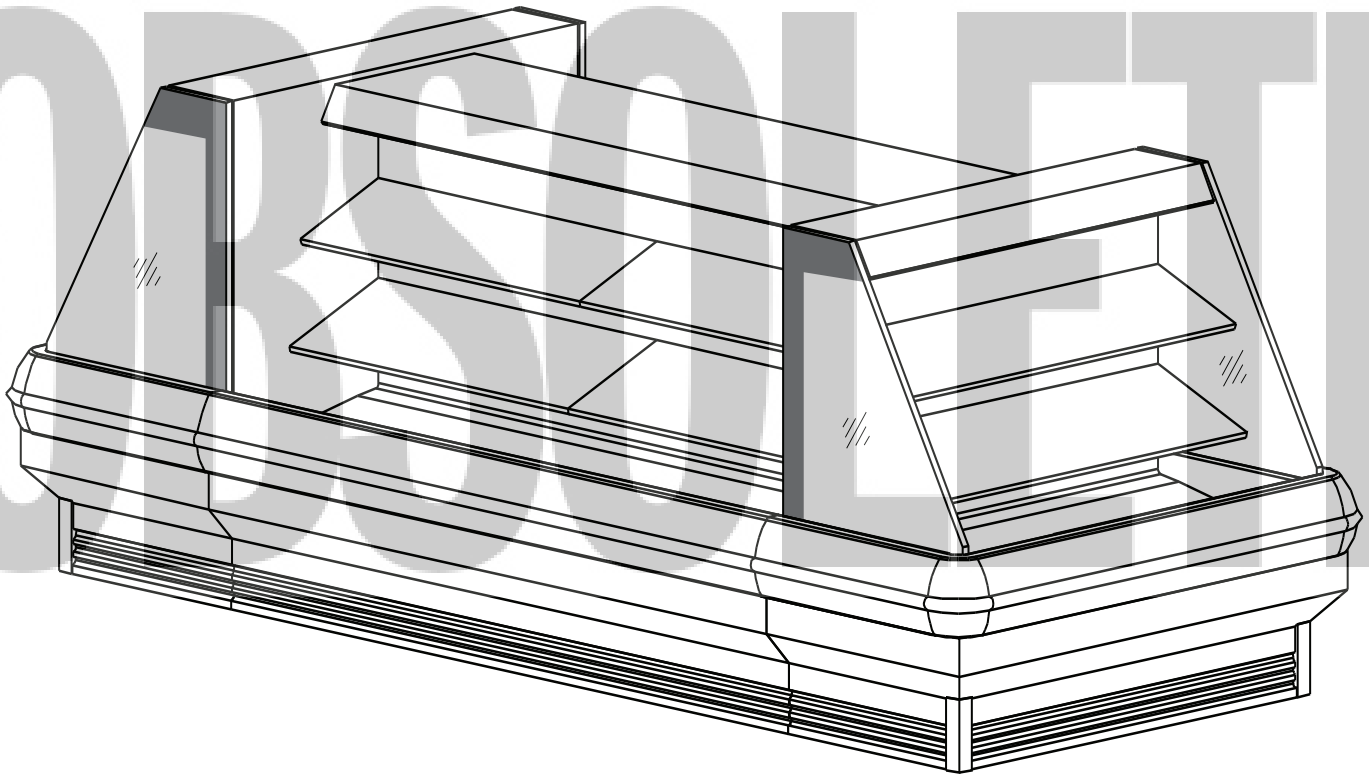
UTILITY

Dairy / Deli / Meat / Produce

ON3EM-NRG

Narrow Multi-Deck End-Cap Merchandiser w/ Synerg-E™
(Dairy / Deli / Meat / Produce)

ON3EM-NRG/ON3UM-NRG/ON3EM-NRG
(SHOWN)



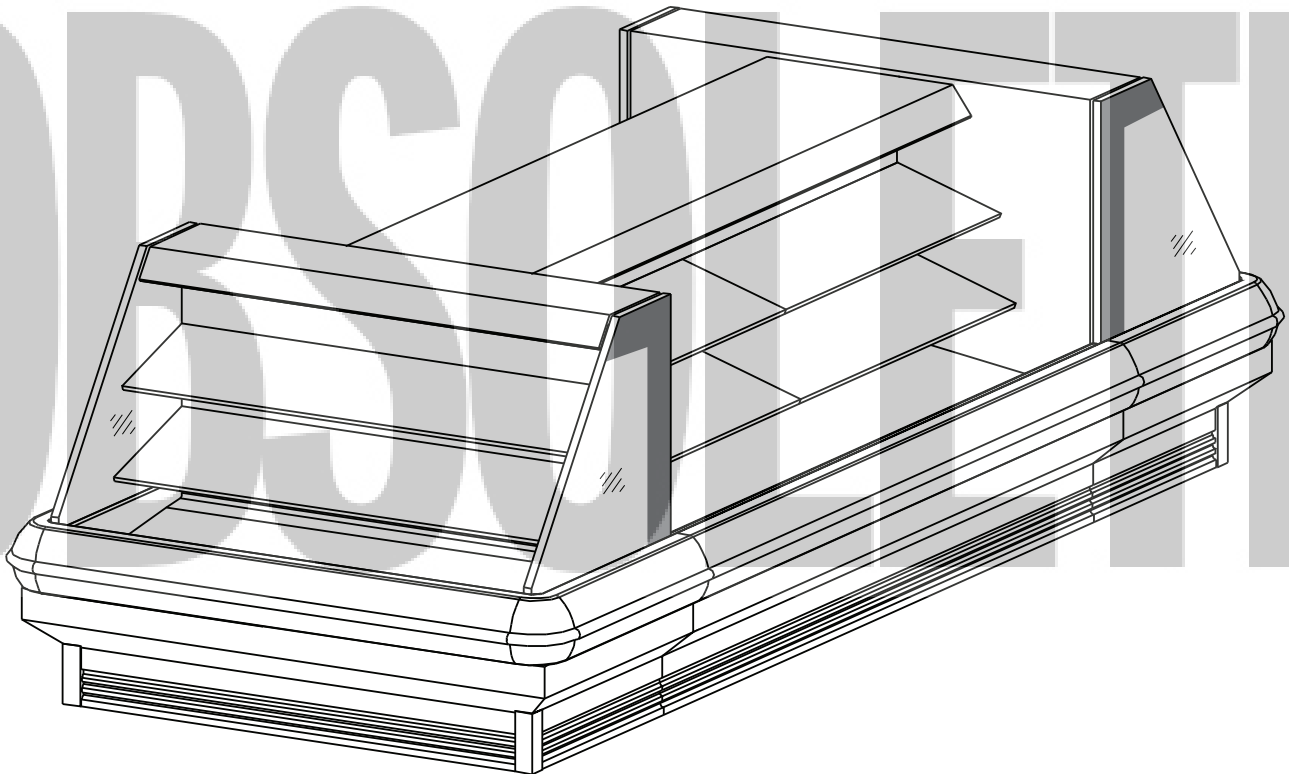
ON3EM-NRG

Narrow Multi-Deck End-Cap Merchandiser w/ Synerg-E™
(Dairy / Deli / Meat / Produce)

ON3EM-NRG/ON3UM-NRG/ON3EM-NRG
(SHOWN)

UTILITY

Dairy / Deli / Meat / Produce



O3UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1033	958	6 - 8	22	27	225

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

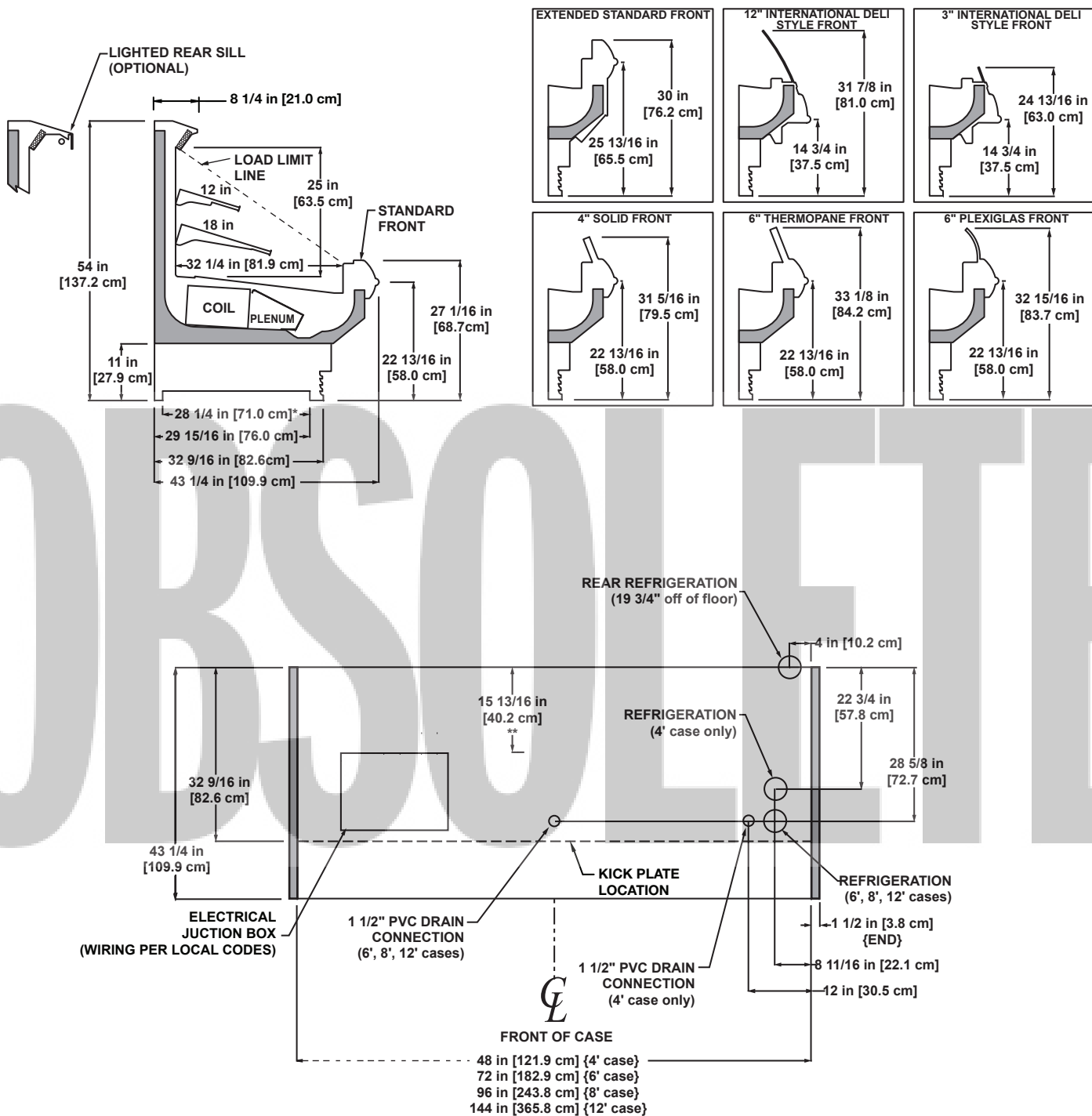
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O3UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

O3UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

11" BASEFRAME

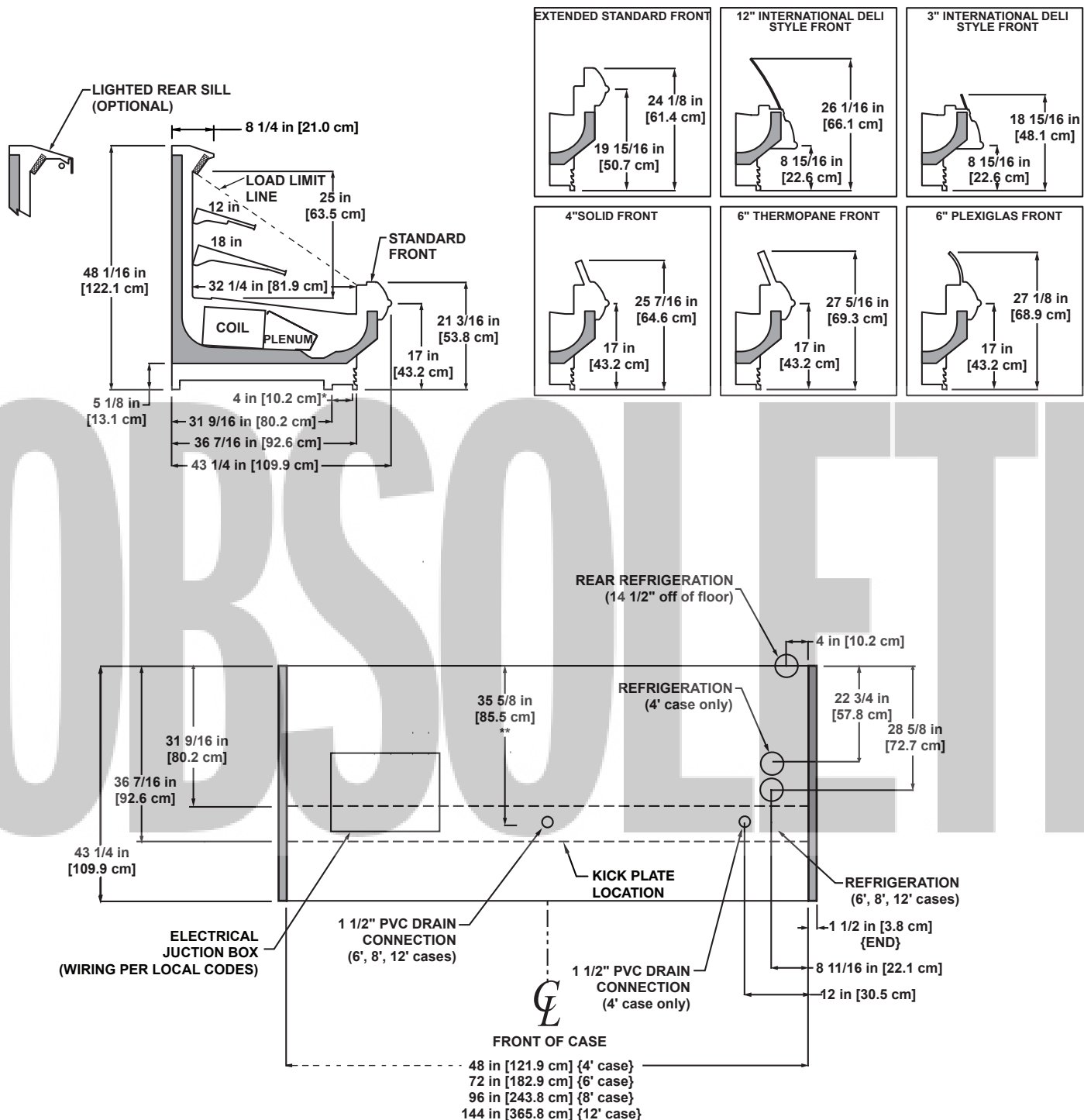


NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



5" BASEFRAME



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

O3EM Multi-Deck End-Cap Merchandiser

(Deli / Meat)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.23	14	1.89	227	2.31	480	2.66	640

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
7076	6388	6 - 8	22	33	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	40	47	45	45	--- ³	---	---	---

1 BTUH/case notes:

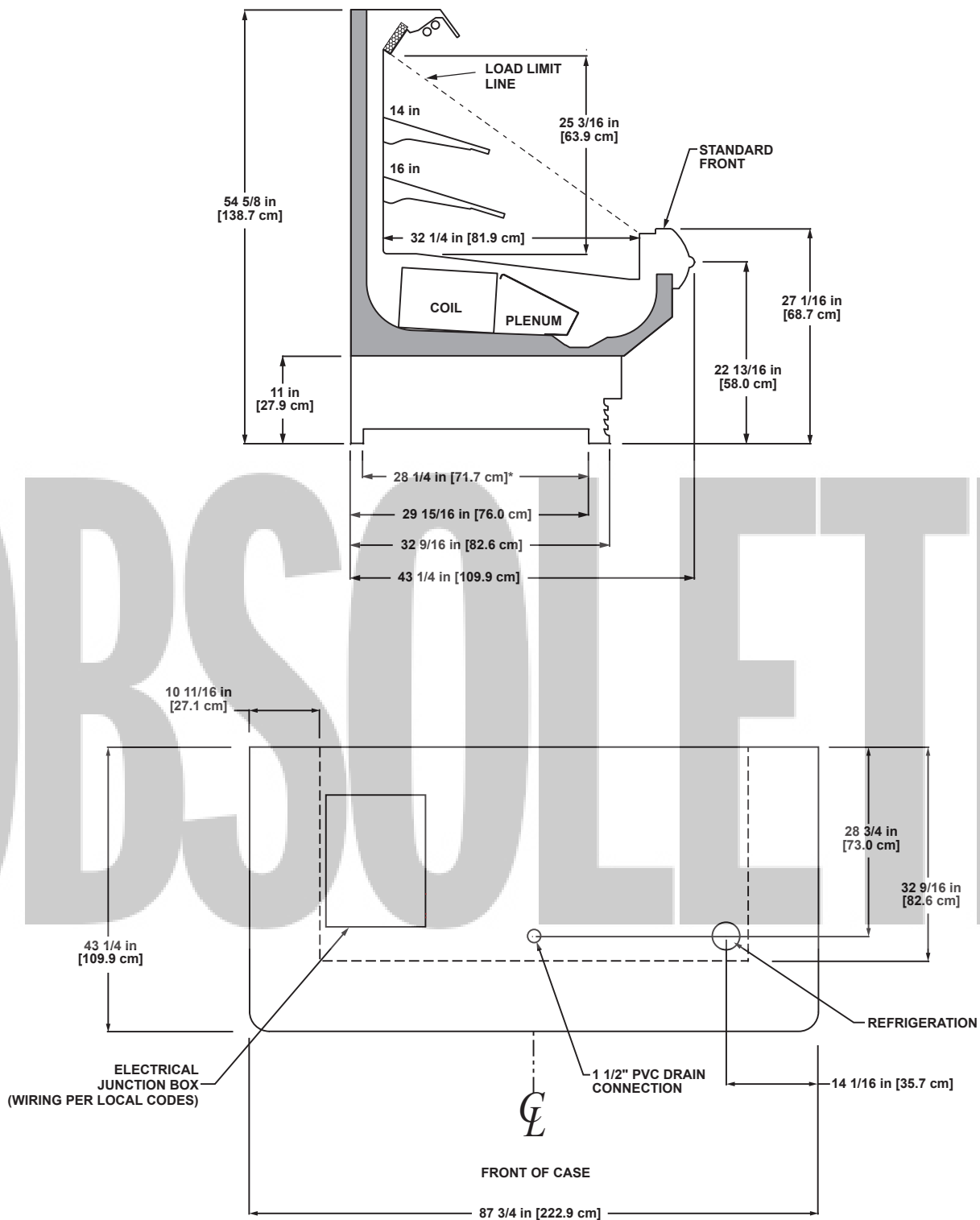
- Listed BTUH/cs indicate unlighted shelves. For LED lighting, add 27 BTUH per 3' lighted shelf. For T8 lighted shelves (see Appendix D), add 60 BTUH per 3' lighted shelf.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

2 Average discharge air velocity at peak of defrost.

3 NOTE: "---" indicates that feature is not an option on this case model.

O3EM Multi-Deck End-Cap Merchandiser

(Deli / Meat)



NOTES:

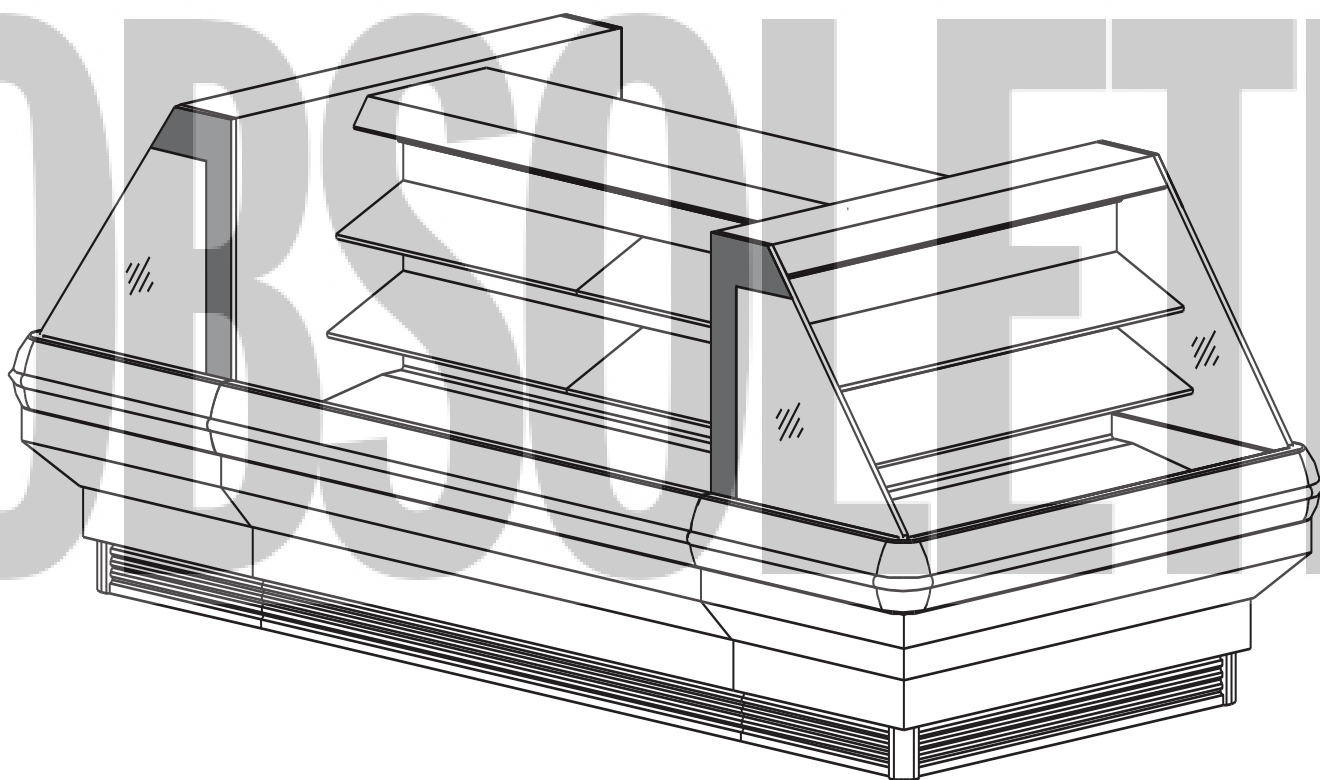
* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O3EM Multi-Deck End-Cap Merchandiser (Deli / Meat)

O3EM/O3UM/O3EM
(SHOWN)

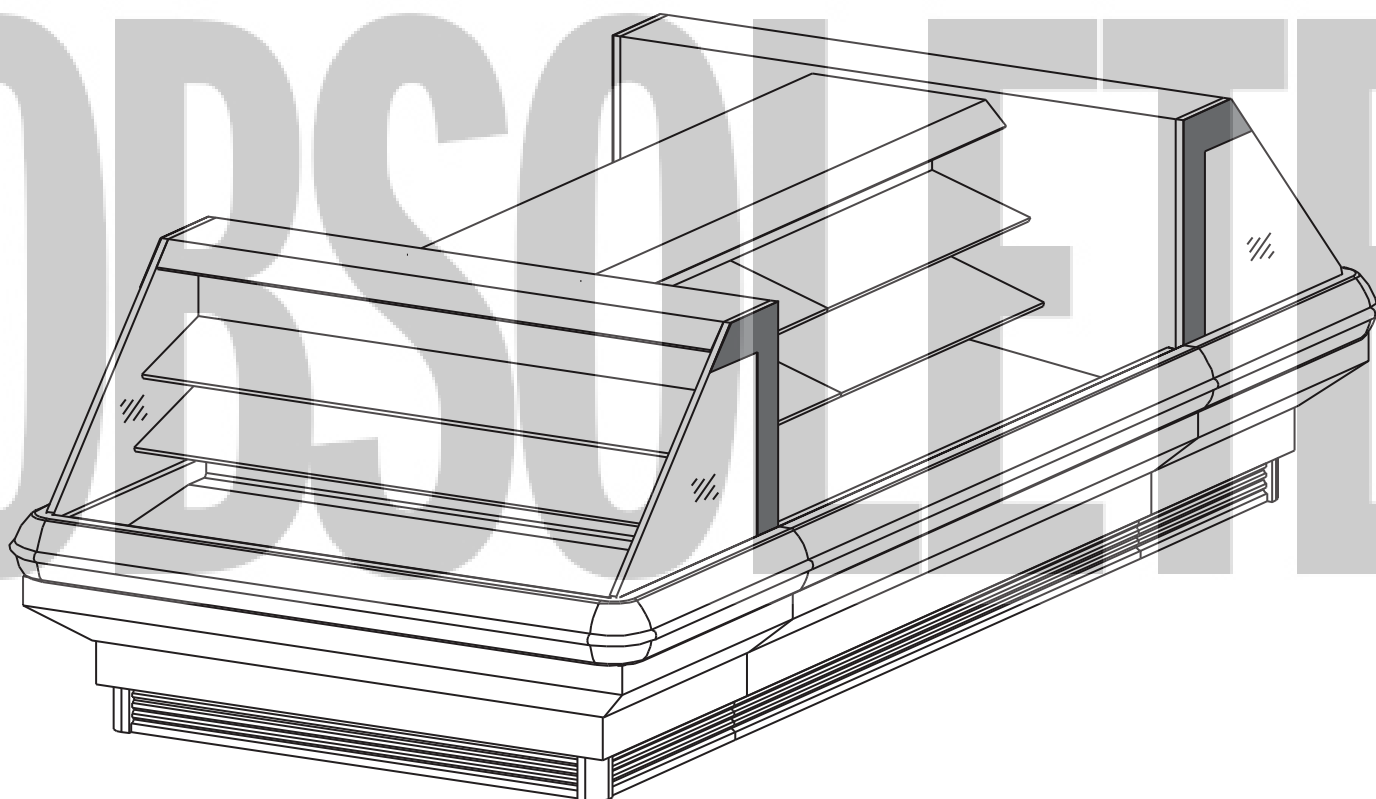


O3EM Multi-Deck End-Cap Merchandiser (Deli / Meat)

O3EM/O3UM/O3EM
(SHOWN)

UTILITY

Deli / Meat



O3EP Multi-Deck End-Cap Merchandiser

(Bulk Produce)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.15	9.2	---	---	2.88	600	3.33	798

Guidelines & Control Settings

Application	² BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
	Conventional	Parallel				
Bulk Produce	2584	2405	6 - 8	29	NA ³	NA

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	6 - 8	40	49	60	47	26	45	---	---

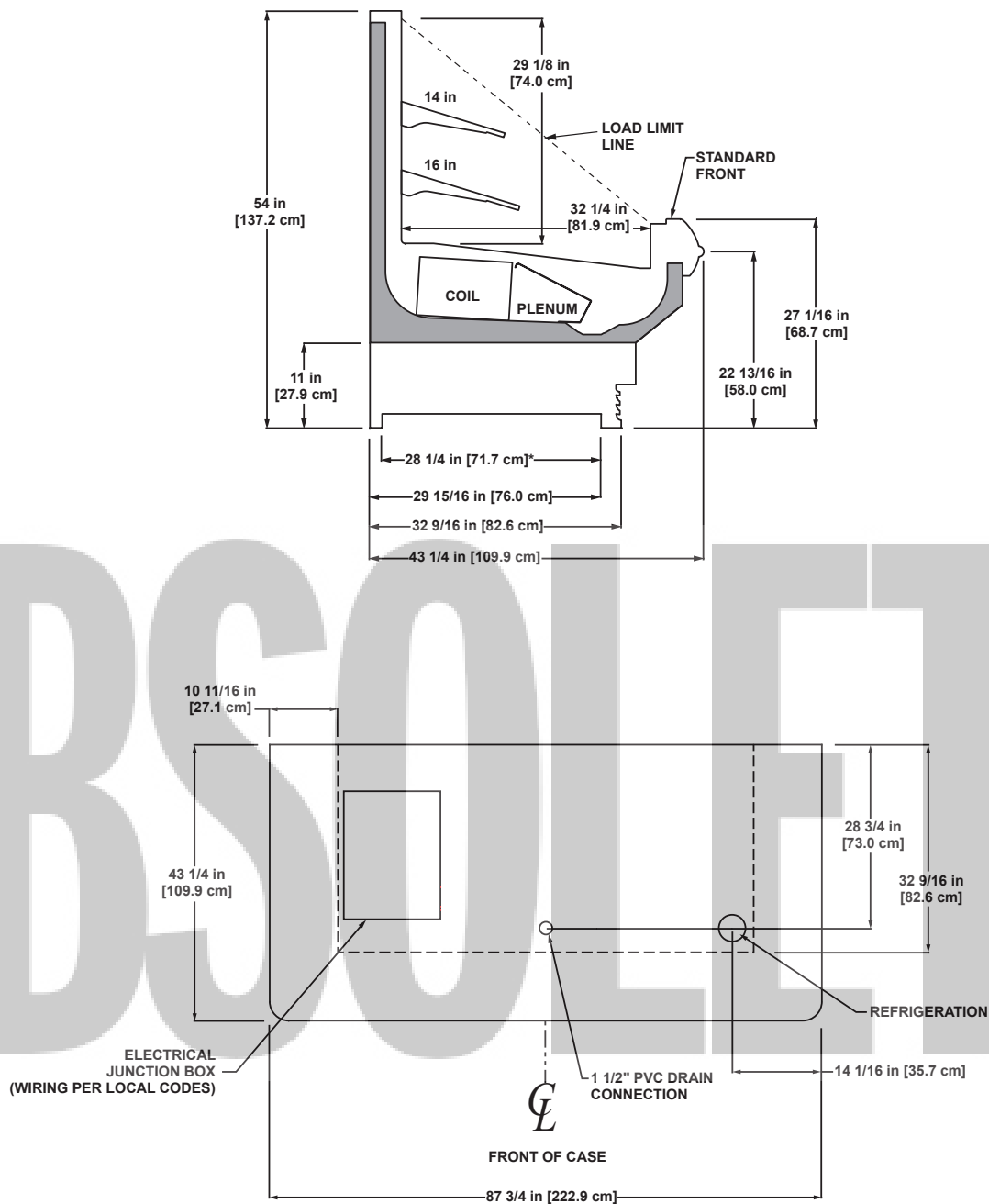
1 NOTE: "---" indicates that feature is not an option on this case model.

2 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

3 NOTE: "NA" indicates not applicable to this case model.

O3EP Multi-Deck End-Cap Merchandiser

(Bulk Produce)



NOTES:

* STUB-UP AREA

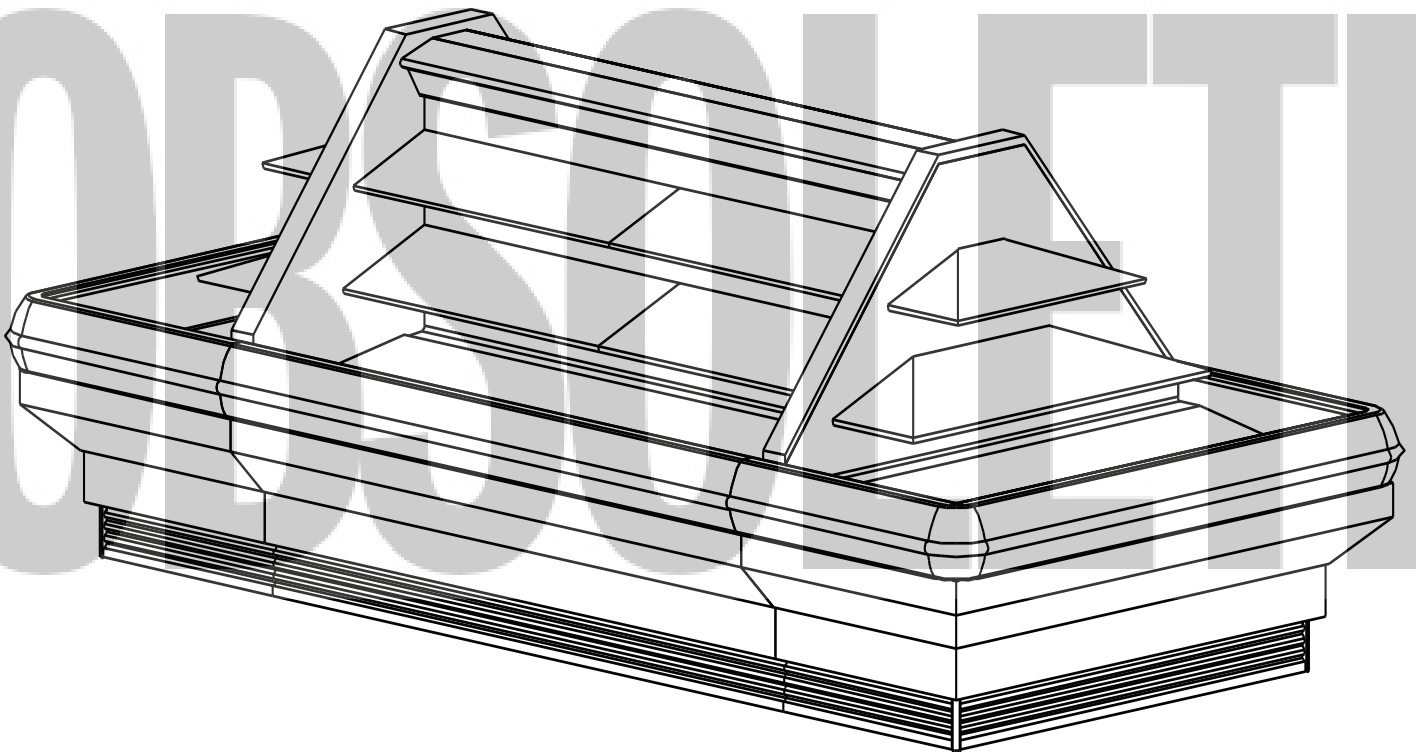
• SUCTION LINE - 7/8", LIQUID LINE - 3/8"

• DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O3EP Multi-Deck End-Cap Merchandiser (Bulk Produce)

O3EP/O3UM/O3EP
(SHOWN)

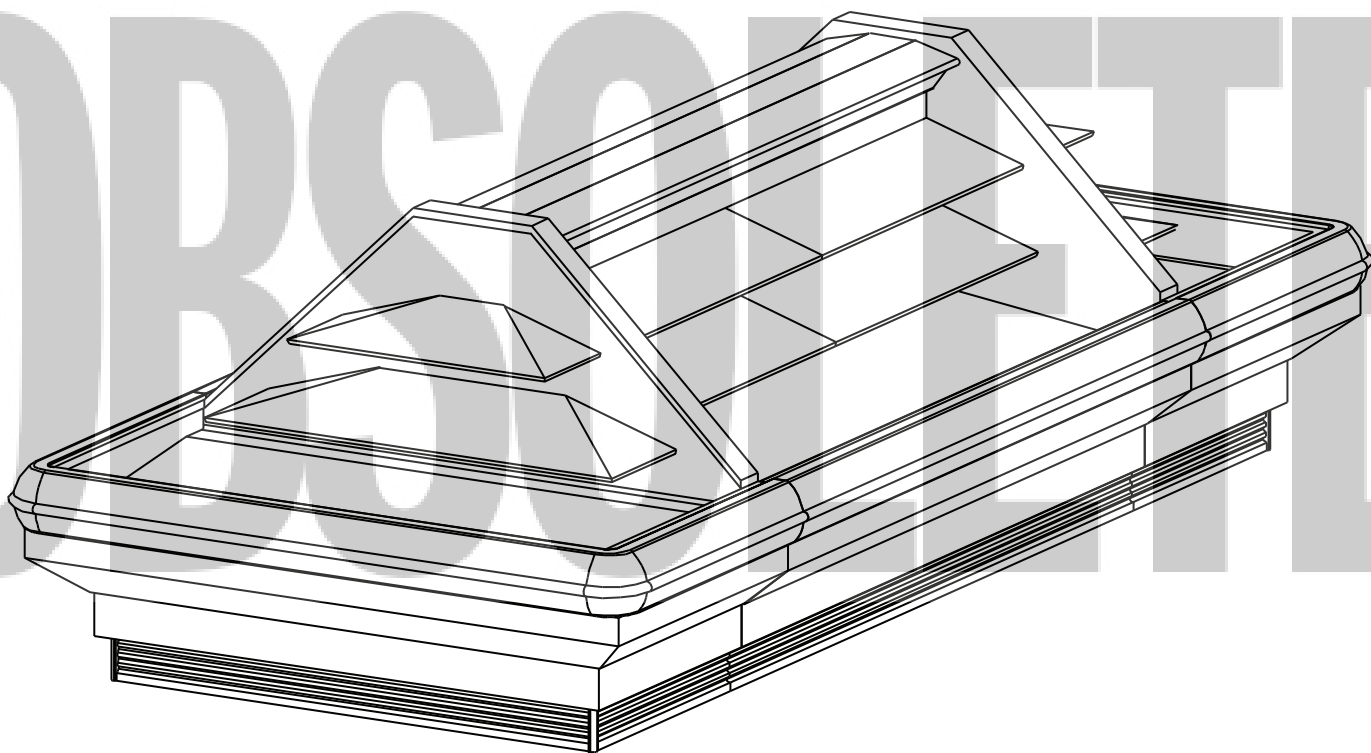


O3EP Multi-Deck End-Cap Merchandiser (Bulk Produce)

O3EP/O3UM/O3EP
(SHOWN)

UTILITY

Bulk Produce



O3UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.16	11
6'	2	0.32	22
8'	2	0.32	22
12'	3	0.48	33

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Height	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	857	750	6 - 8	28	31	150
Meat	Ext. ¹	875	766	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--- ⁶	---	40	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.

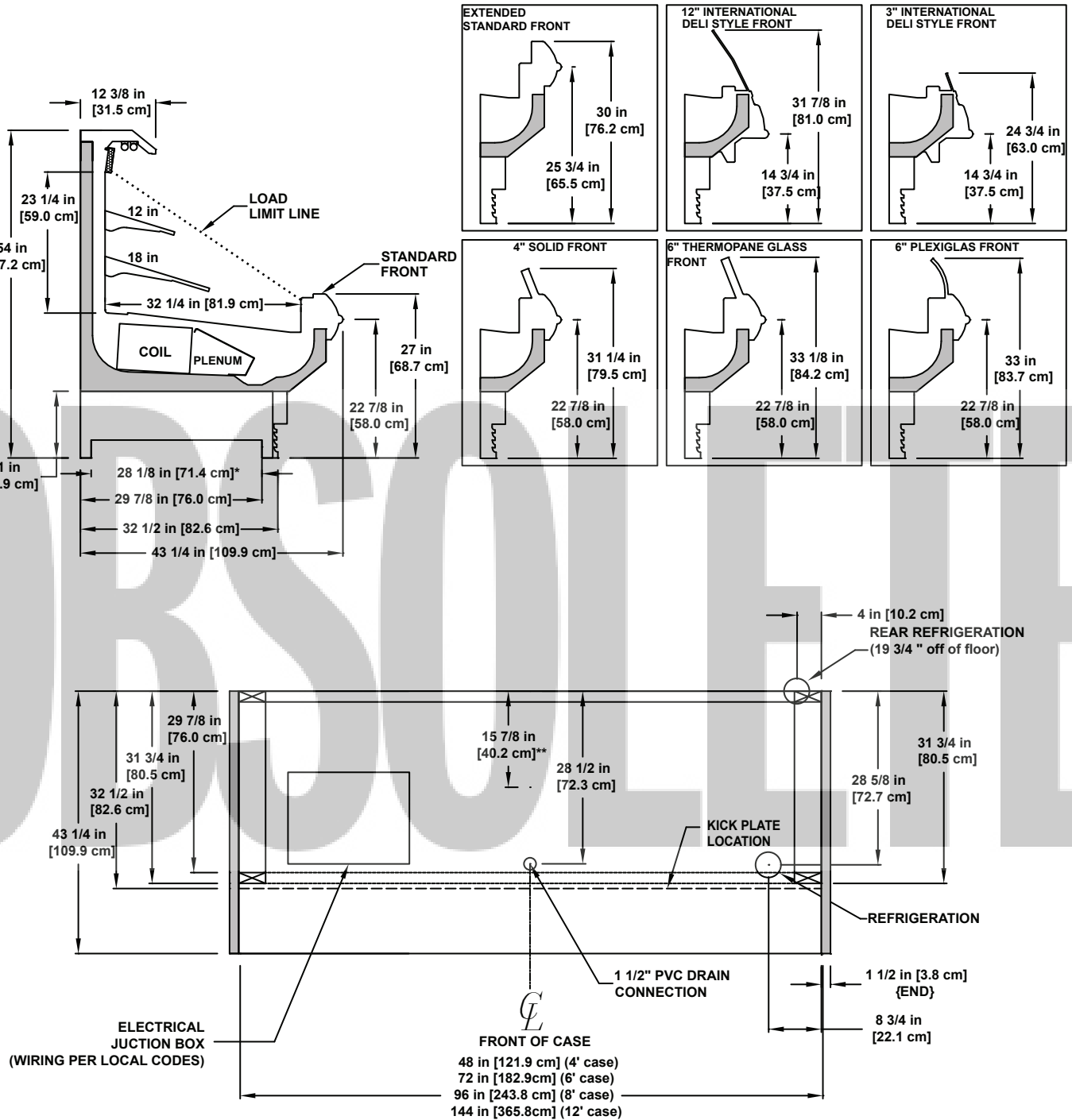


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O3UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

* :STUB-UP AREA

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

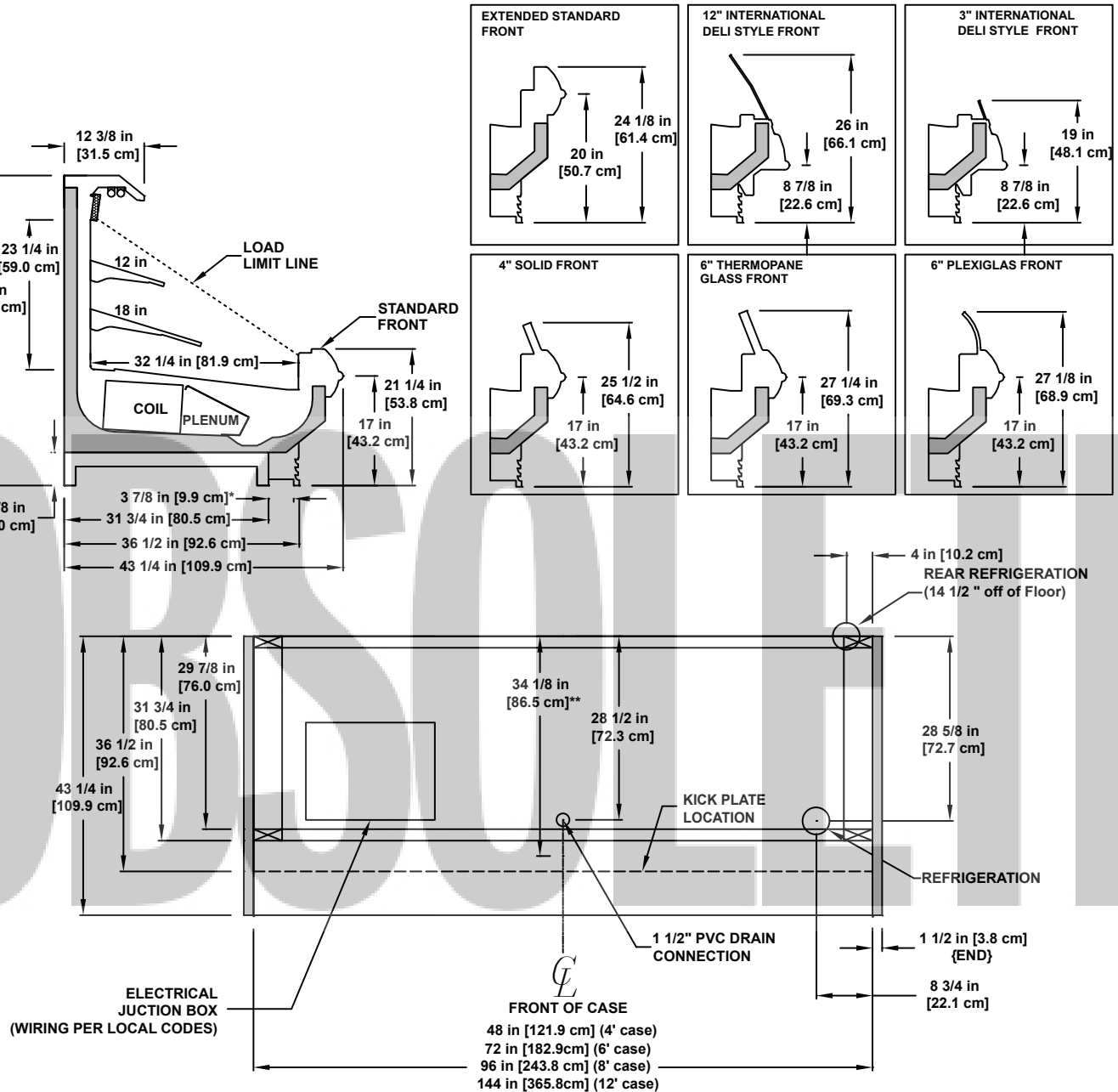
- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6' 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



O3UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



OBSOLETE

O3EM-NRG Multi-Deck End-Cap Merchandiser w/ Synerg-E™ (Dairy / Deli / Meat / Produce)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
	120 Volts		120 Volts	
	Amps	Watts	Amps	Watts
2	0.40	28	1.89	227

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

Application	Front Sill Heights	² BTUHs/cs		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	5372	4589	6 - 8	28	31	150
Meat ¹	Ext.	5486	4686	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	-- ⁶	---	45	45	---	---	---	---

1 For meat application: extended front sills are required for maintaining proPer Case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/cs notes:

- Listed BTUH/cs indicate unlighted shelves. For T8 lighted shelves (see Appendix D), add 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load. For LED lighting, add 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load.
- Add 132 BTUH/cs when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

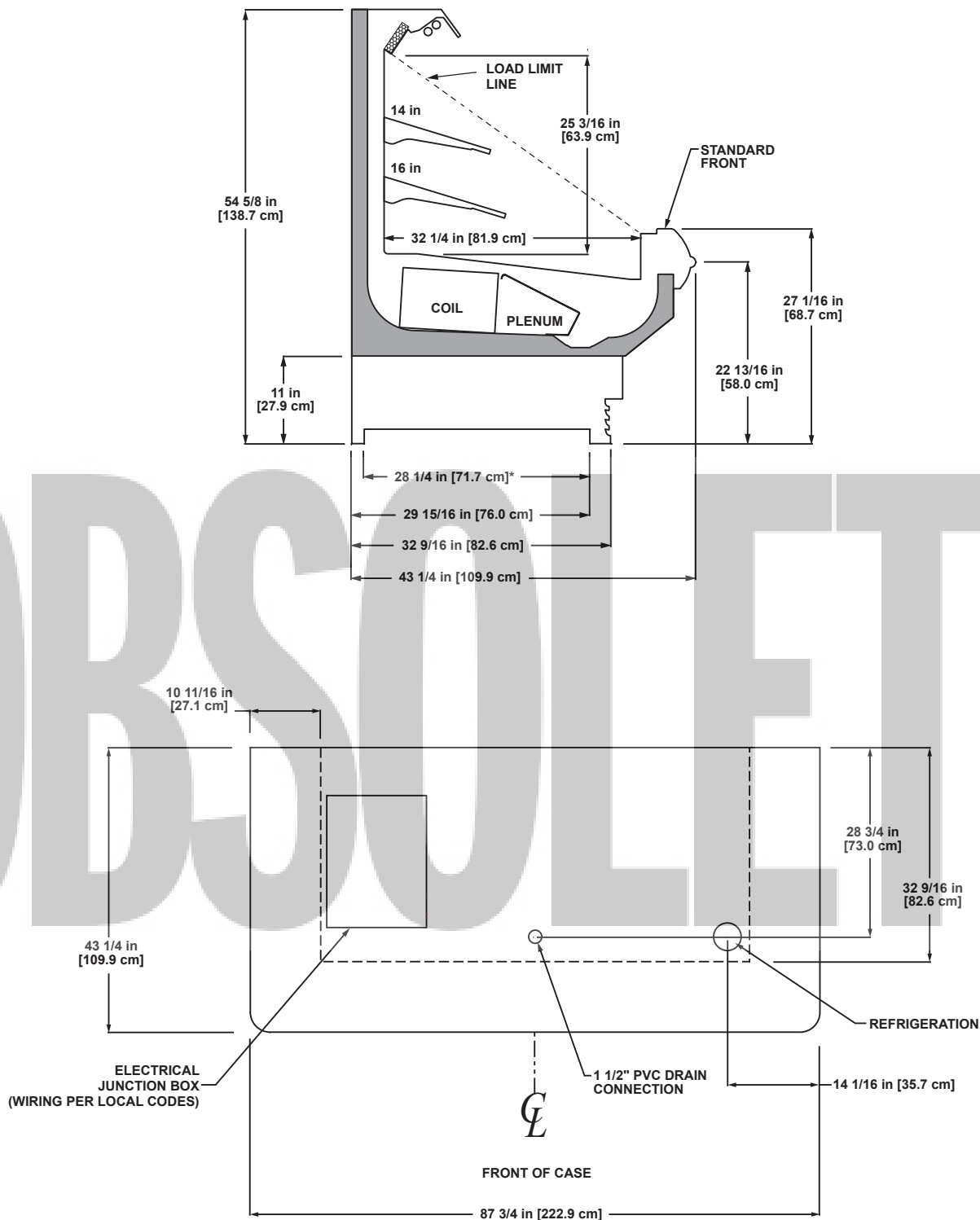
4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

6 NOTE: "--" indicates that feature is not an option on this case model.

O3EM-NRG Multi-Deck End-Cap Merchandiser w/ Synerg-E™

(Dairy / Deli / Meat / Produce)



NOTES:

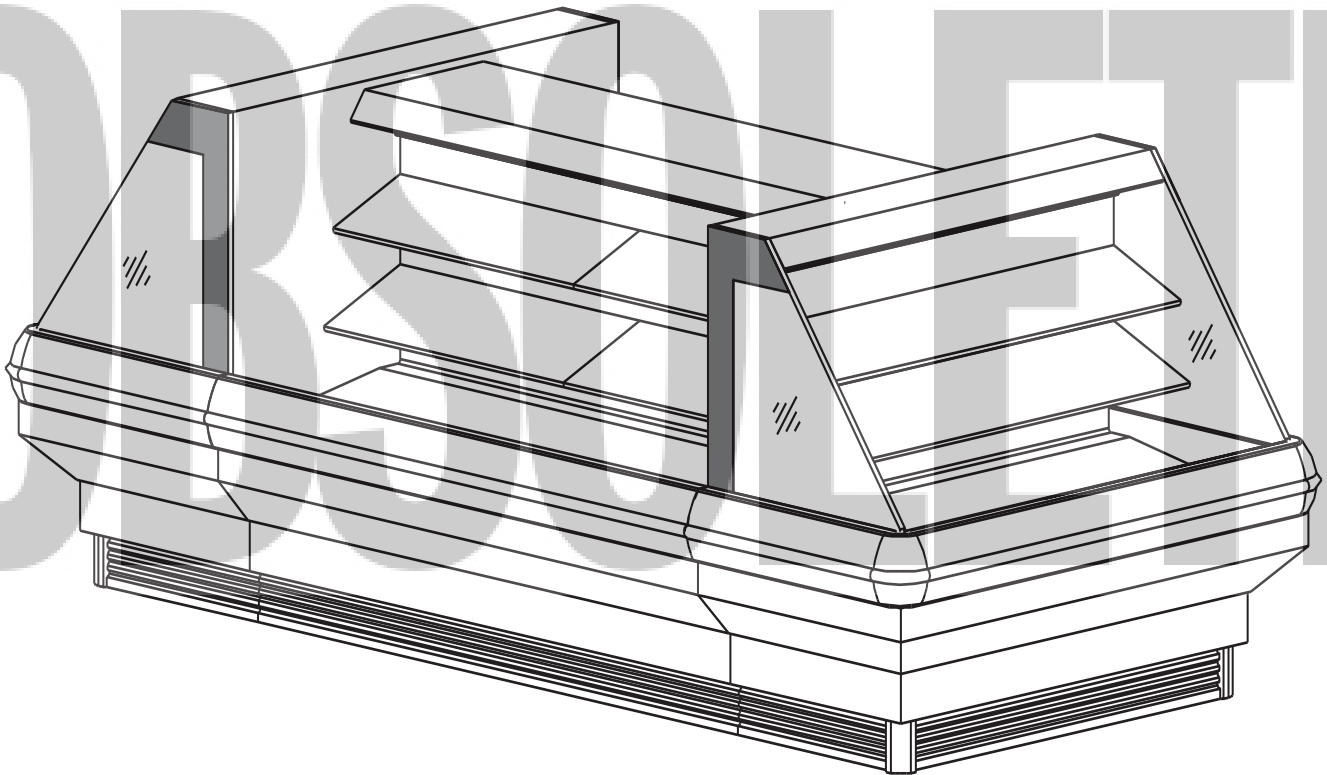
* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O3EM-NRG Multi-Deck End-Cap Merchandiser w/ Synerg-E™ (Dairy / Deli / Meat / Produce)

O3EM-NRG/O3UM-NRG/O3EM-NRG
(SHOWN)



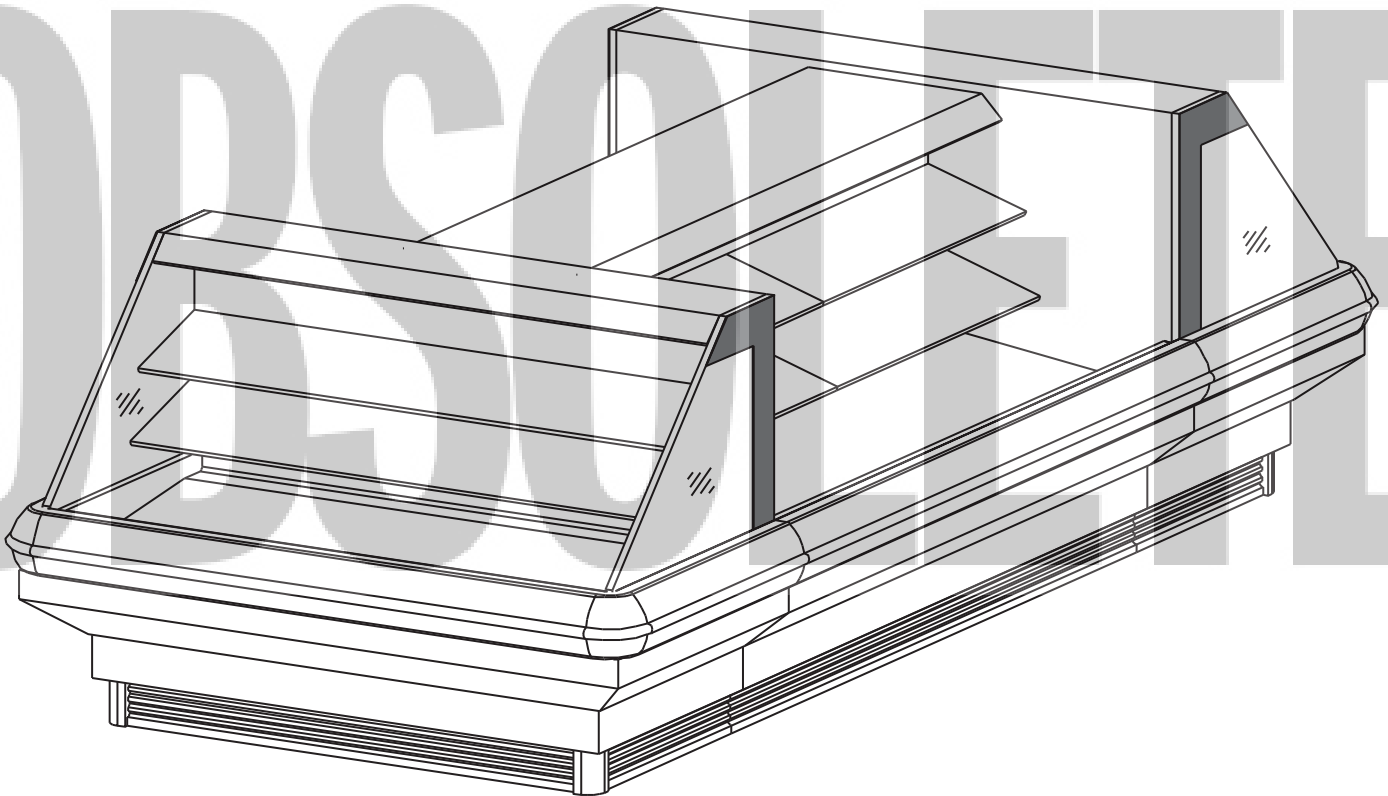
O3EM-NRG

Multi-Deck End-Cap Merchandiser w/ Synerg-E™
(Dairy / Deli / Meat / Produce)

O3EM-NRG/O3UM-NRG/O3EM-NRG
(SHOWN)

UTILITY

Dairy / Deli / Meat / Produce



OW3UM Wide Multi-Deck Merchandiser

8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1377	1277	6 - 8	22	27	225

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

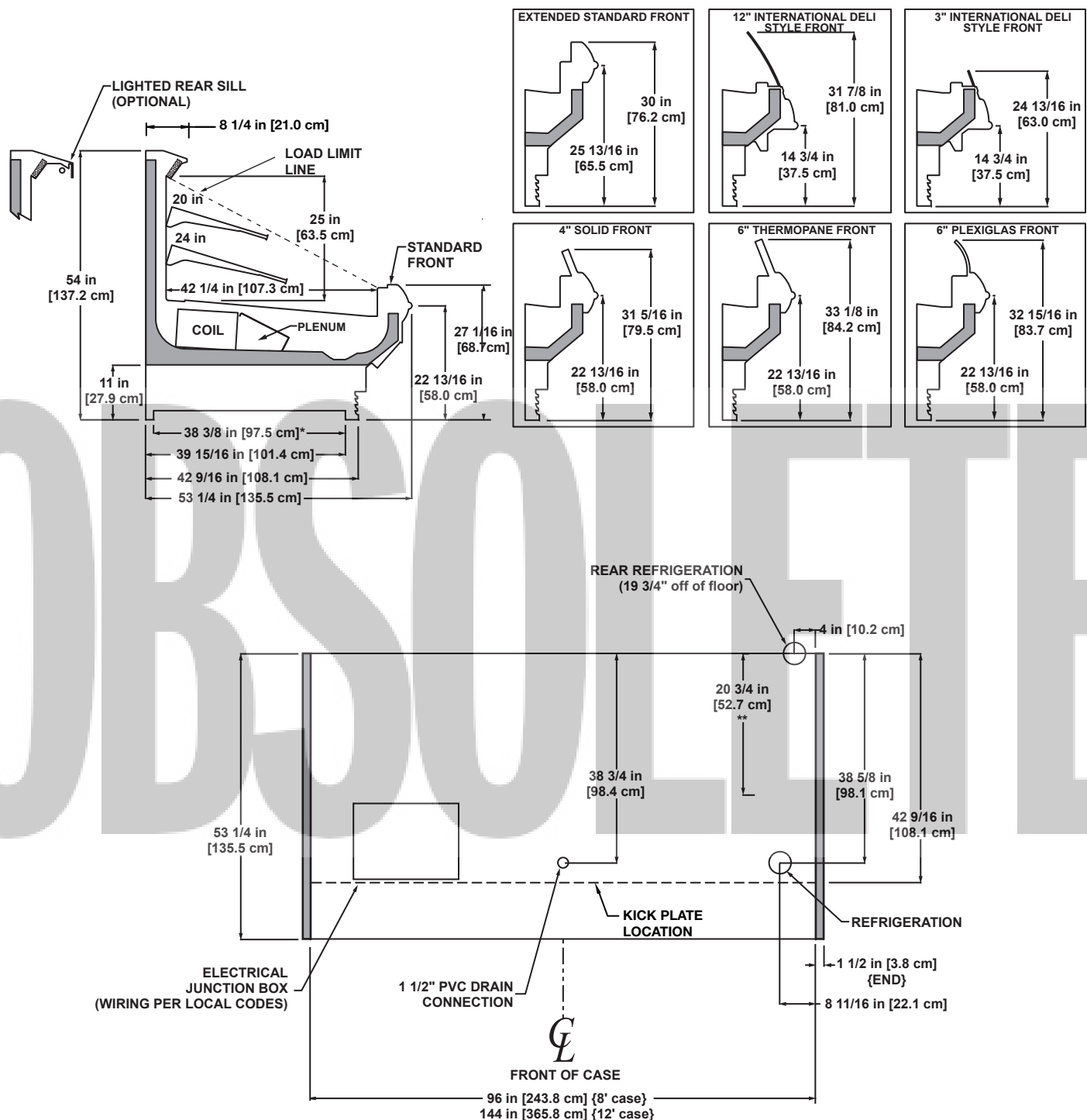
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model OW3UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

OW3UM Wide Multi-Deck Merchandiser

8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-20" & 1-24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O3UD Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1033	958	6 - 8	22	30	225

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

³ Average discharge air velocity at peak of defrost.

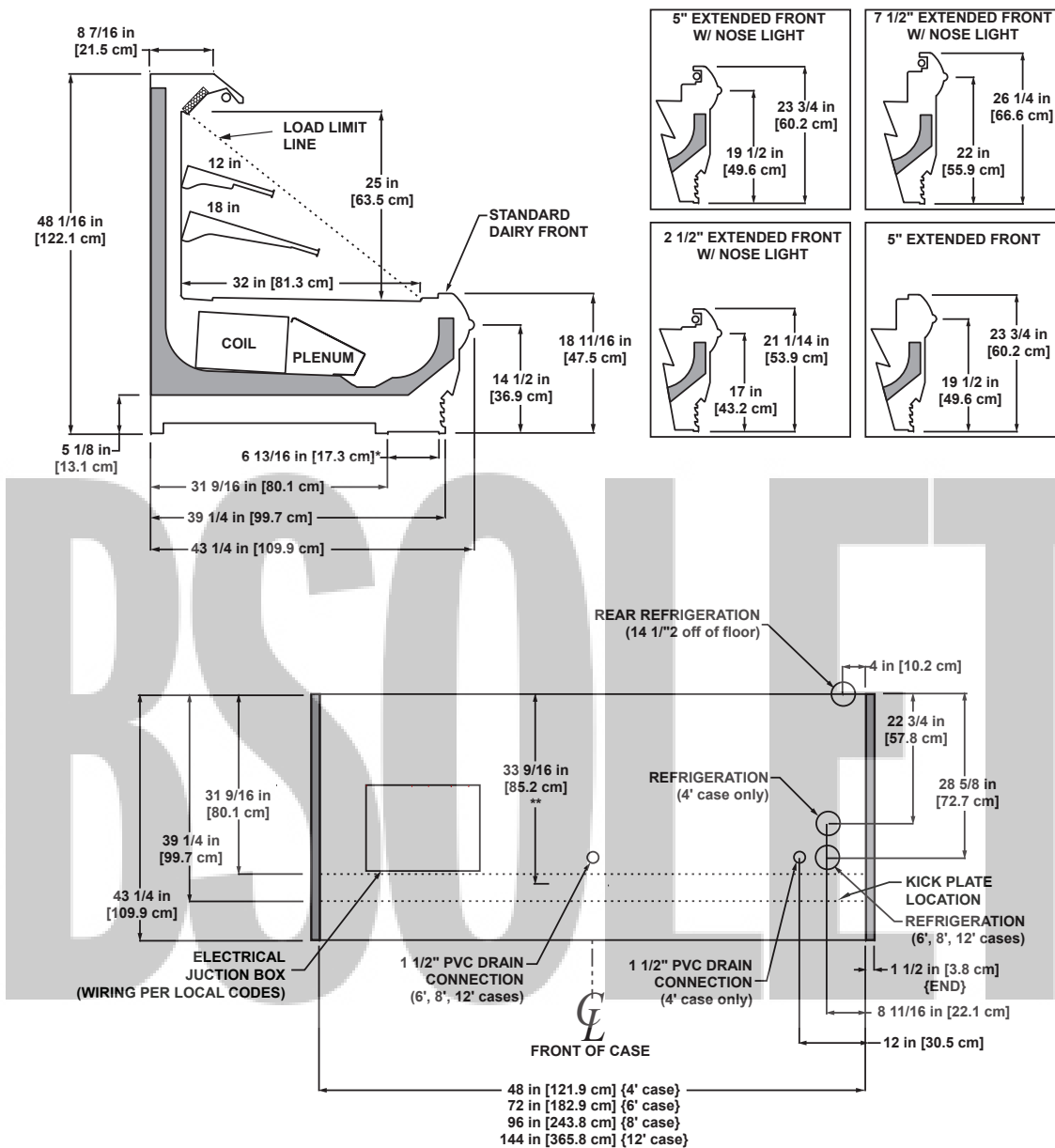


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O3UD Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON3.5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1000	927	6 - 8	22	28	204

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model ON3.5UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

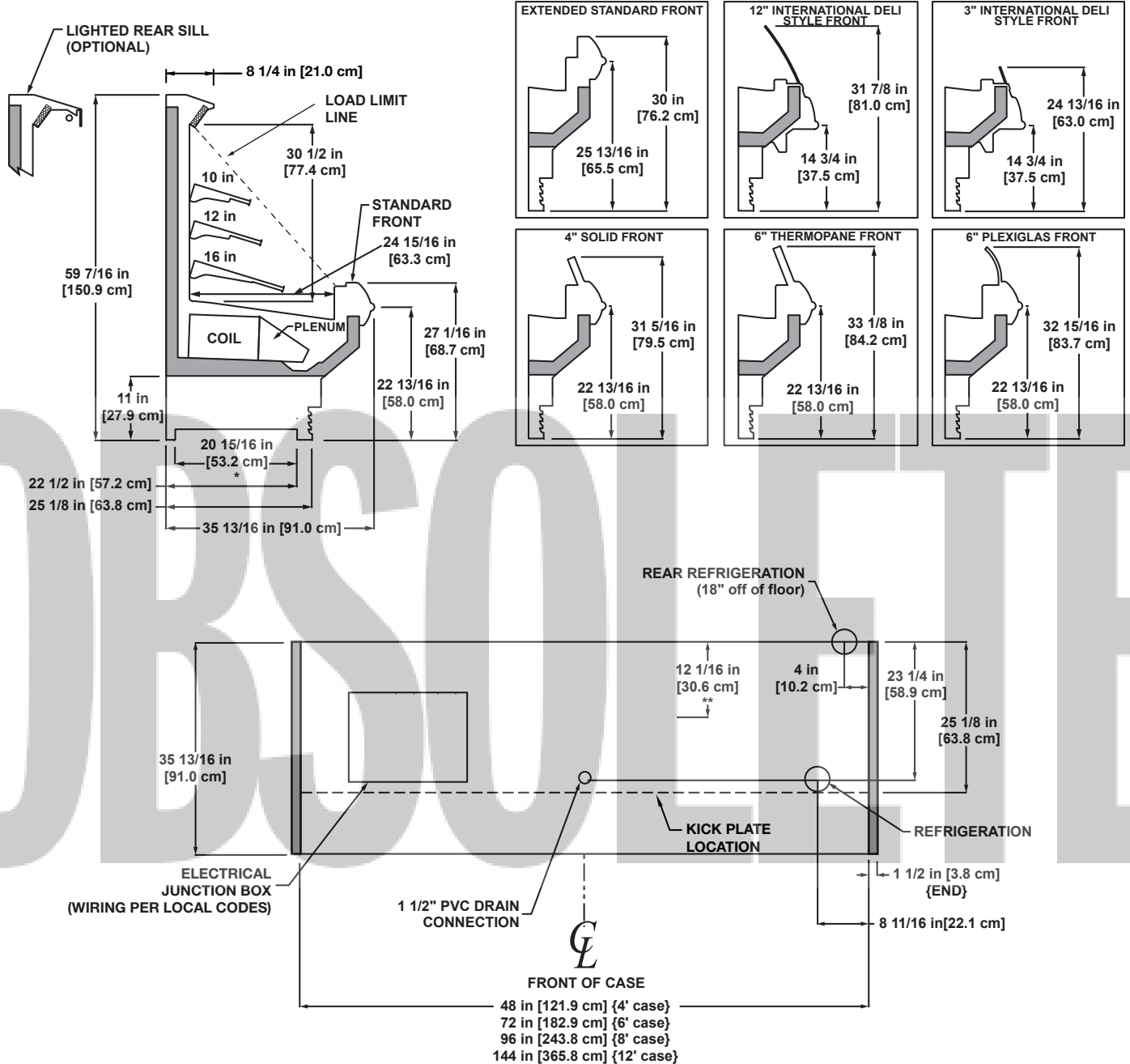


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON3.5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

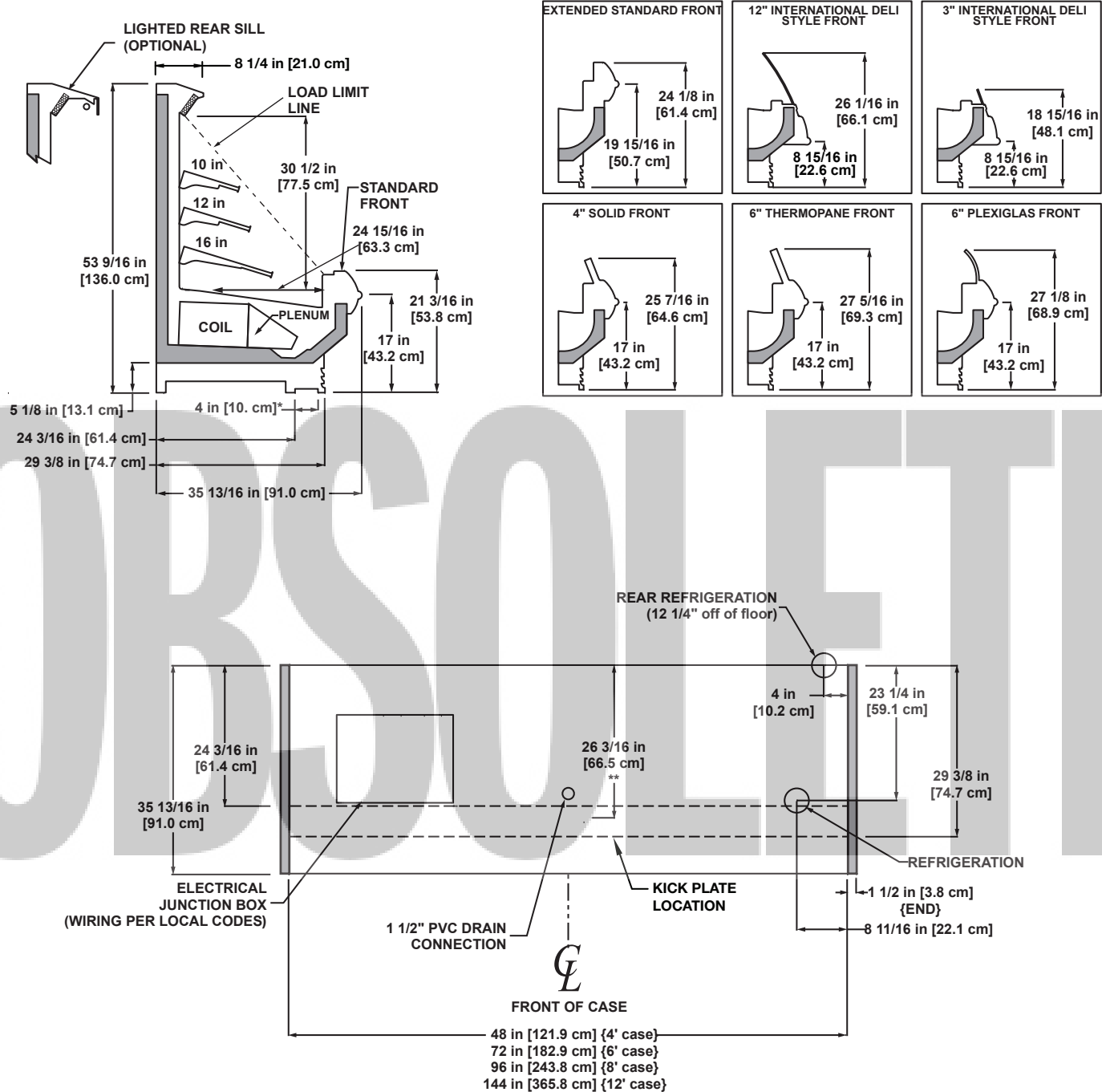
- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON3.5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

ON3.5EM Narrow Multi-Deck End-Cap Merchandiser

(Deli / Meat)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.23	14	1.89	227	2.31	480	2.66	640

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1	5'	0.12	14.3	0.22	26.3

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
7076	6388	6 - 8	22	33	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	40	47	45	45	---	---	---	---

¹ BTUH/case notes:

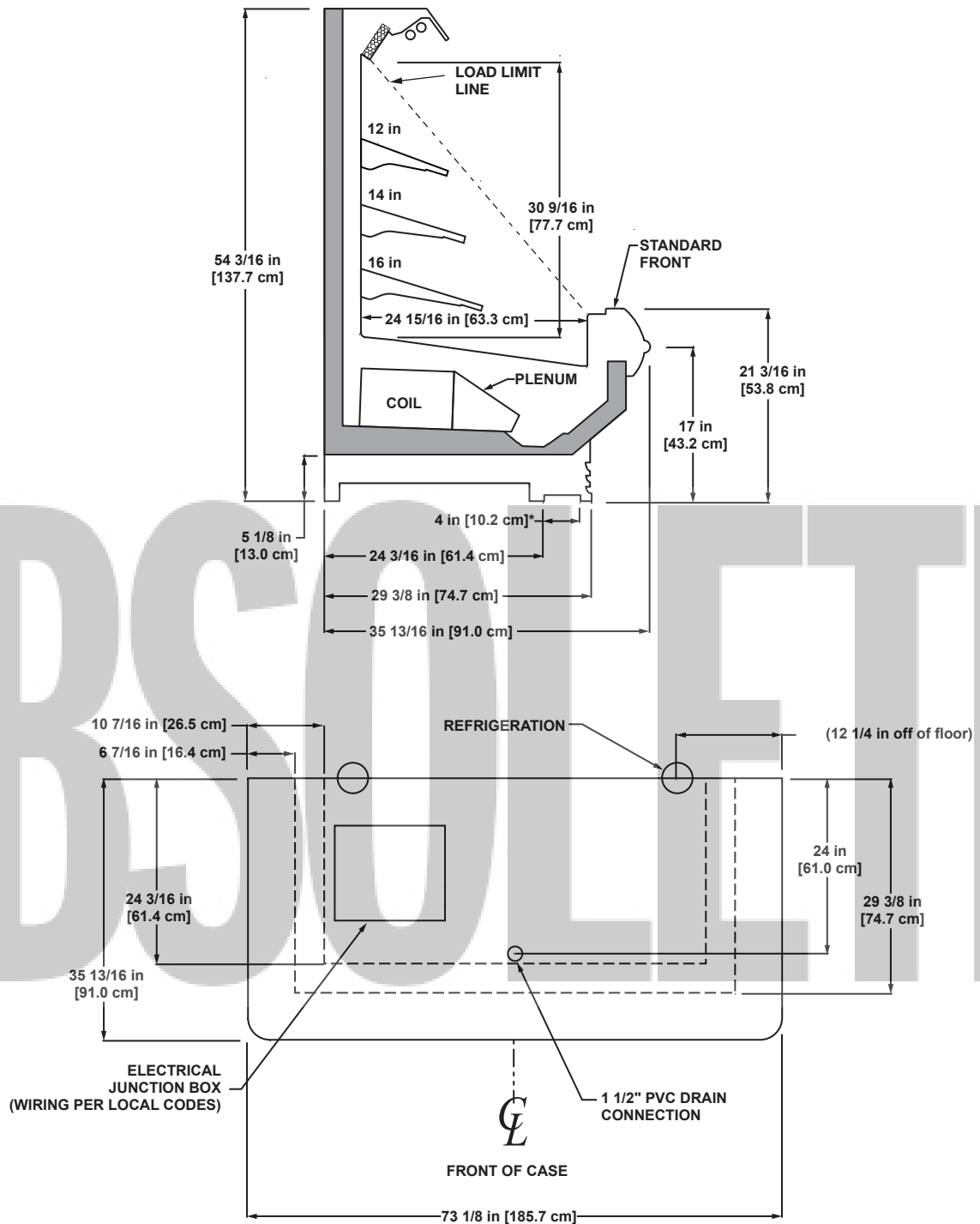
- Listed BTUH/cs indicate unlighted shelves. For LED lighting, add 45 BTUH per 5' lighted shelf. For T8 lighted shelves (see Appendix D), add 100 BTUH per 5' lighted shelf.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

² Average discharge air velocity at peak of defrost.

³ NOTE: " - - - " indicates that feature is not an option on this case model.

ON3.5EM Narrow Multi-Deck End-Cap Merchandiser

(Deli / Meat)



NOTES:

* STUB-UP AREA

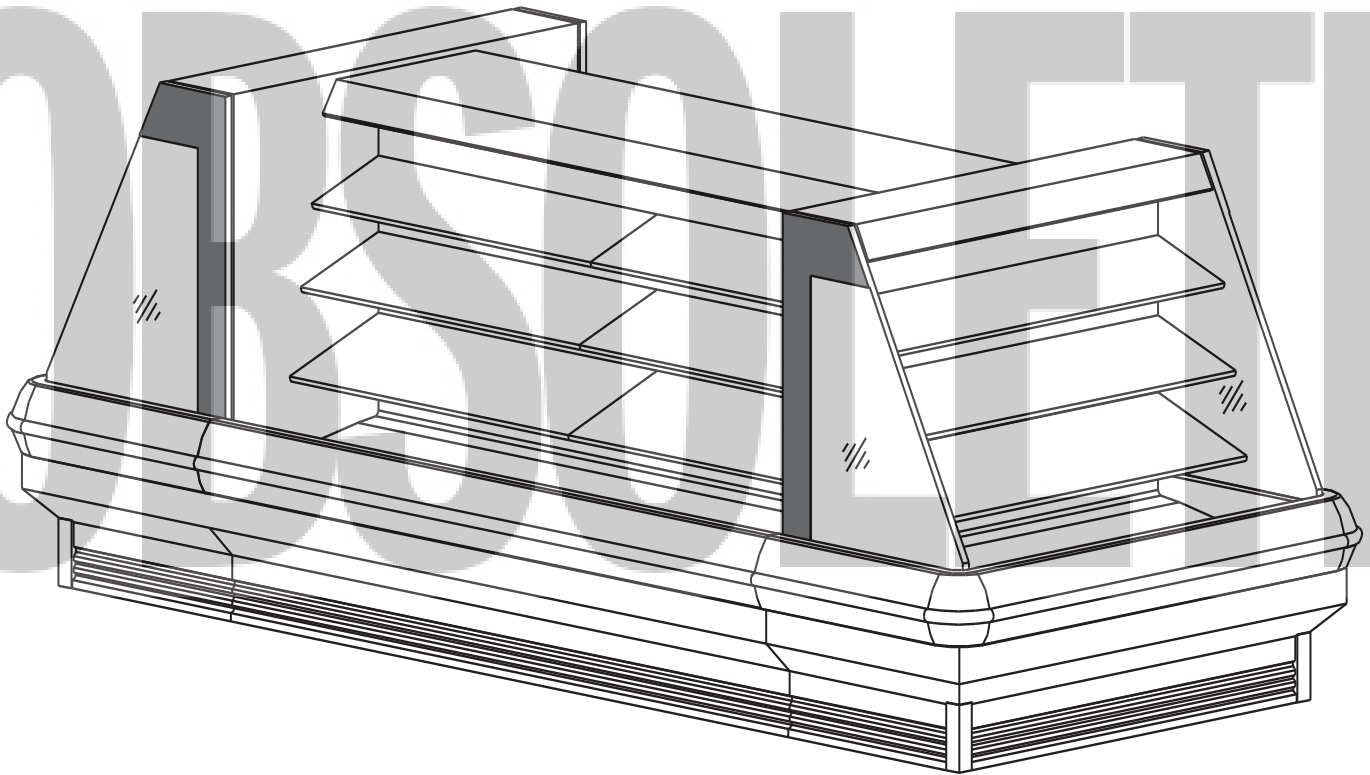
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON3.5EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli / Meat)

ON3.5EM/ON3.5UM/ON3.5EM
(SHOWN)



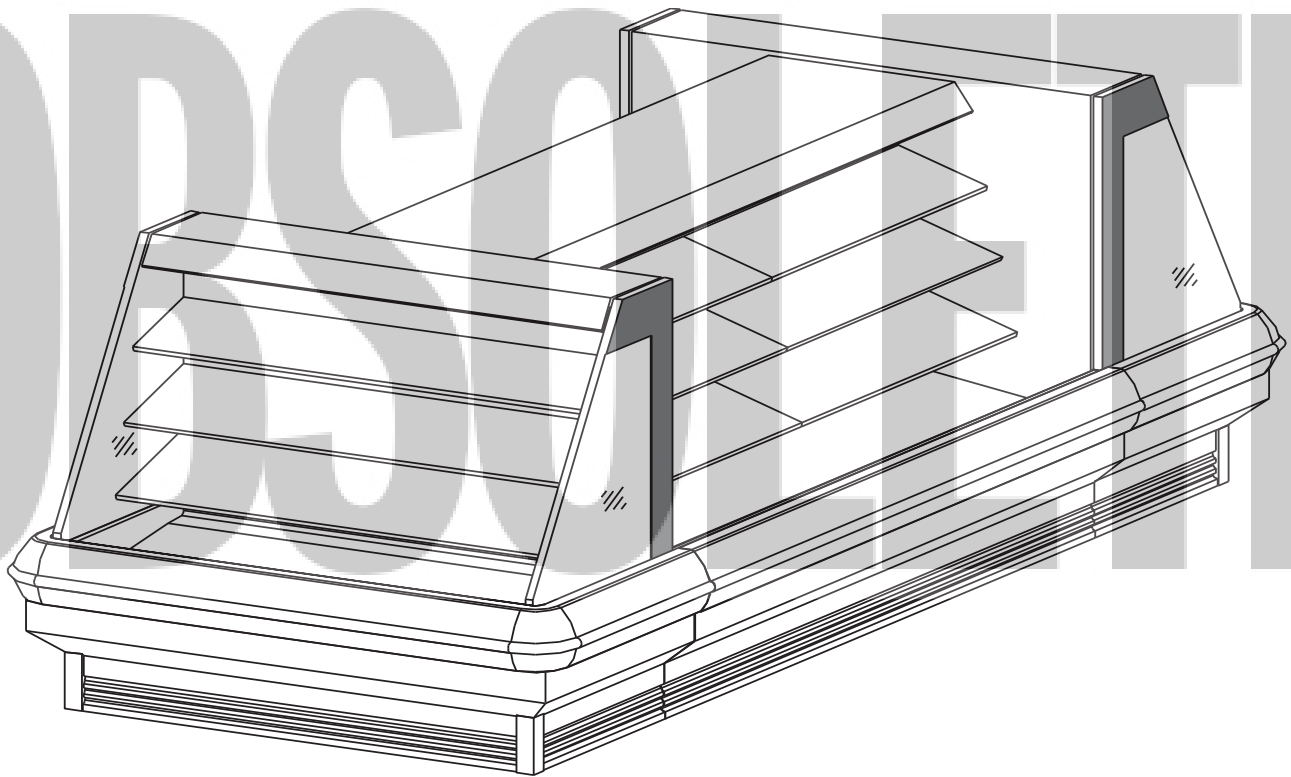
ON3.5EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli / Meat)

ON3.5EM/ON3.5UM/ON3.5EM
(SHOWN)

UTILITY

Deli / Meat



Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Height	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	1063	930	6 - 8	28	31	150
Meat	Ext.¹	1051	920	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	---	---	40	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

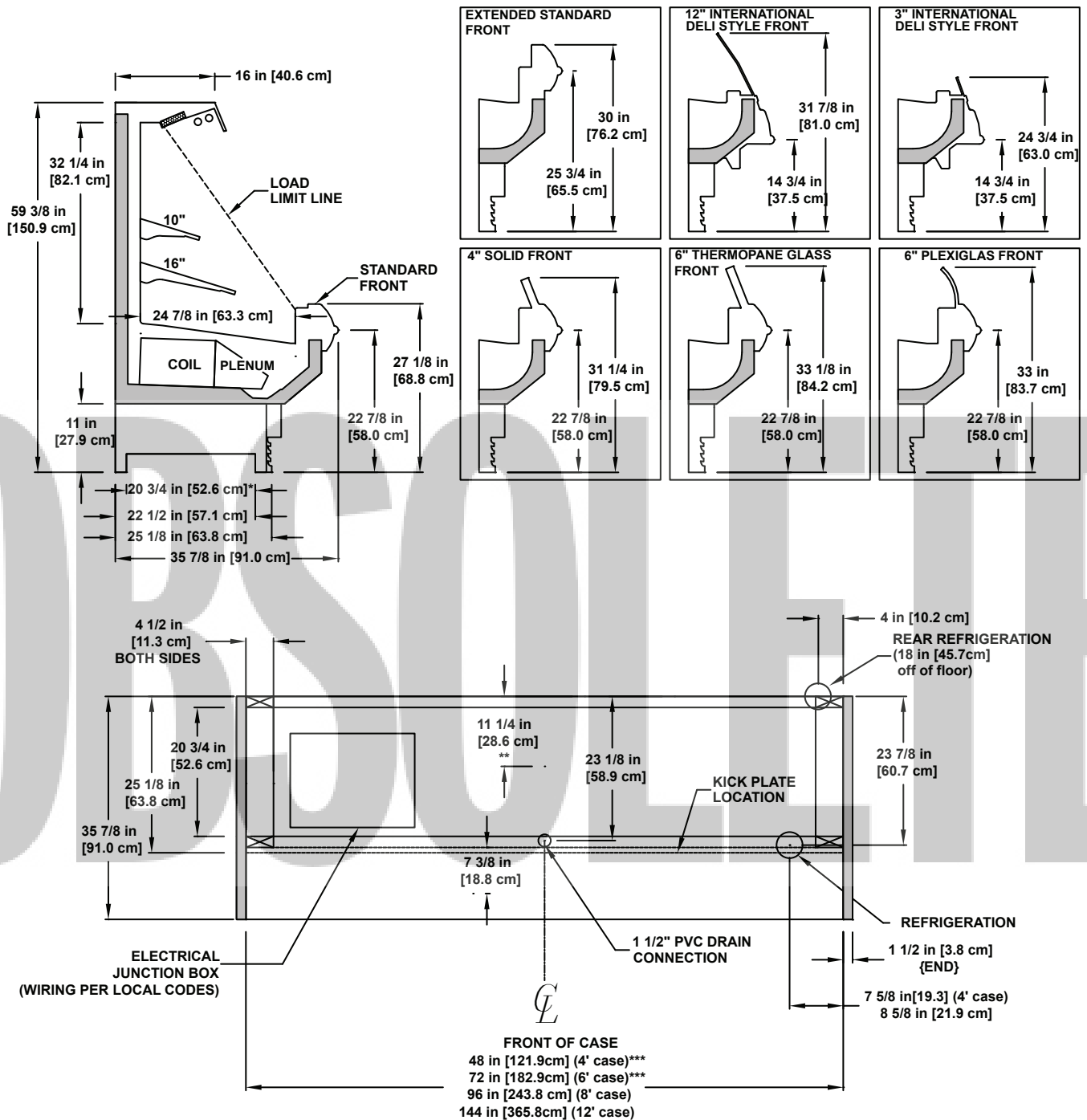
5 Average discharge air velocity at peak of defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.

ON3.5UM-NRG

Narrow Multi-Deck Merchandiser with Synerg-E™
4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



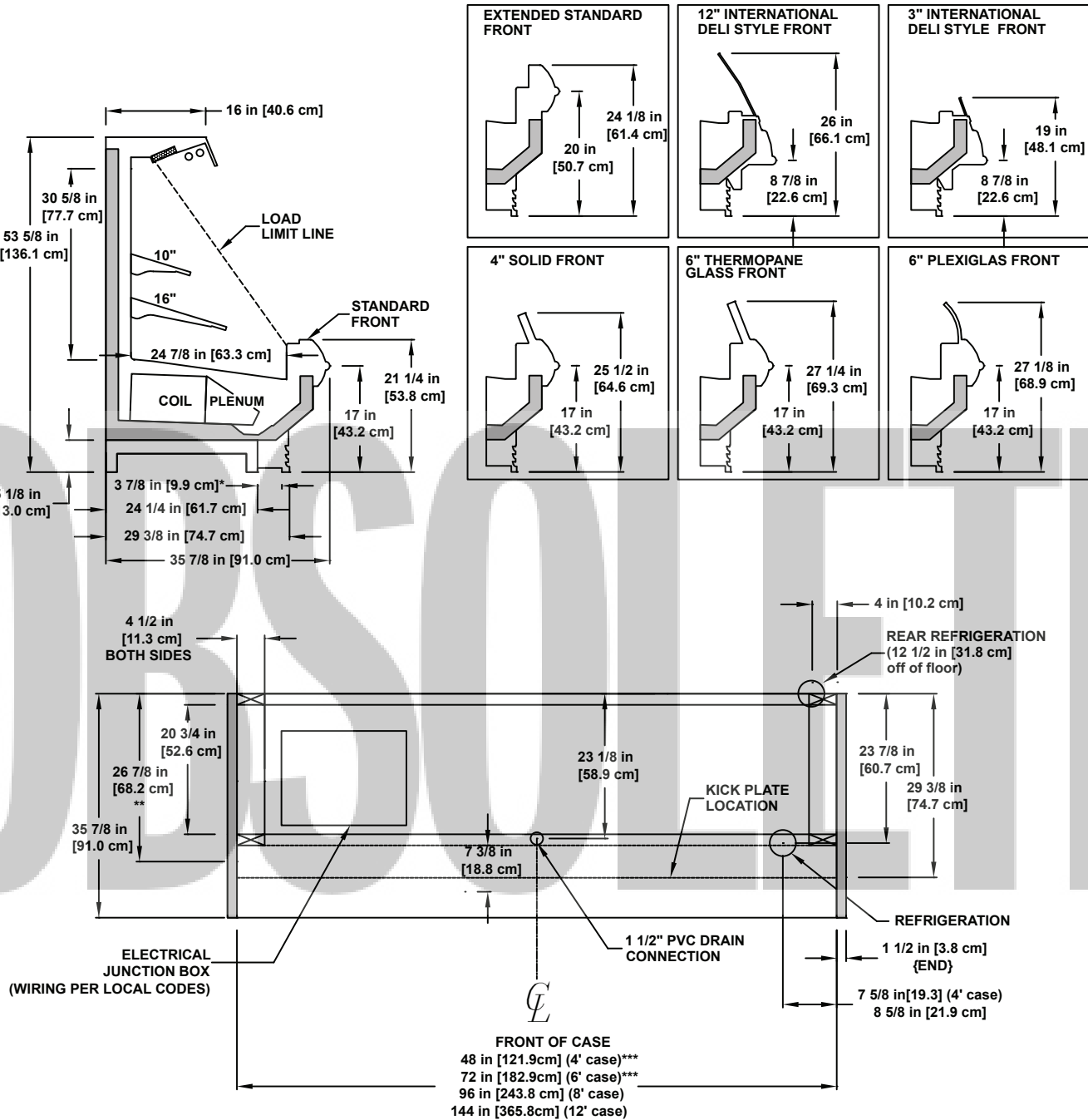
NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (4' & 6') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-10", & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



(5" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** AVAILABLE UPON REQUEST
- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (4' & 6') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-10", & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE

OBSOLETE

O3.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1303	1208	6 - 8	22	30	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

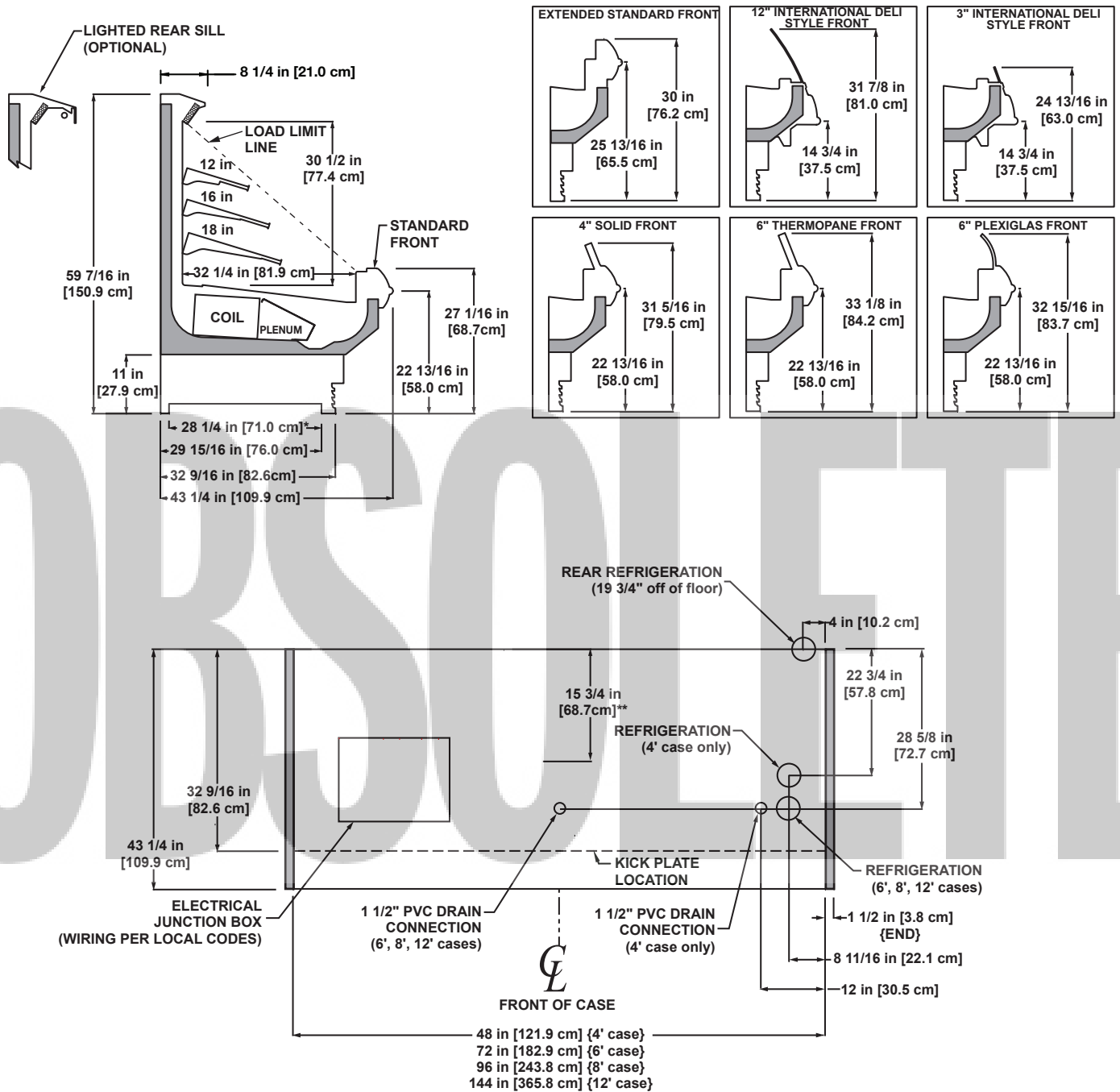
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O3.5UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

3 Average discharge air velocity at peak of defrost.

03.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

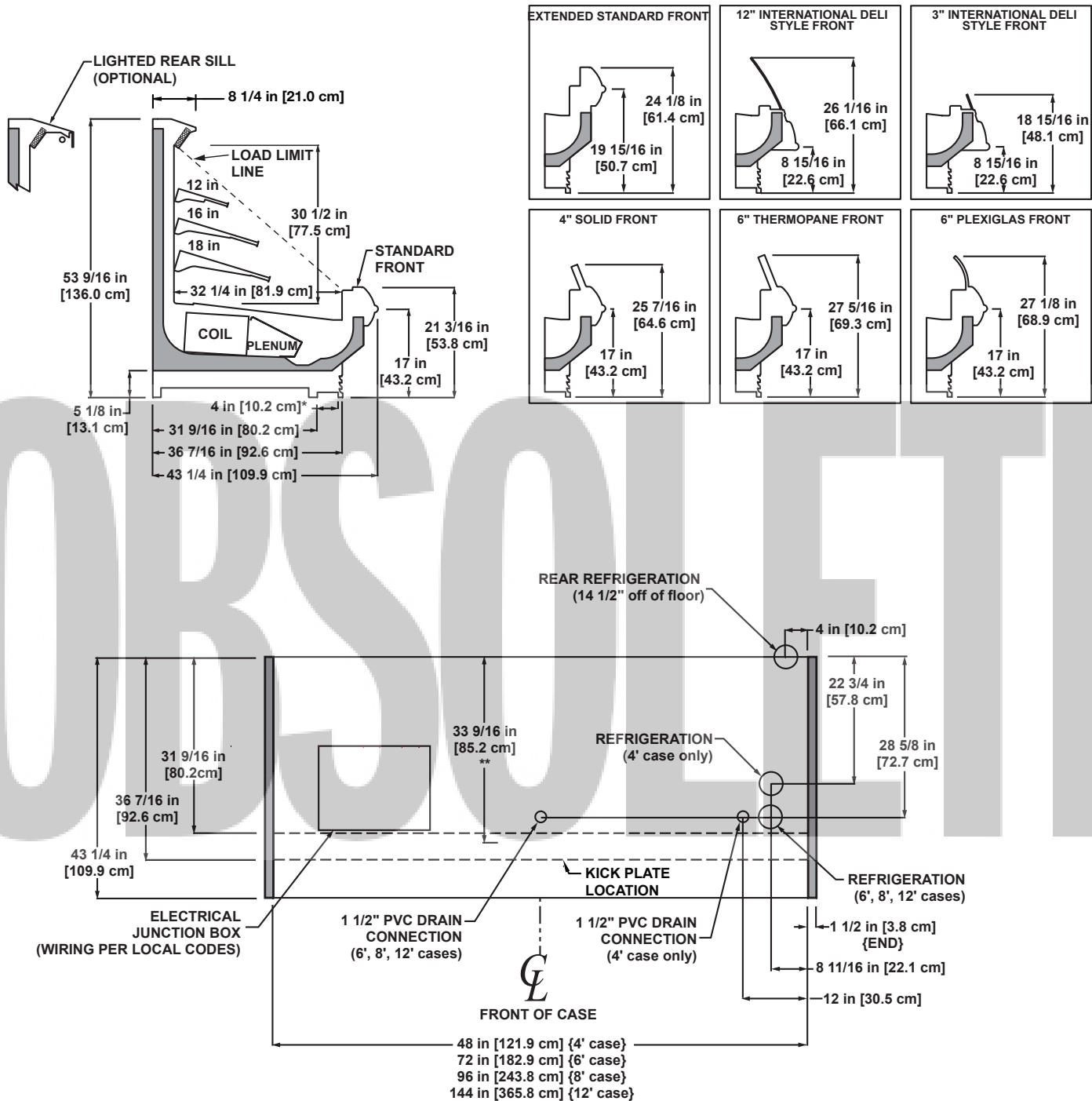
- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



03.5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

03.5EM Multi-Deck End-Cap Merchandiser (Deli / Meat)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.39	23.4	1.89	227	2.31	480	2.66	640

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
8903	8037	6 - 8	22	33	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	40	47	45	45	--- ³	---	---	---

¹ BTUH/case notes:

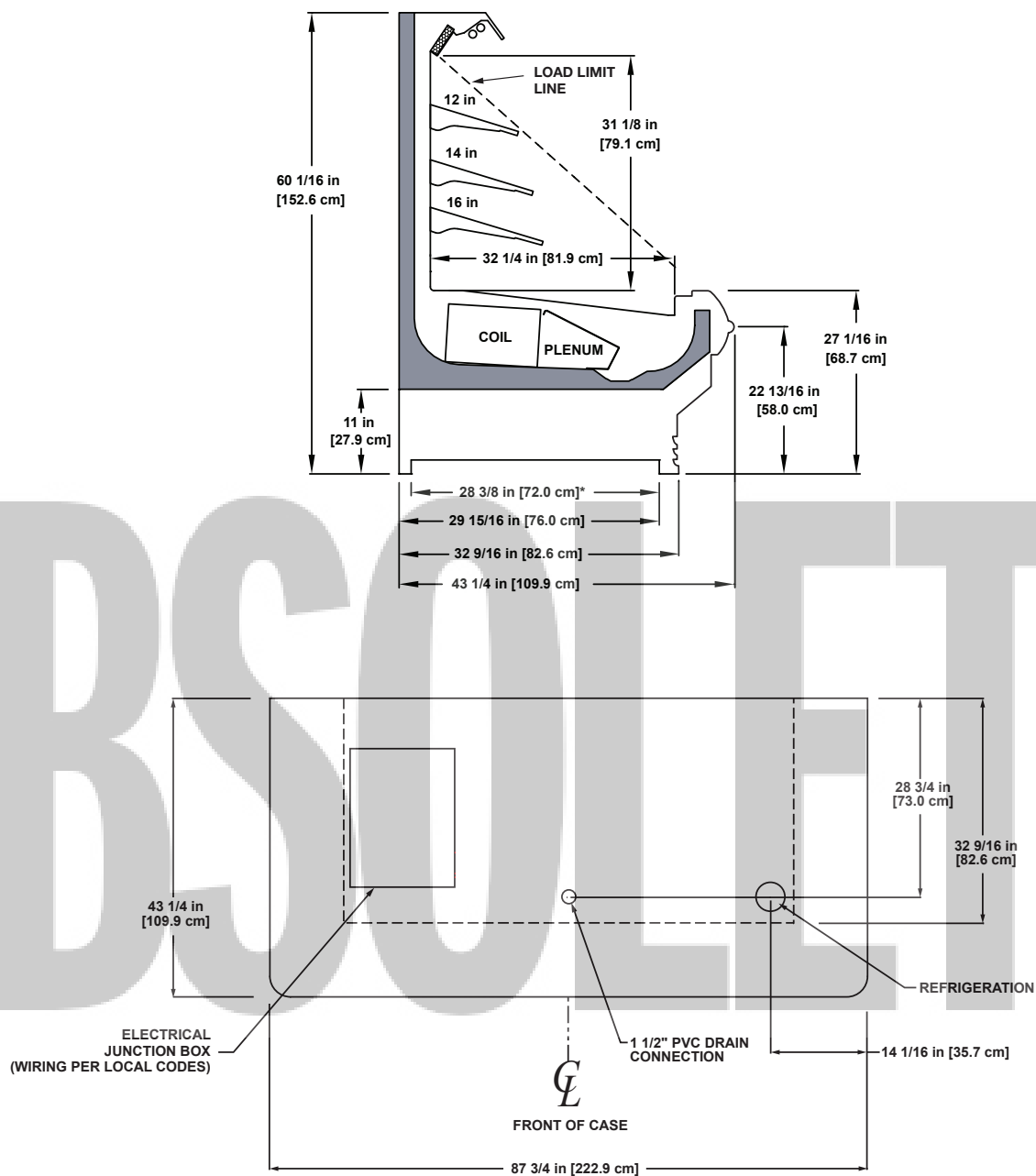
- Listed BTUH/cs indicate unlighted shelves. For LED lighting, add 27 BTUH per 3' lighted shelf. For T8 lighted shelves (see Appendix D), add 60 BTUH per 3' lighted shelf.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

² Average discharge air velocity at peak of defrost.

³ NOTE: " - - - " indicates that feature is not an option on this case model.

O3.5EM Multi-Deck End-Cap Merchandiser

(Deli / Meat)



NOTES:

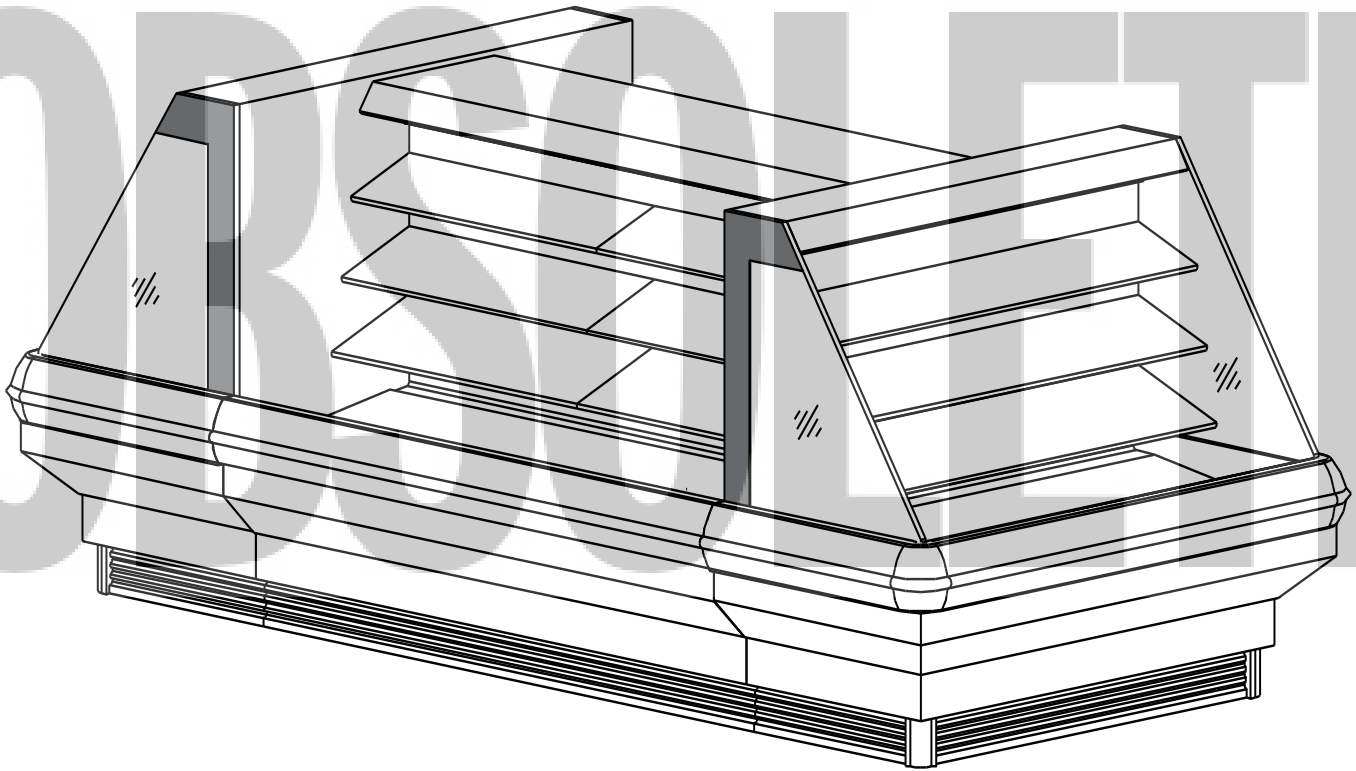
* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



03.5EM Multi-Deck End-Cap Merchandiser (Deli / Meat)

O3.5EM/O3.5UM/O3.5EM
(SHOWN)



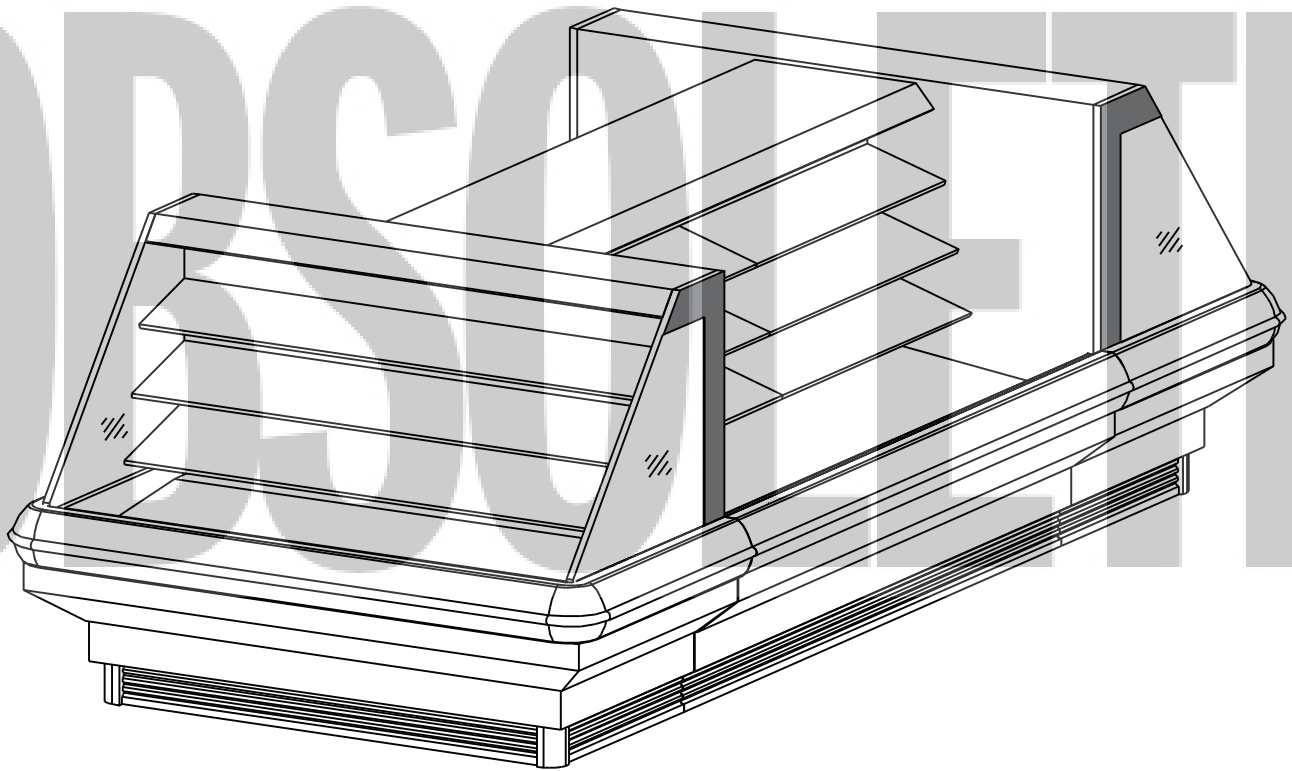
O3.5EM Multi-Deck End-Cap Merchandiser

(Deli / Meat)

O3.5EM/O3.5UM/O3.5EM
(SHOWN)

UTILITY

Deli / Meat



Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	Front Sill Height	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	1063	930	6 - 8	28	31	150
Meat¹	Ext.¹	1051	920	6 - 8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	---⁶	---	40	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

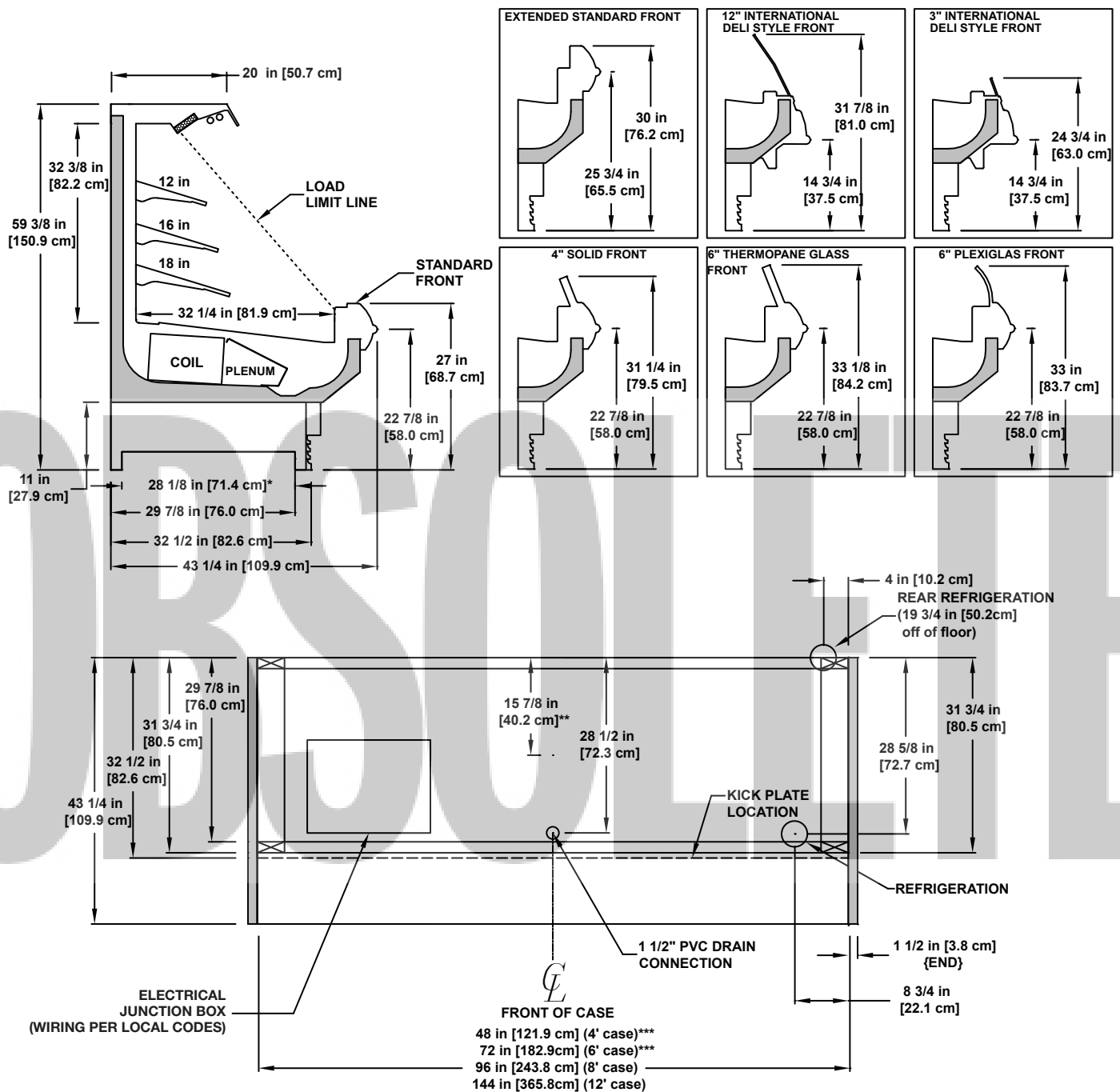
5 Average discharge air velocity at peak of defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.

03.5UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

- * :STUB-UP AREA
- ** :RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

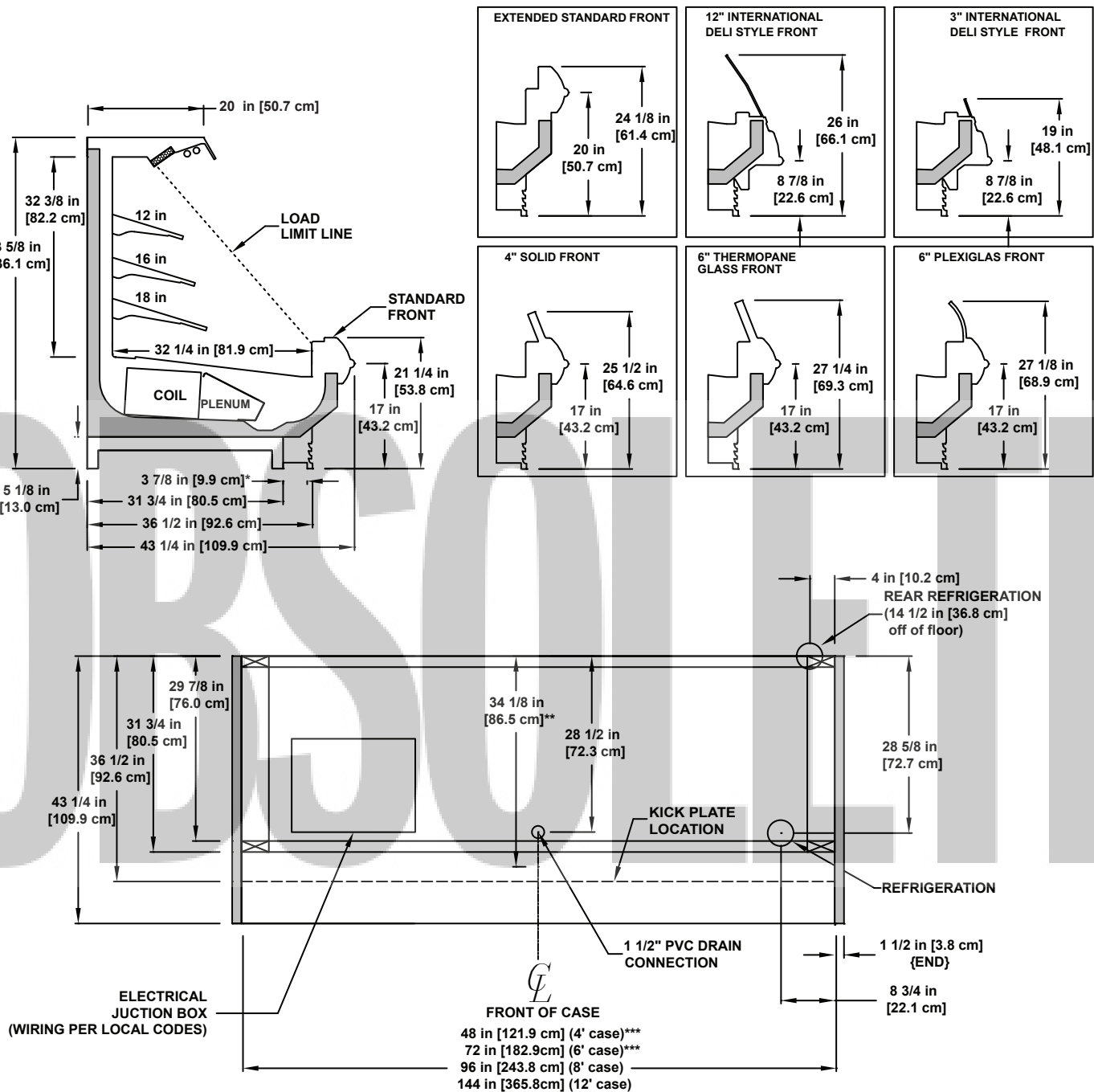
- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



03.5UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

- * :STUB-UP AREA
- ** :RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8" , LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



OBSOLETE

03.5EM-NRG Multi-Deck End-Cap Merchandiser w/ Synerg-E™ (Dairy / Deli / Meat / Produce)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
	120 Volts		120 Volts	
	Amps	Watts	Amps	Watts
2	0.40	28	1.89	227

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

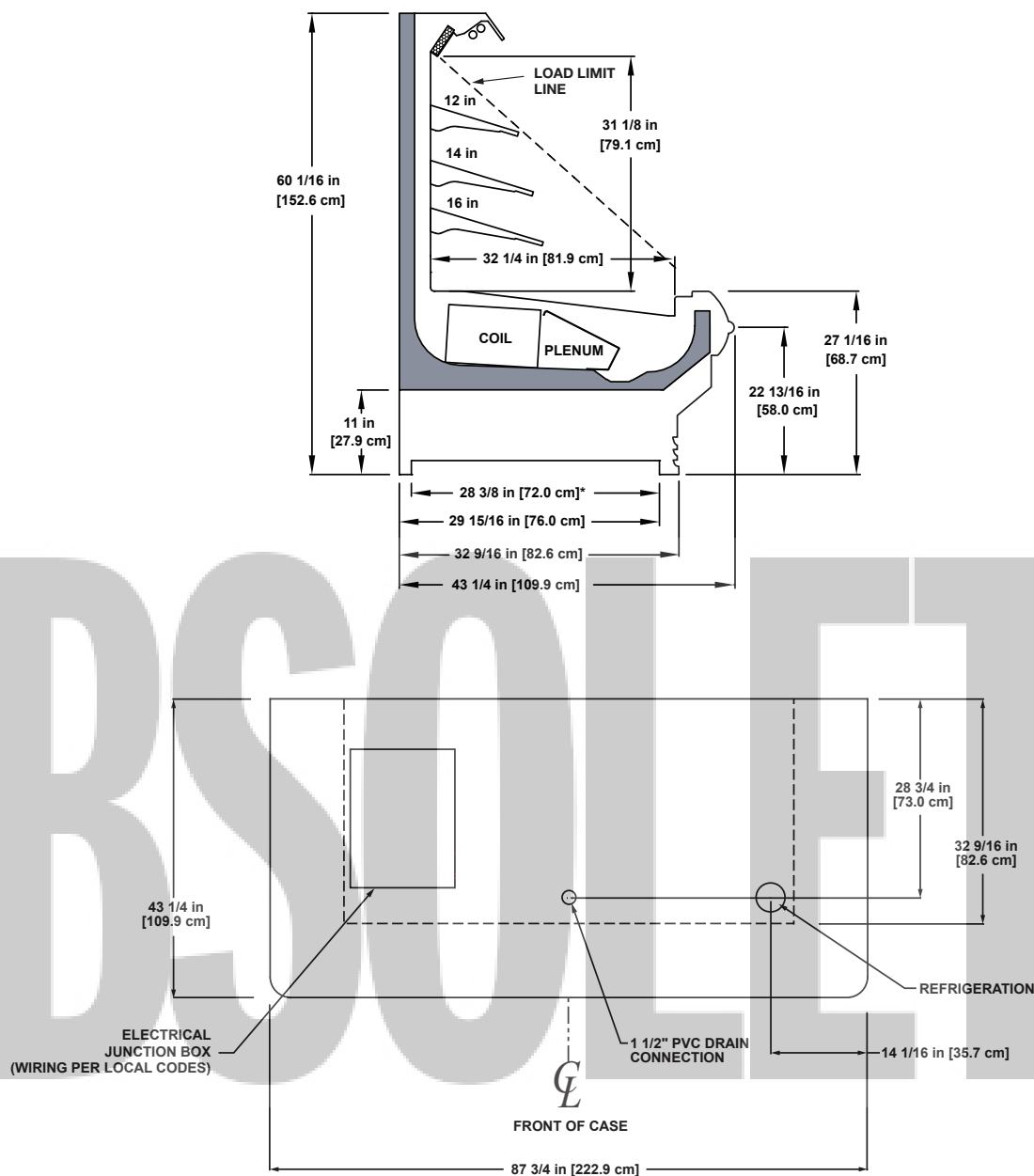
Model	Front Sill Heights	² BTUHs/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	6661	5690	6-8	28	31	150
Meat ¹	Ext.	6590	5629	6-8	26	30	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--- ⁶	---	45	45	---	---	---	---

- 1 For meat application: extended front sills are required for maintaining proPer Case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)
- 2 BTUH/ft notes:
- Listed BTUH/cs indicate unlighted shelves. For LED lighting, add 27 BTUH per 3' lighted shelf. For T8 lighted shelves (see Appendix D), add 60 BTUH per 3' lighted shelf.
 - Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.
- 3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.
- 4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F
- 5 Average discharge air velocity at peak of defrost.
- 6 NOTE: " - - " indicates that feature is not an option on this case model.

03.5EM-NRG Multi-Deck End-Cap Merchandiser w/ Synerg-E™ (Dairy / Deli / Meat / Produce)



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

UTILITY

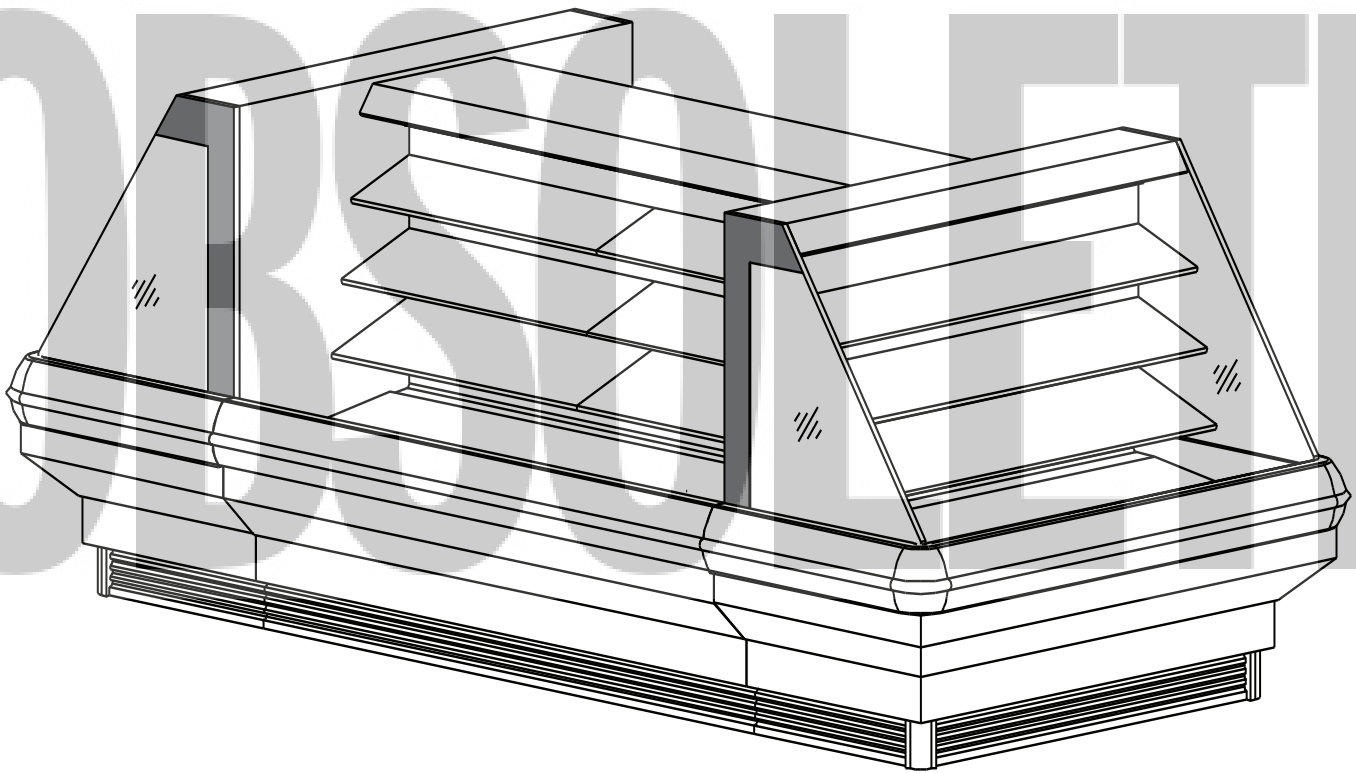
Dairy / Deli / Meat / Produce



03.5EM-NRG

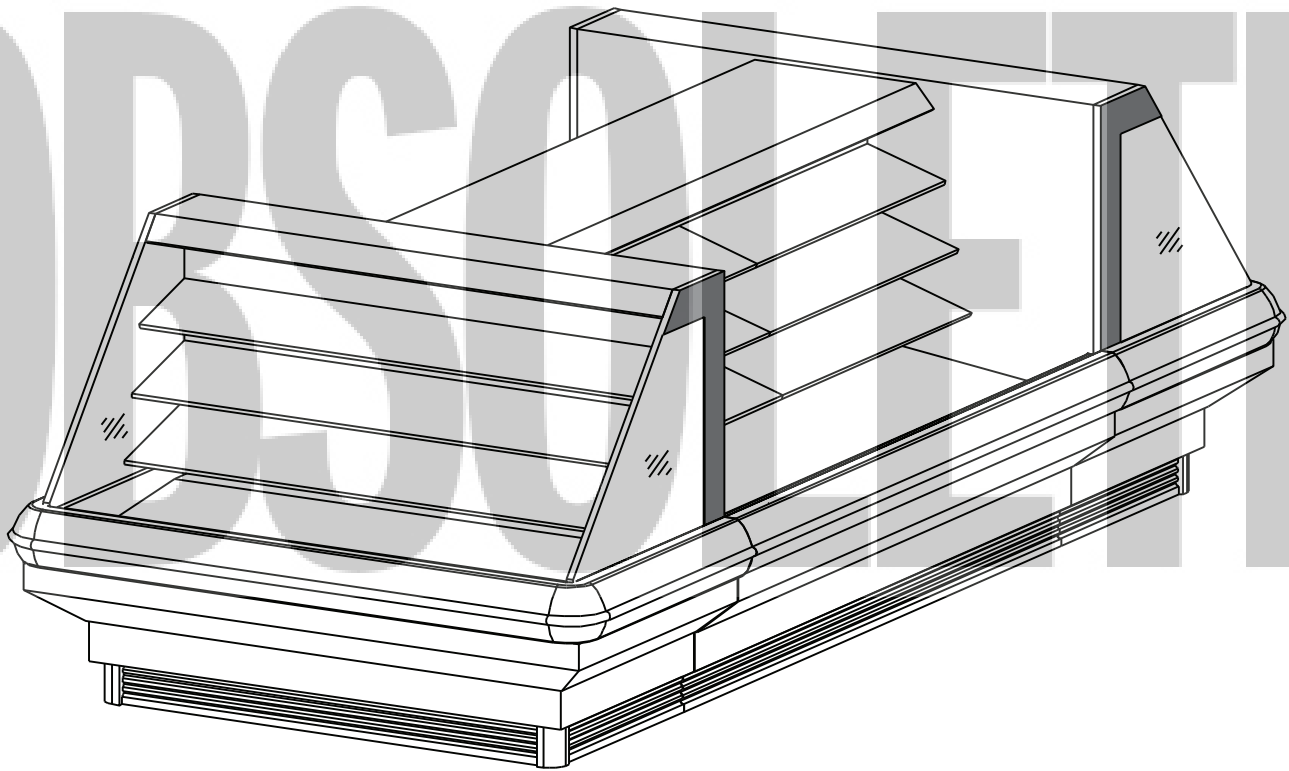
Multi-Deck End-Cap Merchandiser w/ Synerg-E™
(Dairy / Deli / Meat / Produce)

O3.5EM-NRG/O3.5UM-NRG/O3.5EM-NRG
(SHOWN)



O3.5EM-NRG Multi-Deck End-Cap Merchandiser w/ Synerg-E™ (Dairy / Deli / Meat / Produce)

O3.5EM-NRG/O3.5UM-NRG/O3.5EM-NRG
(SHOWN)



UTILITY

Dairy / Deli / Meat / Produce



03.5UD Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

¹ BTUH/ft		Superheat Set Point @Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
1303	1208	6 - 8	22	30	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ BTUH/ft notes:

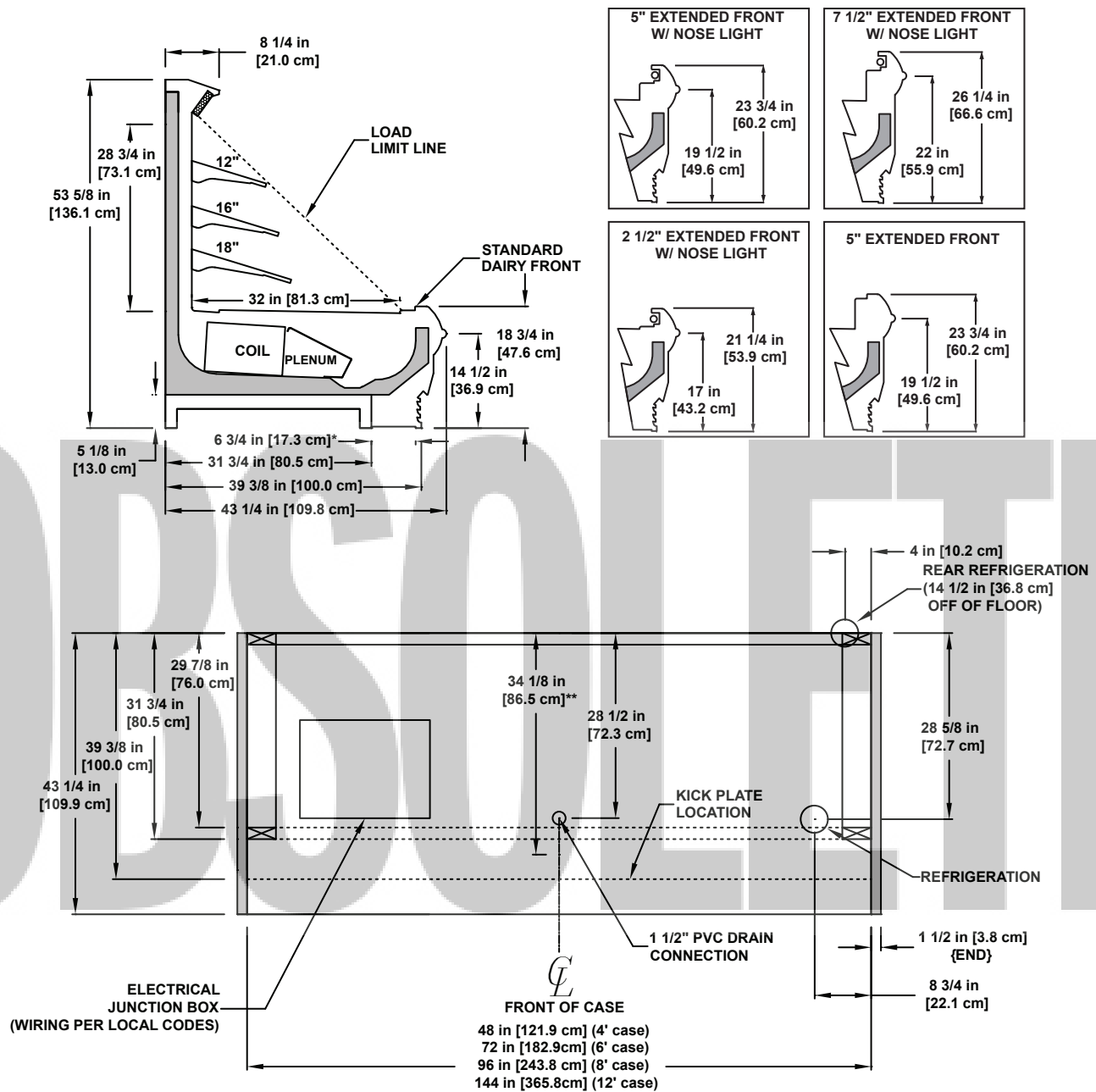
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

² Average discharge air velocity at peak of defrost.

03.5UD Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



03.5UD-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Height	1BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ² (°F)	Discharge ³ Air (°F)	Discharge ⁴ Air Velocity (FPM)
	Conventional	Parallel				
Extended	1051	920	6 - 8	28	31	150

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	-- ⁵	---	40	42	---	---	---	---

1 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

2 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

3 Conventional Discharge Air Control - Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

4 Average discharge air velocity at peak of defrost.

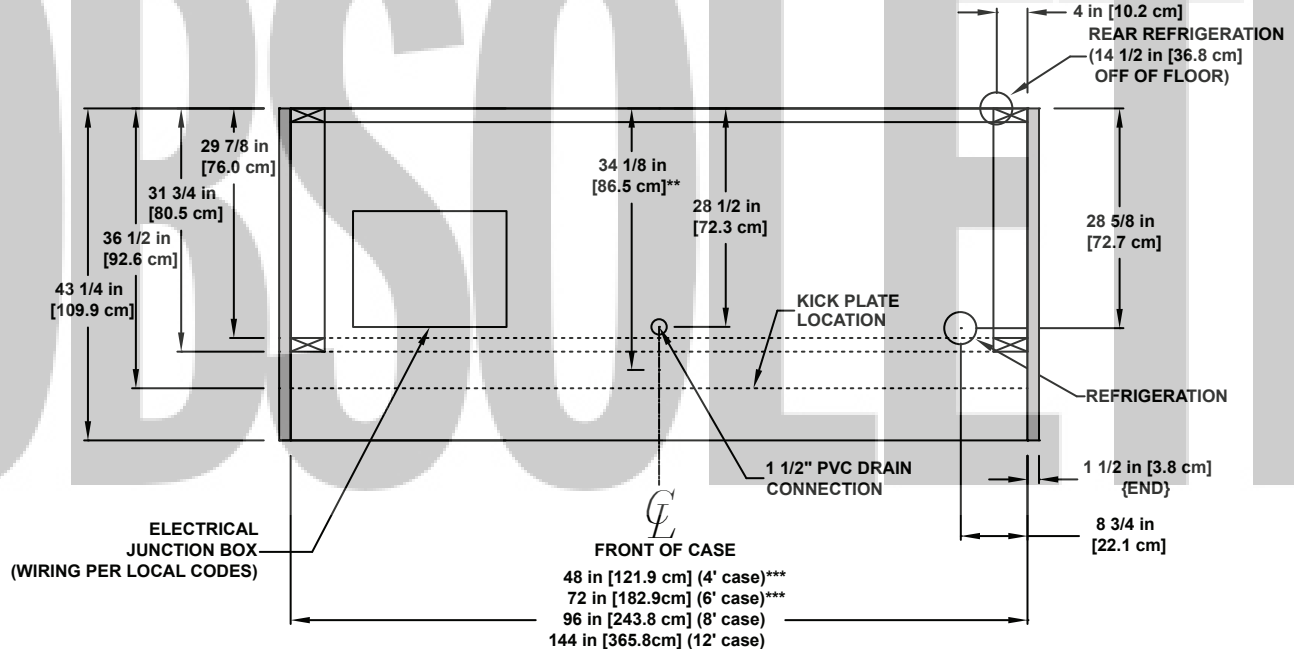
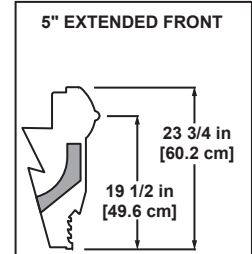
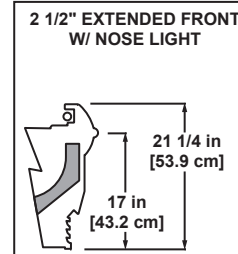
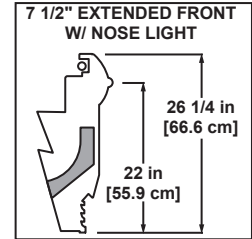
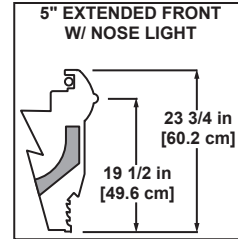
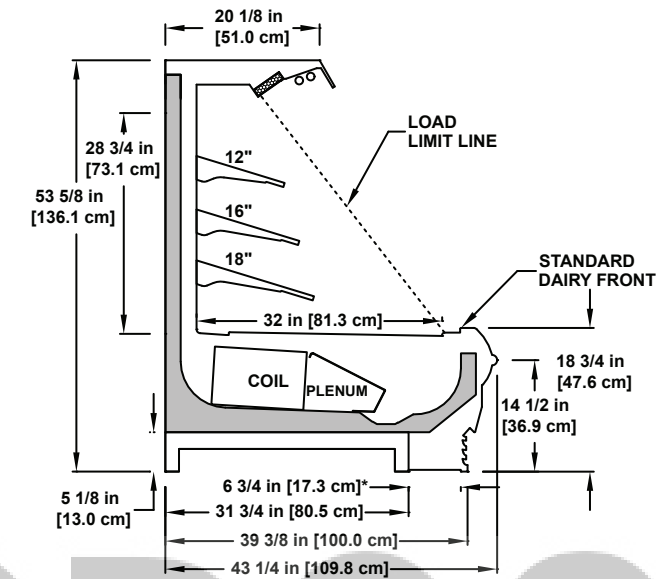
5 NOTE: "--" indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

03.5UD-NRG

Multi-Deck Merchandiser with Synerg-E™ 4', 6', 8' & 12' (Dairy / Deli / Produce)



NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



O3.75UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1389	1288	6 - 8	22	27	225

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O3.75UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

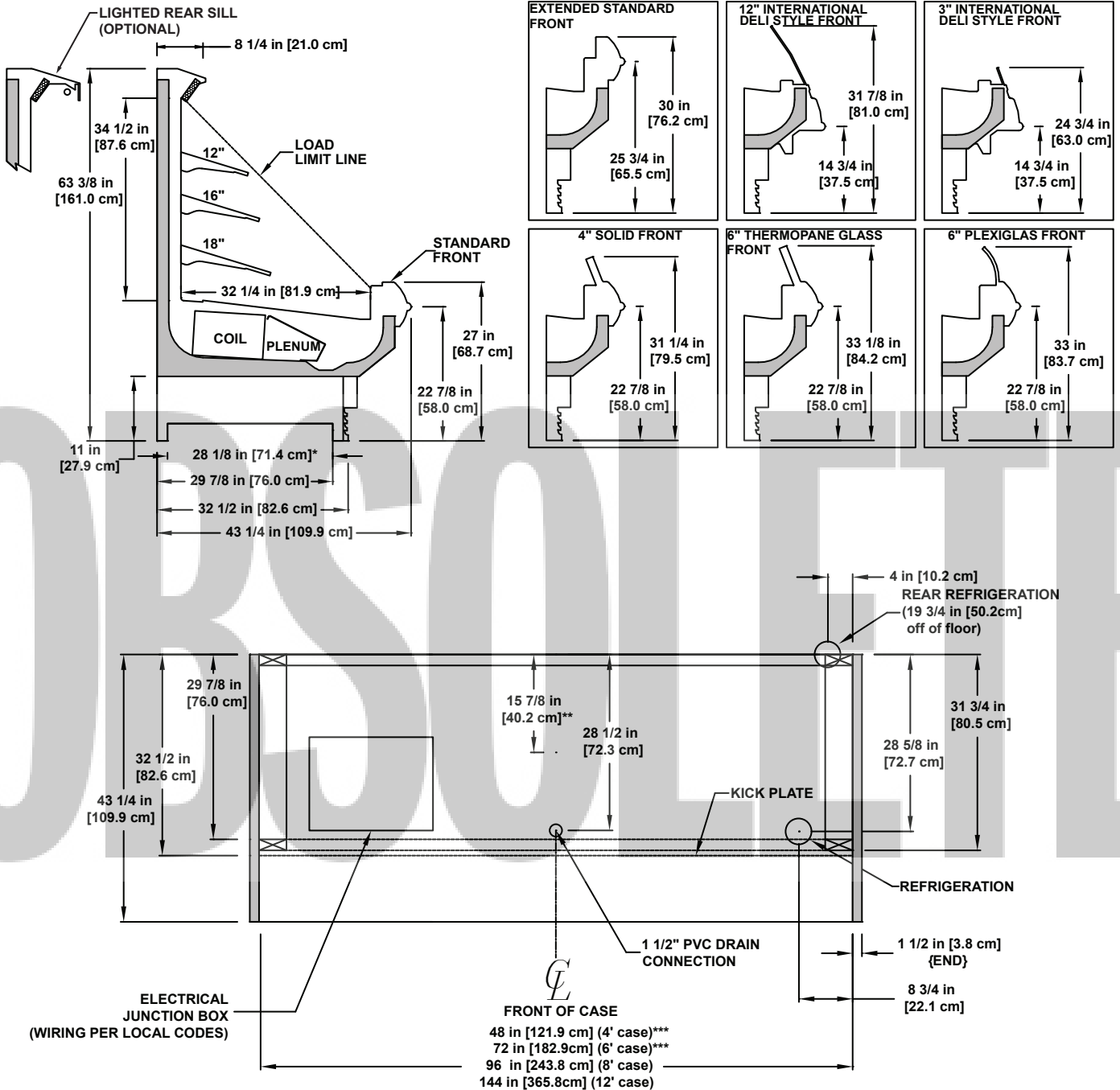


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

03.75UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



NOTES:

- * :STUB-UP AREA
- ** :RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST
- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8" , LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



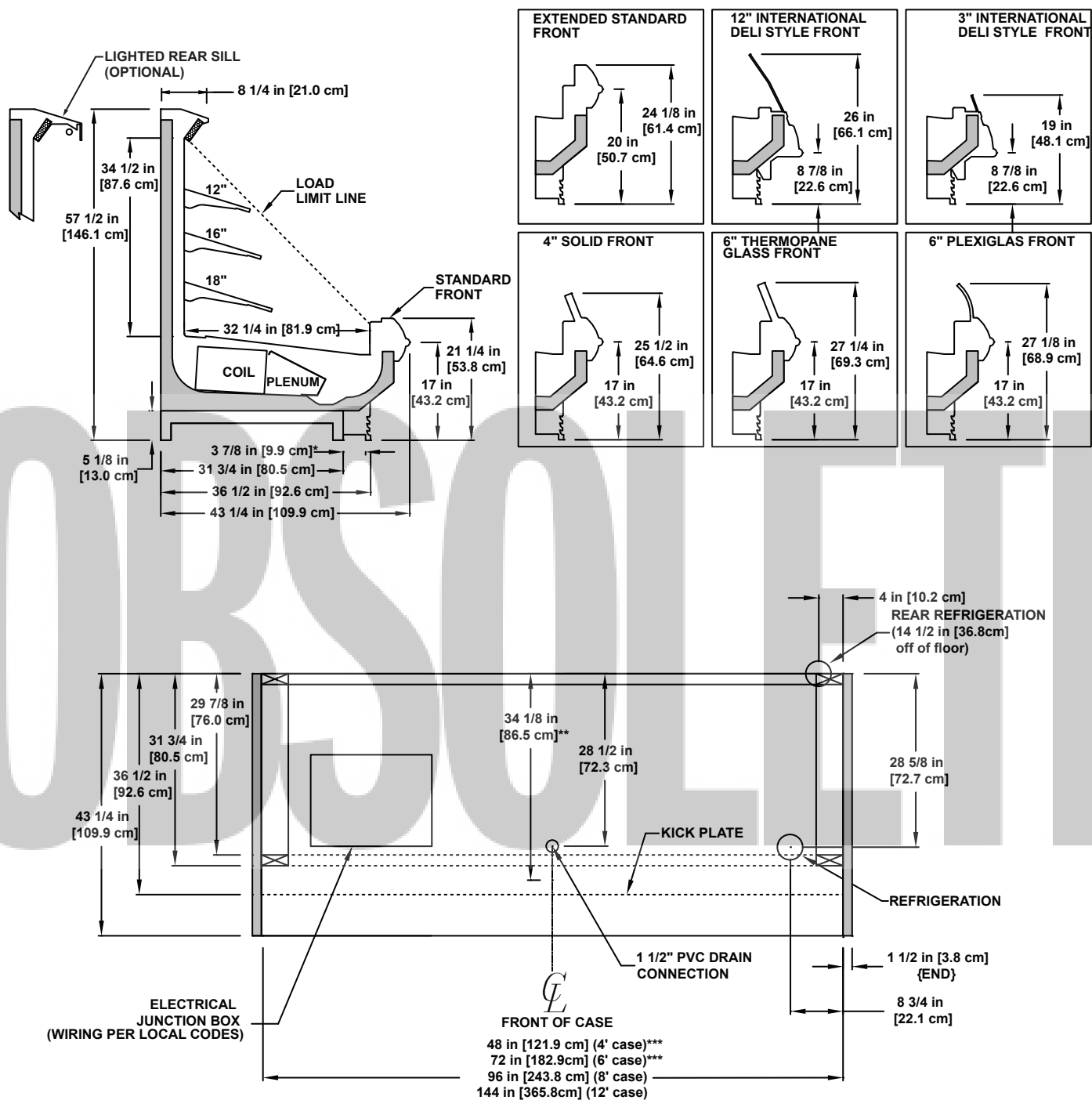
UTILITY

Dairy / Deli / Meat / Produce

03.75UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(5" BASEFRAME)



NOTES:

- * :STUB-UP AREA
- ** :RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8" , LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



OBSOLETE

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Height	¹ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ² (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	1015	930	6 - 8	28	32	160
Meat	4" or higher	1004	920	6 - 8	26	31	160

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	---	---	30	42	---	---	---	---

¹ BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

² Listed evaporator temp. indicates unlighted shelves. For lighted shelves, reduce the listed evaporator temp. by 2°F.

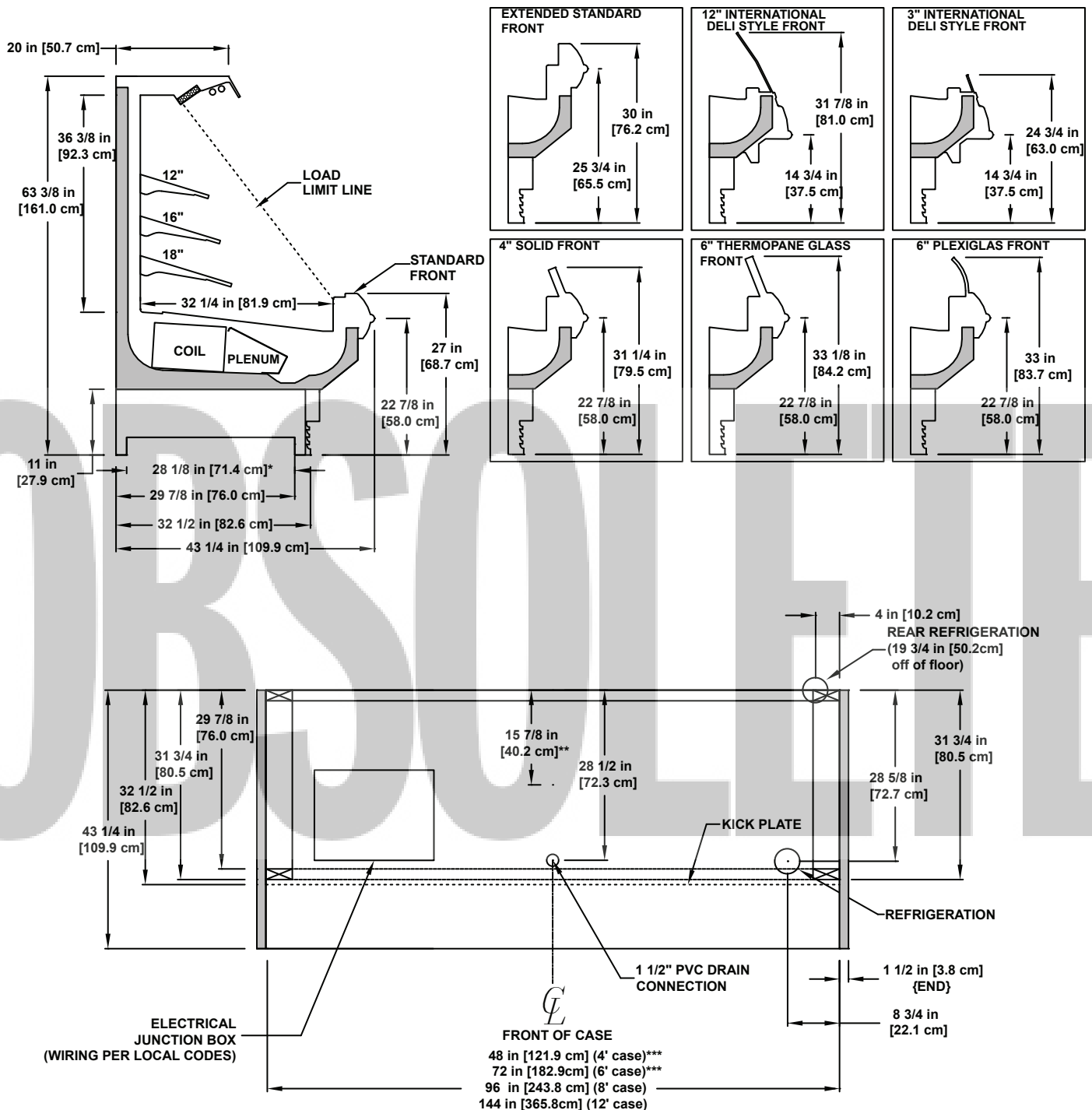
³ Average discharge air velocity at peak of defrost.

⁴ NOTE: " - - " indicates that feature is not an option on this case model.

03.75UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Meat / Produce)

(11" BASEFRAME)



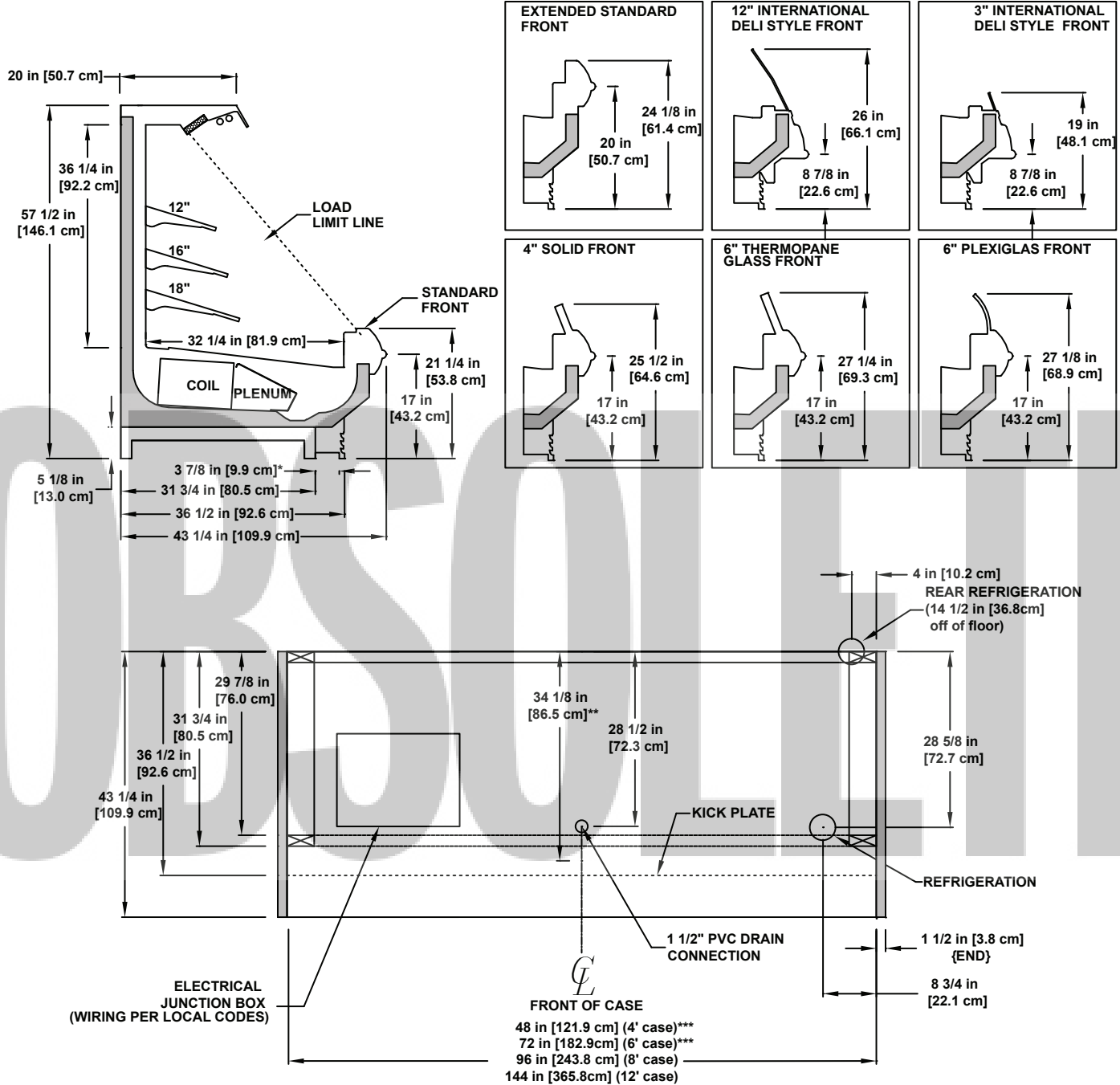
NOTES:

- * :STUB-UP AREA
- ** :RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** :AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



(5" BASEFRAME)



NOTES:

- * :STUB-UP AREA
- ** :RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8" , LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS : 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE

OBSOLETE

ON4UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.15	9.2	0.14	17	1.92	400	2.22	532
6'	2	0.15	9.2	0.20	24	2.88	600	3.33	798
8'	3	0.23	13.8	0.25	30	3.85	800	4.44	1065
12'	4	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1125	1043	6 - 8	22	31	203

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

1 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model ON4UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

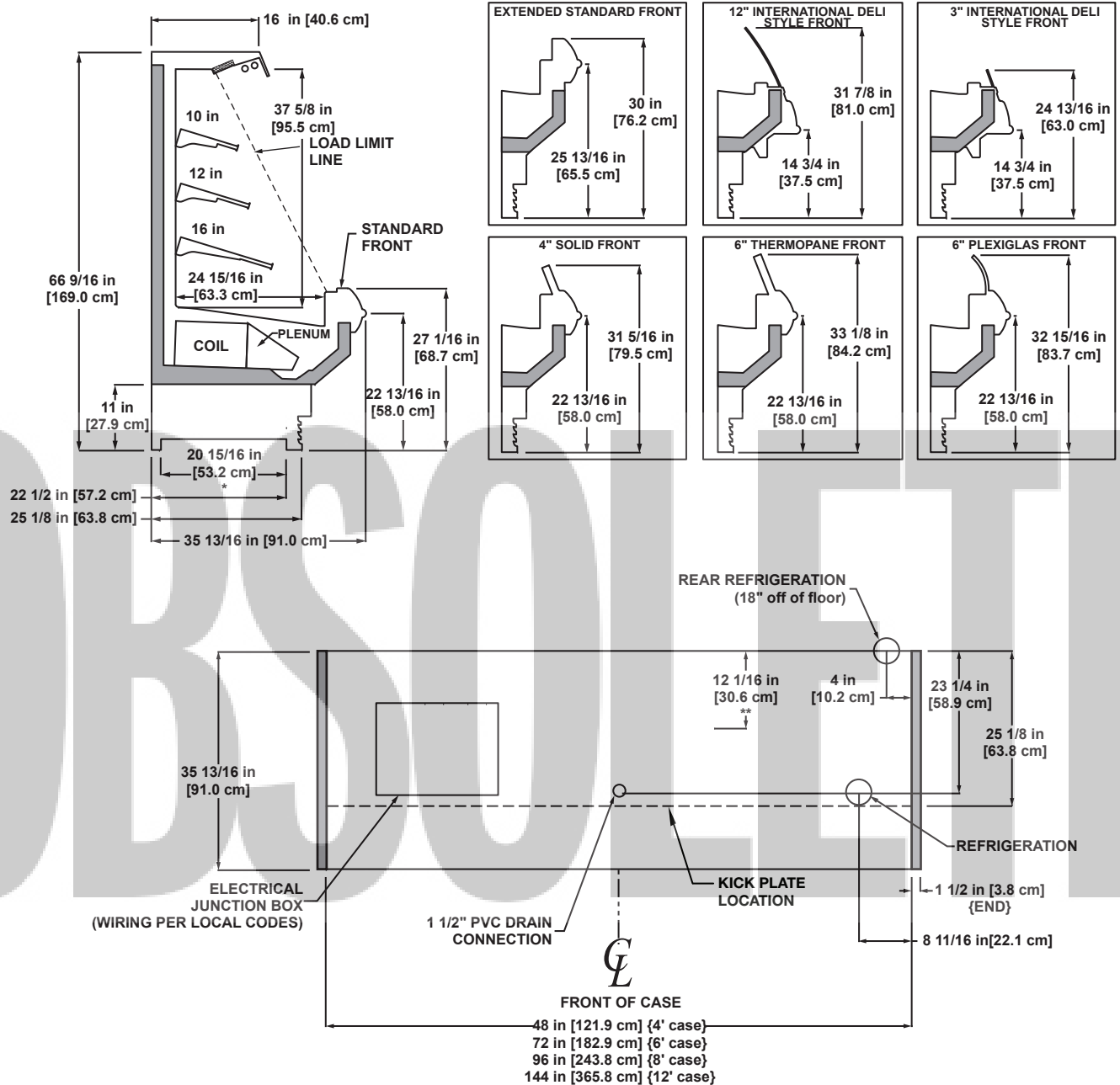
3 Average discharge air velocity at peak of defrost.

Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON4UM Narrow Multi-Deck Merchiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

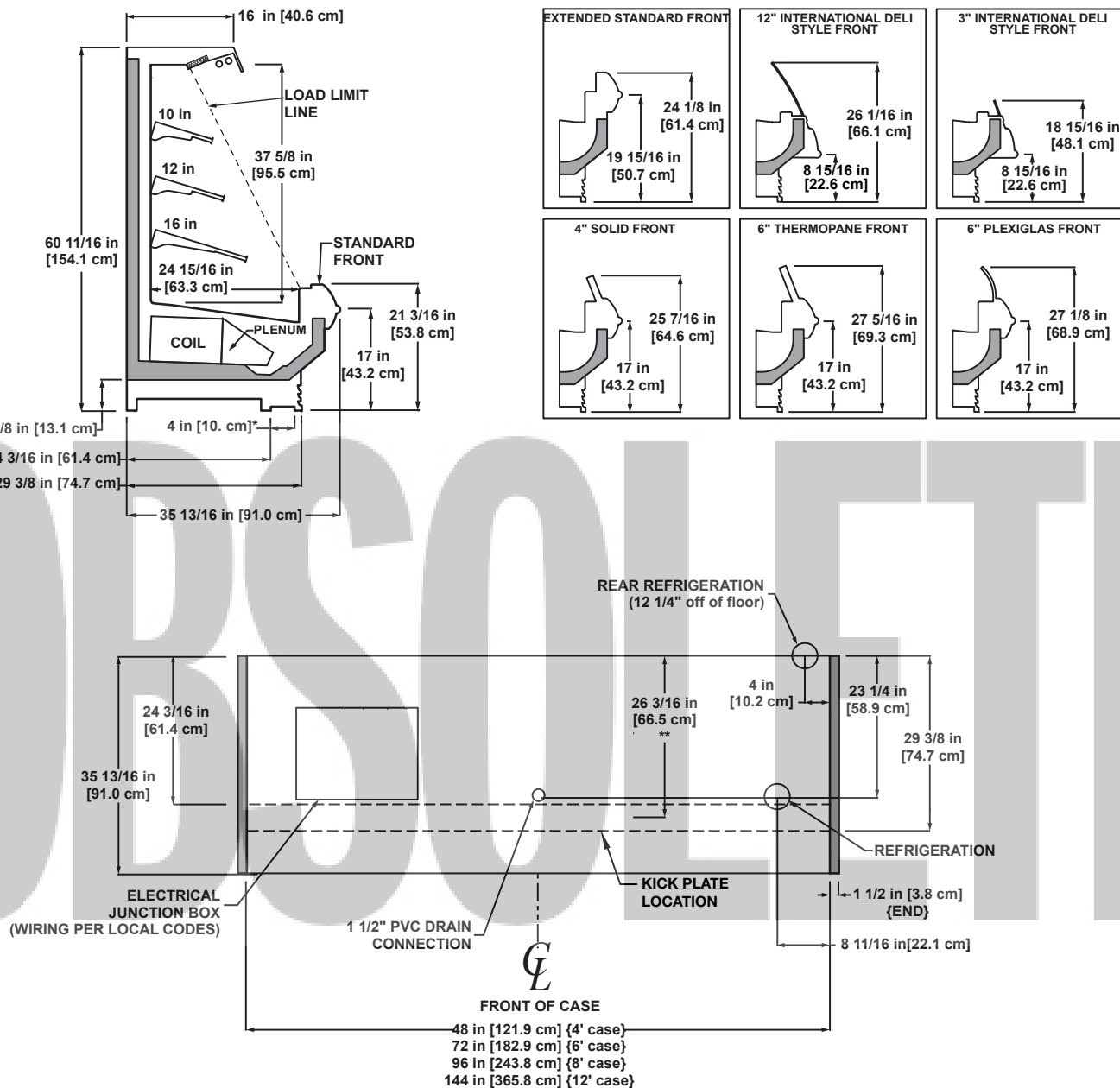
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON4UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

ON4EM Narrow Multi-Deck End-Cap Merchandiser (Deli)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.23	14	0.99	119	2.31	480	2.66	640

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1	5'	0.12	14.3	0.22	26.3

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
7010	5988	6 - 8	22	30	280

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	40	47	45	47	---	---	---	---

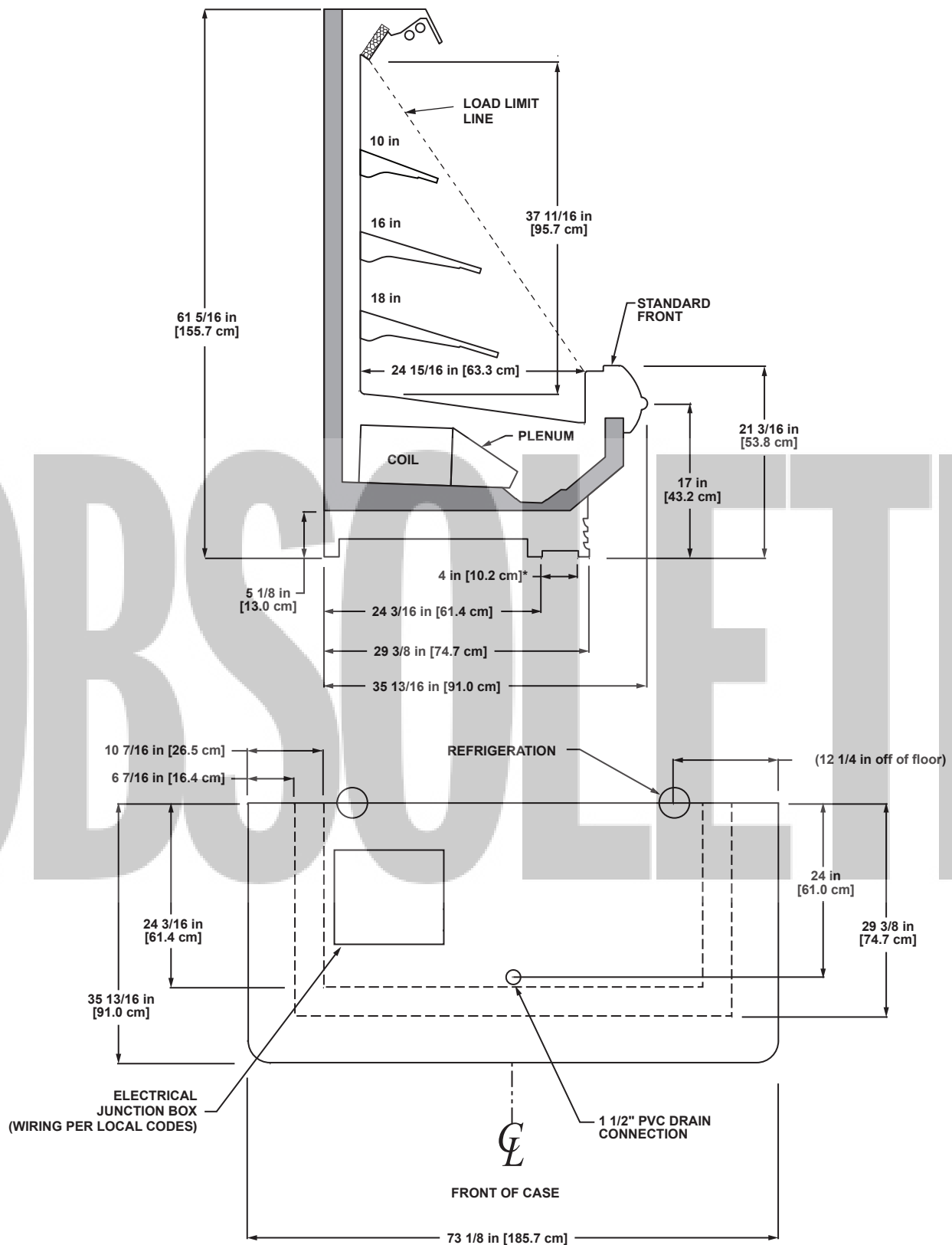
1 BTUH/case notes:

- Listed BTUH/cs indicate unlighted shelves. For T8 lighted shelves (see Appendix D), add 100 BTUH per 5' lighted shelf. For LED lighting, add 45 BTUH per 5' lighted shelf.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

2 Average discharge air velocity at peak of defrost.

3 NOTE: " - - " indicates that feature is not an option on this case model.

ON4EM Narrow Multi-Deck End-Cap Merchandiser (Deli)



NOTES:

* STUB-UP AREA

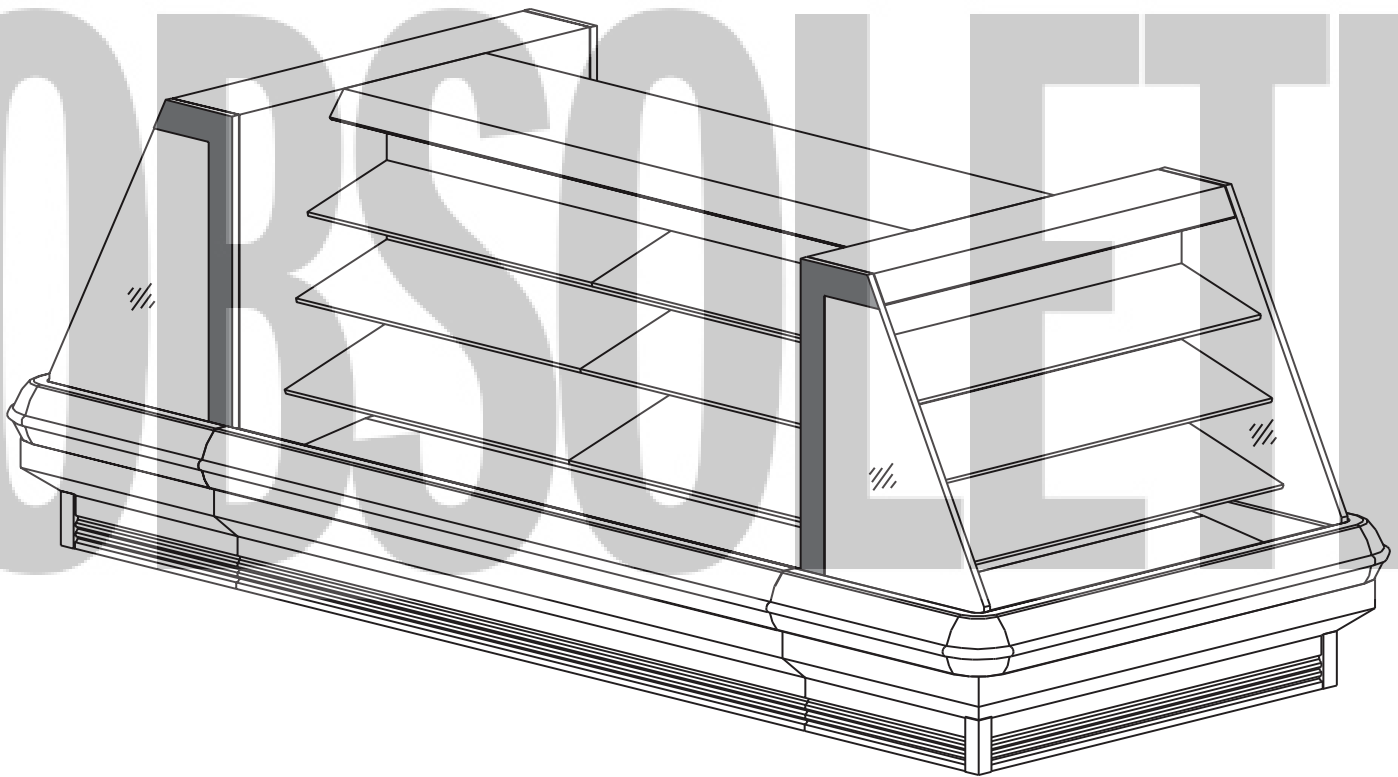
- SUCTION LINE - 7/8", LIQUID LINE - 1/2"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON4EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli)

ON4EM/ON4UM/ON4EM
(SHOWN)



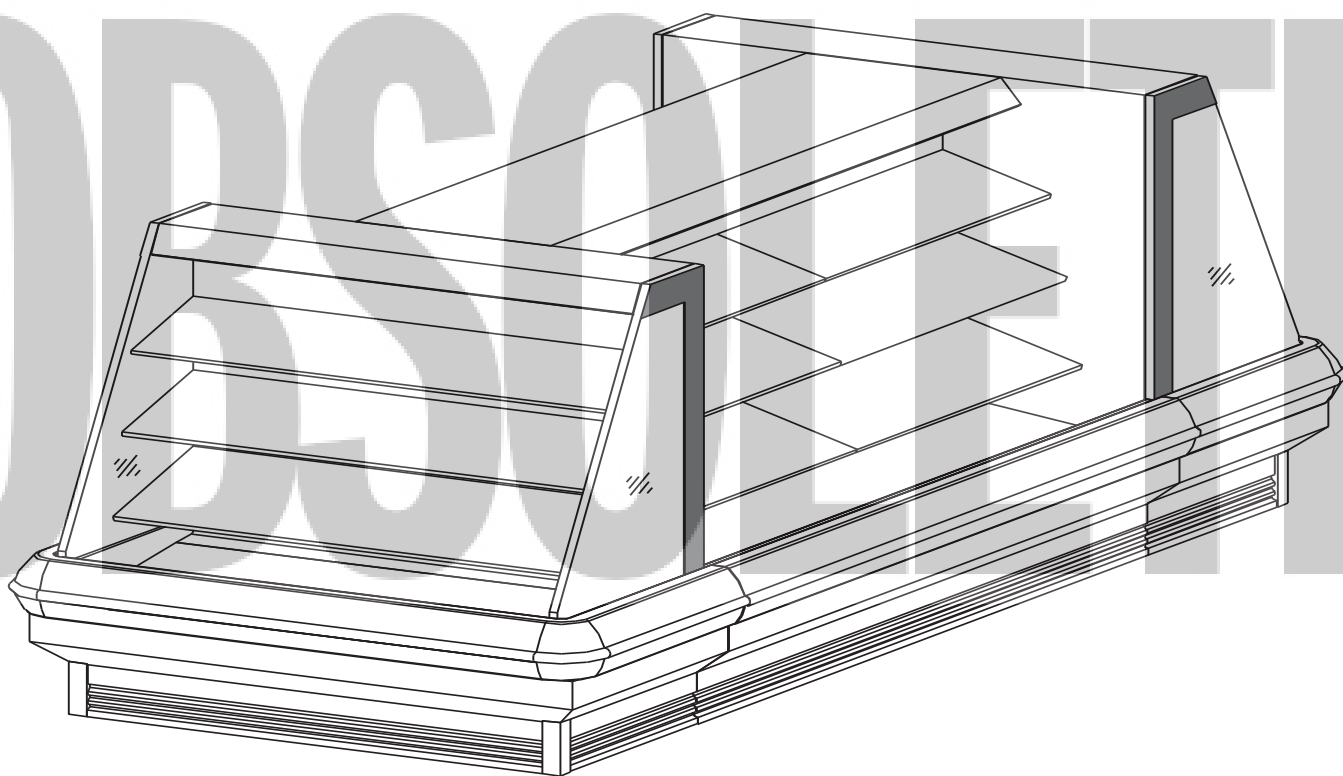
ON4EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli)

ON4EM/ON4UM/ON4EM
(SHOWN)

UTILITY

Deli



O4UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.39	23.4	0.14	17	1.92	400	2.22	532
6'	2	0.39	23.4	0.20	24	2.88	600	3.33	798
8'	3	0.59	35.1	0.25	30	3.85	800	4.44	1065
12'	4	0.78	46.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1476	1368	6 - 8	22	30	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

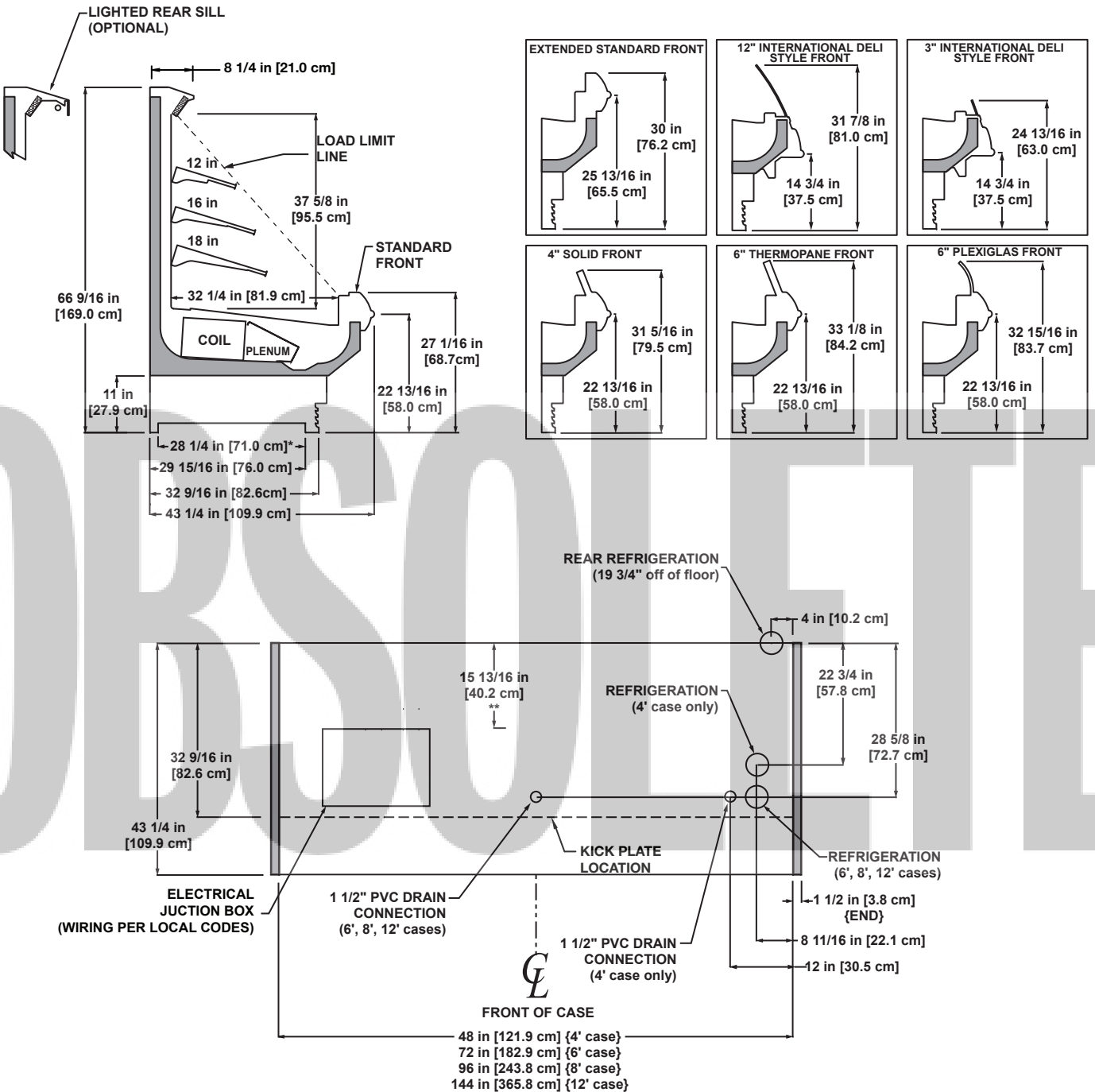
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O4UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

O4UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



UTILITY

Dairy / Deli / Produce

NOTES:

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

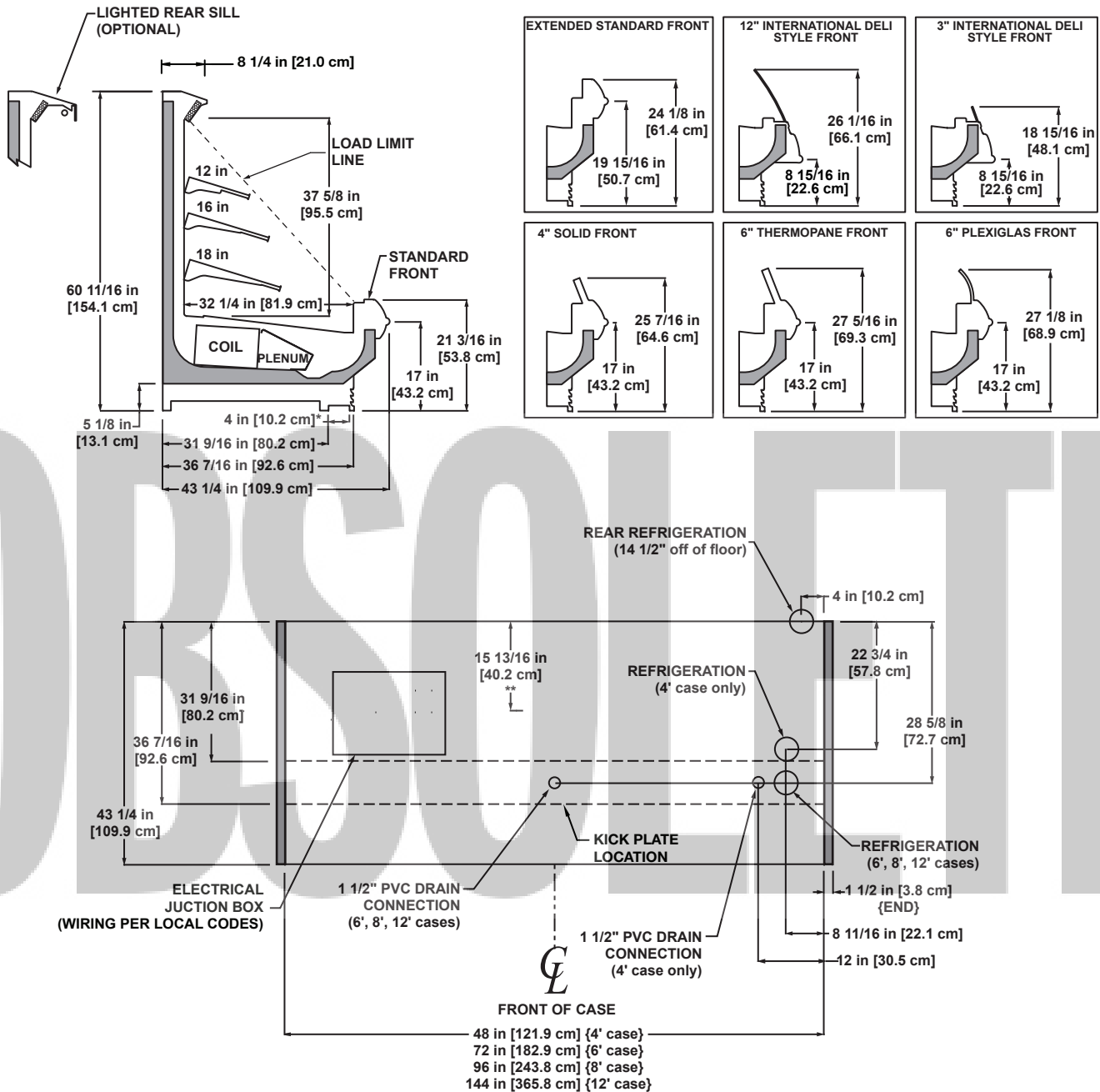
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O4UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

O4UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	Front Sill Height	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge Air ⁴ (°F)	Discharge Air ⁵ Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	1015	930	6 - 8	28	31	160
Meat	Ext. ¹	1004	920	6 - 8	26	30	160

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--- ⁶	---	30	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

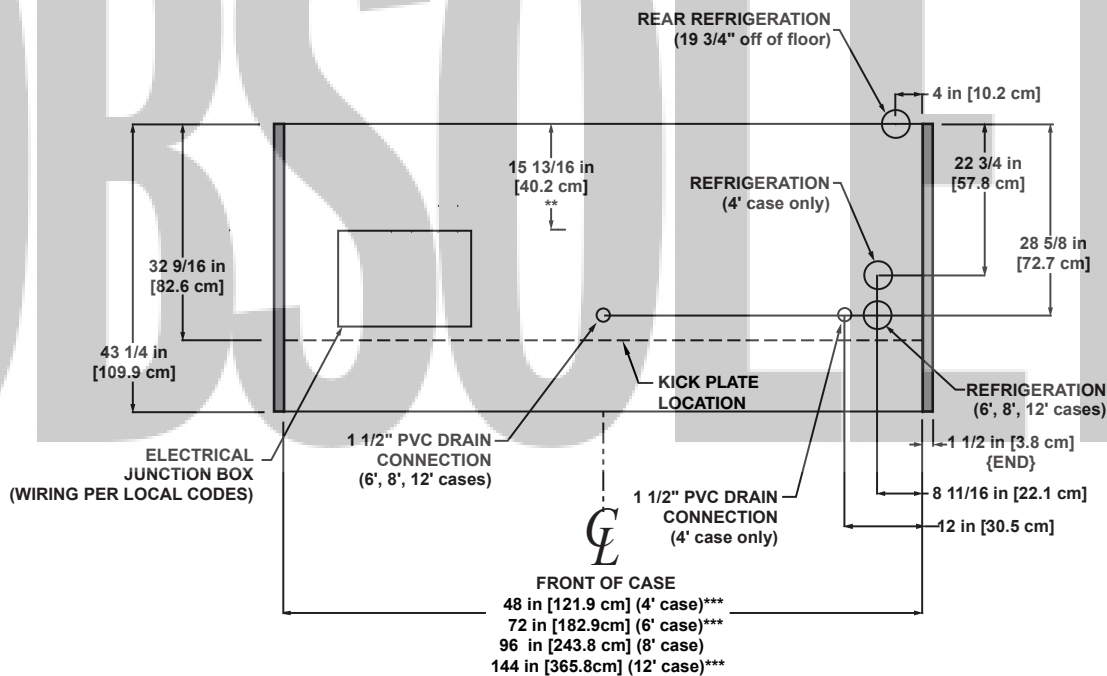
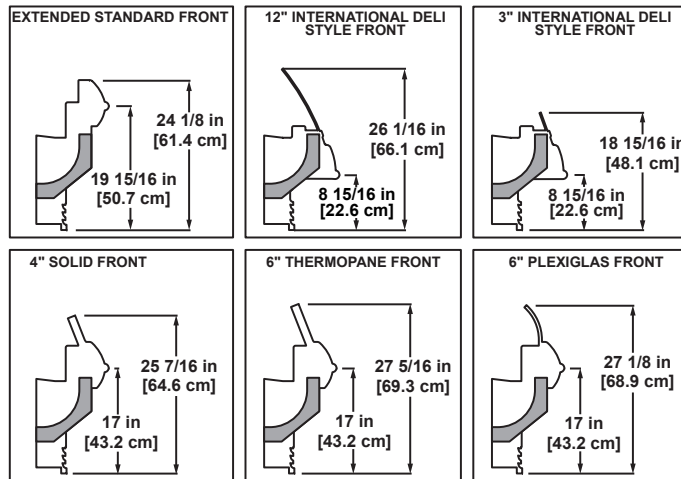
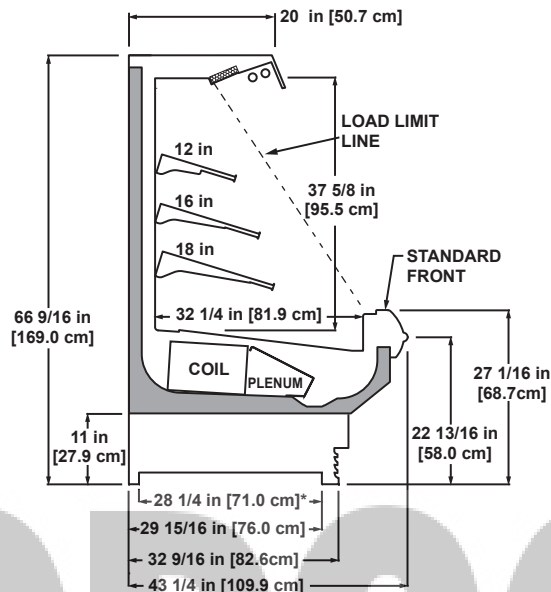
5 Average discharge air velocity at peak of defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.

O4UM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- *** : AVAILABLE UPON REQUEST

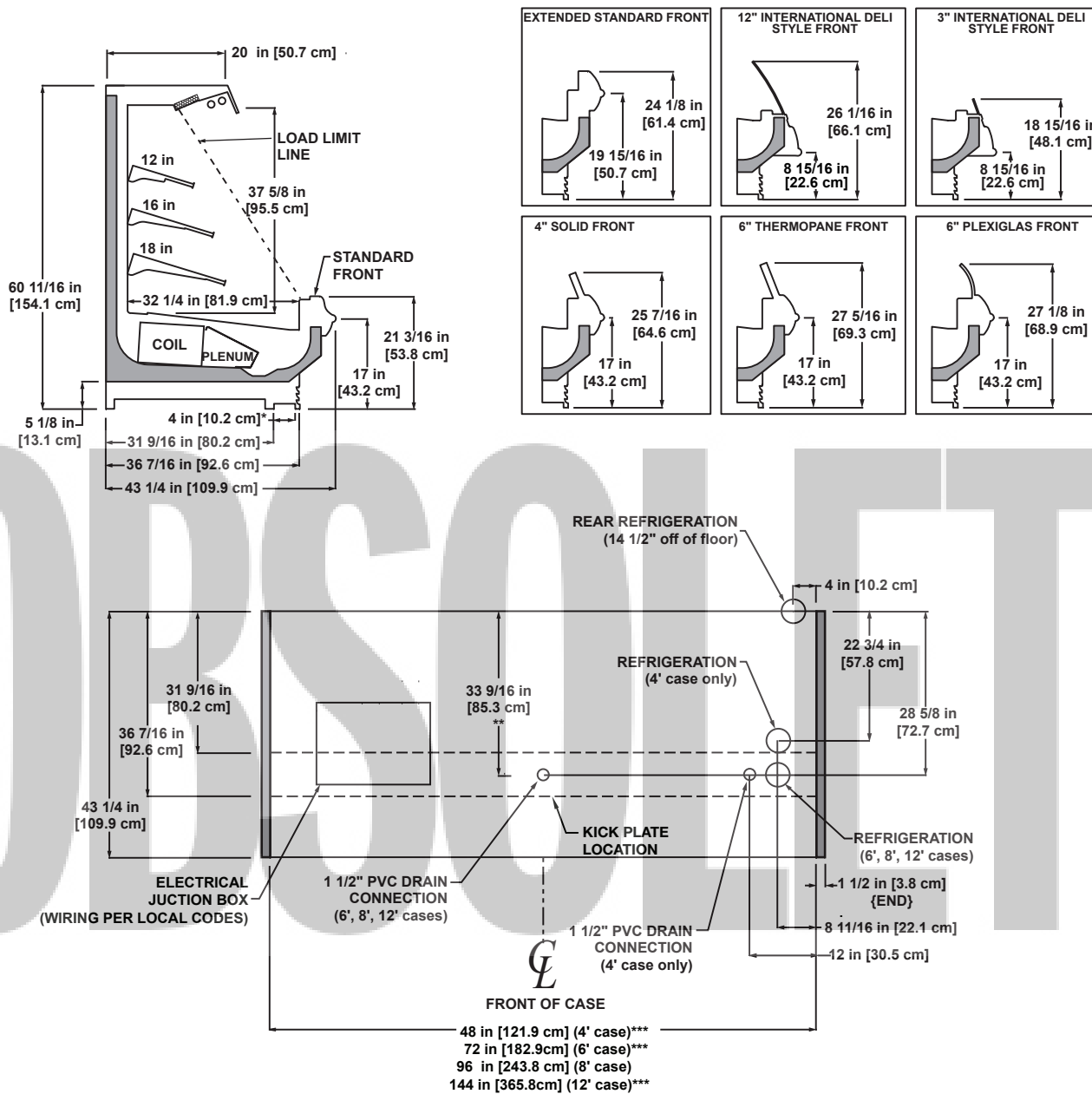
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O4UM-NRG

Multi-Deck Merchandiser with Synerg-E™
4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* : STUB-UP AREA

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

*** : AVAILABLE UPON REQUEST

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

ON5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.39	23.4	0.14	17	1.92	400	2.22	532
6'	2	0.39	23.4	0.20	24	2.88	600	3.33	798
8'	3	0.59	35.1	0.25	30	3.85	800	4.44	1065
12'	4	0.78	46.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1179	1093	6 - 8	22	31	240

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model ON5UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

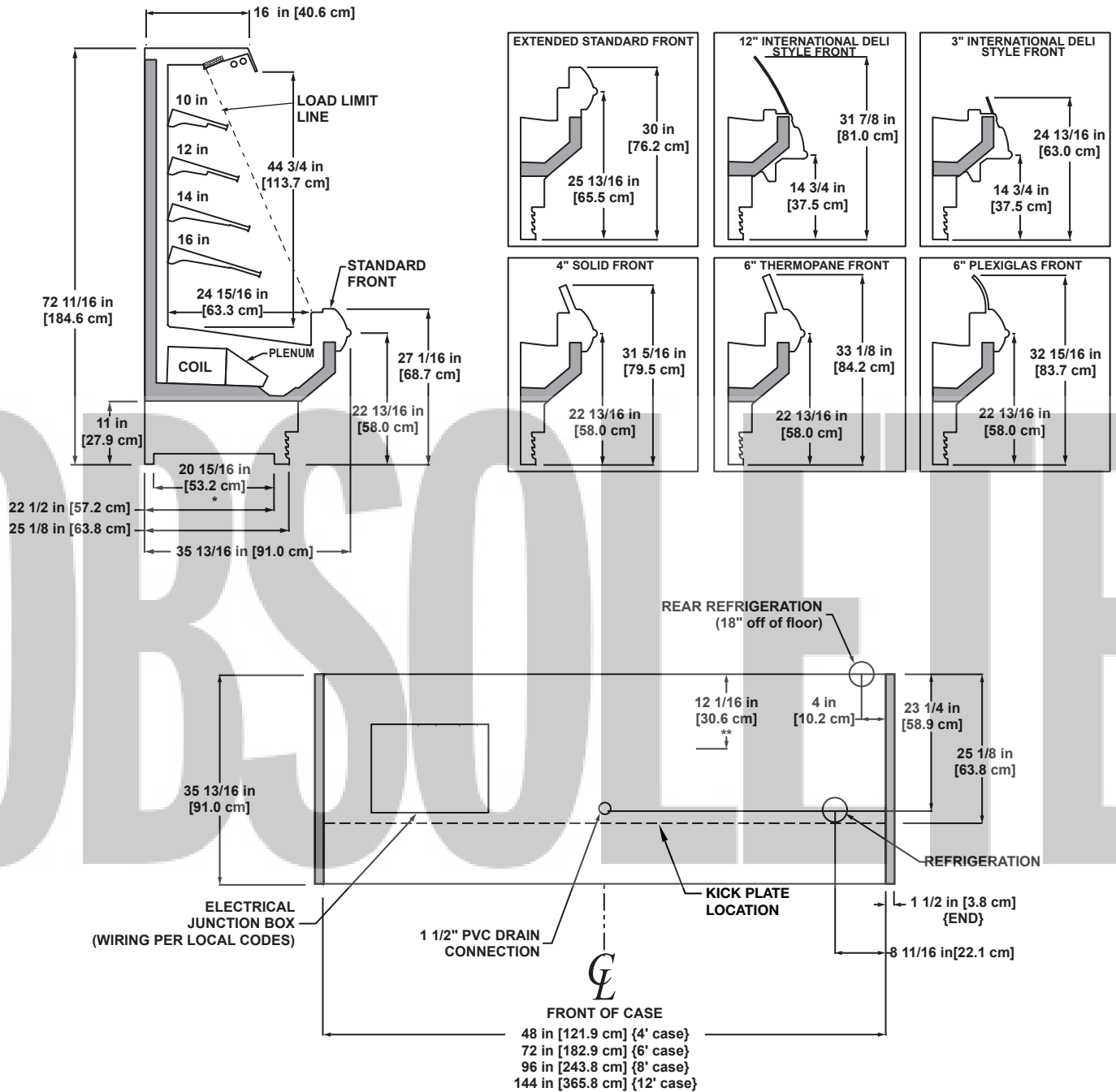
ON5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)

UTILITY

Dairy / Deli / Produce



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

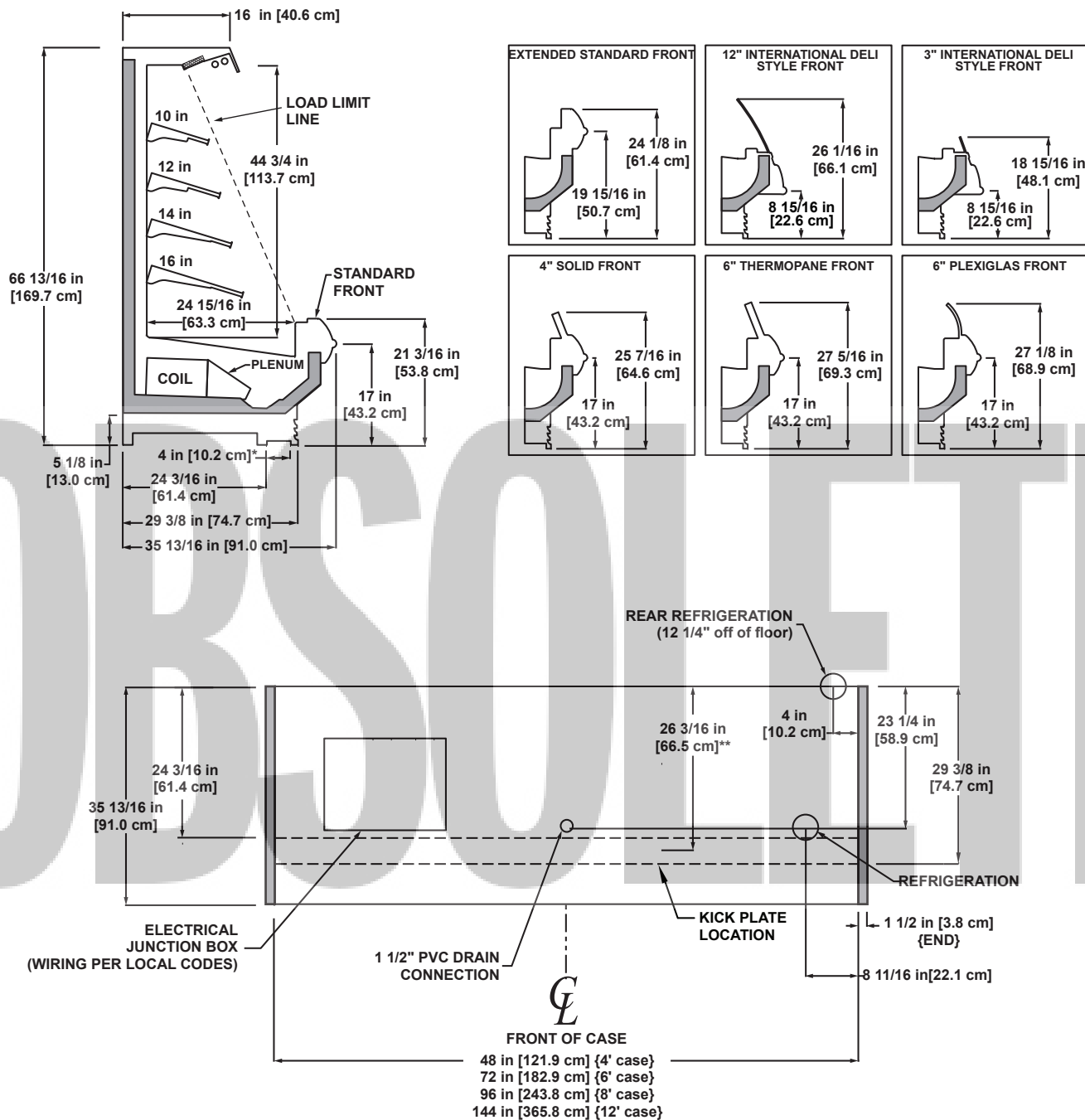
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12", 1-14" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON5UM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12", 1-14" & 1-16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

ON5EM Narrow Multi-Deck End-Cap Merchandiser (Deli)

Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		208 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.23	14	1.89	227	2.31	480	2.66	640

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1	5'	0.12	14.3	0.22	26.3

Guidelines & Control Settings

¹ BTUH/cs		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
7326	6258	6 - 8	22	30	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	40	47	45	47	---	---	---	---

1 BTUH/case notes:

- Listed BTUH/cs indicate unlighted shelves. For T8 lighted shelves (see Appendix D), add 100 BTUH per 5' lighted shelf. For LED lighting, add 45 BTUH per 5' lighted shelf.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

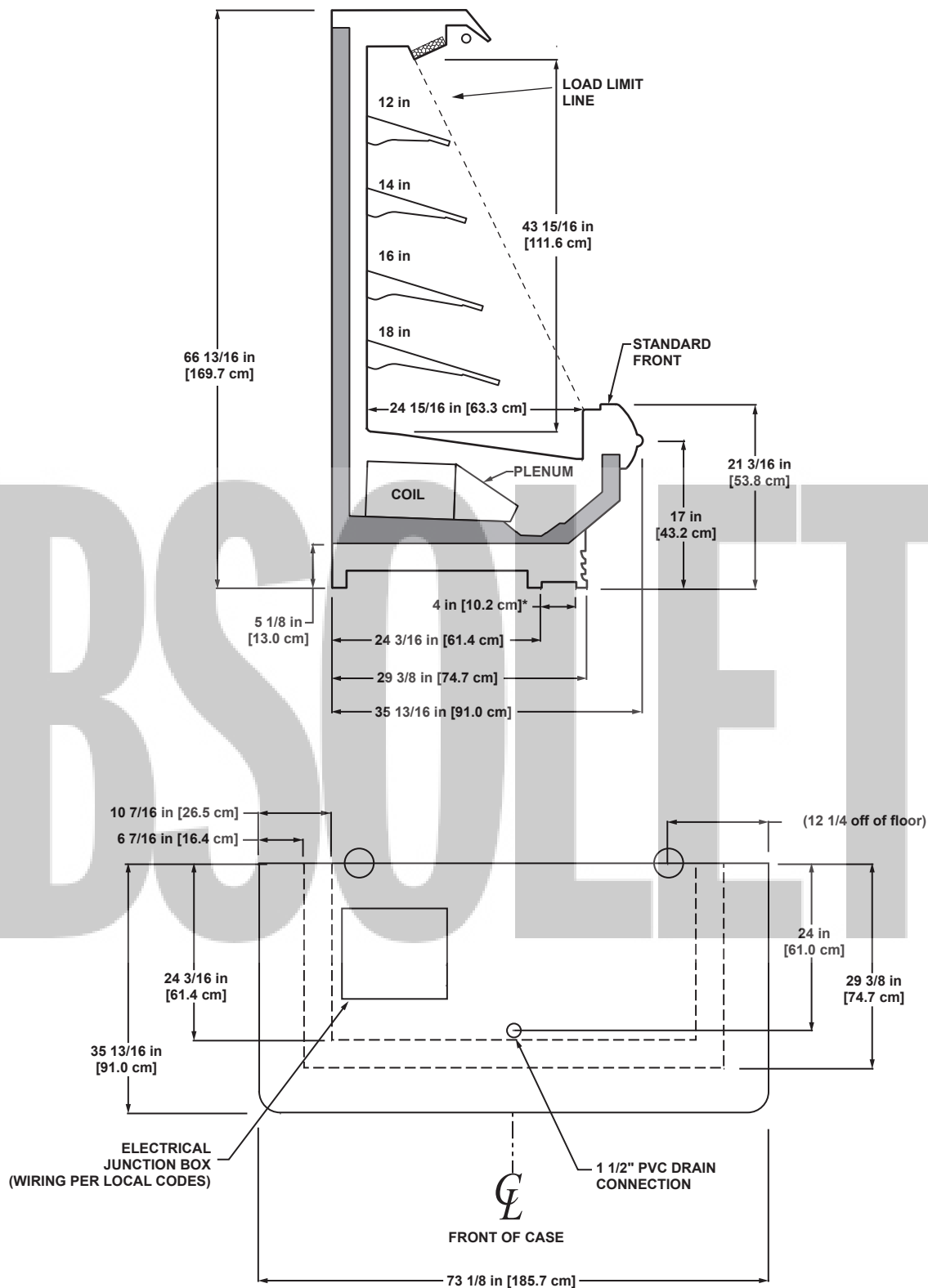
2 Average discharge air velocity at peak of defrost.

3 NOTE: " - - - " indicates that feature is not an option on this case model.

ON5EM Narrow Multi-Deck End-Cap Merchandiser (Deli)

UTILITY

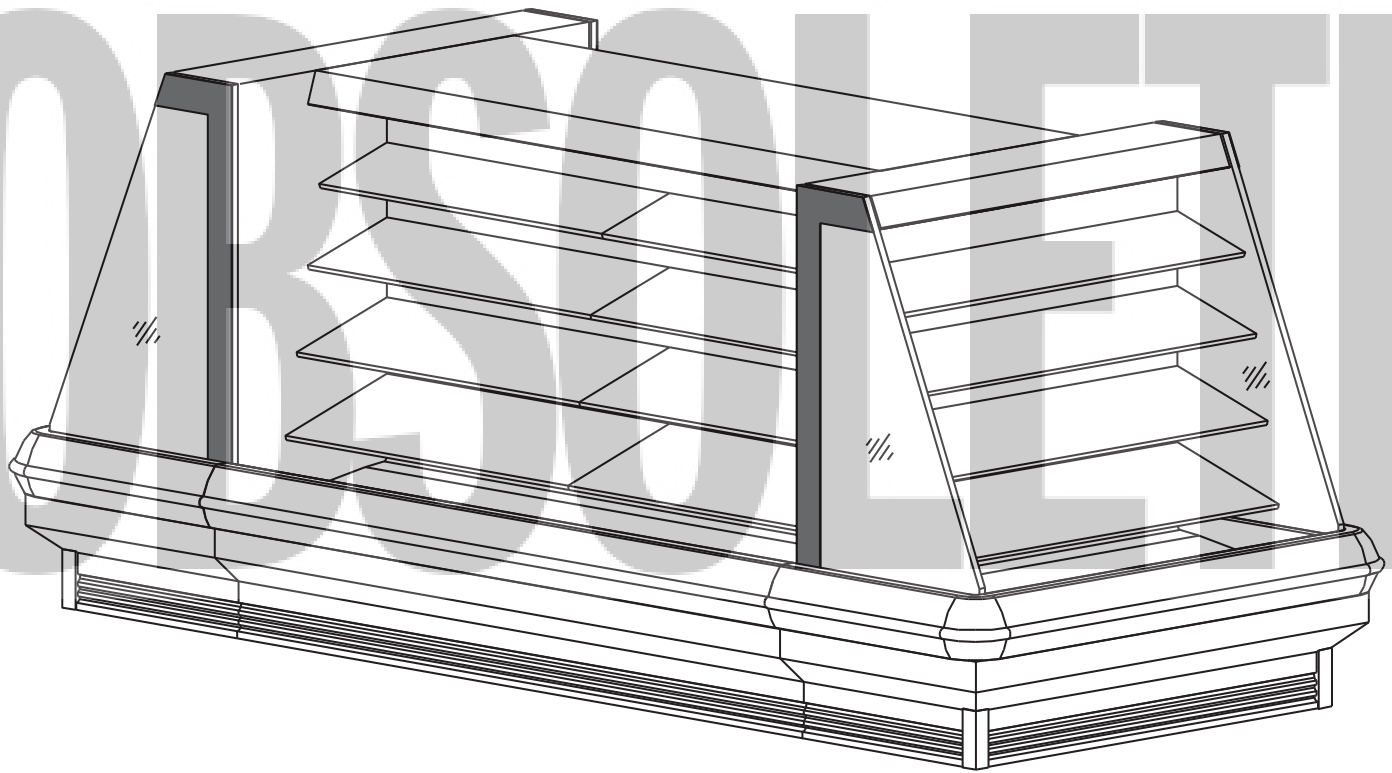
Deli



ON5EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli)

ON5EM/ON5UM/ON5EM
(SHOWN)



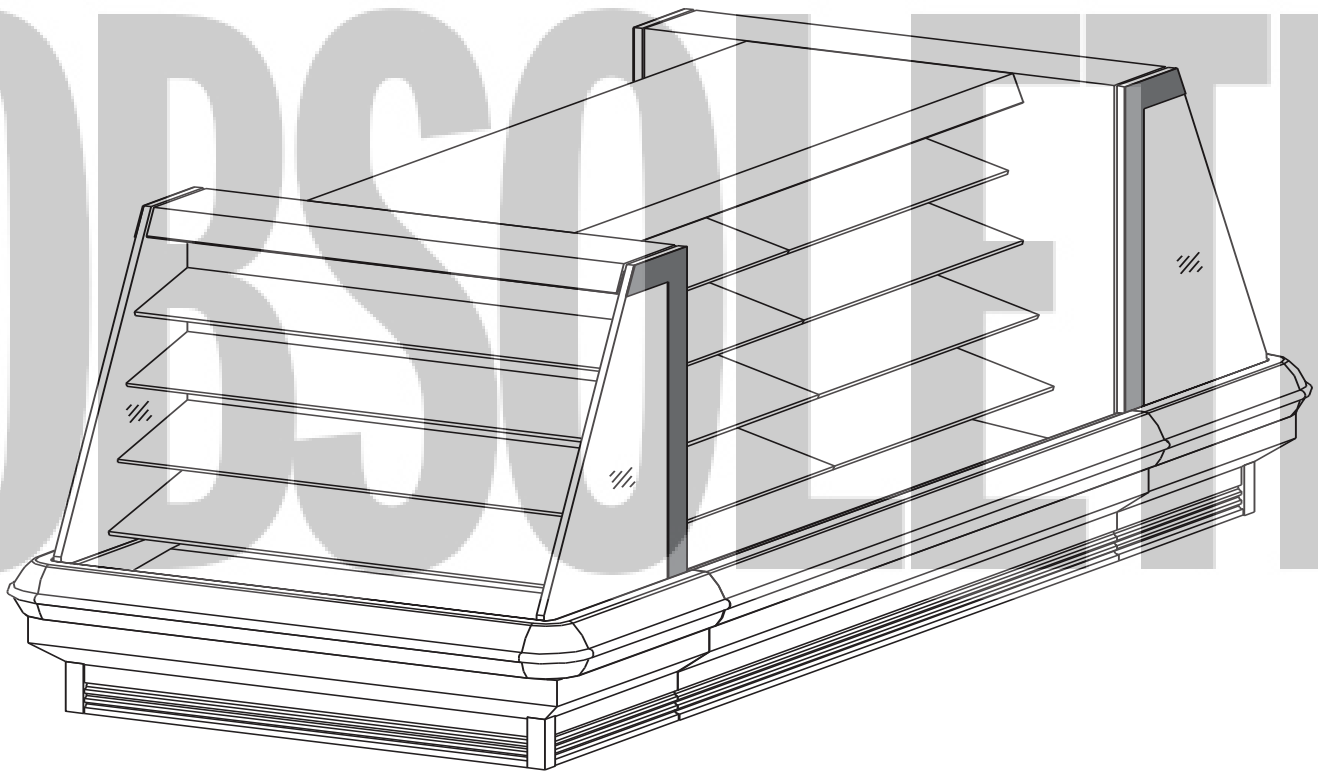
ON5EM

Narrow Multi-Deck End-Cap Merchandiser
(Deli)

ON5EM/ON5UM/ON5EM
(SHOWN)

UTILITY

Deli



O5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.39	23.4	0.14	17	1.92	400	2.22	532
6'	2	0.39	23.4	0.20	24	2.88	600	3.33	798
8'	3	0.59	35.1	0.25	30	3.85	800	4.44	1065
12'	4	0.78	46.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1526	1378	6 - 8	22	30	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	40	47	45	45	26	45	45	45

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

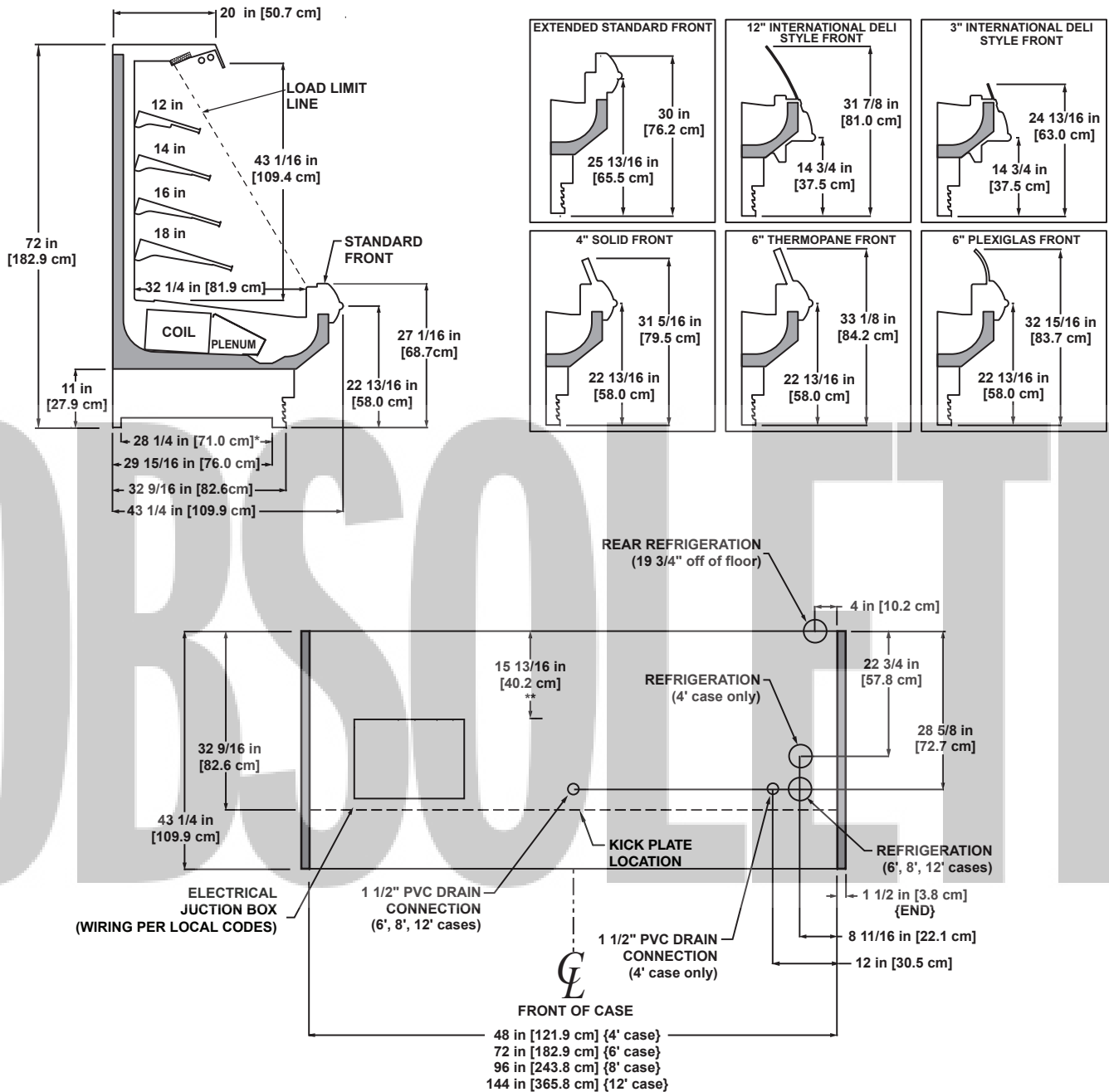
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O5UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

O5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

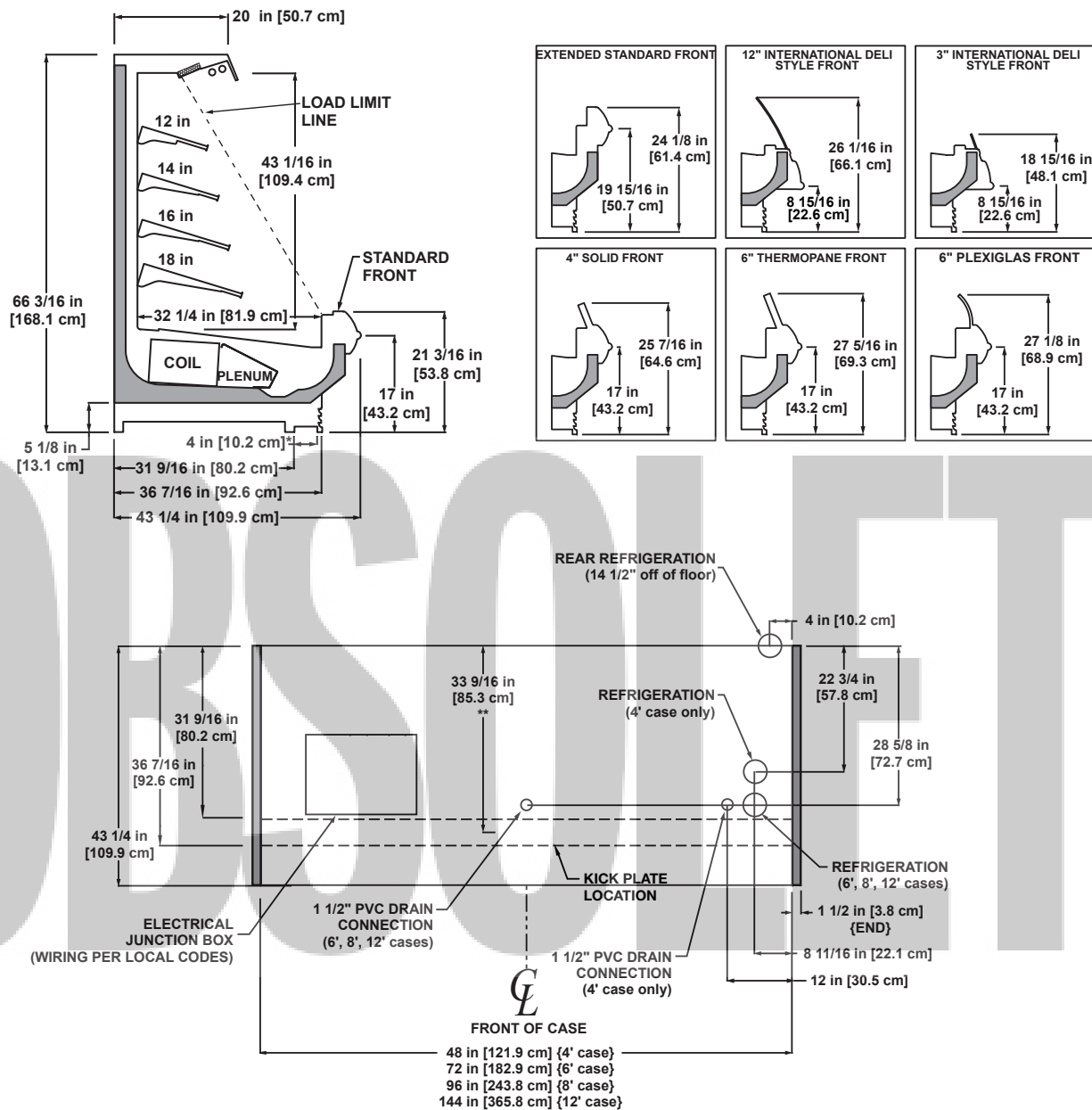
- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O5UM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

O5UM-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	Front Sill Height	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge Air⁵ Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	1091	1000	6 - 8	28	31	160
Meat	Ext.¹	1083	992	6 - 8	26	30	160

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	---⁶	---	30	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.

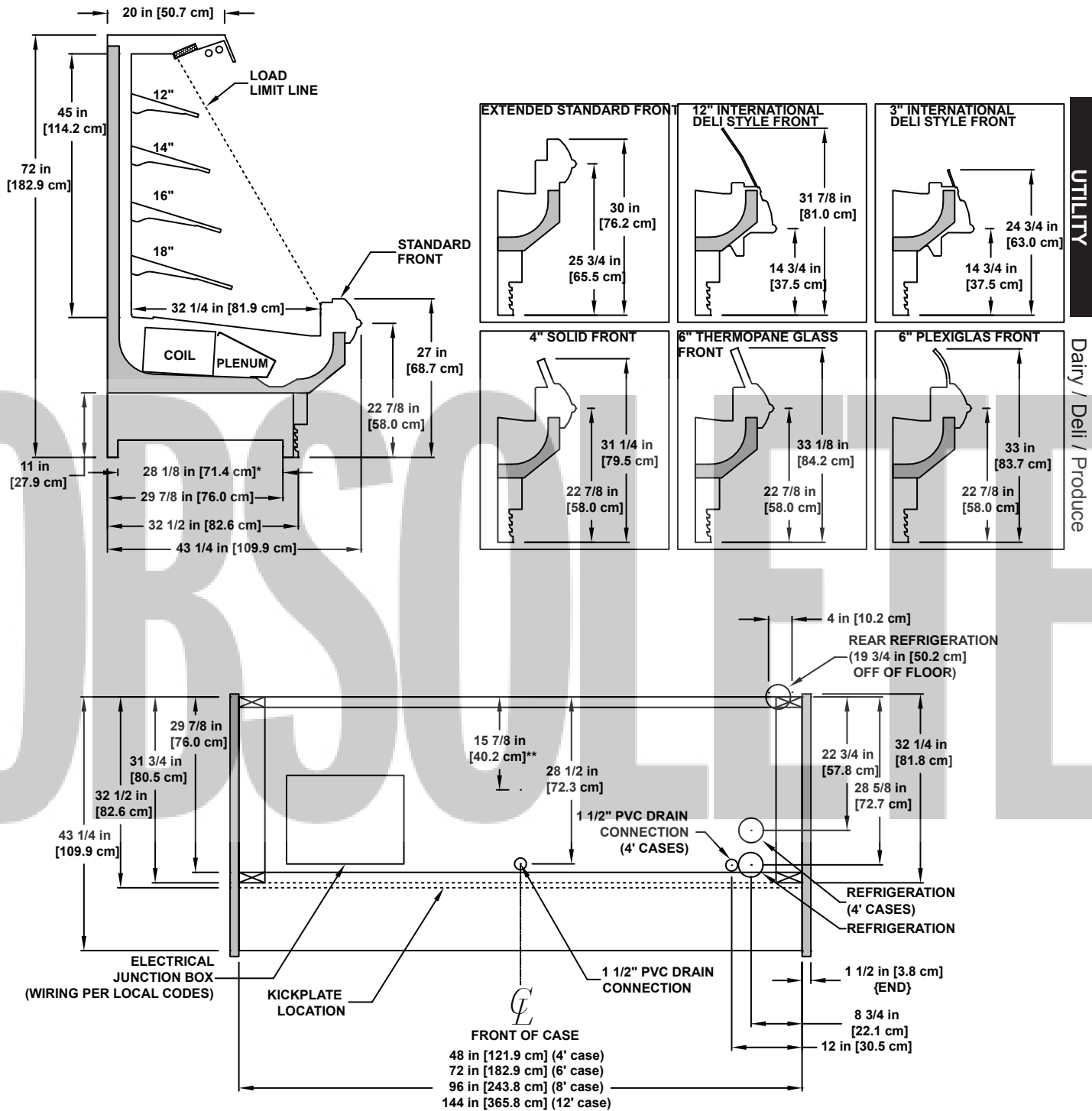


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5UM-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

* :STUB-UP AREA

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

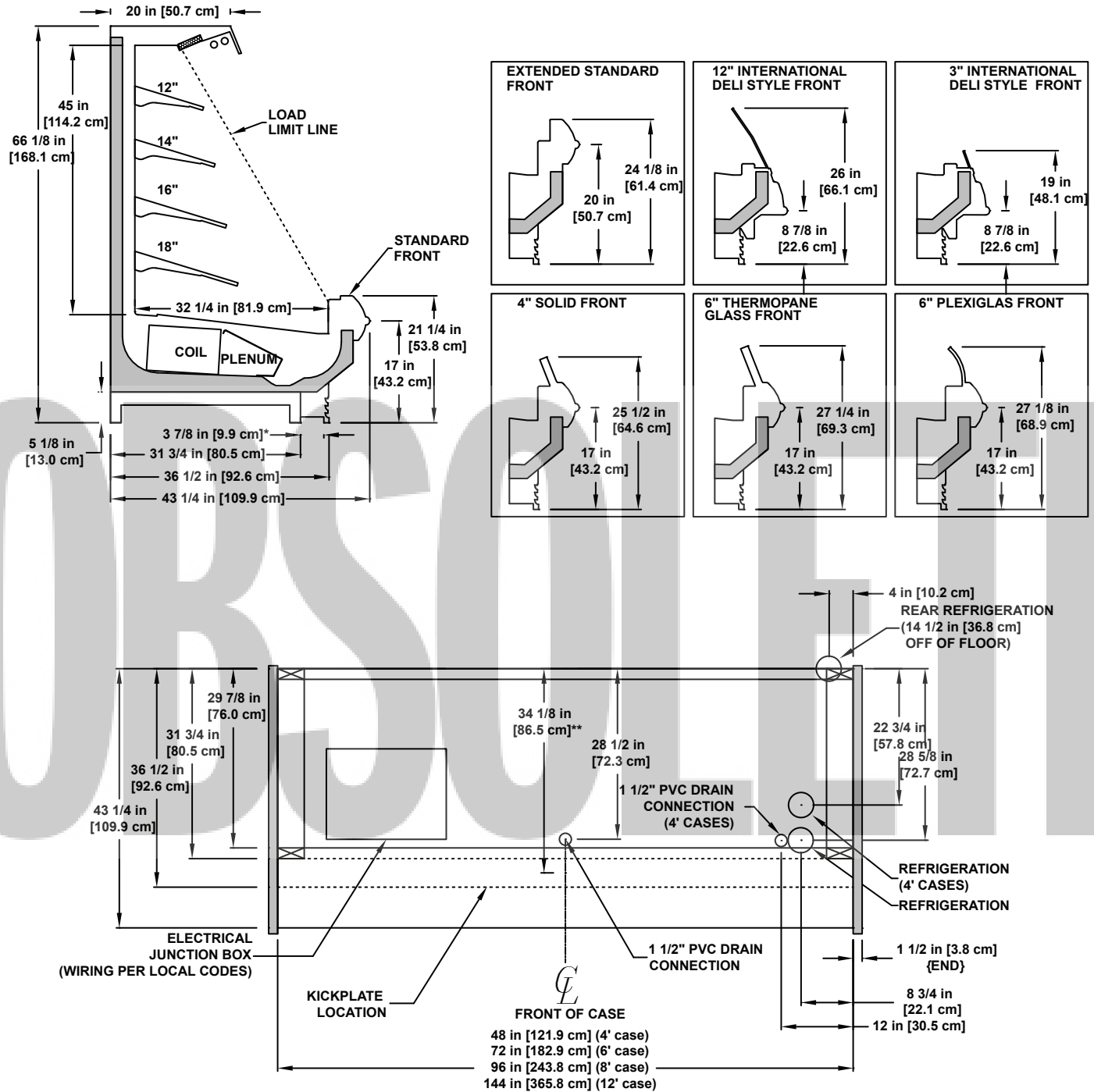
- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT, 1 INCH TO THE FRONT AND 1/2 INCH TO THE BACK
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



O5UM-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* :STUB-UP AREA

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

- FRONT AND REAR SILL HEIGHTS VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT, 1 INCH TO THE FRONT AND 1/2 INCH TO THE BACK
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3 INCHES BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK PLATE



OBSOLETE

ON6UM Narrow Multi-Deck Merchandiser

8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.70	42	0.25	30	3.85	800	4.44	1065
12'	4	0.93	56	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1063	960	6 - 8	22	28	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	35	48	45	47	26	45	---	---

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

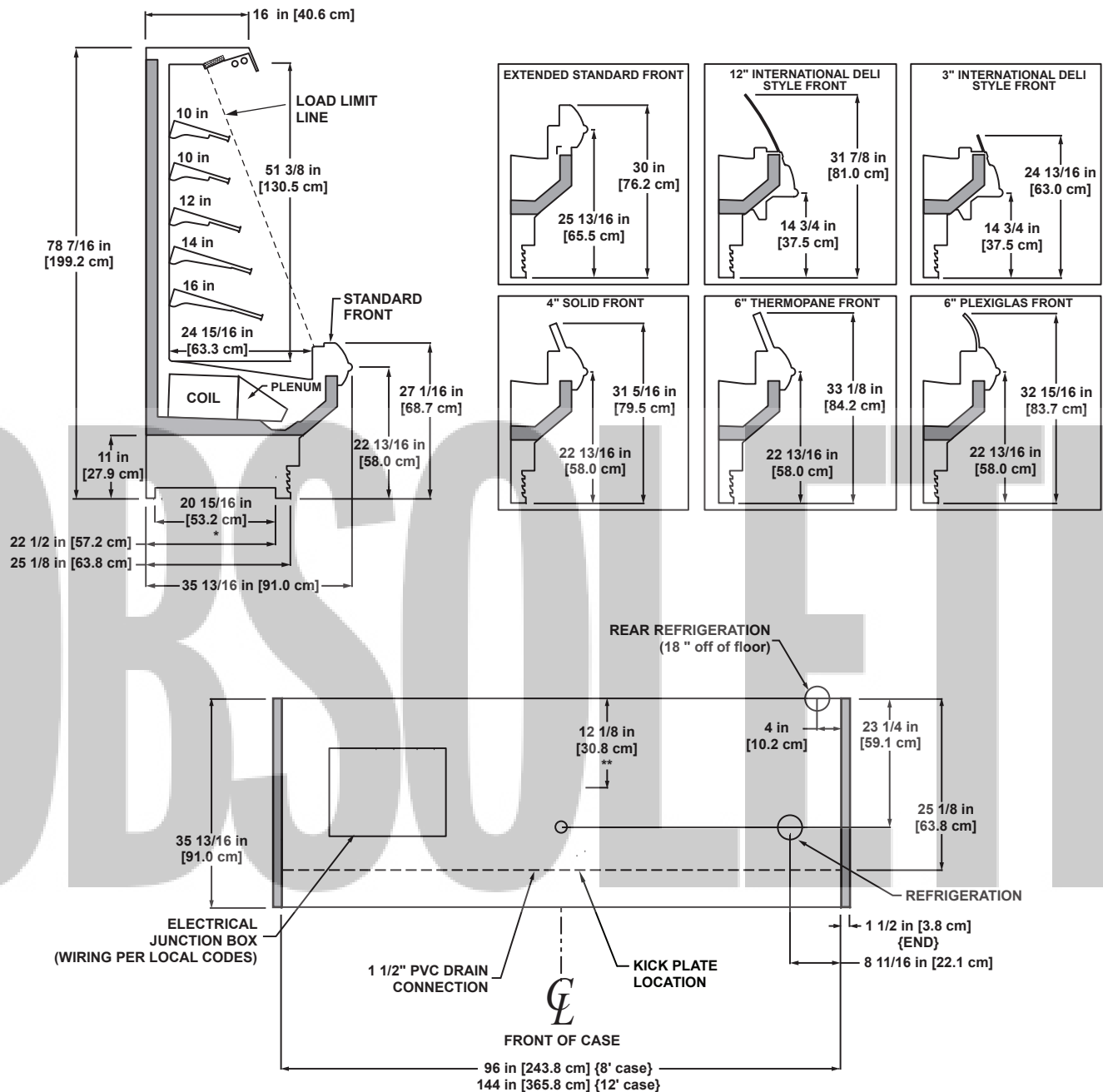
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model ON6UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

ON6UM Narrow Multi-Deck Merchandiser

8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)

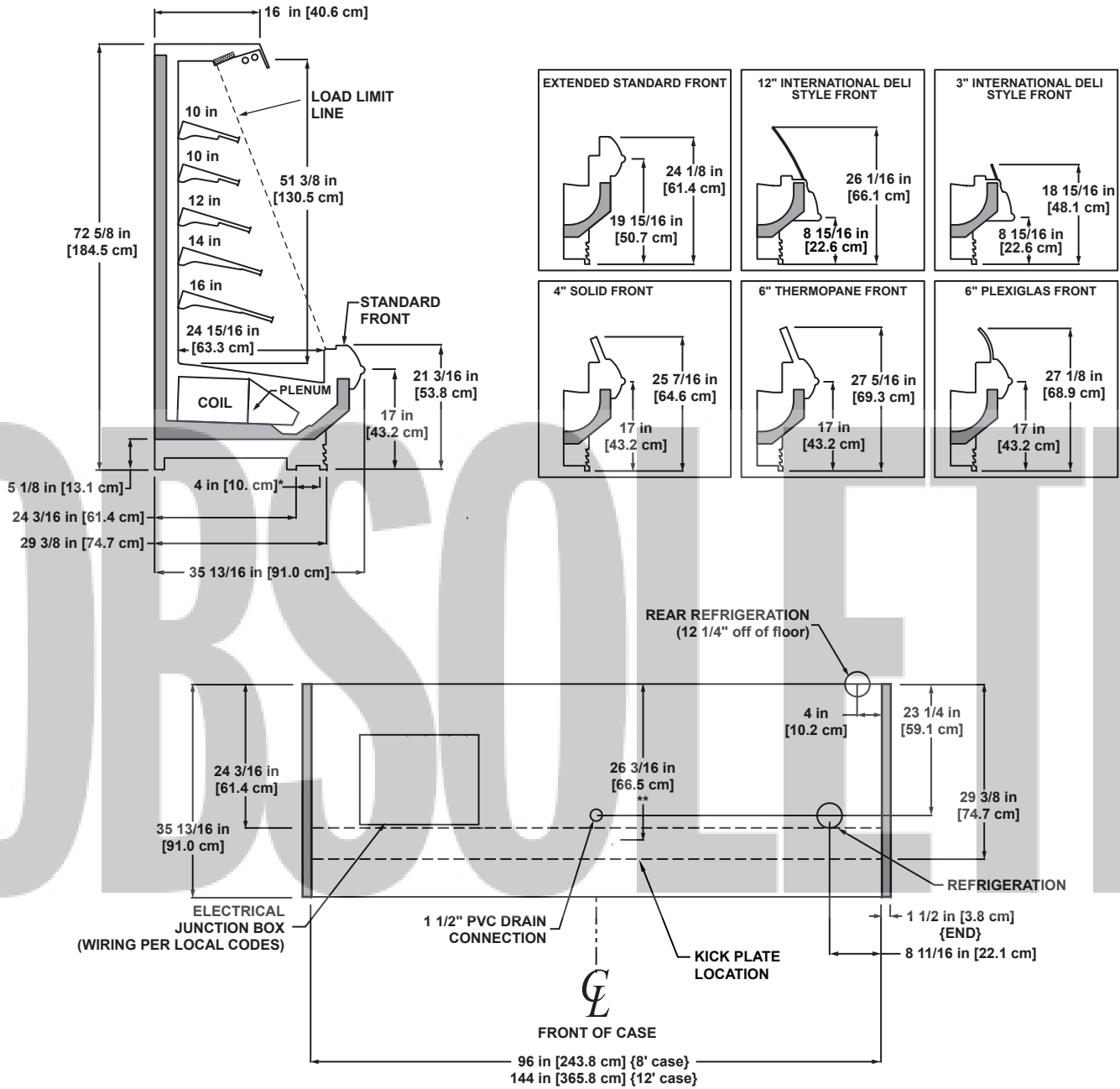


NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



(5" BASEFRAME)



NOTES:

- * STUB-UP AREA
 - ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
 - ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 - A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND
 - AVAILABLE SILL SIZES: 10", 12", 14" & 16"
 - DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

O6UM Multi-Deck Merchandiser

6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate ¹ Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	2	0.31	18.4	0.20	24	2.88	600	3.33	798
8'	3	0.46	27.6	0.25	30	3.85	800	4.44	1065
12'	4	0.61	36.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1410	1273	6 - 8	22	29	300

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	35	48	45	47	26	45	- - -	- - -

¹ Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

² BTUH/ft notes:

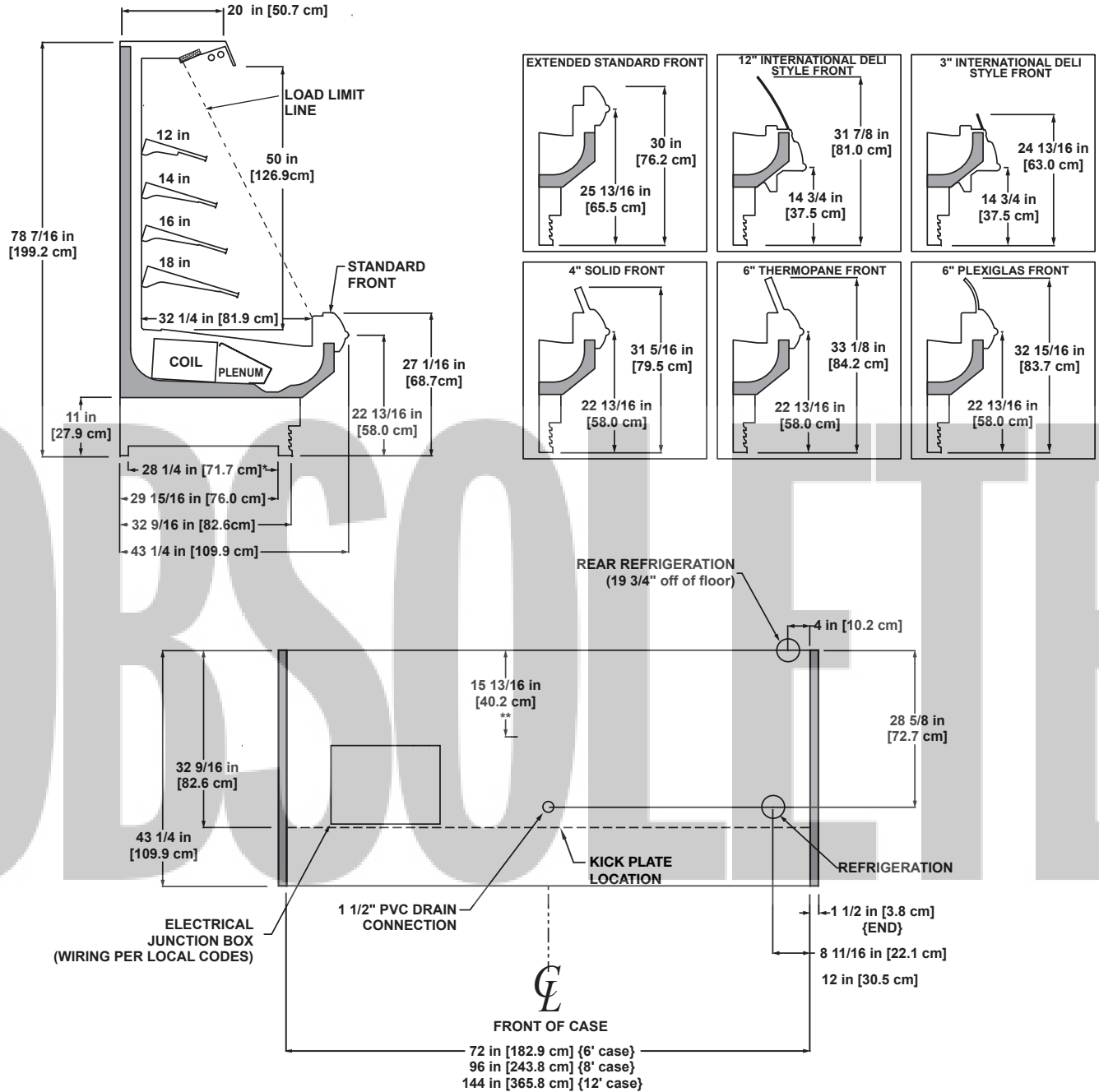
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Model O6UM only available for meat application with a thermopane-glass front or a curved plexiglass front.

³ Average discharge air velocity at peak of defrost.

O6UM Multi-Deck Merchandiser

6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

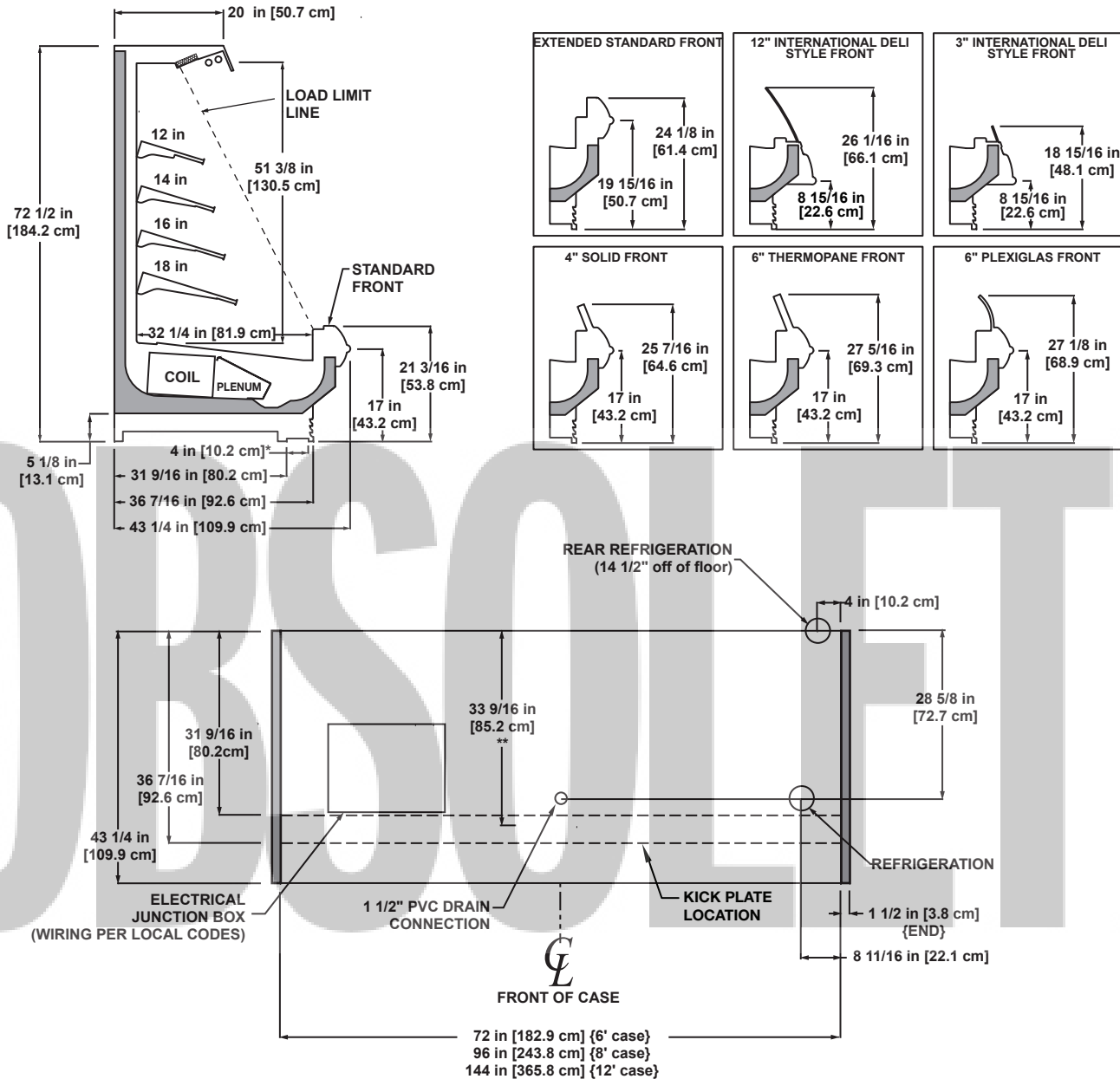
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O6UM Multi-Deck Merchandiser

6', 8' & 12' (Dairy / Deli / Produce)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OBSOLETE

O6UM-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
4'	1	0.20	14
6'	2	0.40	28
8'	2	0.40	28
12'	3	0.60	42

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	Front Sill Height	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge Air ⁵ Velocity (FPM)
		Conventional	Parallel				
Dairy / Deli / Produce	All	1167	1070	6 - 8	28	31	160
Meat	Ext. ¹	1161	1064	6 - 8	26	30	160

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	--- ⁶	---	30	42	---	---	---	---

1 For meat application: extended front sills are required for maintaining proper case temperature levels (5" baseframe = 24" or higher; 11" baseframe = 30" or higher)

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

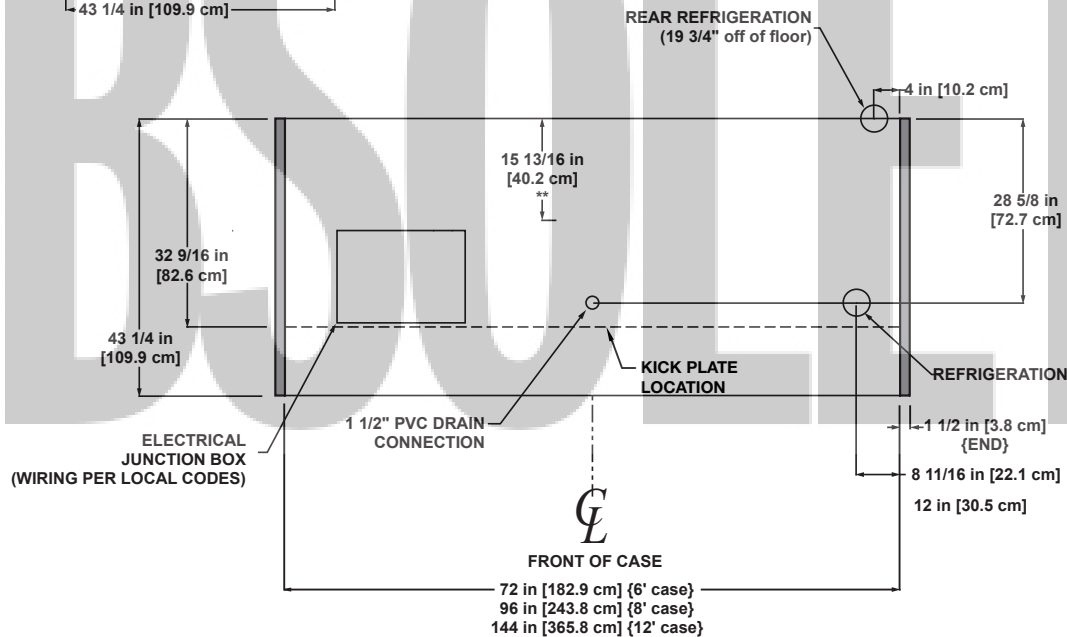
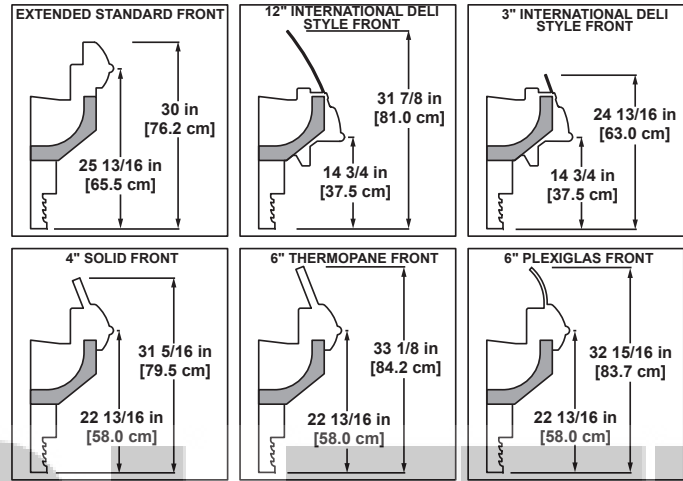
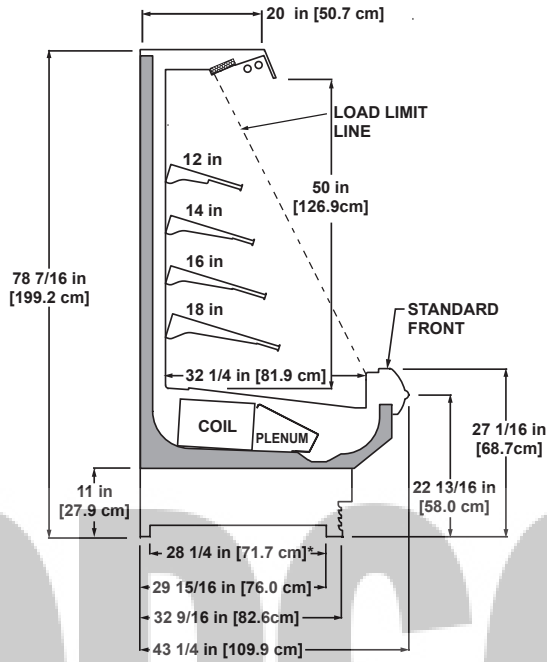
6 NOTE: " - - " indicates that feature is not an option on this case model.

Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O6UM-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Dairy / Deli / Produce)

(11" BASEFRAME)



NOTES:

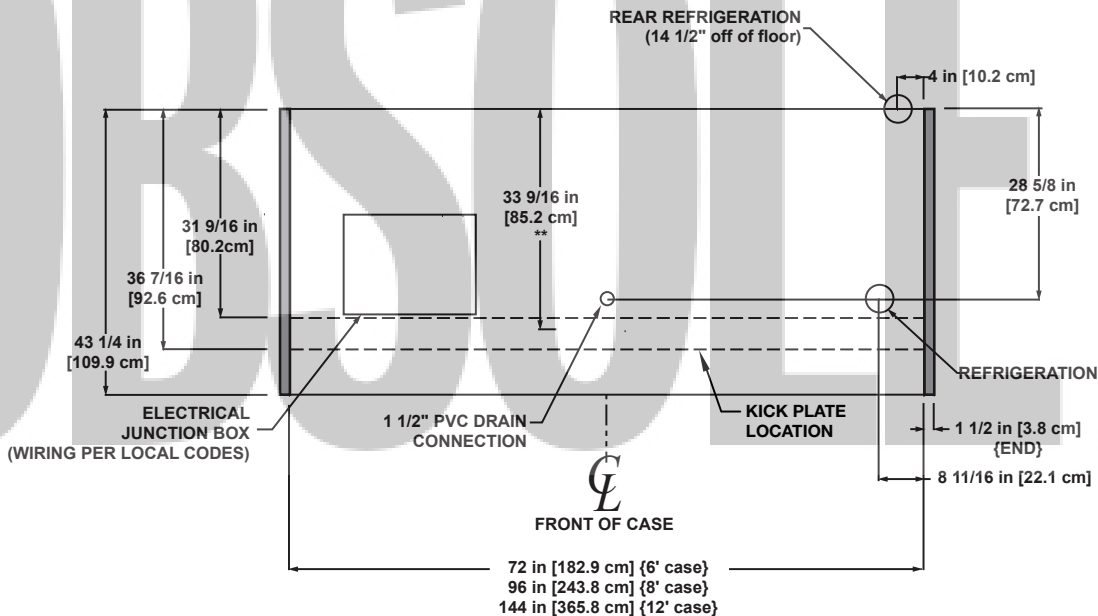
- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O6UM-NRG

Multi-Deck Merchandiser with Synerg-E™
6', 8' & 12' (Dairy / Deli / Produce)

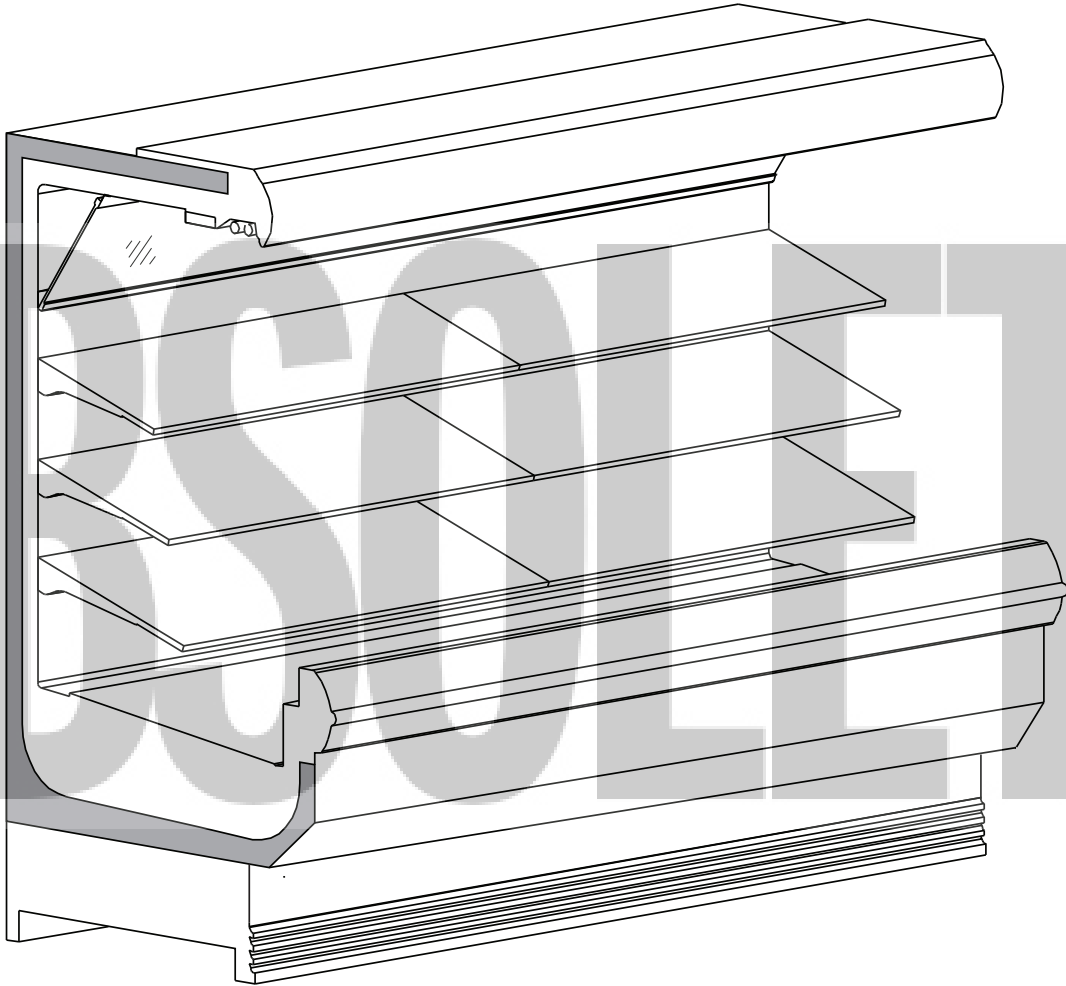
(5" BASEFRAME)



NOTES:

- * STUB-UP AREA**
**** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS**
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
 - ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 - A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
 - SUCTION LINE (6" - 5/8", SUCTION LINE (8" & 12") - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
 - AVAILABLE SILL SIZES: 10", 12", 14", 16" & 18"
 - PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
 - RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
 - DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

MULTI-DECK



NOTES

- Cases shown with an ANSI/NSF* mark are listed by NSF.
- Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Technical information contained herein is subject to change without notice.

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

6DMLH-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	2	0.38	43	---	---
6'	3	0.57	65	---	---
8'	4	0.76	87	---	---
12'	6	1.14	130	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
	Conventional	Parallel				
Dairy / Deli / Cut Produce	1698	1450	6 - 8	28	34	200
Produce / Beverage	1405	1200	6 - 8	32	37	200

Guidelines & Control Settings (Remote Secondary)

Application	²BTUH/ft		Supply Temp. (°F)	Flow Rate GPM/ft	Charge GAL/ft
	Conventional	Parallel			
Dairy / Deli / Cut Produce	1698	1450	20	0.53	0.40
Produce / Beverage	1405	1200	20	0.32	0.40

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	6 - 8	---	---	45	47	---	---	---	---
Produce / Beverage	2	6 - 8	---	---	30	47	---	---	---	---

1 NOTE: "- -" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control - Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

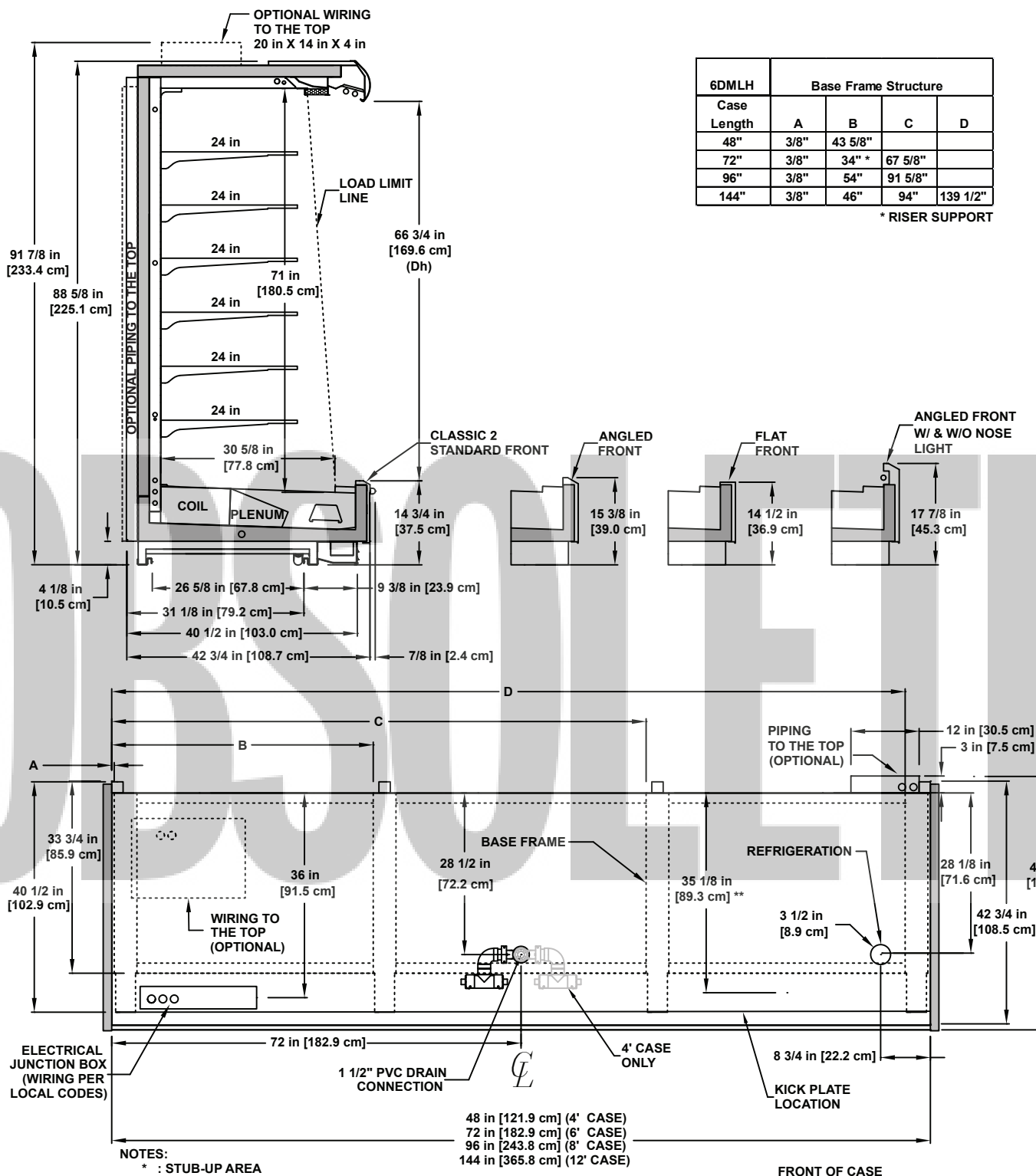
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

6DMLH-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli)



MULTI-DECK

Dairy / Deli



Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
6'	3	0.57	65	---	---
8'	4	0.76	87	---	---
12'	6	1.14	130	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
Conventional	Parallel				
1756	1500	6 - 8	25	34	200

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	45	47	---	---	---	---

1 NOTE: "-" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

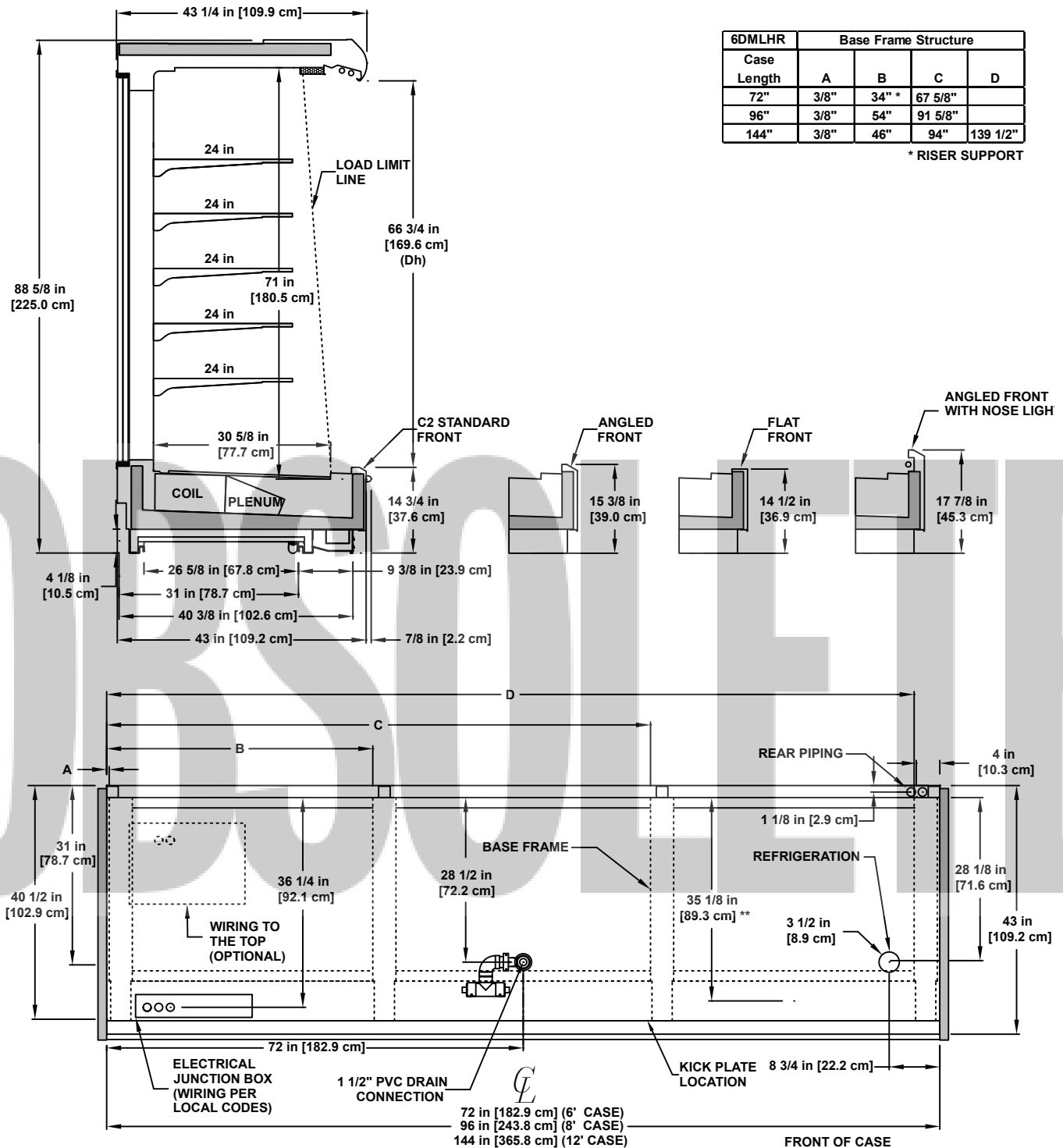
3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

6DMLHR-NRG

Rear Load Multi-Deck Merchandiser with Synerg-E™ 6', 8' & 12' (Dairy / Deli)



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

ENDS ADD APPROXIMATELY 1" TO CASE HEIGHT
 WIRING TO THE TOP ADDS APPROXIMATELY 4" TO CASE HEIGHT
 BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
 SUCTION LINE 7/8", LIQUID LINE WITH HOT GAS DEFROST 1/2"
 AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
 DASHED LINES SIGNIFY AREA INSIDE THE BASE RAIL BEHIND KICK PLATE



ONN3.5UA Narrow Self-Contained Multi-Deck Merchandiser

4' (Deli)

System Requirements

Case Length	Volts	Phase	Hz	Wire	Plug Style	Cord Length
4'	120	1	60	2 wire + ground	NEMA L5-30	10 ft

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Condenser Fans		Drain Pump		Evaporator Pan Heater		Maximum Lights	
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	3	1.02	117	0.85	88	0.9	54	8.34	1000	0.57	68

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5

Guidelines & Control Settings

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
19.9	6 - 8	35	275

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
120	1	60	1/2	11	51	R134A	2

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	40	47	--- ⁴	---	---	---	---	---

¹ Average discharge air velocity at peak of defrost.

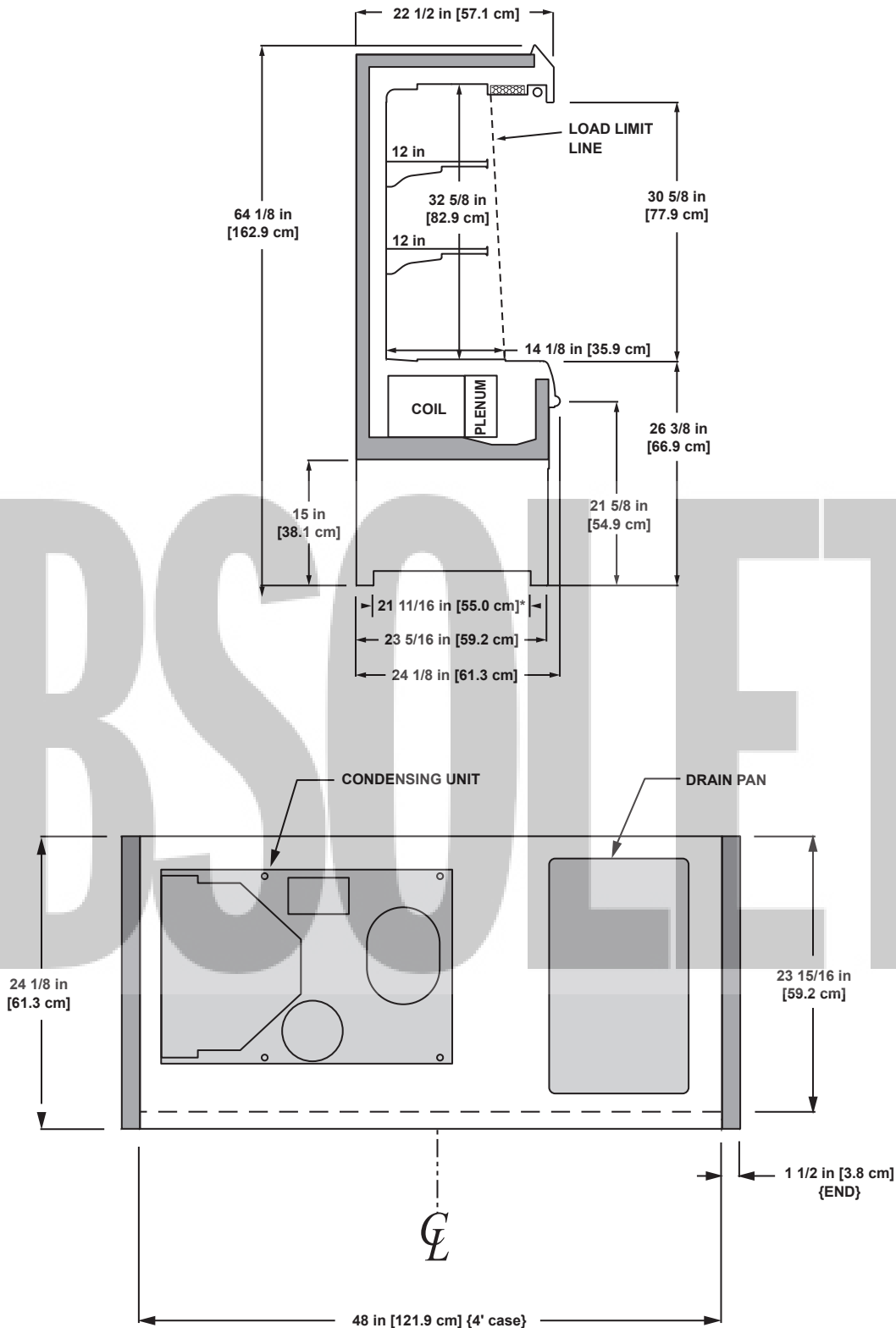
² RLA = Running Load Amps

³ LRA = Locked Rotor Amps

⁴ NOTE: "- - -" indicates that feature is not an option on this case model.

ONN3.5UA Narrow Self-Contained Multi-Deck Merchiser

4' (Deli)



MULTI-DECK

Deli

ON4DM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	2	0.47	28	---	---	2.88	600	3.33	798
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge Air (°F)	Discharge ⁴ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1489	1357	6 - 8	22	31	215
	2.5" Ext.	1450	1321	6 - 8	22	30	215
	5" Ext.	1426	1299	6 - 8	22	30	215
	7.5" Ext.	1375	1253	6 - 8	22	30	215
Beverage Bulk Produce	Std. Dairy	1365	1244	6 - 8	29	36	215
	2.5" Ext.	1328	1210	6 - 8	29	35	215
	5" Ext.	1283	1169	6 - 8	29	35	215
	7.5" Ext.	1260	1148	6 - 8	29	35	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: "-" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Listed evaporator temp. indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

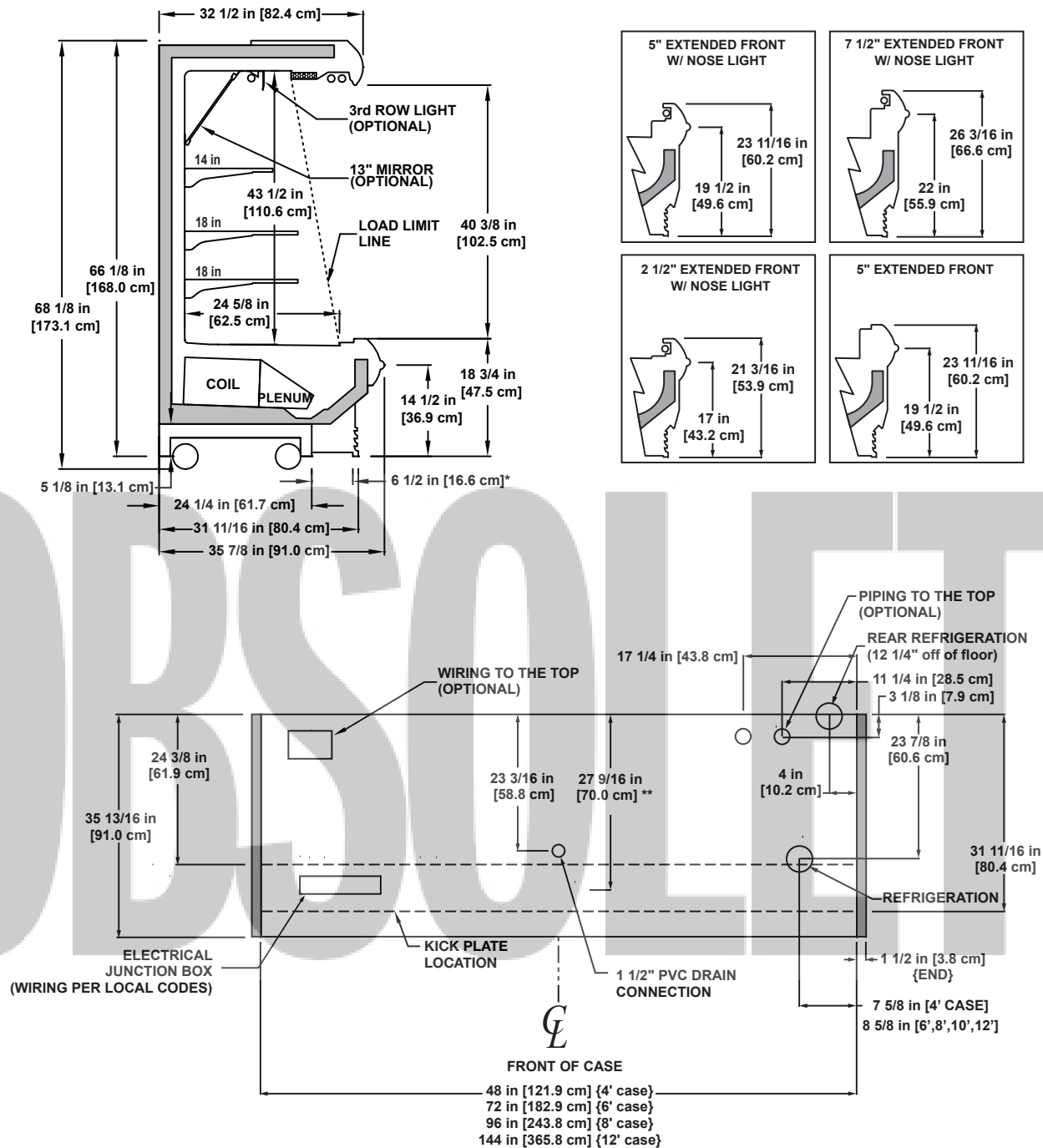
4 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON4DM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18" TOP SHELF MUST BE 16" OR SHORTER.
- RECOMMENDED CONFIGURATION IS 16" SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF)
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O4DM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	2	0.47	28	---	---	2.88	600	3.33	798
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge Air (°F)	Discharge ⁴ Air Velocity (FPM)
		Conventional	Parallel				
Deli	2.5" Ext.	1284	1170	6 - 8	22	30	215
	5" Ext.	1249	1138	6 - 8	22	30	215
	7.5" Ext.	1223	1114	6 - 8	22	30	215
Dairy Cut Produce	Std. Dairy	1196	1090	6 - 8	26	31	215
	2.5" Ext.	1162	1059	6 - 8	26	31	215
	5" Ext.	1135	1034	6 - 8	26	31	215
	7.5" Ext.	1109	1010	6 - 8	26	31	215
Beverage Bulk Produce	Std. Dairy	1214	1106	6 - 8	29	36	215
	2.5" Ext.	1179	1074	6 - 8	29	35	215
	5" Ext.	1152	1050	6 - 8	29	35	215
	7.5" Ext.	1126	1026	6 - 8	29	35	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: "-" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Listed evaporator temp. indicates unlighted shelves. For lighted shelves, reduce the listed evaporator temperature by 2°F.

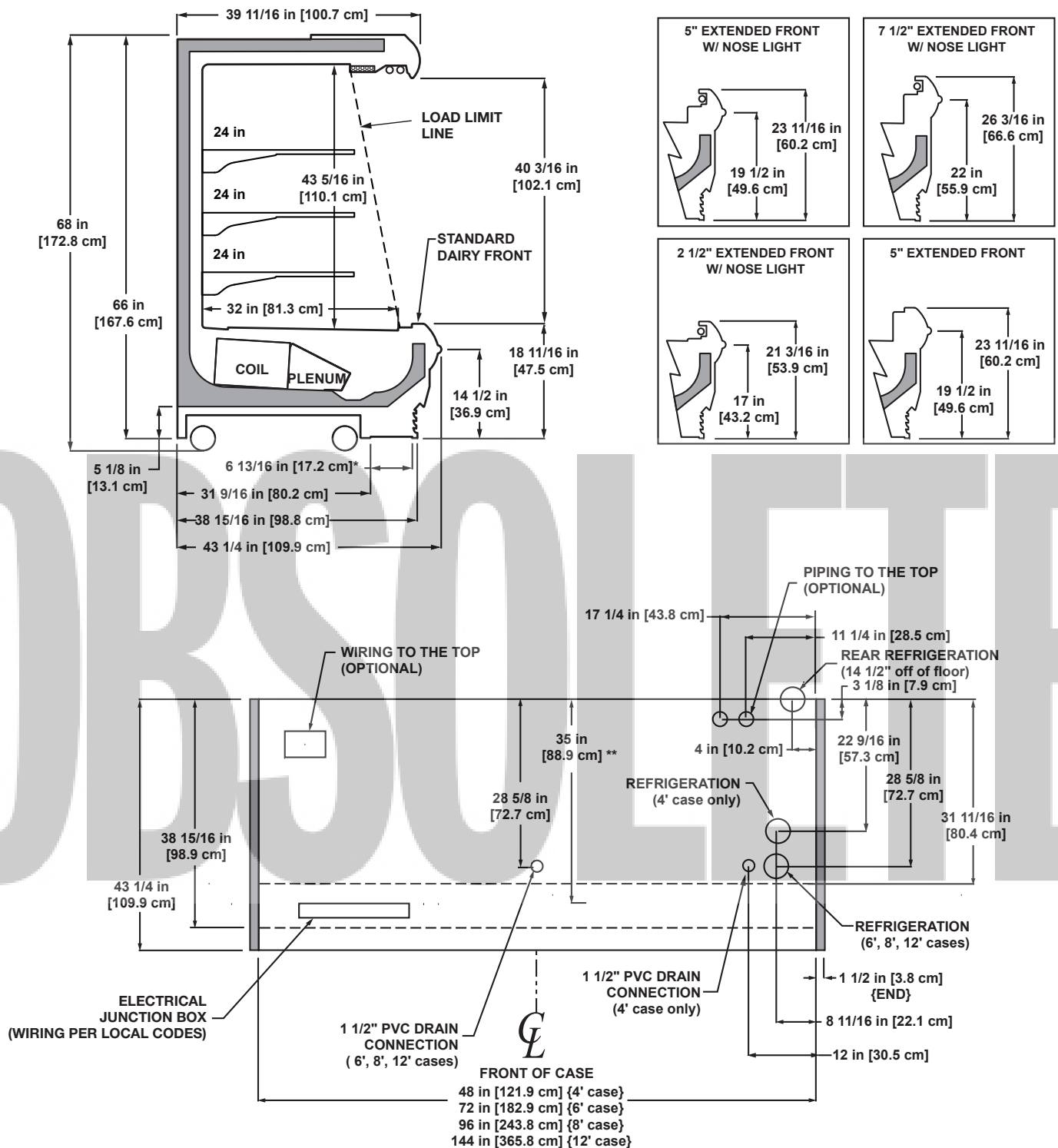
4 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O4DM Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"



O4DM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1160	1005	6 - 8	28	31	140
	2.5" Ext.	1119	970	6 - 8	28	31	140
	5" Ext.	1096	950	6 - 8	28	31	140
	7.5" Ext.	1073	930	6 - 8	28	31	140
Beverage Bulk Produce	Std. Dairy	1050	1021	6 - 8	34	37	140
	2.5" Ext.	1032	1003	6 - 8	34	37	140
	5" Ext.	995	967	6 - 8	34	37	140
	7.5" Ext.	973	946	6 - 8	34	37	140

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

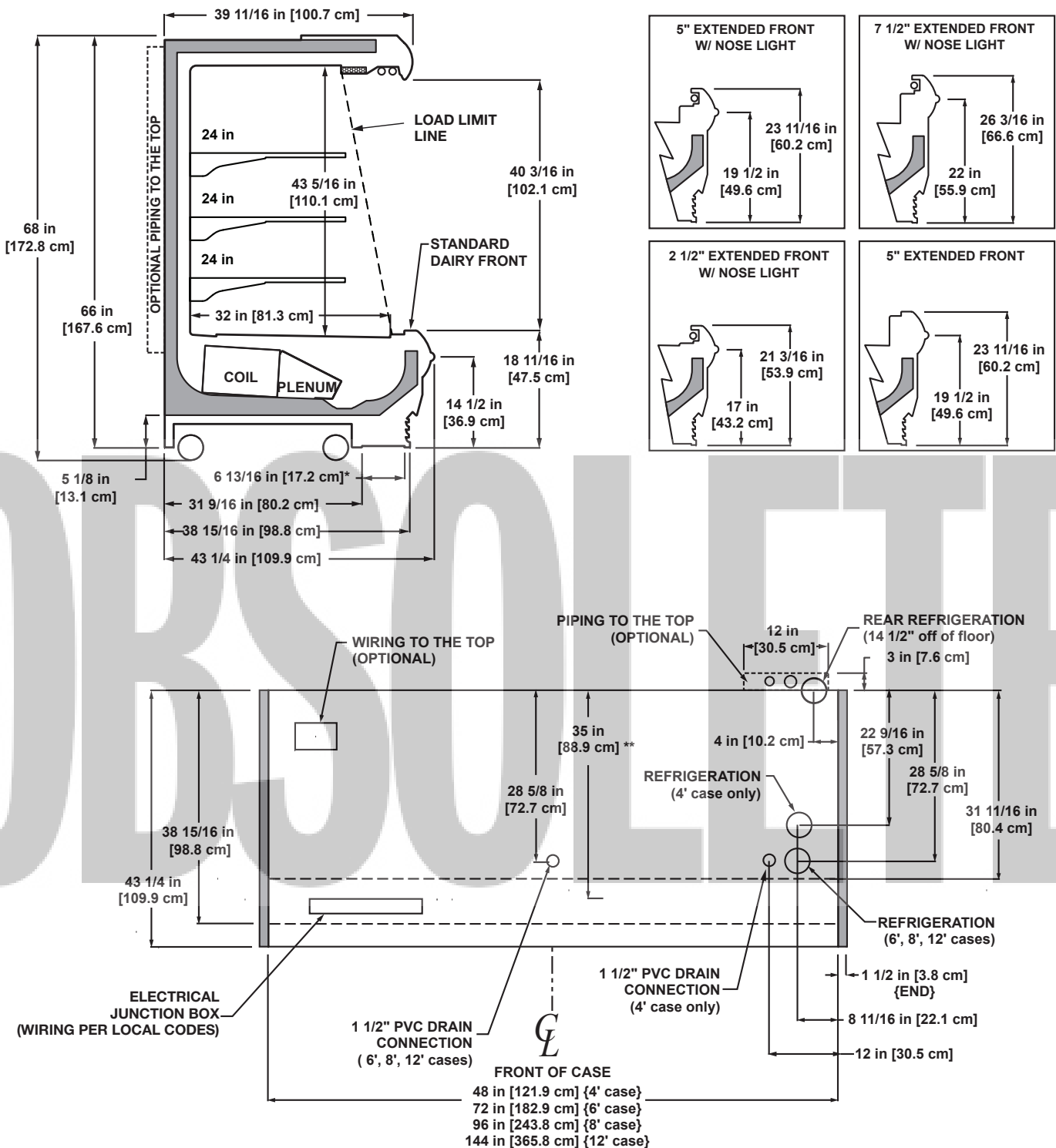
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O4DM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)



NOTES:

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

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"



O4DMS Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	2	0.47	28	---	---	2.88	600	3.33	798
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge Air (°F)	Discharge ⁴ Air Velocity (FPM)
		Conventional	Parallel				
Deli	2.5" Ext.	1349	1229	6 - 8	22	30	215
	5" Ext.	1312	1195	6 - 8	22	30	215
	7.5" Ext.	1284	1170	6 - 8	22	30	215
Dairy Cut Produce	Std. Dairy	1257	1145	6 - 8	26	31	215
	2.5" Ext.	1220	1112	6 - 8	26	31	215
	5" Ext.	1192	1086	6 - 8	26	31	215
	7.5" Ext.	1165	1061	6 - 8	26	31	215
Beverage Bulk Produce	Std. Dairy	1274	1161	6 - 8	29	36	215
	2.5" Ext.	1238	1128	6 - 8	29	35	215
	5" Ext.	1211	1103	6 - 8	29	35	215
	7.5" Ext.	1182	1077	6 - 8	29	35	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Listed evaporator temp. indicates unlighted shelves. For lighted shelves, reduce the listed evaporator temperature by 2°F.

4 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O4DMS

Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)



Dairy / Deli / Produce

NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1" TO CASE HEIGHT
- A 2 INCHES MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"



O4DMS-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1211	1060	6 - 8	28	31	140
	2.5" Ext.	1171	1025	6 - 8	28	31	140
	5" Ext.	1143	1000	6 - 8	28	31	140
	7.5" Ext.	1120	980	6 - 8	28	31	140
Beverage Bulk Produce	Std. Dairy	1107	1076	6 - 8	34	37	140
	2.5" Ext.	1088	1058	6 - 8	34	37	140
	5" Ext.	1046	1017	6 - 8	34	37	140
	7.5" Ext.	1024	996	6 - 8	34	37	140

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

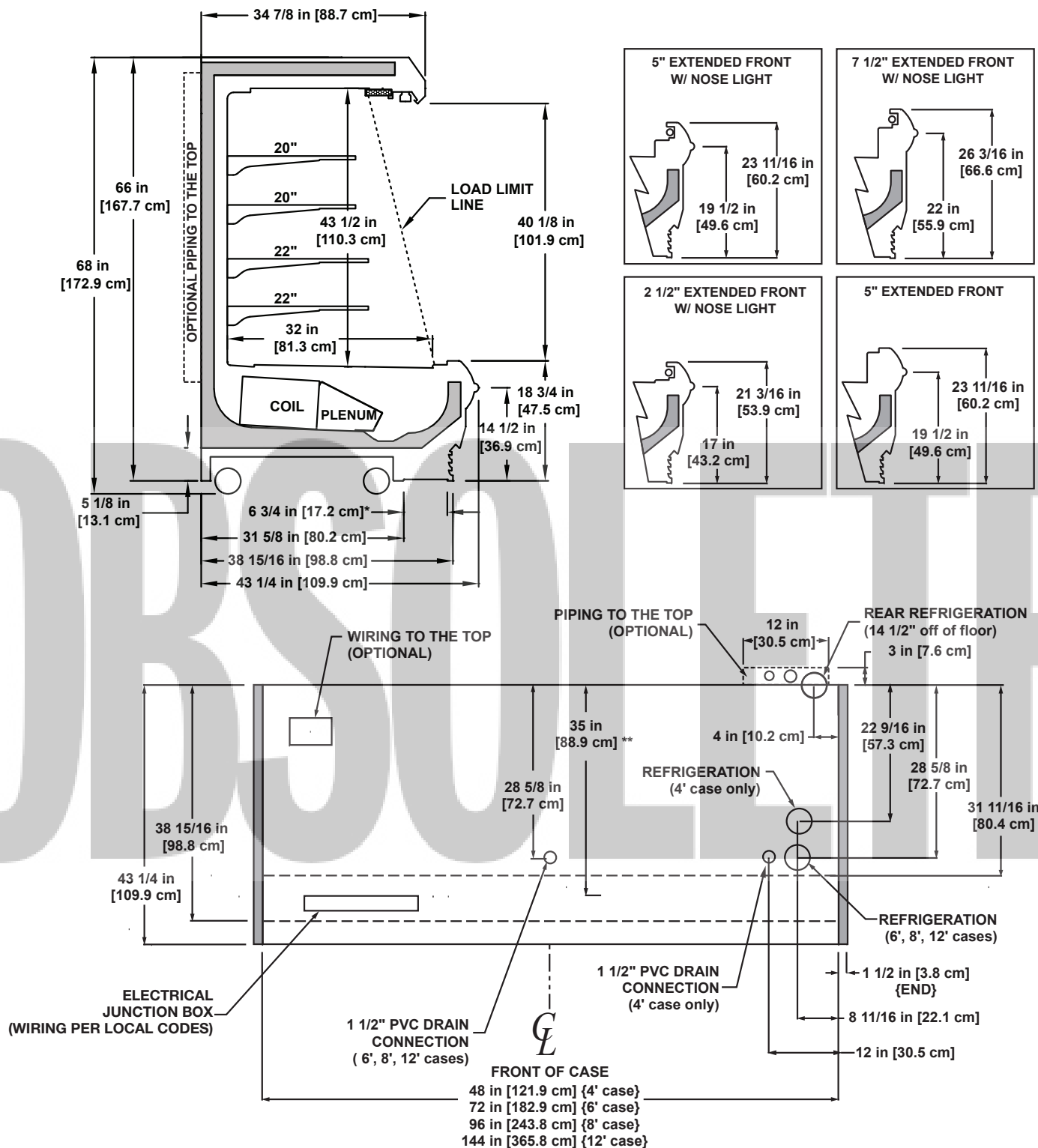
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O4DMS-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli / Produce)



NOTES:

* : STUB-UP AREA

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

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASE FRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1" TO CASE HEIGHT
- A 2 INCHES MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"



ON5DM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1856	1691	6 - 8	22	32	215
	2.5" Ext.	1807	1646	6 - 8	22	31	215
	5" Ext.	1777	1619	6 - 8	22	31	215
	7.5" Ext.	1713	1561	6 - 8	22	31	215
Beverage Bulk Produce	Std. Dairy	1701	1550	6 - 8	29	37	215
	2.5" Ext.	1655	1508	6 - 8	29	36	215
	5" Ext.	1598	1456	6 - 8	29	36	215
	7.5" Ext.	1570	1430	6 - 8	29	36	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

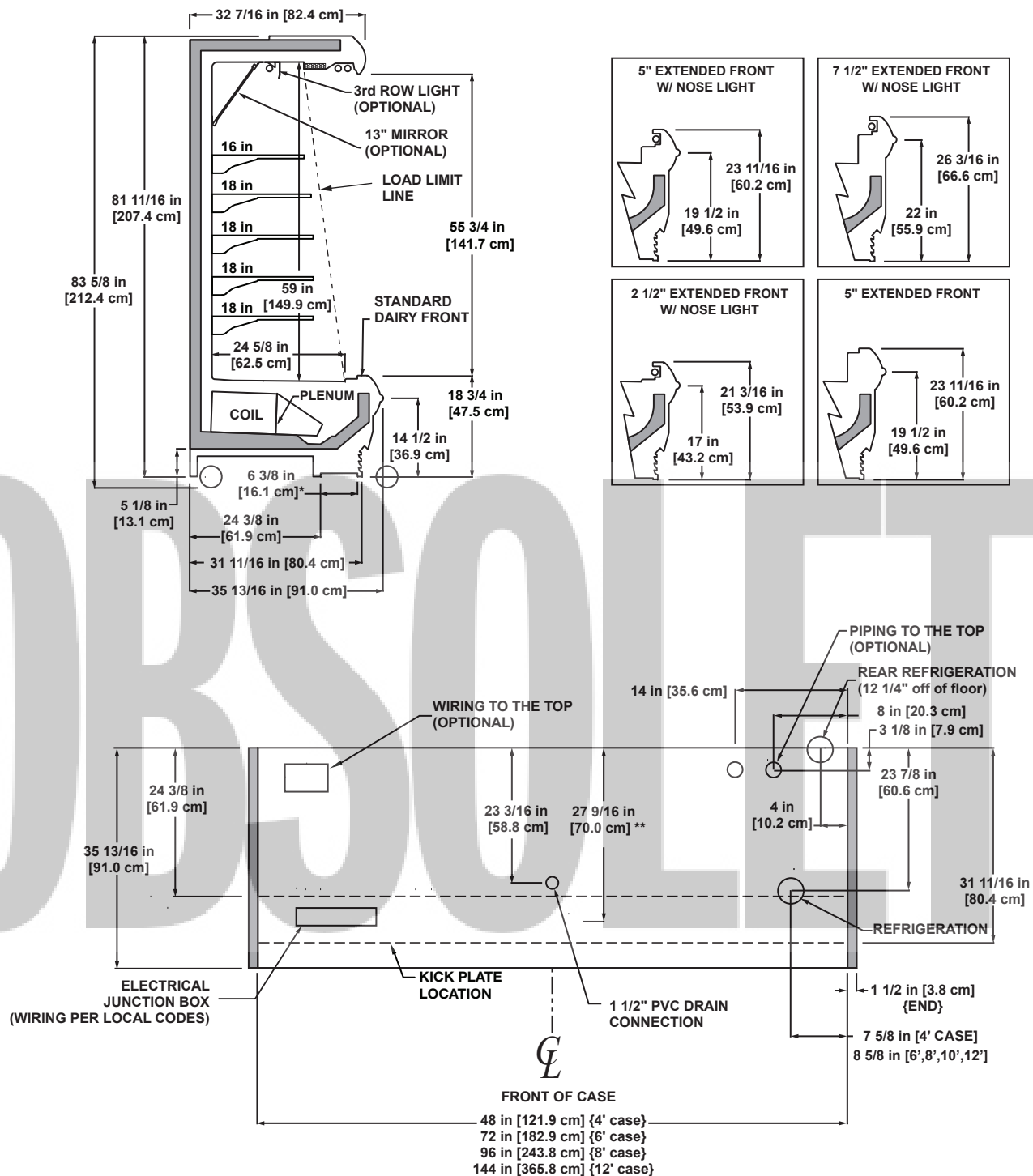
3 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON5DM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Dairy / Deli / Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18" TOP SHELF MUST BE 16" OR SHORTER.
- RECOMMENDED CONFIGURATION IS 16" SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON5DM-NRG Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1371	1200	6 - 8	28	31	150
	2.5" Ext.	1331	1165	6 - 8	28	31	150
	5" Ext.	1303	1140	6 - 8	28	31	150
	7.5" Ext.	1280	1120	6 - 8	28	31	150
Beverage Bulk Produce	Std. Dairy	1085	1055	6 - 8	34	37	150
	2.5" Ext.	1020	1020	6 - 8	34	37	150
	5" Ext.	995	995	6 - 8	34	37	150
	7.5" Ext.	975	975	6 - 8	34	37	150

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON5DM-NRG

Narrow Multi-Deck Merchandiser with Synerg-E™
4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)



Beverage / Dairy / Deli / Produce

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

**FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASE FRAME HEIGHT
ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT**

WIRING-TO-THE-TOP ADDS APPROXIMATELY 1" TO CASE HEIGHT

A 2 INCHES MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL

SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"

AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"

DASHES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON5DMH High Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Bulk Produce	Parallel				
Dairy Cut Produce	Std. Dairy	1856	1691	6 - 8	22	32	215
	2.5" Ext.	1807	1646	6 - 8	22	31	215
	5" Ext.	1777	1619	6 - 8	22	31	215
	7.5" Ext.	1713	1561	6 - 8	22	31	215
Beverage Bulk Produce	Std. Dairy	1701	1550	6 - 8	29	37	215
	2.5" Ext.	1655	1508	6 - 8	29	36	215
	5" Ext.	1598	1456	6 - 8	29	36	215
	7.5" Ext.	1570	1430	6 - 8	29	36	215

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: "-" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

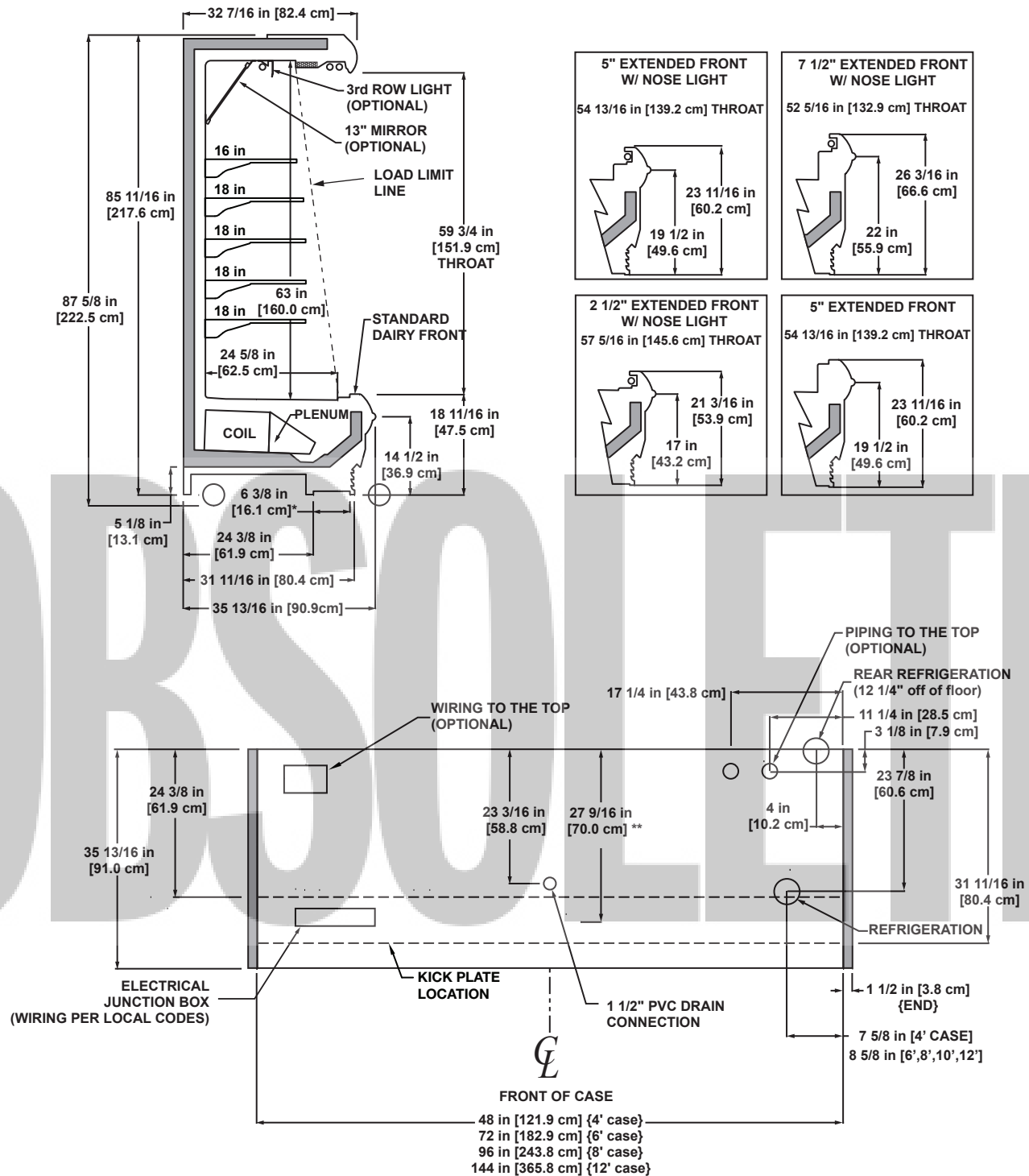
3 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON5DMH High Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Produce)



MULTI-DECK

Beverage / Dairy / Produce

ON5DMH-NRG High Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Beverage / Dairy / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1651	1445	6 - 8	28	33	210
	2.5" Ext.	1611	1410	6 - 8	28	33	210
	5" Ext.	1583	1385	6 - 8	28	33	210
	7.5" Ext.	1560	1365	6 - 8	28	33	210
Beverage Bulk Produce	Std. Dairy	1270	1235	6 - 8	34	37	210
	2.5" Ext.	1234	1200	6 - 8	34	37	210
	5" Ext.	1209	1175	6 - 8	34	37	210
	7.5" Ext.	1188	1155	6 - 8	34	37	210

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: "-" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.



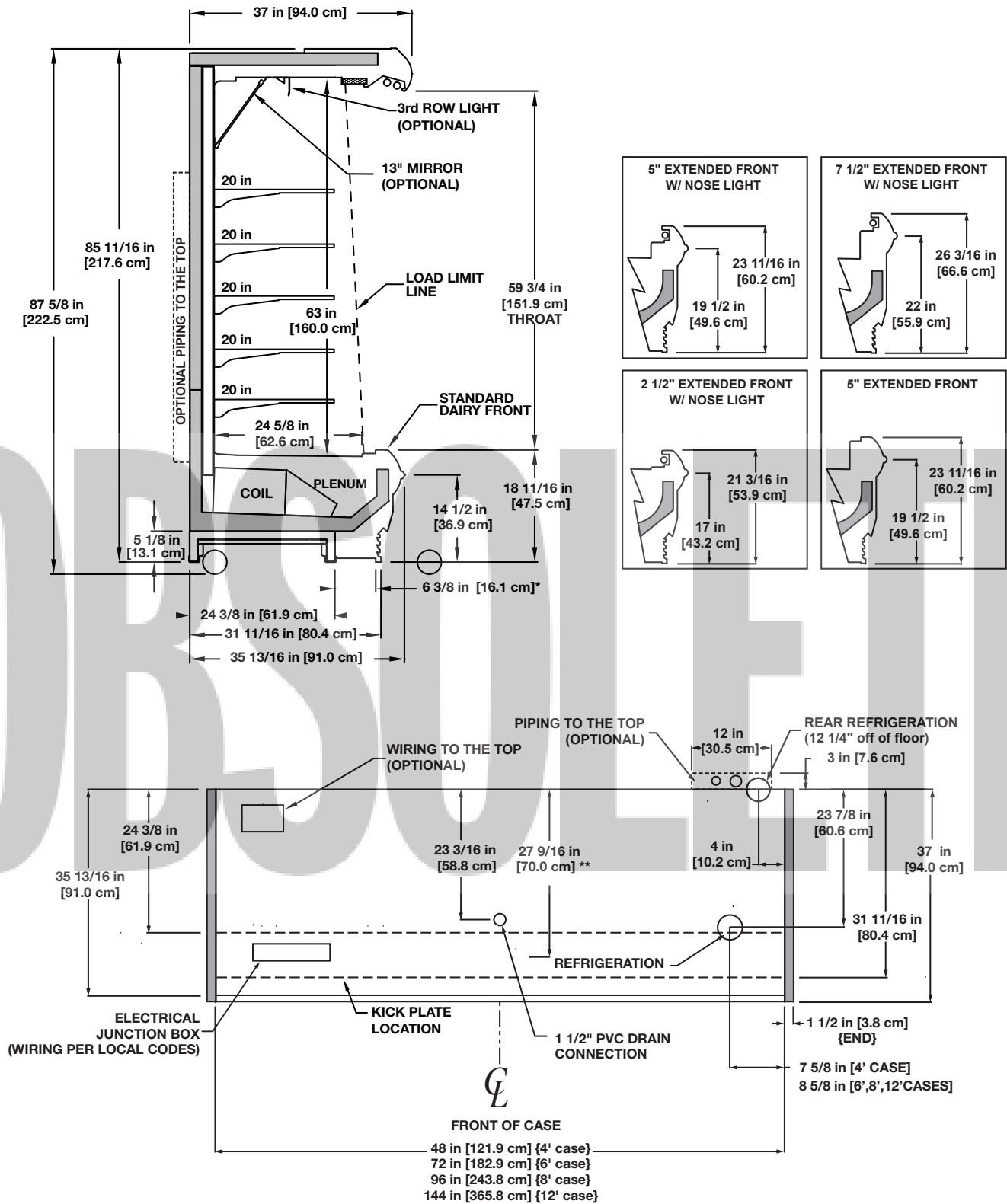
Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON5DMH-NRG High Narrow Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Beverage / Dairy / Produce)

MULTI-DECK

Beverage / Dairy / Produce



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON5DMA Narrow Self-Contained Multi-Deck Merchandiser

6' & 8' (Dairy / Produce)

System Requirements

Case Length	Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
6'	208	1	60	3 wire + ground	26.92	35
8'	208	1	60	3 wire + ground	31.04	40

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Drain Pump		Evaporator Pan Heater		Maximum Lights	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	3	0.47	28	0.8	47	7.21	1500	3.78	448
8'	4	0.70	42	0.8	47	7.21	1500	3.78	448

Guidelines & Control Settings

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
52	6 - 8	31	215
52	6 - 8	31	215

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
208	1	60	1-3/4	10.9	56	R404A	7.7
208	1	60	2-1/4	13.8	61	R404A	9.7

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	---	---	42	47	---	---	---	---

1 Average discharge air velocity at peak of defrost.

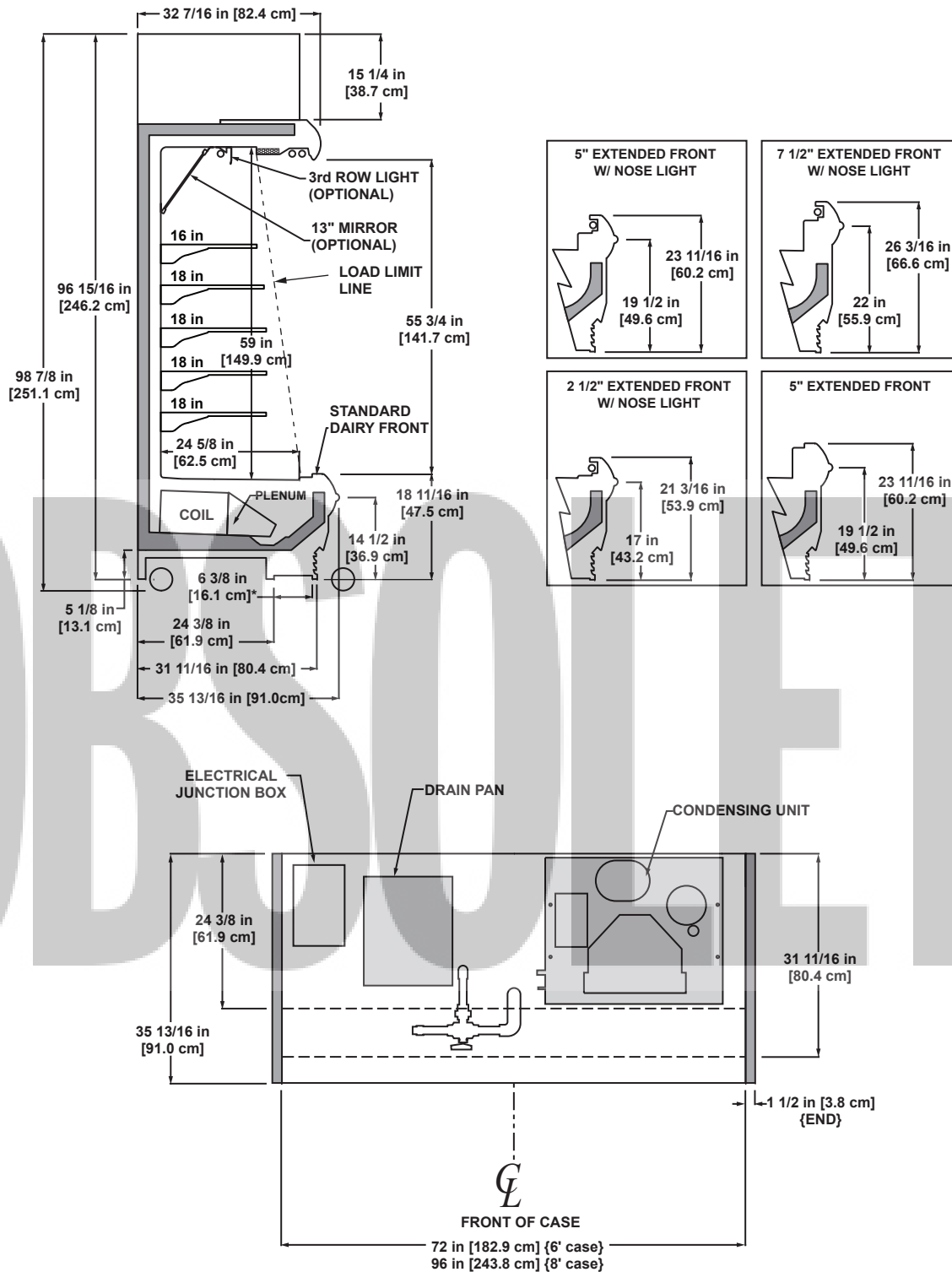
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: " - - - " indicates that feature is not an option on this case model.

ON5DMA Narrow Self-Contained Multi-Deck Merchandiser

6' & 8' (Dairy / Produce)



NOTES:

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18" TOP SHELF MUST BE 16" OR SHORTER.
- RECOMMENDED CONFIGURATION IS 16" SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O5DM Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	2	0.47	28	---	---	2.88	600	3.33	798
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Deli	2.5" Ext.	1600	1458	6 - 8	22	30	270
	5" Ext.	1556	1418	6 - 8	22	30	270
	7.5" Ext.	1523	1388	6 - 8	22	30	270
Dairy Cut Produce	Std. Dairy	1490	1358	6 - 8	26	34	270
	2.5" Ext.	1448	1319	6 - 8	26	34	270
	5" Ext.	1415	1289	6 - 8	26	34	270
	7.5" Ext.	1381	1258	6 - 8	26	34	270
Beverage Bulk Produce	Std. Dairy	1512	1378	6 - 8	29	36	270
	2.5" Ext.	1469	1338	6 - 8	29	36	270
	5" Ext.	1436	1308	6 - 8	29	36	270
	7.5" Ext.	1403	1278	6 - 8	29	36	270

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: "---" indicates that feature is not an option on this case model.

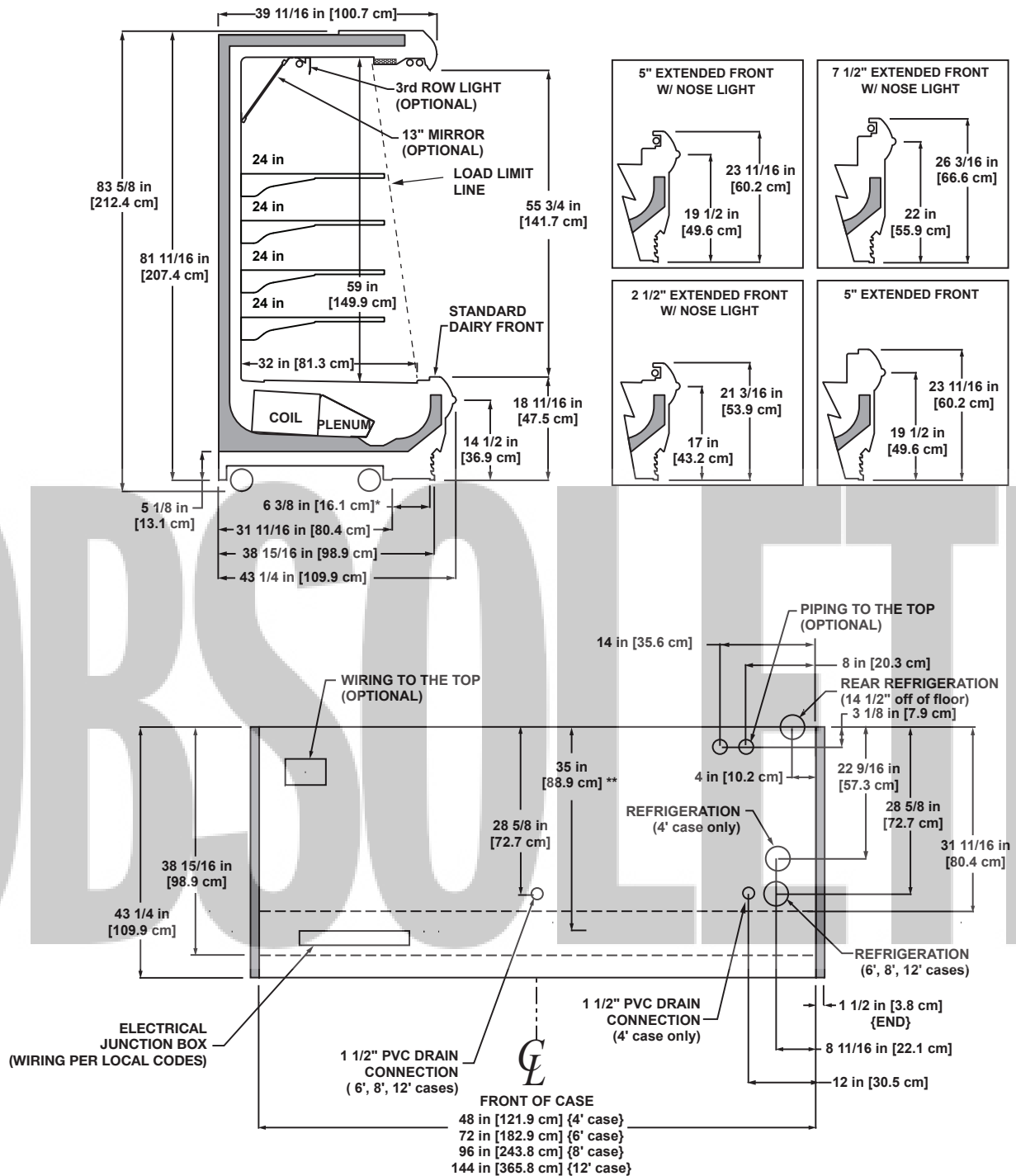
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm



O5DM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1303	1140	6 - 8	28	31	140
	2.5" Ext.	1263	1105	6 - 8	28	31	140
	5" Ext.	1234	1080	6 - 8	28	31	140
	7.5" Ext.	1211	1060	6 - 8	28	31	140
Beverage Bulk Produce	Std. Dairy	957	930	6 - 8	34	37	140
	2.5" Ext.	921	895	6 - 8	34	37	140
	5" Ext.	895	870	6 - 8	34	37	140
	7.5" Ext.	874	850	6 - 8	34	37	140

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5DM-NRG

Multi-Deck Merchandiser with Synerg-E™
4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)



Beverage / Dairy / Deli / Produce

* STUB-UP AREA

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4" & 6") - 5/8", SUCTION LINE (8" & 12") - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SLEEVE SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O5DM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

AIREWAVE

Electrical Data

Case Length	High Efficiency Fans						Anti-Condensate Heaters	
	Primary			Ambient				
	Fans Per Case	120 Volts		Fans Per Case	120 Volts		120 Volts	
		Amps	Watts		Amps	Watts	Amps	Watts
4'	1	0.23	18	1	0.08	4	---	---
6'	2	0.47	35	1	0.08	4	---	---
8'	2	0.47	35	2	0.15	8	---	---
12'	3	0.70	53	2	0.15	8	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

	Front Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)	
		Conventional	Parallel				Pri.	Amb.
Application Dairy Deli Cut Produce	Std. Dairy	1183	1035	6-8	28	31	140	110
	2.5" Ext.	1143	1000	6-8	28	31	140	110
	5" Ext.	1114	975	6-8	28	31	140	110
	7.5" Ext.	1091	955	6-8	28	31	140	110
Beverage Bulk Produce	Std. Dairy	849	825	6-8	34	37	140	110
	2.5" Ext.	813	790	6-8	34	37	140	110
	5" Ext.	787	765	6-8	34	37	140	110
	7.5" Ext.	766	745	6-8	34	37	140	110

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

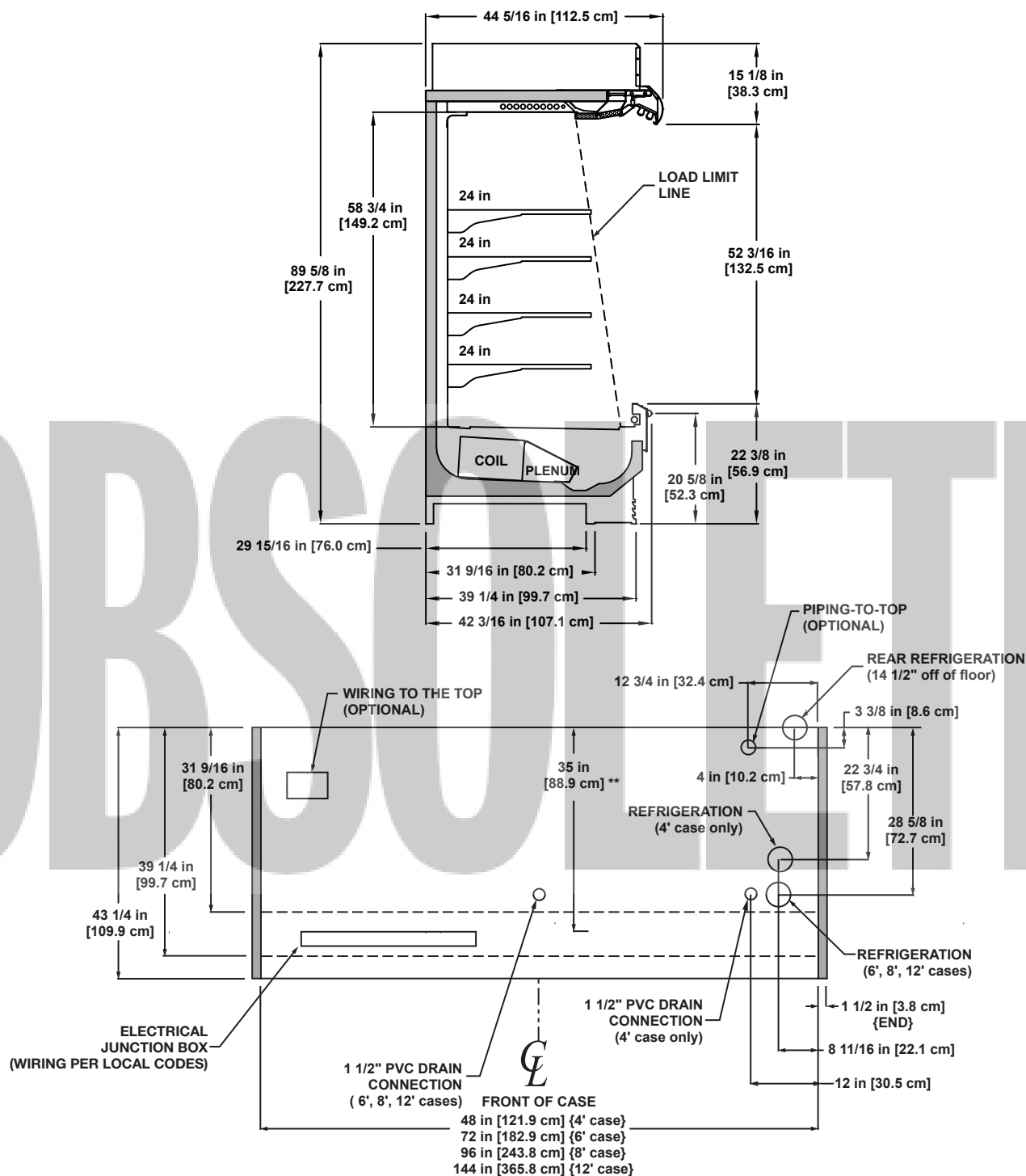


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5DM-NRG

Multi-Deck Merchandiser with Synerg-E™
4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

AIREWAVE



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O5DMA Self-Contained Multi-Deck Merchandiser

4', 6' & 8' (Dairy / Deli / Produce)

System Requirements

Case Length	Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
4'	208	1	60	3 wire + ground	23.39	30
6'	208	1	60	3 wire + ground	26.42	35
8'	208	1	60	3 wire + ground	32.95	40

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Drain Pump		Evaporator Pan Heater		Maximum Lights	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	0.8	47	7.21	1500	2.38	224
6'	2	0.47	28	0.8	47	7.21	1500	3.78	448
8'	3	0.70	42	0.8	47	9.62	2000	3.78	448

Guidelines & Control Settings

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
52	6 - 8	30	250

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
4'	208	1	60	1	9.6	46	R404A	4.5
6'	208	1	60	1-3/4	10.9	56	R404A	7.7
8'	208	1	60	2-1/4	13.8	61	R404A	9.7

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	--- ⁴	---	42	47	---	---	---	---

1 Average discharge air velocity at peak of defrost.

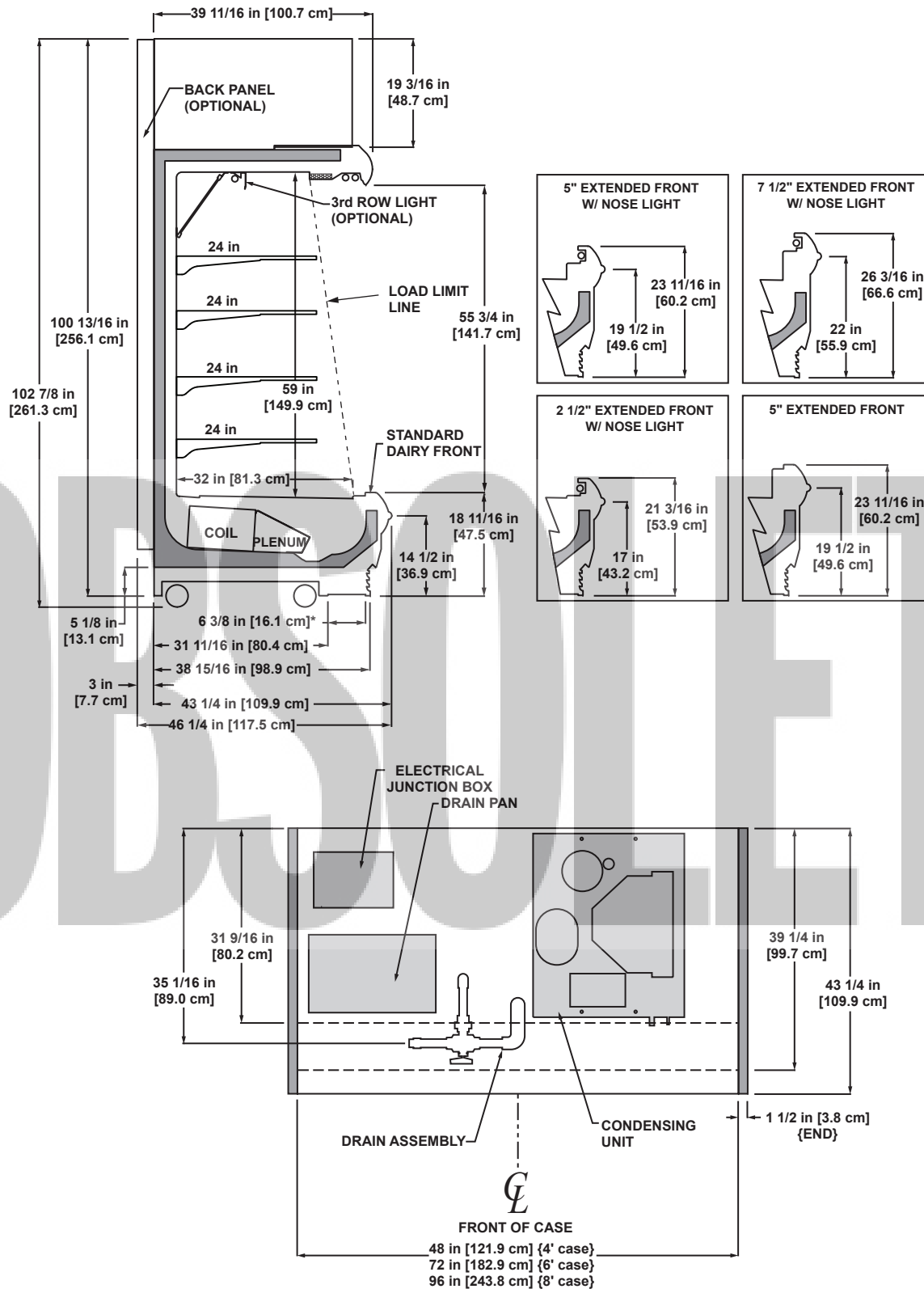
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: " - - " indicates that feature is not an option on this case model.

O5DMA Self-Contained Multi-Deck Merchandiser

4', 6' & 8' (Dairy / Deli / Produce)



NOTES:

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O5DMH High Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Deli	2.5" Ext.	1646	1500	6 - 8	22	31	250
	5" Ext.	1591	1450	6 - 8	22	31	250
	7.5" Ext.	1559	1420	6 - 8	22	31	250
Dairy Cut Produce	Std. Dairy	1575	1435	6 - 8	26	35	265
	2.5" Ext.	1515	1380	6 - 8	26	35	265
	5" Ext.	1482	1350	6 - 8	26	35	265
	7.5" Ext.	1449	1320	6 - 8	26	35	265
Beverage Bulk Produce	Std. Dairy	1509	1375	6 - 8	29	37	270
	2.5" Ext.	1465	1335	6 - 8	29	36	270
	5" Ext.	1433	1306	6 - 8	29	36	270
	7.5" Ext.	1402	1277	6 - 8	29	36	270

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	42	47	26	45	42	45

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

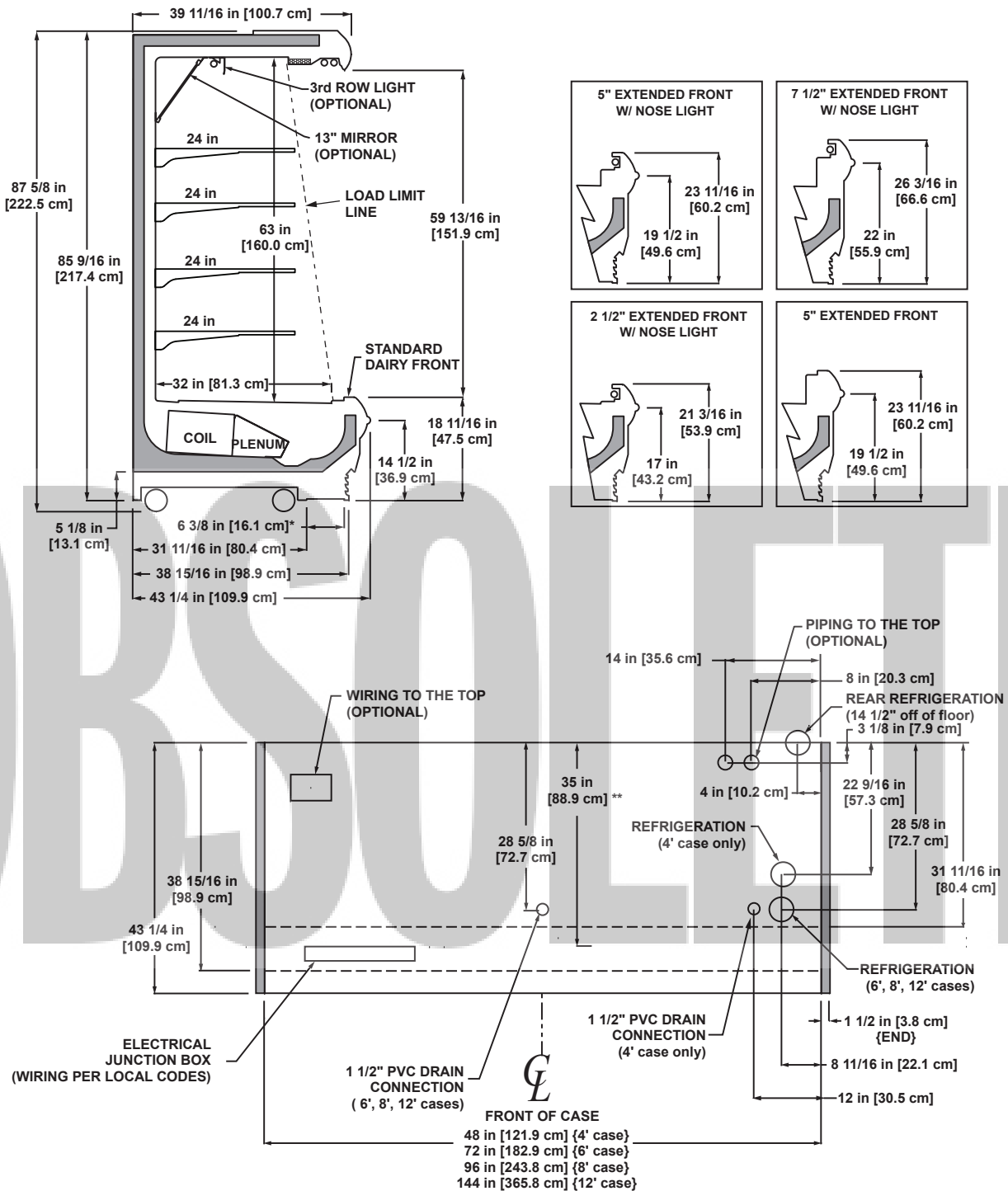
3 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5DMH High Multi-Deck Merchandiser

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)



MULTI-DECK

Beverage / Dairy / Deli / Produce



O5DMH-NRG High Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy Deli Cut Produce	Std. Dairy	1571	1375	6 - 8	28	33	150
	2.5" Ext.	1531	1340	6 - 8	28	33	150
	5" Ext.	1503	1315	6 - 8	28	33	150
	7.5" Ext.	1480	1295	6 - 8	28	33	150
Beverage Bulk Produce	Std. Dairy	1198	1165	6 - 8	34	37	150
	2.5" Ext.	1162	1130	6 - 8	34	37	150
	5" Ext.	1137	1105	6 - 8	34	37	150
	7.5" Ext.	1116	1085	6 - 8	34	37	150

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy / Deli / Cut Produce	6	---	---	---	40	42	---	---	---	---
Beverage / Bulk Produce	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

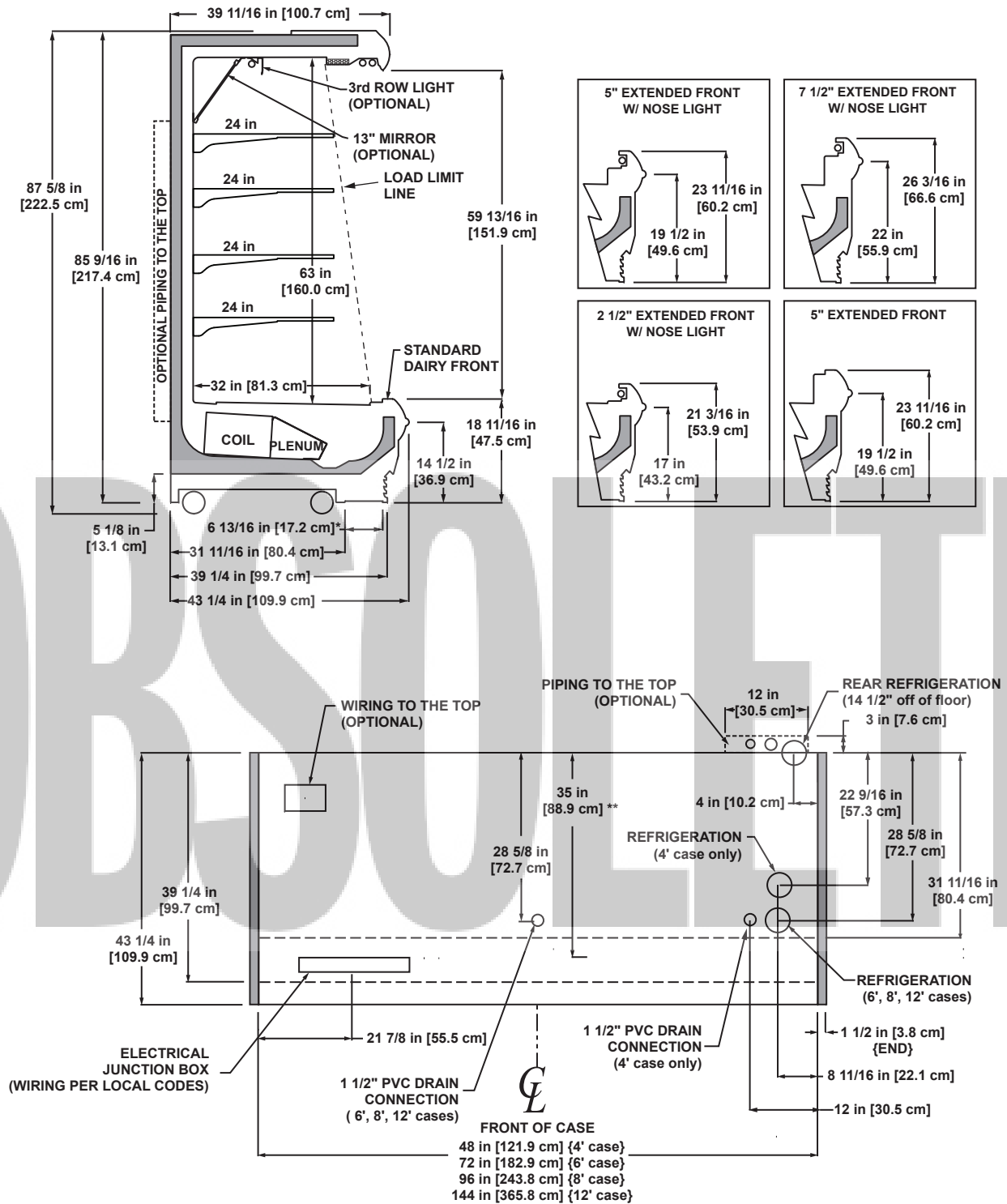
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5DMH-NRG

High Multi-Deck Merchandiser with Synerg-E™ 4', 6', 8' & 12' (Beverage / Dairy / Deli / Produce)



MULTI-DECK

Beverage / Dairy / Deli / Produce



O5DR Rear Load Multi-Deck Merchandiser

8' & 12' (Beverage / Dairy)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	4	1.44	142	---	---	3.85	800	4.44	1065
12'	5	1.80	178	---	---	5.78	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Dairy	Std. Dairy	1531	1382	6 - 8	22	32	275
	2.5" Ext.	1503	1357	6 - 8	22	32	275
	5" Ext.	1477	1333	6 - 8	22	32	275
	7.5" Ext.	1446	1305	6 - 8	22	32	275
Beverage	2.5" Ext.	1442	1302	6 - 8	26	35	275
	5" Ext.	1406	1269	6 - 8	26	35	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	45	47	26	45	42	45

1 NOTE: " - - - " indicates that feature is not an option on this case model.

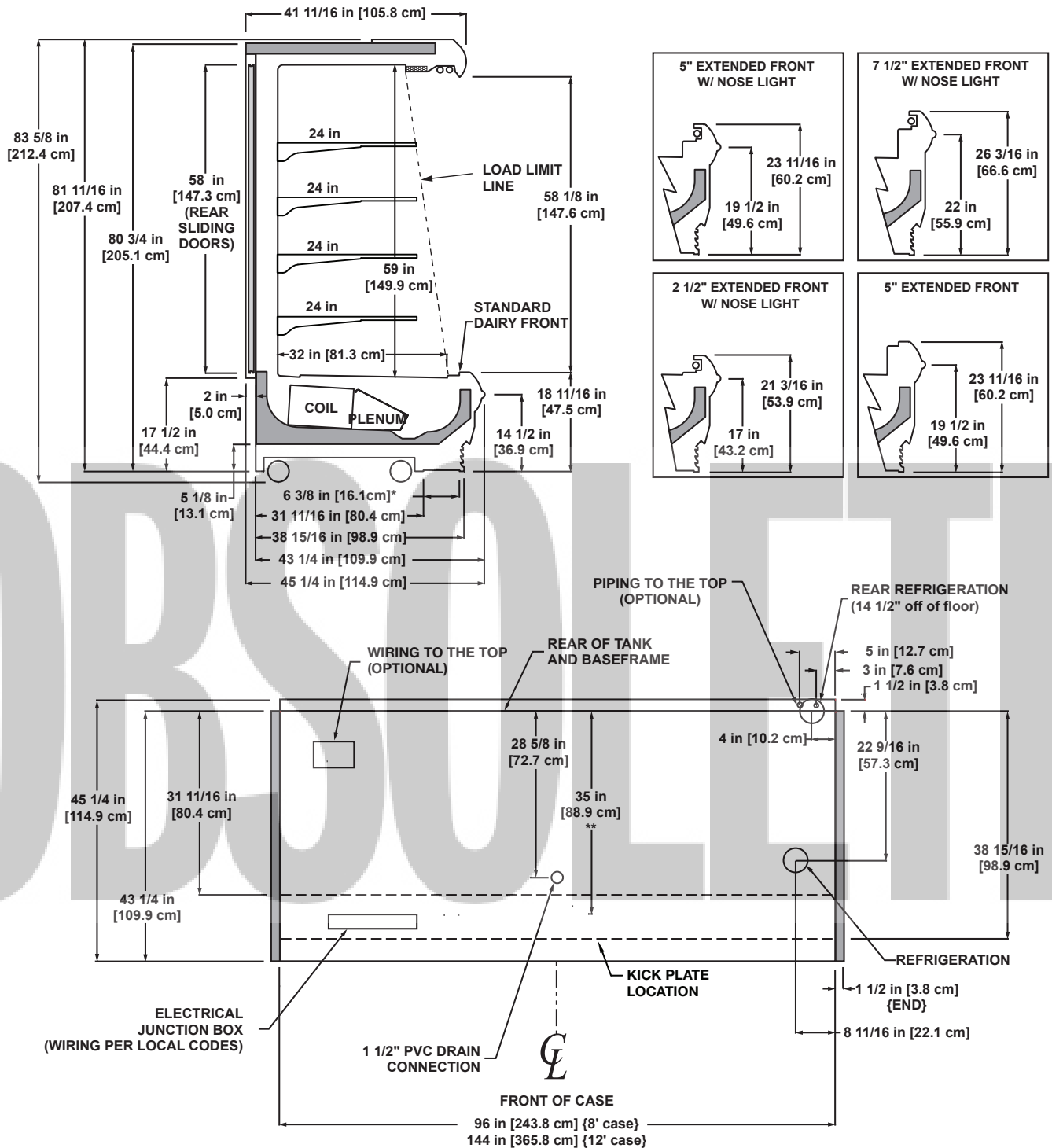
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

05DR Rear Load Multi-Deck Merchandiser

8' & 12' (Beverage / Dairy)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- COOLER OPENING SHOULD BE 82" X CASE LENGTH
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
8'	4	0.90	67	---	---
12'	6	1.35	100	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy	Std. Dairy	1400	1225	6 - 8	28	32	250
	2.5" Ext.	1360	1190	6 - 8	28	32	250
	5" Ext.	1331	1165	6 - 8	28	32	250
	7.5" Ext.	1309	1145	6 - 8	28	32	250
Beverage	2.5" Ext.	1044	1015	6 - 8	34	37	250
	5" Ext.	1008	980	6 - 8	34	37	250

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy	6	---	---	---	40	42	---	---	---	---
Beverage	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

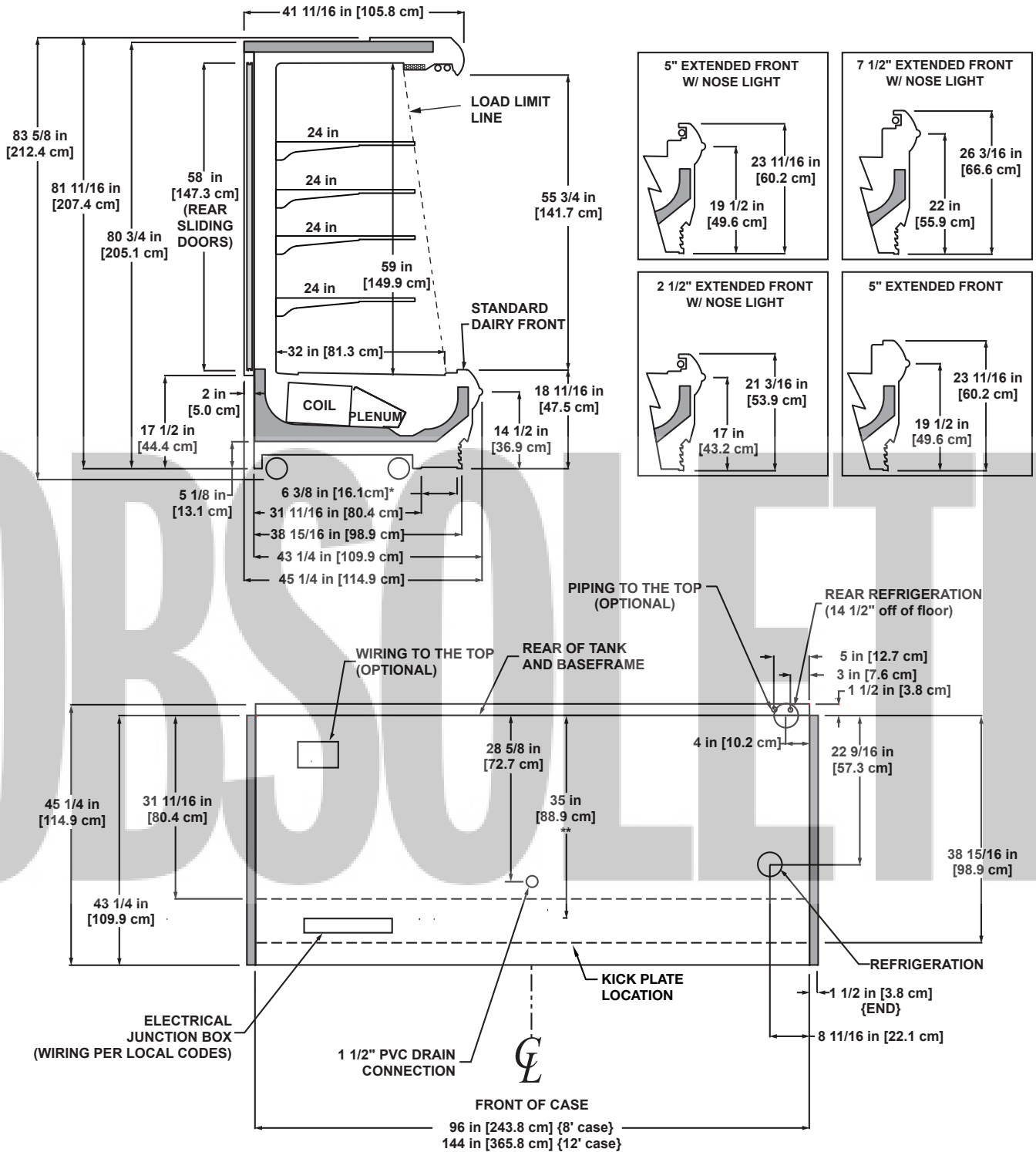
3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

O5DR-NRG Rear Load Multi-Deck Merchandiser with Synerg-E™

8' & 12' (Beverage / Dairy)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- COOLER OPENING SHOULD BE 82" X CASE LENGTH
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



O5DRH High Rear Load Multi-Deck Merchandiser

8' & 12' (Beverage / Dairy)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	4	1.44	142	---	---	3.85	800	4.44	1065
12'	6	2.16	213	---	---	5.78	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Dairy	Std. Dairy	1576	1423	6 - 8	22	32	275
	2.5" Ext.	1549	1398	6 - 8	22	32	275
	5" Ext.	1521	1373	6 - 8	22	32	275
	7.5" Ext.	1489	1344	6 - 8	22	32	275
Beverage	2.5" Ext.	1485	1341	6 - 8	26	35	275
	5" Ext.	1448	1307	6 - 8	26	35	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	32	47	45	47	26	45	42	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

05DRH



MULTI-DECK

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

- NSF[®] 

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
8'	4	0.90	67	---	---
12'	6	1.35	100	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	Front Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Dairy	Std. Dairy	1491	1305	6 - 8	28	32	250
	2.5" Ext.	1451	1270	6 - 8	28	32	250
	5" Ext.	1423	1245	6 - 8	28	32	250
	7.5" Ext.	1400	1225	6 - 8	28	32	250
Beverage	2.5" Ext.	1111	1080	6 - 8	28	32	250
	5" Ext.	1074	1044	6 - 8	28	32	250

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Dairy	6	---	---	---	40	42	---	---	---	---
Beverage	2	---	---	---	30	42	---	---	---	---

1 NOTE: " - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

05DRH-NRG

High Rear Load Multi-Deck Merchandiser with Synerg-E 8' & 12' (Beverage / Dairy)



Beverage / Dairy

* STUB-UP AREA

**** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS**

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O5M Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---	1.92	400	2.22	532
6'	2	0.47	35	---	---	2.88	600	3.33	798
8'	2	0.47	35	---	---	3.85	800	4.44	1065
12'	3	0.70	53	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Height	Coil Type	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Thermopane	Enh.	1967	1680	6 - 8	17	26	225

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	40	47	45	45	26	45	45	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

Deli / Meat



O5M-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
Conventional	Parallel				
1486	1300	6 - 8	26	30	240

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	40	42	---	---	---	---

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

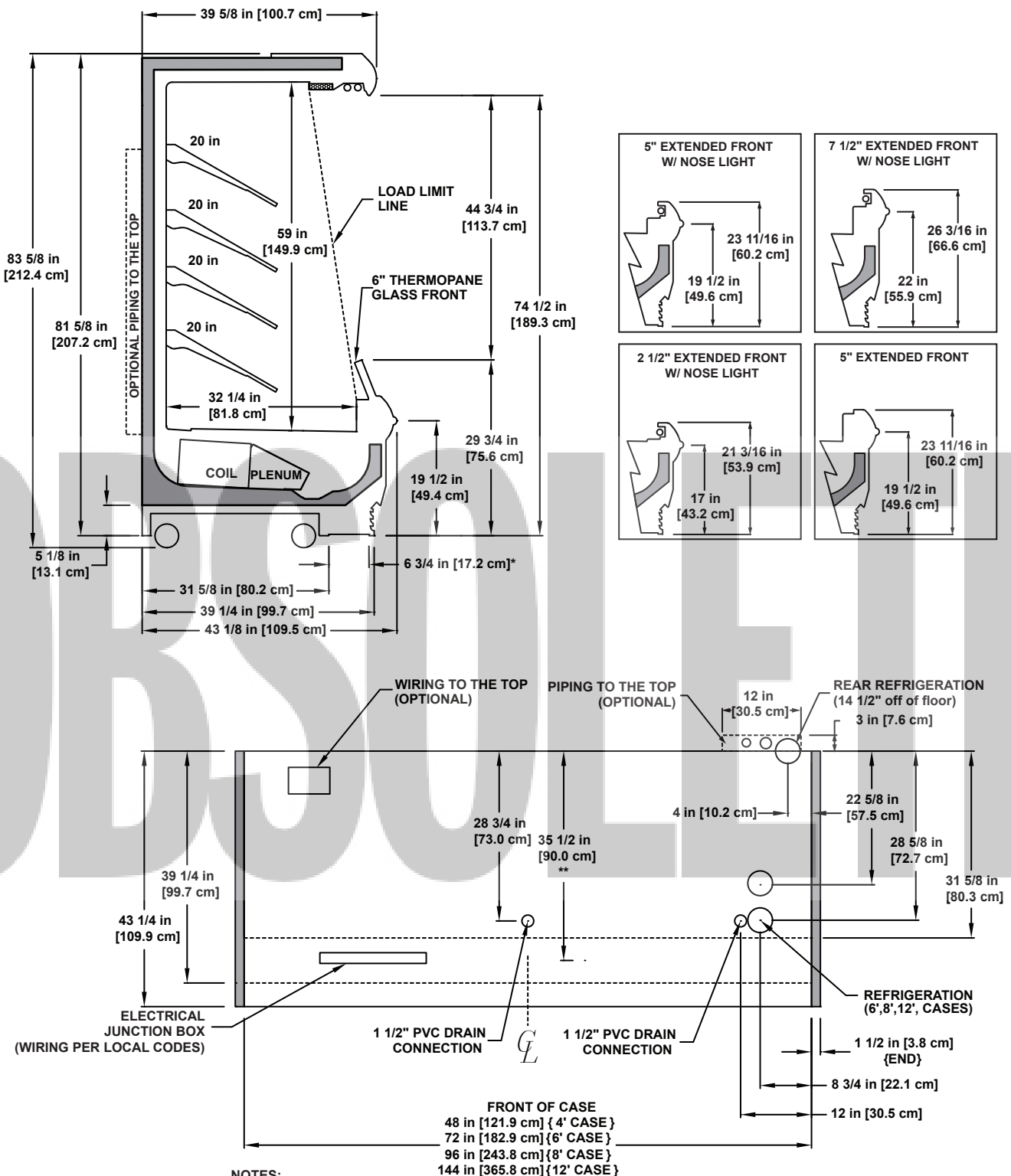
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5M-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)



MULTI-DECK

Deli / Meat



O5MH-NRG High Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	1	0.23	18	---	---
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
Conventional	Parallel				
1646	1440	6 - 8	26	30	270

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	40	42	---	---	---	---

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

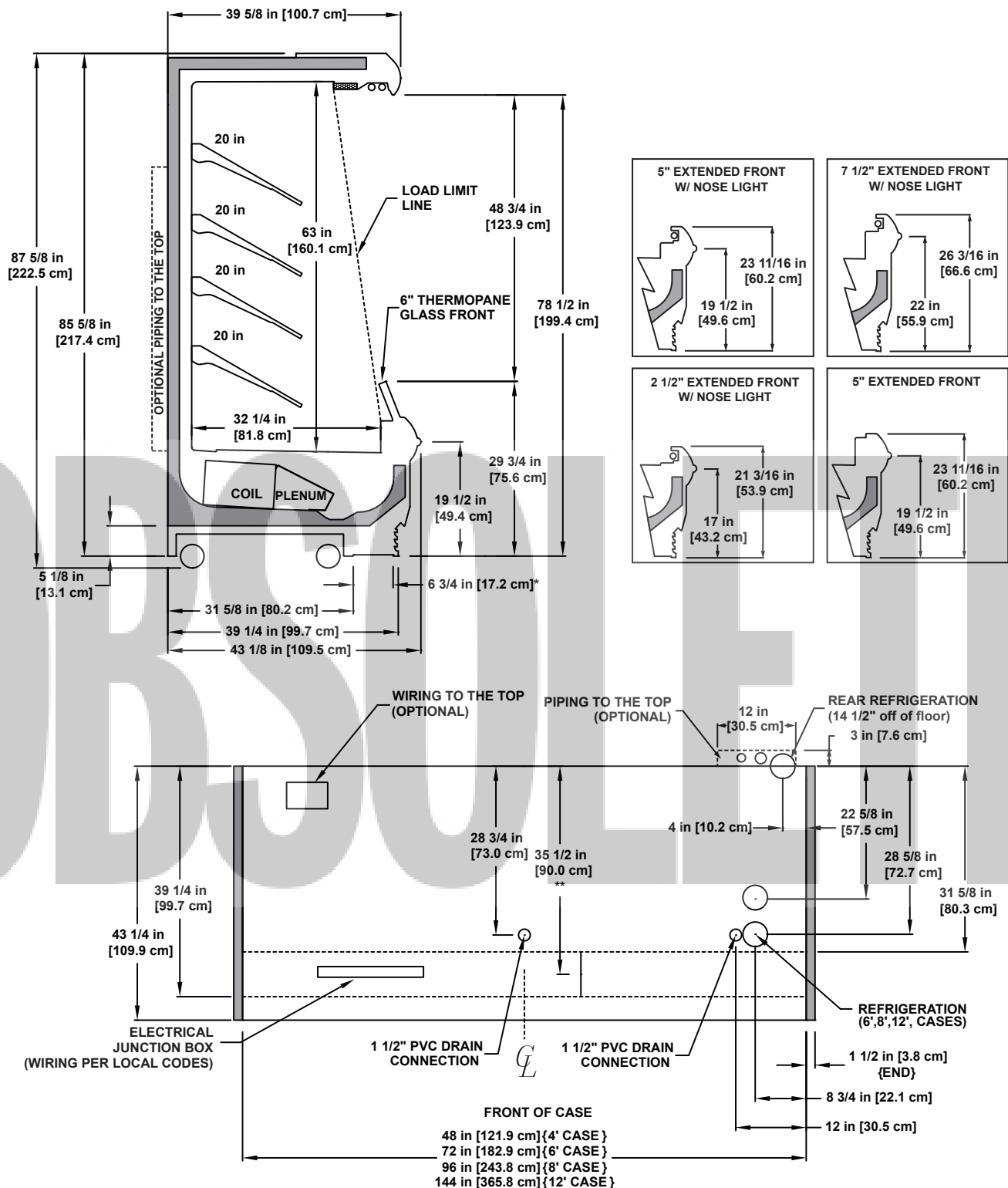
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

O5MH-NRG High Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Dairy / Deli)



MULTI-DECK

Dairy / Deli



O5MR Rear Load Multi-Deck Deli / Meat Merchandiser

8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	4	1.44	142	---	---	3.85	800	4.44	1065
12'	6	2.16	213	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Height	Coil Type	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Thermopane	Enh.	1858	1587	6 - 8	17	31	275

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	40	47	45	45	26	45	45	45

1 NOTE: "--" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

MULTI-DECK

NOTES:

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05Z Multi-Deck Merchandiser

6', 8' & 12' (Frozen Food)

Electrical Data

Case Length	Fans ¹ Per Case				High-Efficiency Fans		Anti-Condensate ² Heaters		Defrost ³ Heaters			
					120 Volts		120 Volts		208 Volts		240 Volts	
	Pri.	Sec.	Amb.	Total	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	4	2	2	8	1.47	124	2.25	270	9.99	3600	11.53	4794
8'	5	3	2	10	1.84	155	3.10	344	13.32	4800	15.37	6390
12'	7	4	3	14	2.57	217	4.18	493	20.00	7200	23.06	9585

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Heights	4BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)		
	Conventional	Parallel				Pri.	Sec.	Amb.
22"	1902	1787	3-5	-17	-5	650	425	275
28"	1865	1752	3-5	-17	-5	650	425	275

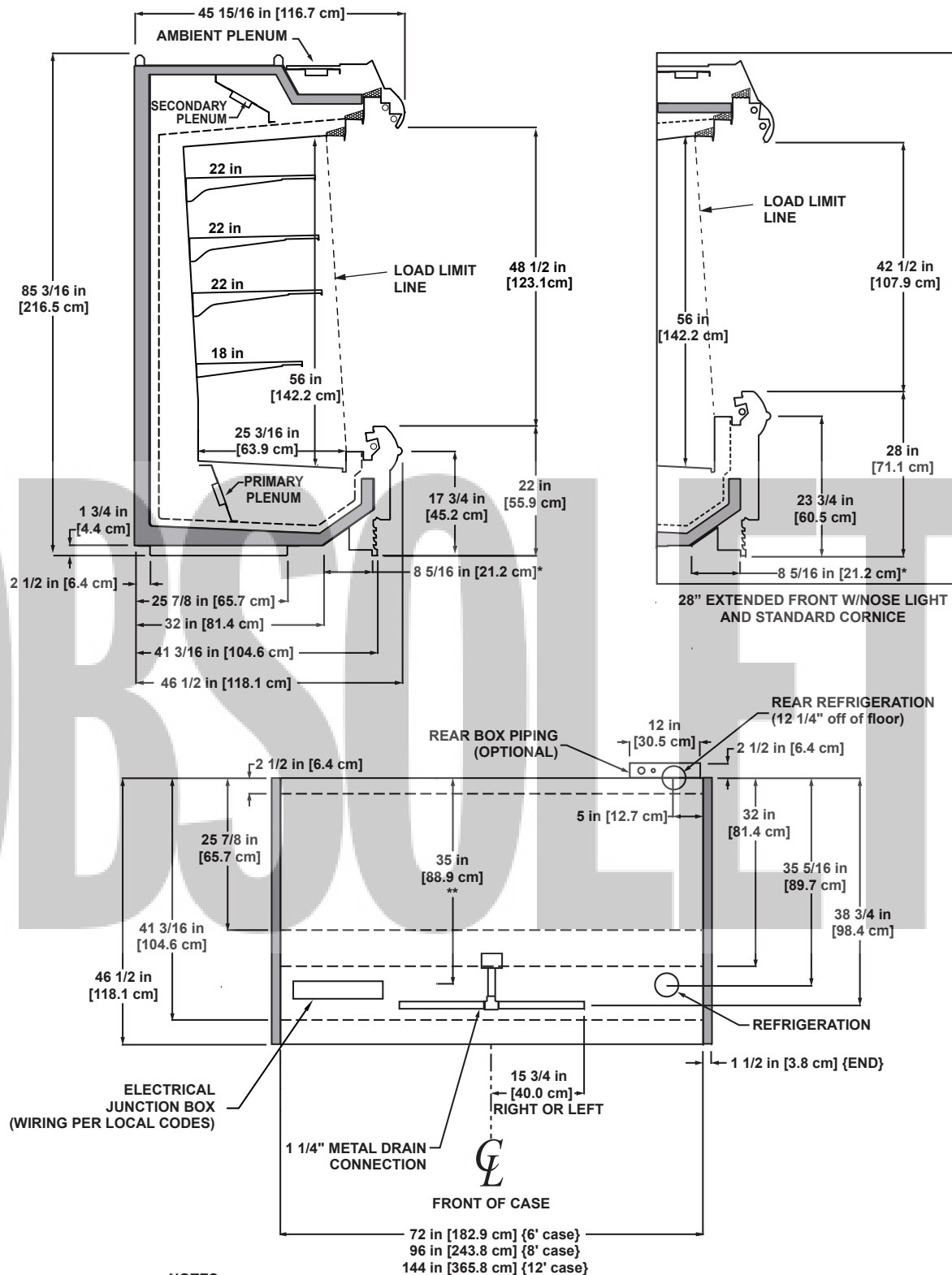
Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	13 - 15	34	50	---	---	24	60	---	---

- 1 Pri. = Primary; Sec. = Secondary; Amb. = Ambient
- 2 Cases equipped with windowed ends add 1.85 amps per end.
- 3 3-phase load. Figure given is maximum amps per phase.
- 4 Standard fans increase refrigeration load by 96 BTUH/fan.
- 5 Average discharge air velocity at peak of defrost.
- 6 NOTE: " - - " indicates that feature is not an option on this case model.

05Z Multi-Deck Merchandiser

6', 8' & 12' (Frozen Food)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 18" & 22"
- RECOMMENDED CONFIGURATION IS 3 - 22" SHELVES ON TOP AND 1 - 18" SHELF ON THE BOTTOM
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONHM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front/Rear Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Standard	1462	1320	6 - 8	22	30	340
All Others	1351	1220	6 - 8	22	30	340

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	35	47	45	47	26	45	45	45

1 NOTE: " - - - " indicates that feature is not an option on this case model.

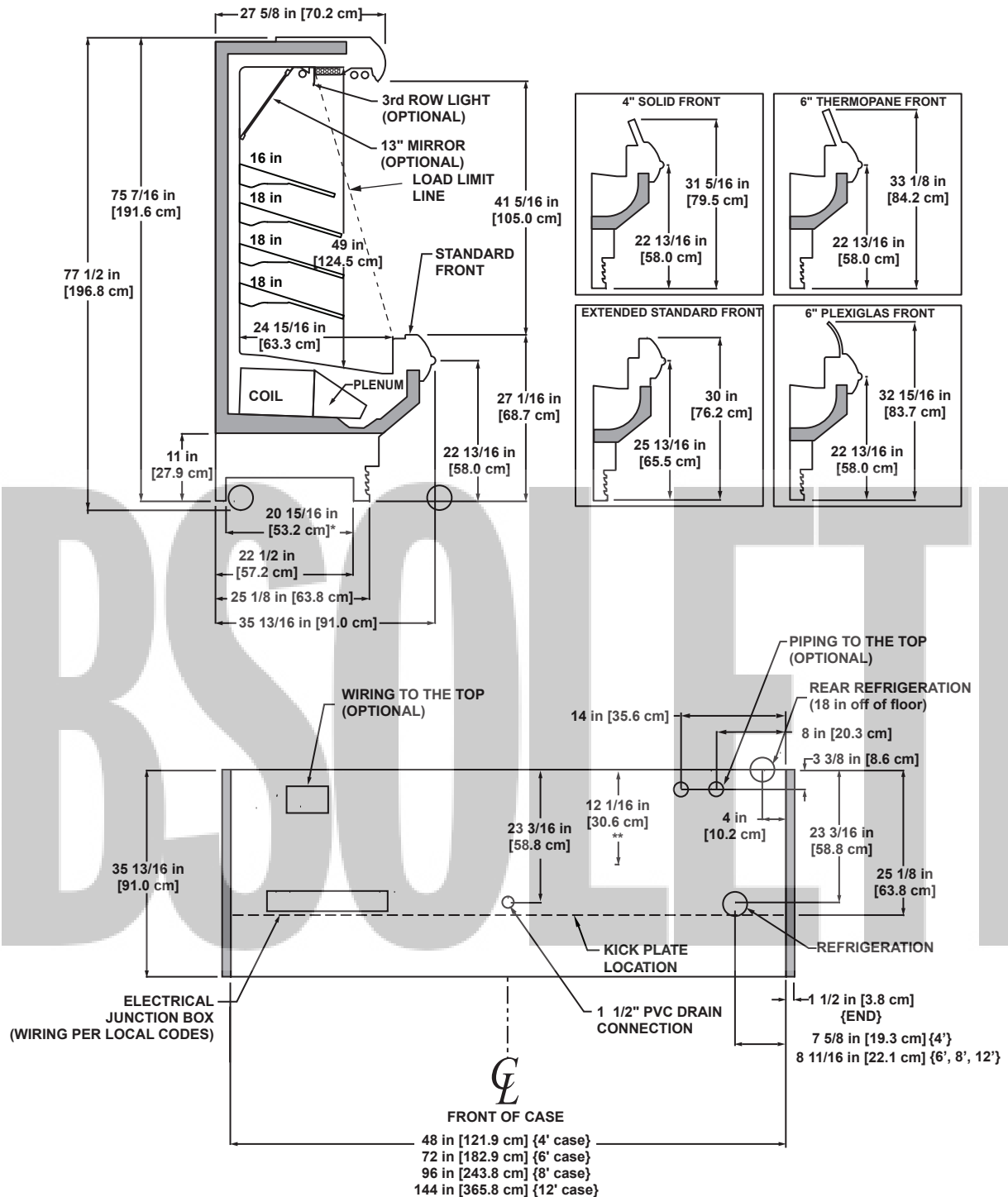
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

ONHM Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONHMH High Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front/Rear Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Standard	1462	1320	6 - 8	22	30	340
All Others	1351	1220	6 - 8	22	29	340

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	35	47	45	47	26	45	45	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

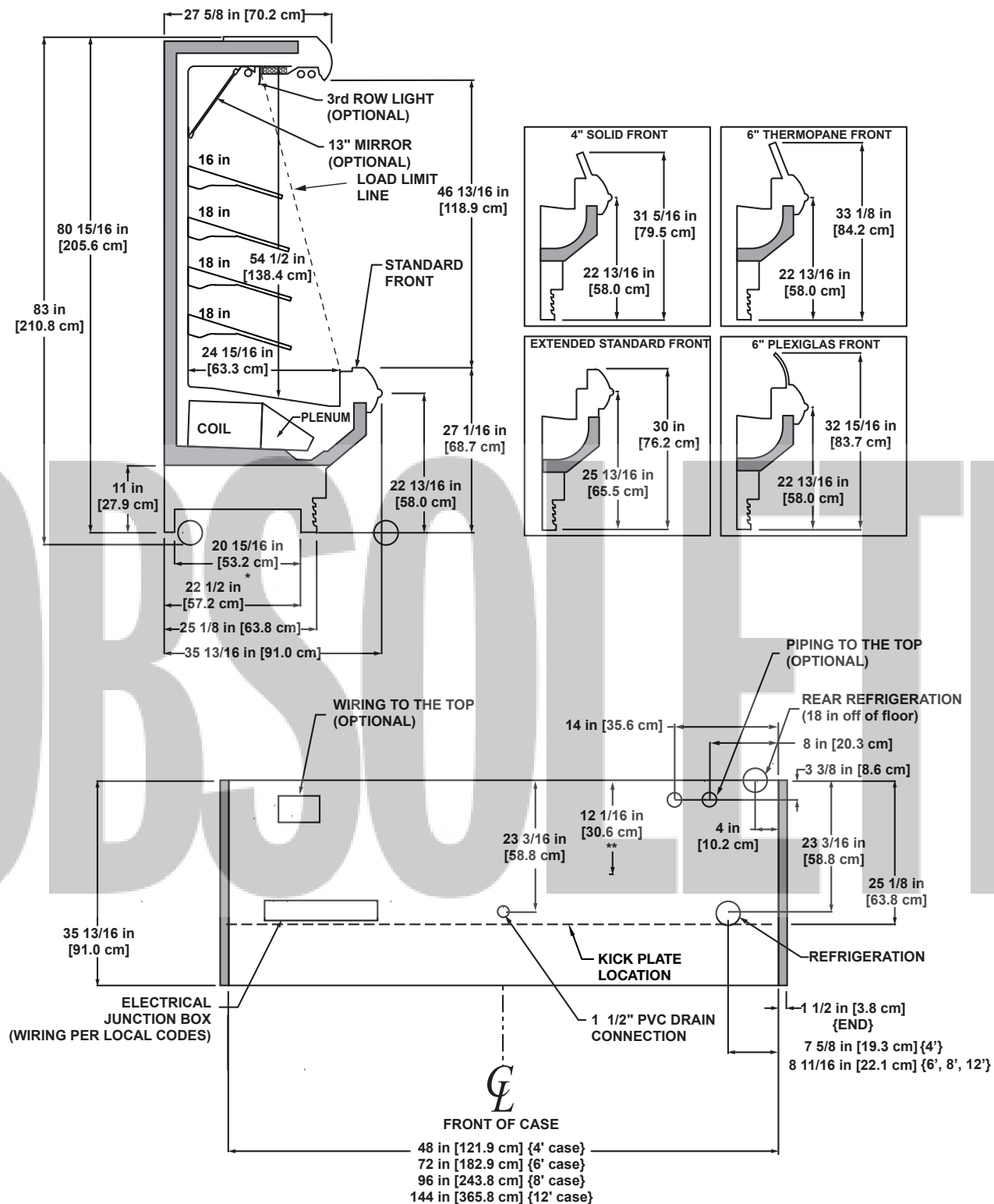
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

ONHMH High Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16", 1-18" & 1-20"



OHM Multi-Deck Merchandiser

6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	2	0.39	23.4	---	---	2.88	600	3.33	798
8'	3	0.59	35.1	---	---	3.85	800	4.44	1065
12'	4	0.78	46.8	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front/Rear Sill Heights	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Standard	1410	1273	6 - 8	22	28	350
All Others	1361	1229	6 - 8	22	28	350

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	35	47	45	47	26	45	45	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

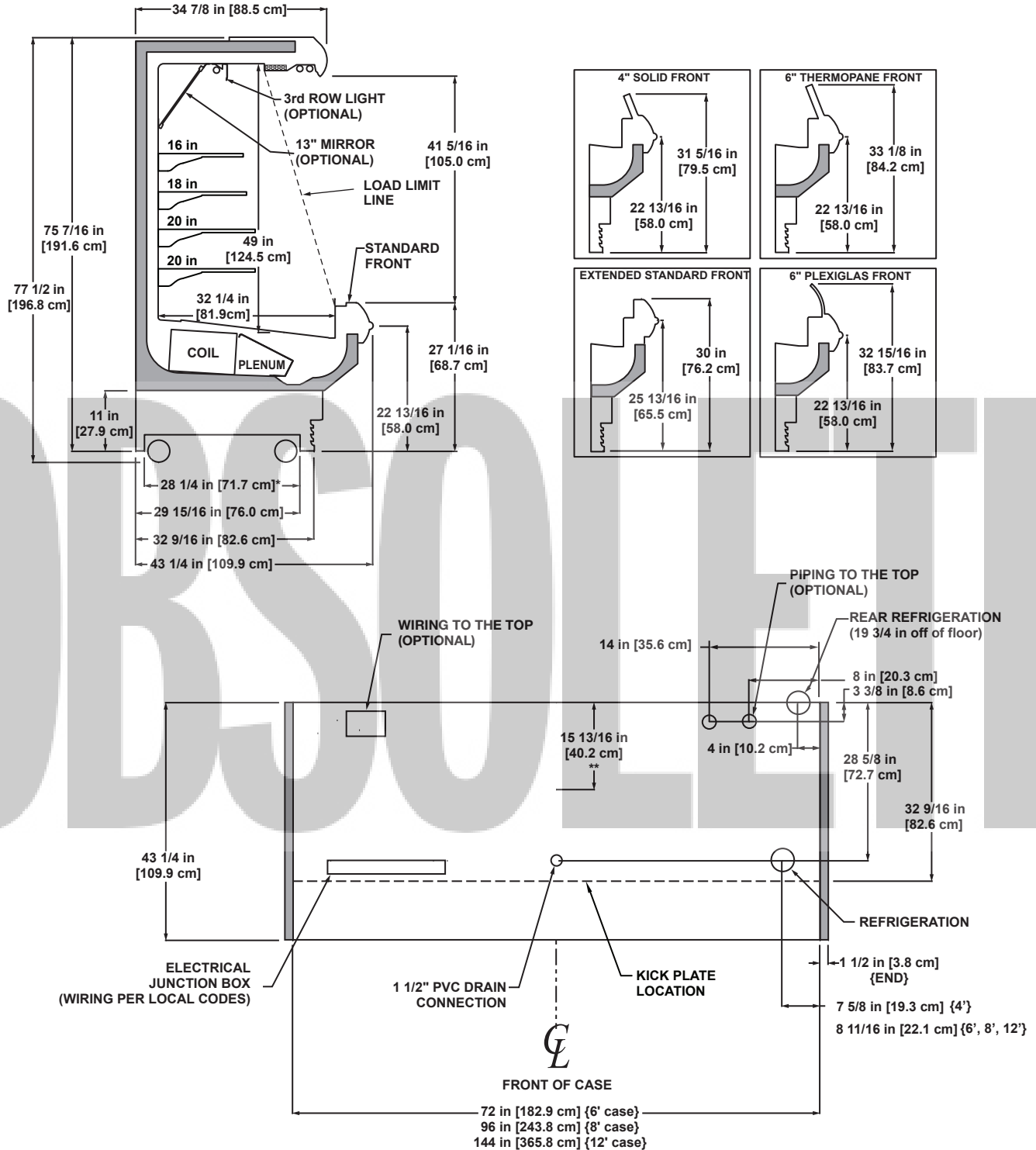
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OHM Multi-Deck Merchandiser

6', 8' & 12' (Deli / Meat)

(11" BASEFRAME)



NOTES:

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

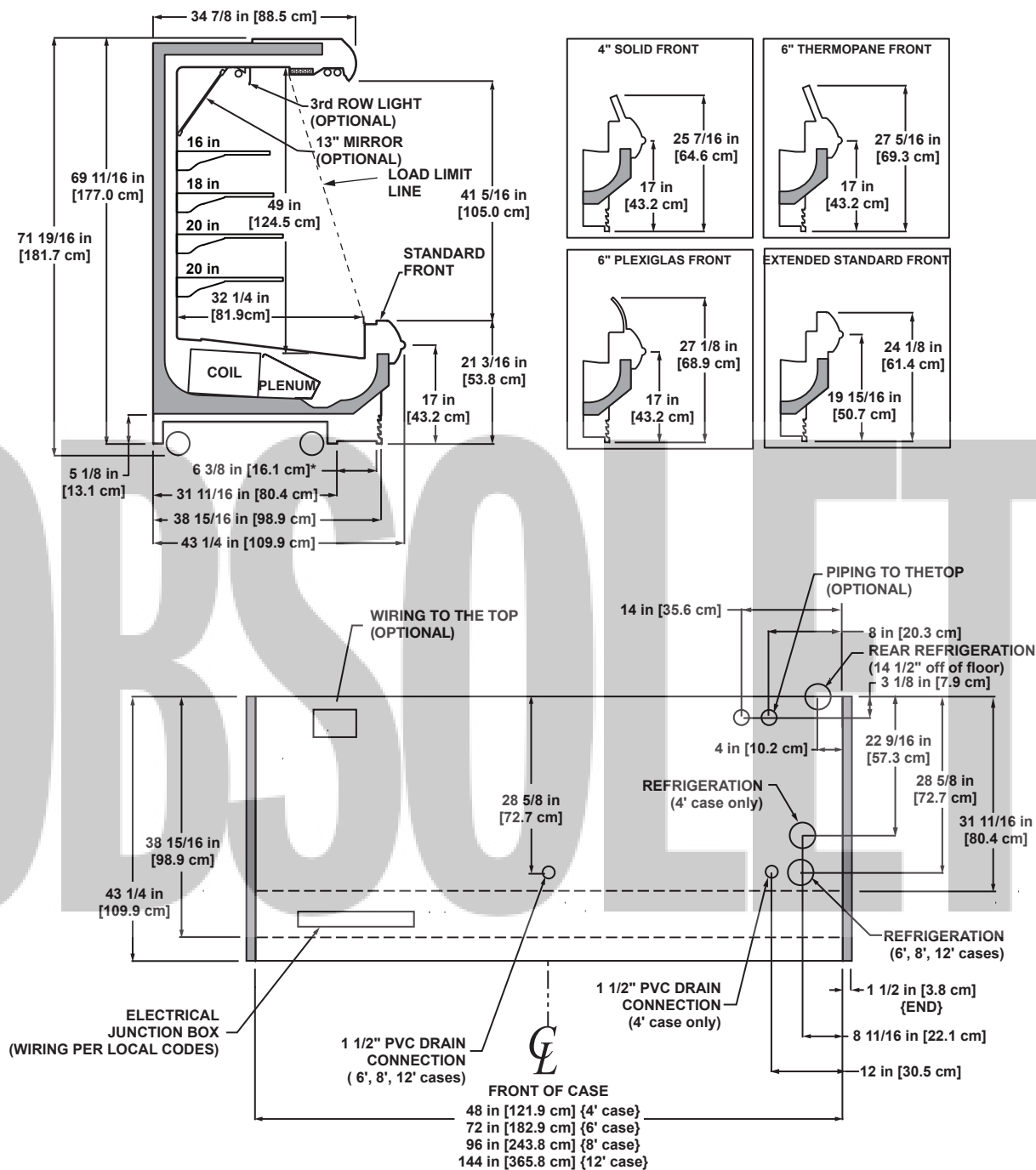
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHM Multi-Deck Merchandiser

6', 8' & 12' (Deli / Meat)

(5" BASEFRAME)



OBSOLETE

OHM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	2	0.50	36	---	---
6'	3	0.75	54	---	---
8'	3	0.75	54	---	---
12'	4	1.00	72	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
	Conventional	Parallel				
Std.	1371	1200	6 - 8	27	30	200
All Others	1250	1094	6 - 8	27	30	200

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	40	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

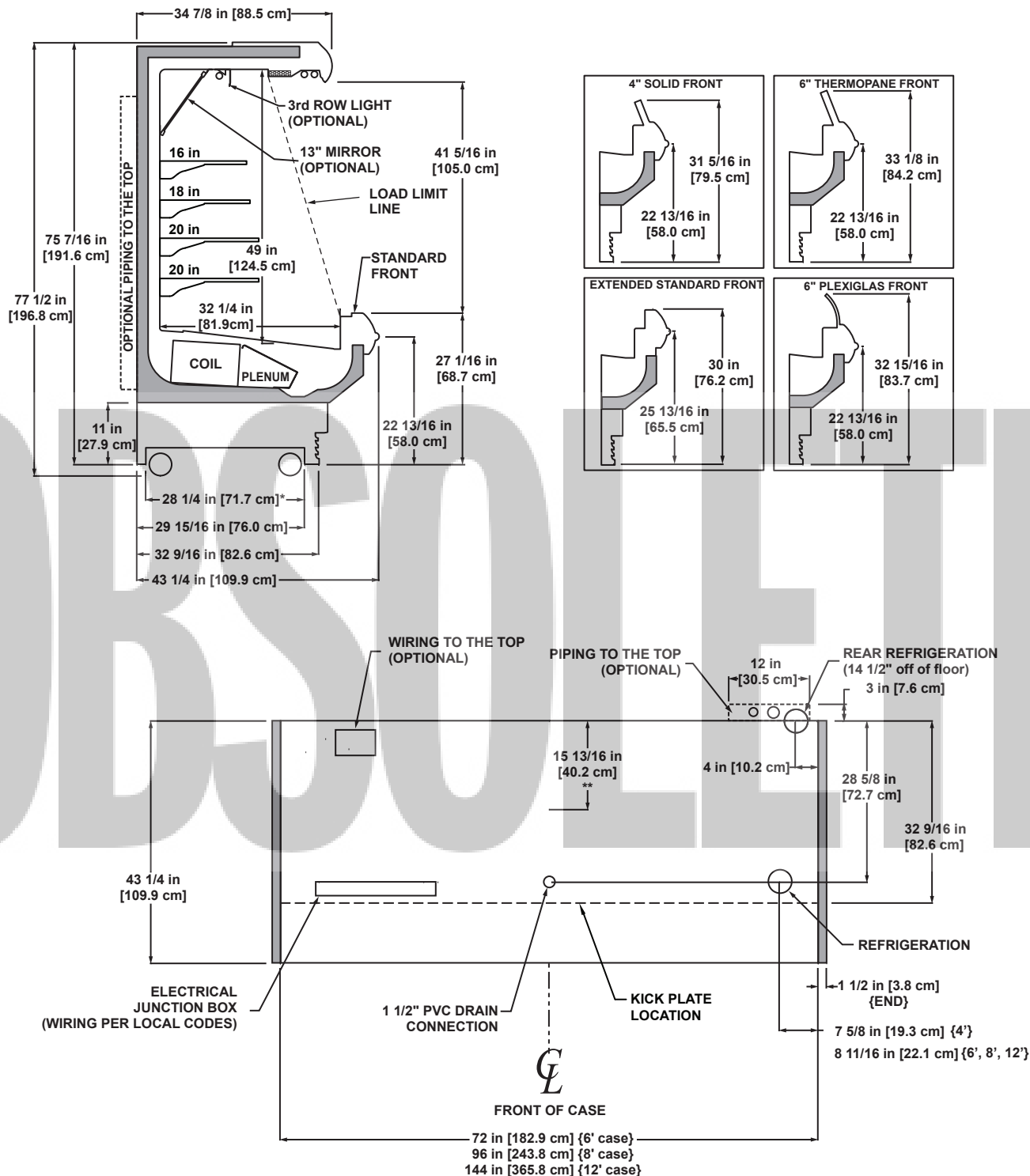
4 Conventional Discharge Air Control - Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

OHM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

(11" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

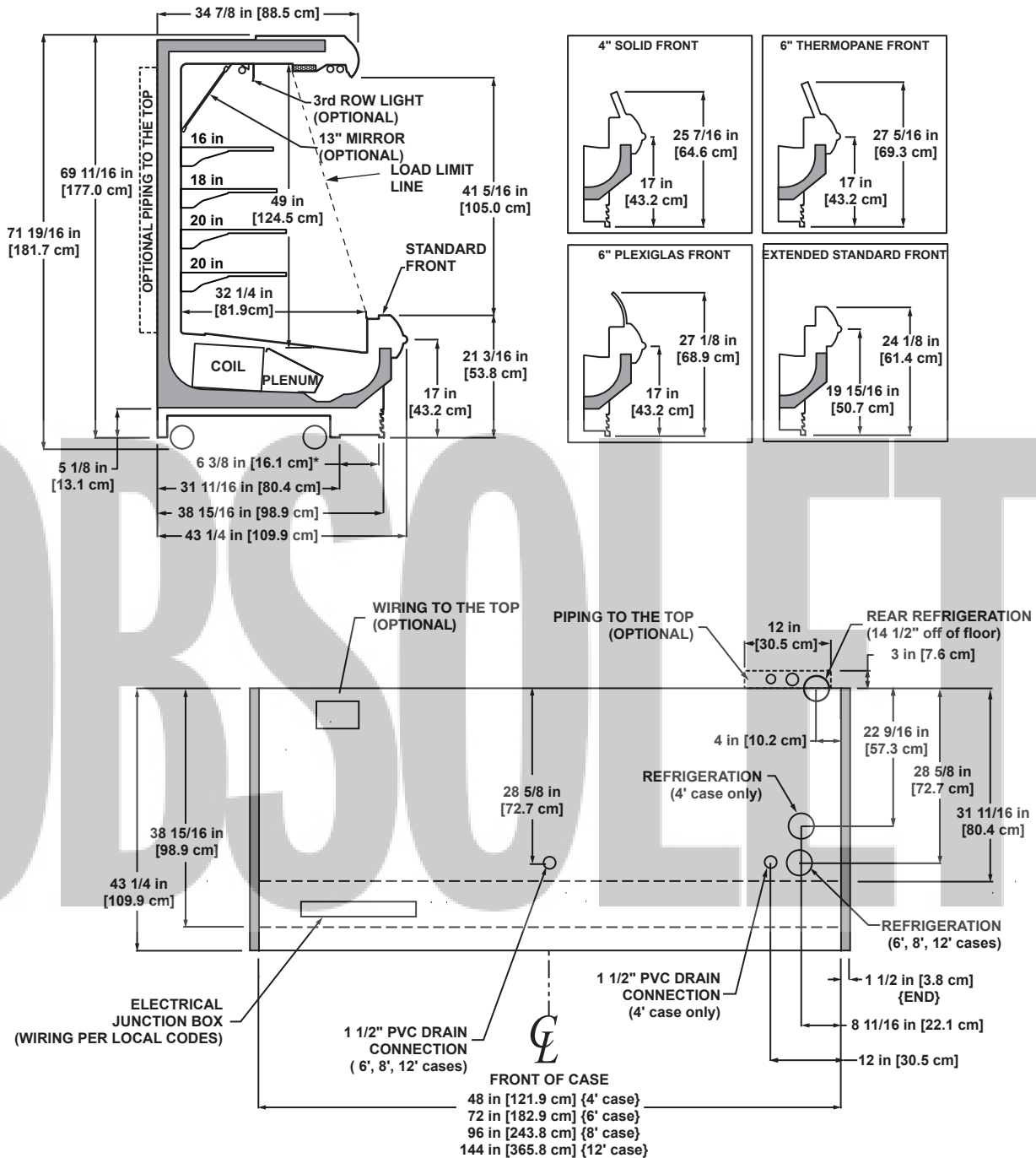
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHM-NRG Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

(5" BASEFRAME)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

OHHM High Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front/Rear Sill Heights	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge³ Air Velocity (FPM)
	Conventional	Parallel				
Standard	1456	1314	6 - 8	22	29	330
All Others	1351	1220	6 - 8	22	29	330

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	35	47	45	47	26	45	45	45

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

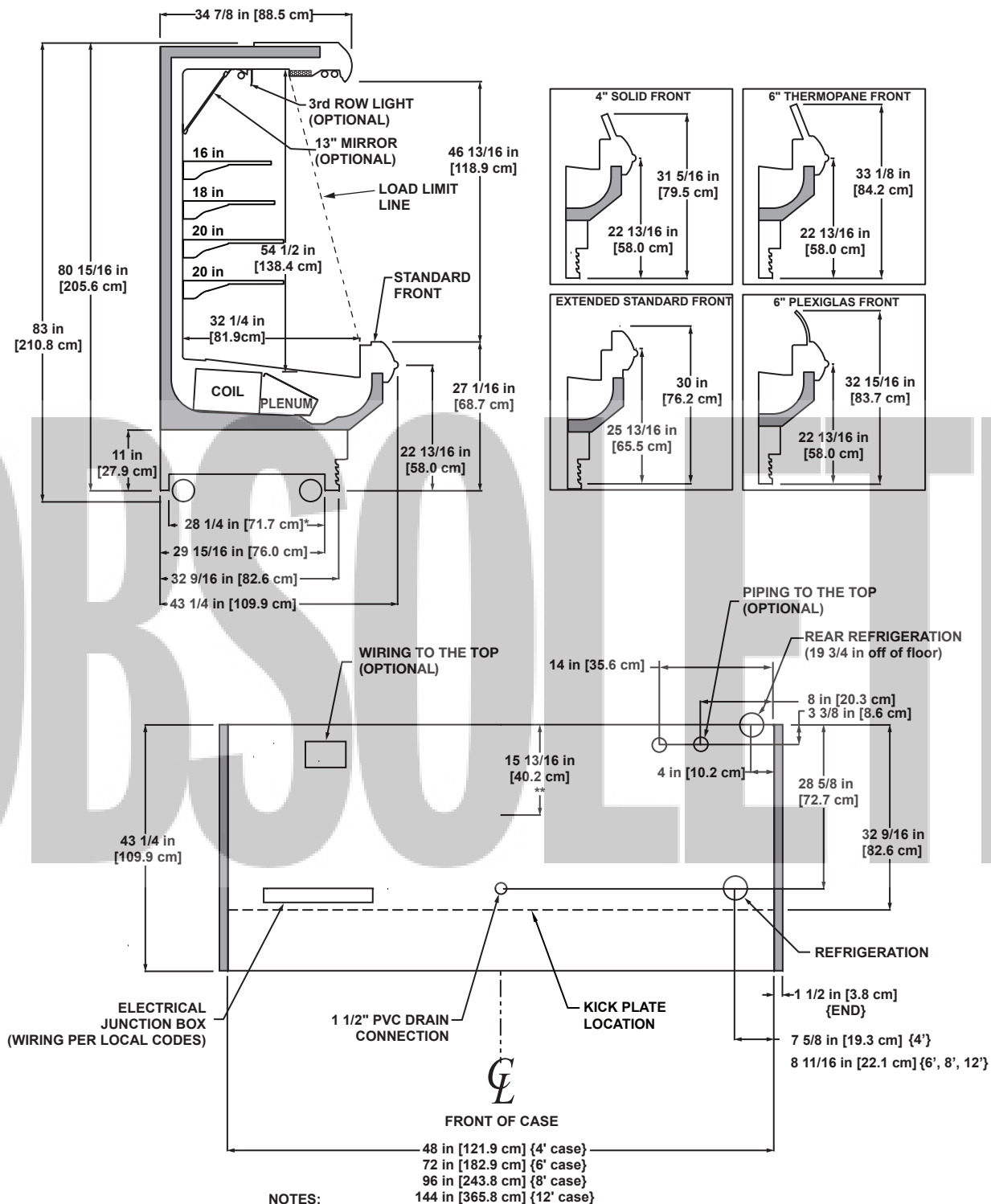
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OHHM High Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)

(11" BASEFRAME)



MULTI-DECK

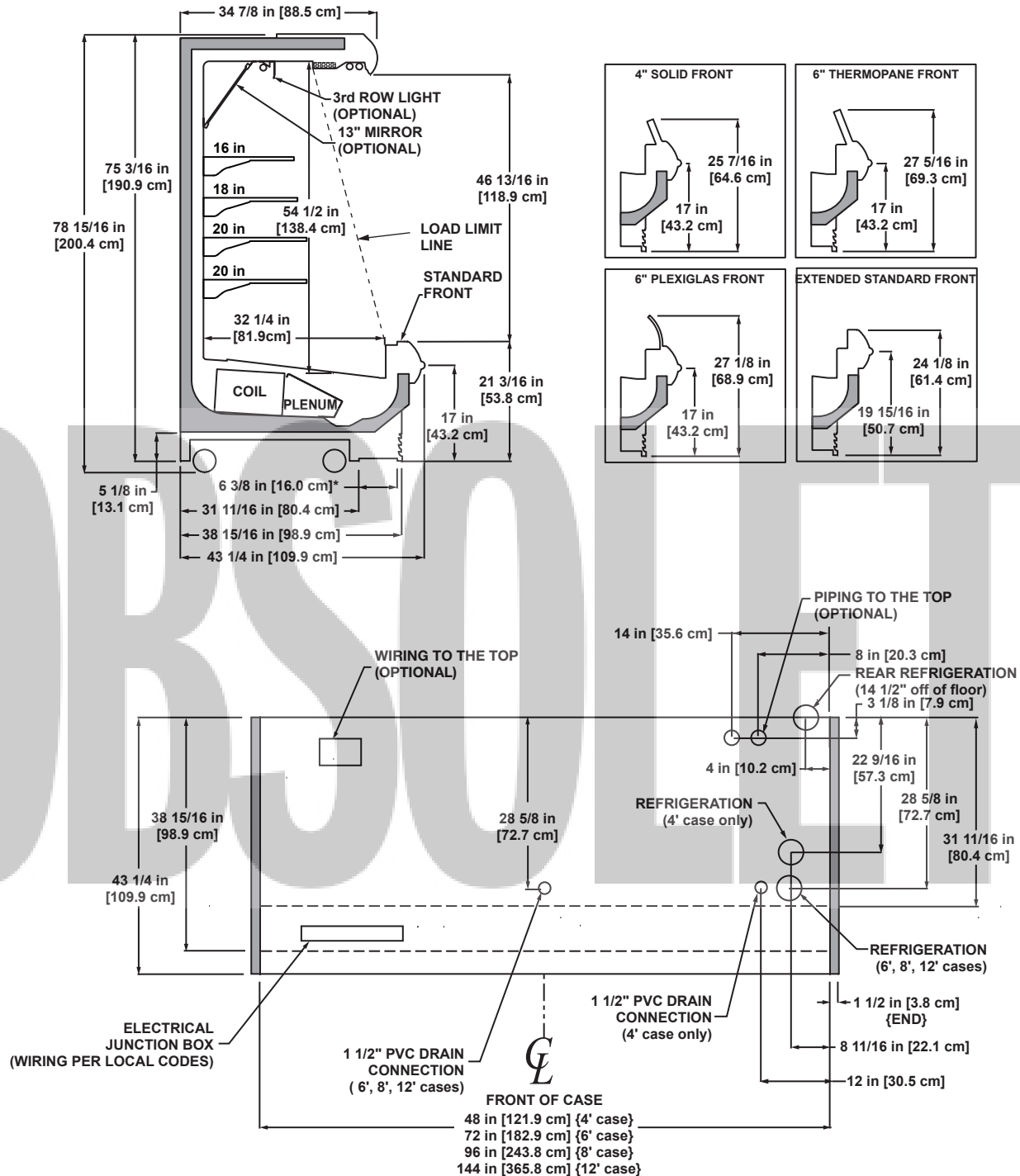
Deli / Meat



OHMH High Multi-Deck Merchandiser

4', 6', 8' & 12' (Deli / Meat)

(5" BASEFRAME)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OBSOLETE

OHHM-NRG High Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
4'	2	0.50	36	---	---
6'	3	0.75	54	---	---
8'	3	0.75	54	---	---
12'	4	1.00	72	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Front Sill Heights	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ³ (°F)	Discharge ⁴ Air (°F)	Discharge ⁵ Air Velocity (FPM)
	Conventional	Parallel				
Std.	1531	1340	6 - 8	27	30	200
All Others	1410	1234	6 - 8	27	30	200

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	40	42	---	---	---	---

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

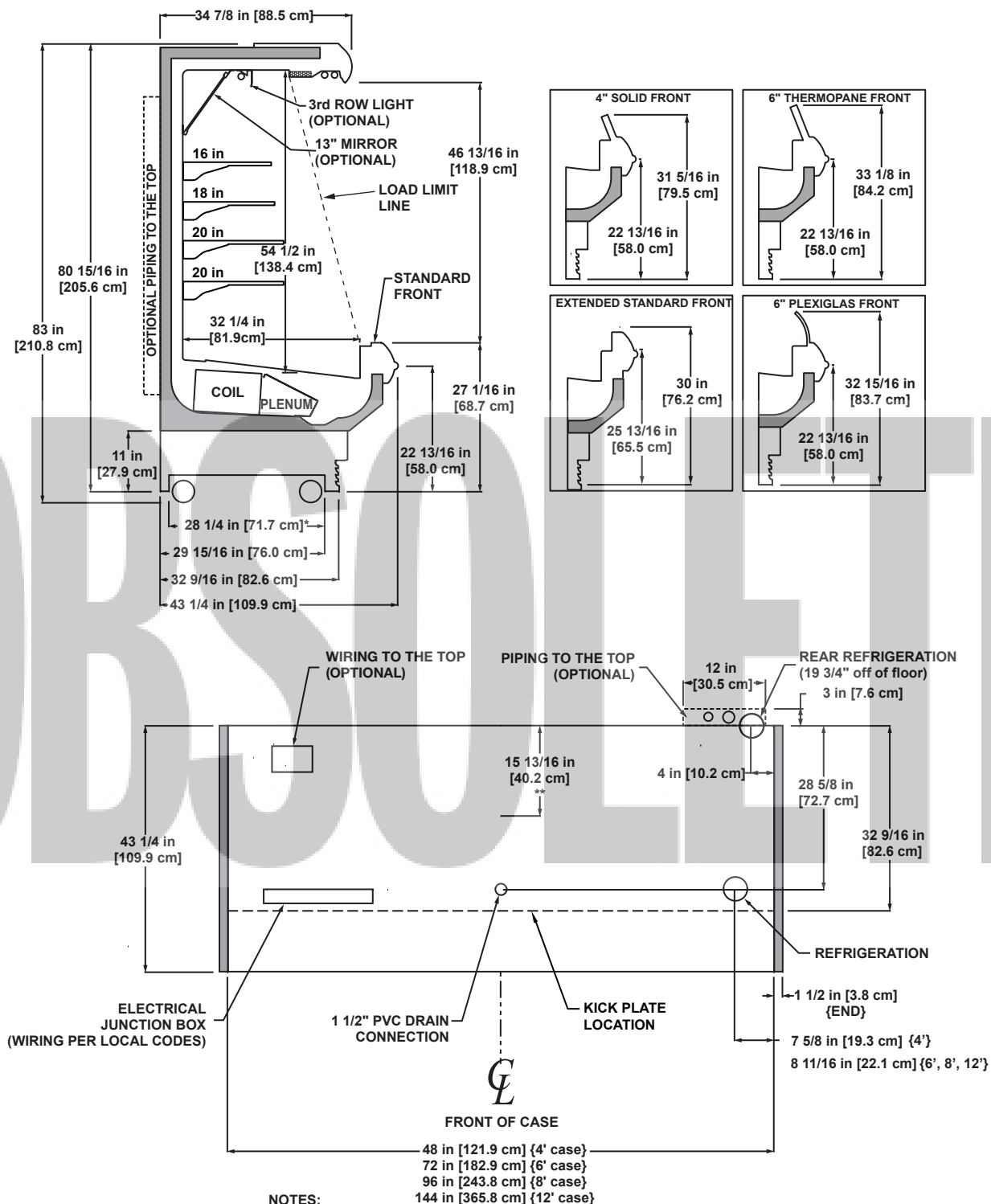
4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

5 Average discharge air velocity at peak of defrost.

OHHM-NRG High Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

(11" BASEFRAME)



MULTI-DECK

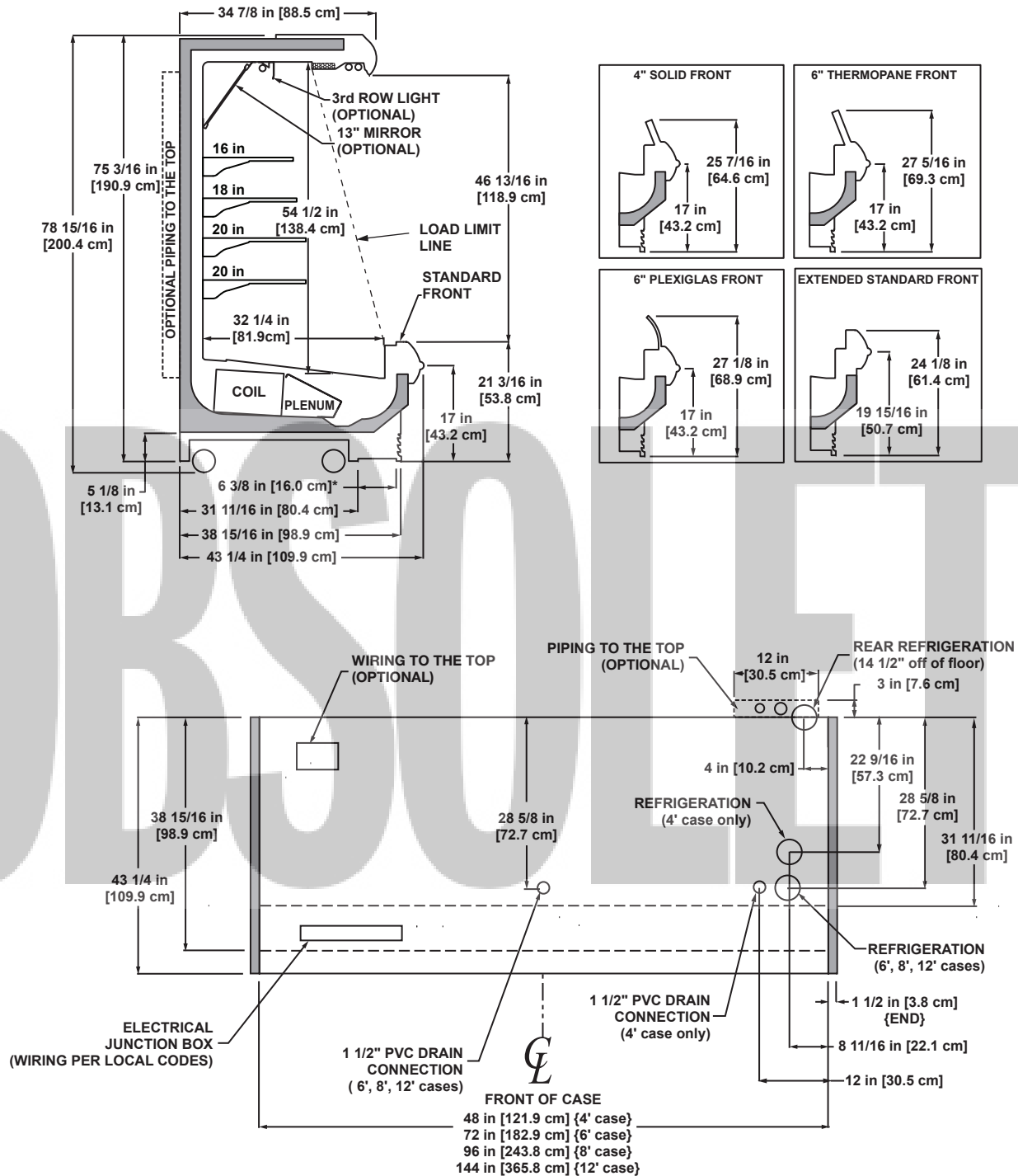
Deli / Meat



OHHM-NRG High Multi-Deck Merchandiser with Synerg-E™

4', 6', 8' & 12' (Deli / Meat)

(5" BASEFRAME)



OBSOLETE

ONHP Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	2	0.47	28	---	---	2.88	600	3.33	798
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1292	1198	6 - 8	26	32	350
Bulk Produce	882	818	6 - 8	29	36	250

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	---	---	45	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

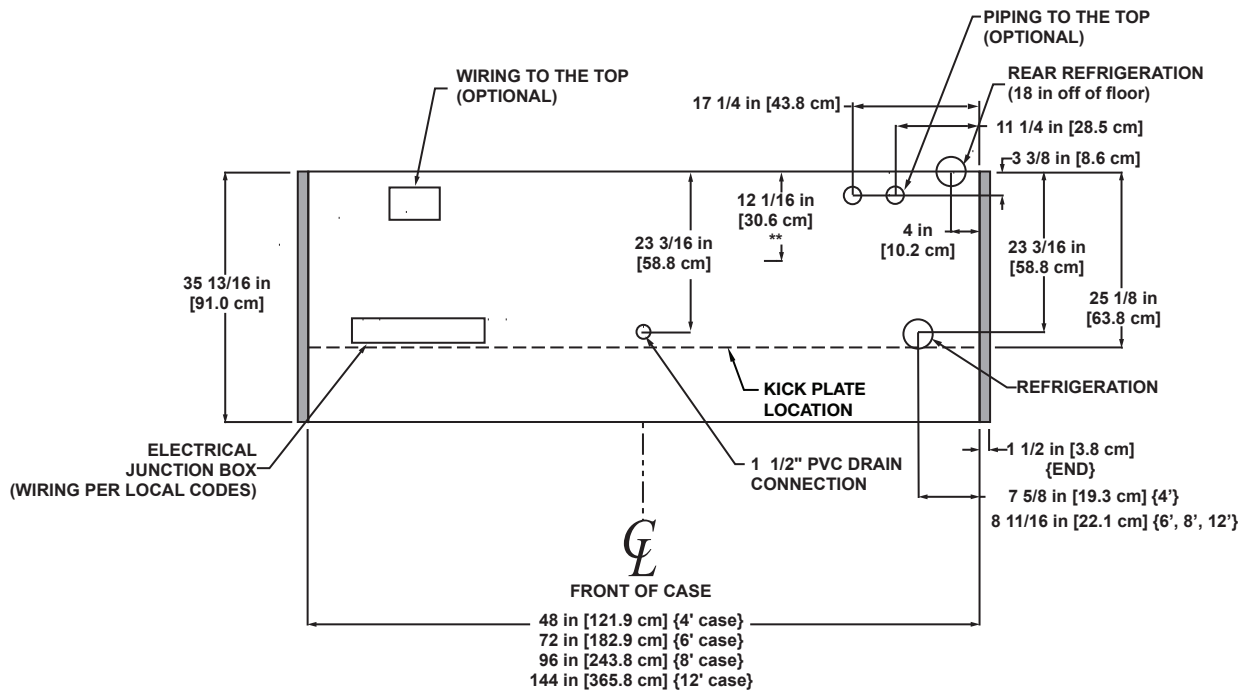
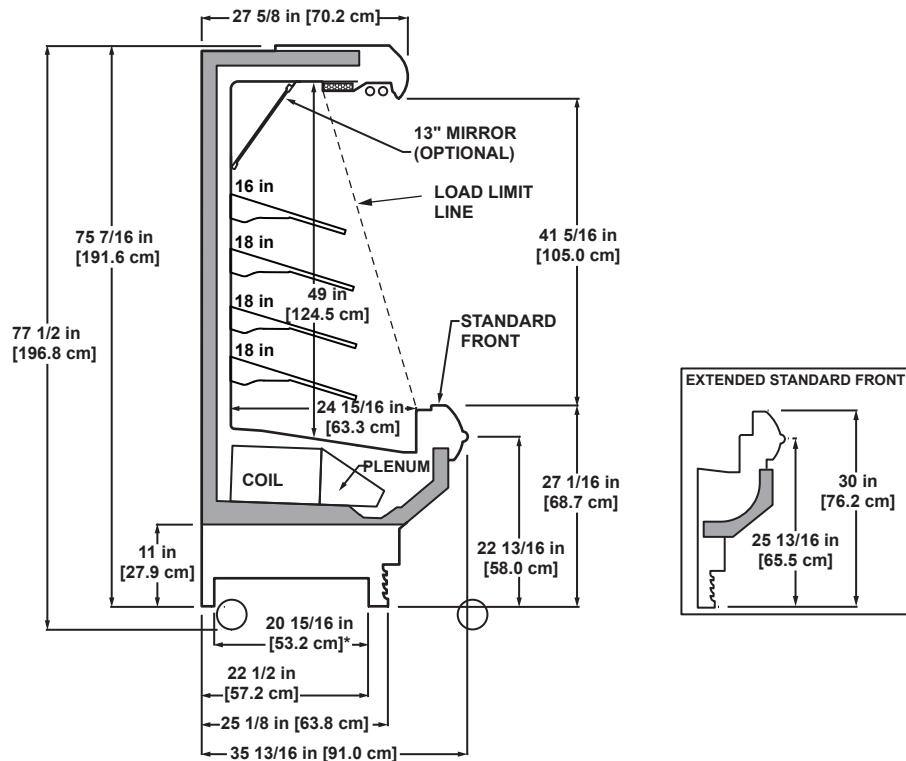
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

ONHP Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Produce)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONHPH High Narrow Multi-Deck Merchandiser

4', 6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1305	1210	6 - 8	26	34	330
Bulk Produce	890	825	6 - 8	29	37	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	---	---	45	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

MULTI-DECK

Produce



- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TOP-TO-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHP Multi-Deck Merchandiser

4', 6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	2	0.47	28	---	---	1.92	400	2.22	532
6'	2	0.47	28	---	---	2.88	600	3.33	798
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.18	21.5
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Application	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1190	1103	6 - 8	26	31	350
Bulk Produce	801	743	6 - 8	29	36	250

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	26	45	30	45

1 NOTE: "-" indicates that feature is not an option on this case model.

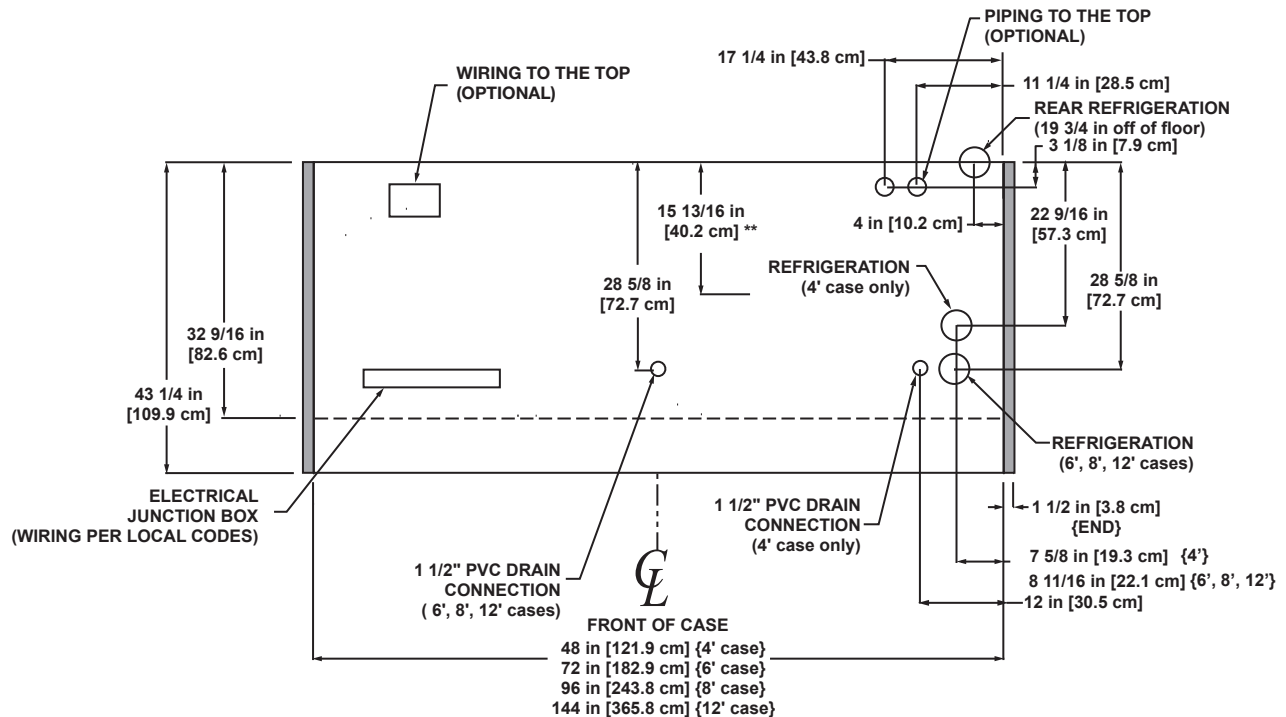
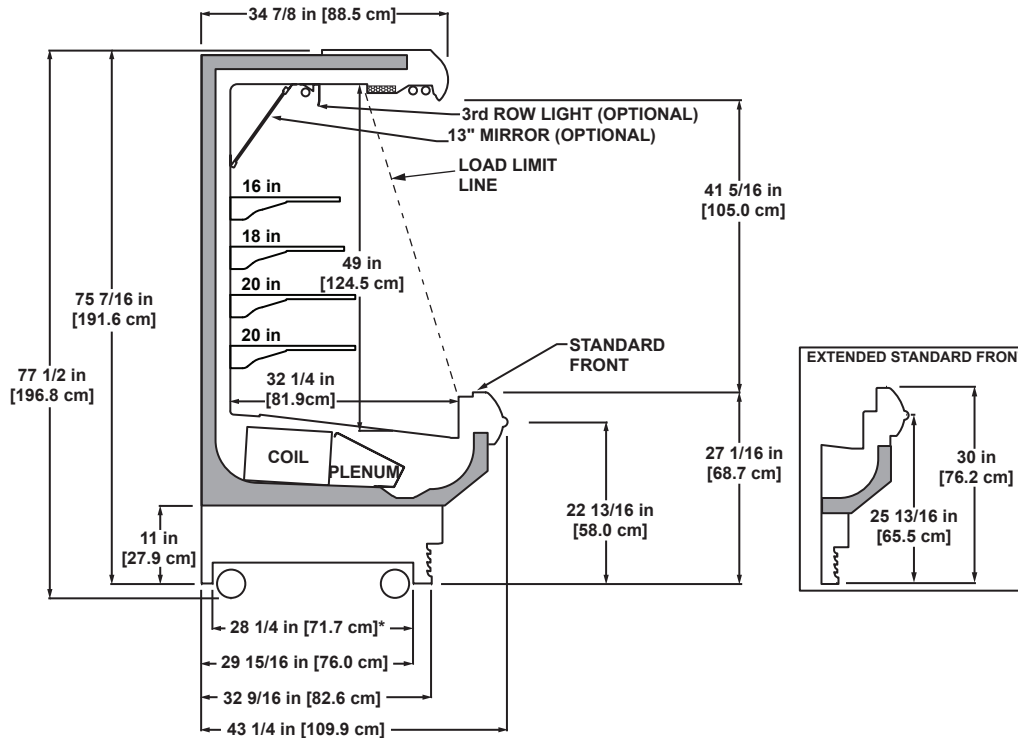
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OHP Multi-Deck Merchandiser

4', 6', 8' & 12' (Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHP-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
6'	2	0.47	35	---	---
8'	2	0.47	35	---	---
12'	3	0.70	53	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	950	910	6 - 8	32	36	150
Bulk Produce	767	735	6 - 8	34	38	150

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	40	42	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

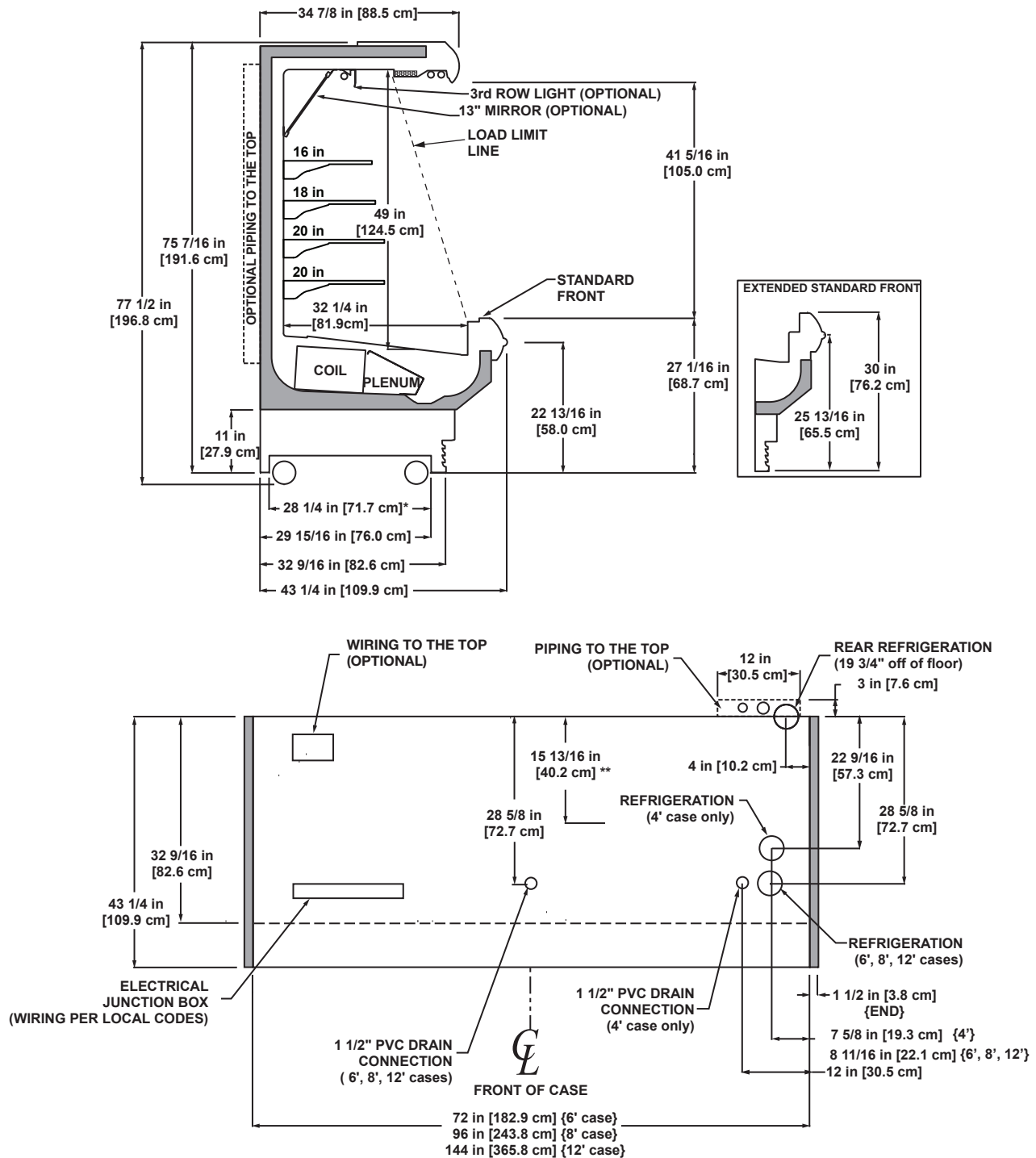
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OHP-NRG Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHPH High Multi-Deck Merchandiser

6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	3	0.70	42	---	---	2.88	600	3.33	798
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	2 BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1445	1340	6 - 8	26	30	330
Bulk Produce	1181	1095	6 - 8	29	31	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	26	45	50	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

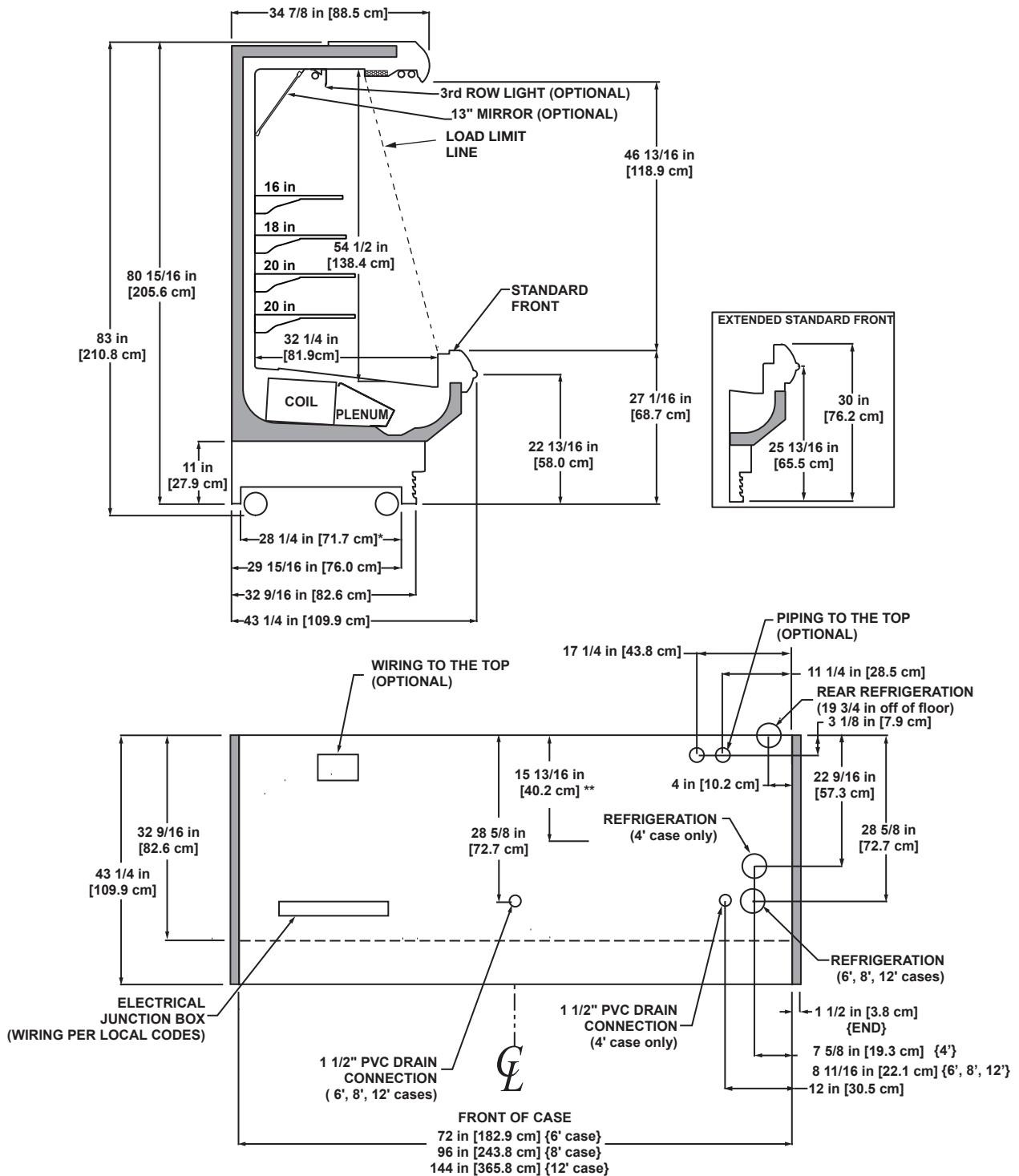
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OHPH High Multi-Deck Merchandiser

6', 8' & 12' (Produce)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OHPH-NRG High Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
6'	2	0.48	36	---	---
8'	2	0.48	36	---	---
12'	3	0.72	54	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator³ (°F)	Discharge⁴ Air (°F)	Discharge⁵ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1263	1105	6 - 8	32	36	150
Bulk Produce	1177	1030	6 - 8	34	38	150

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	---	---	40	42	---	---	---	---

1 NOTE: " - - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.

3 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

4 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

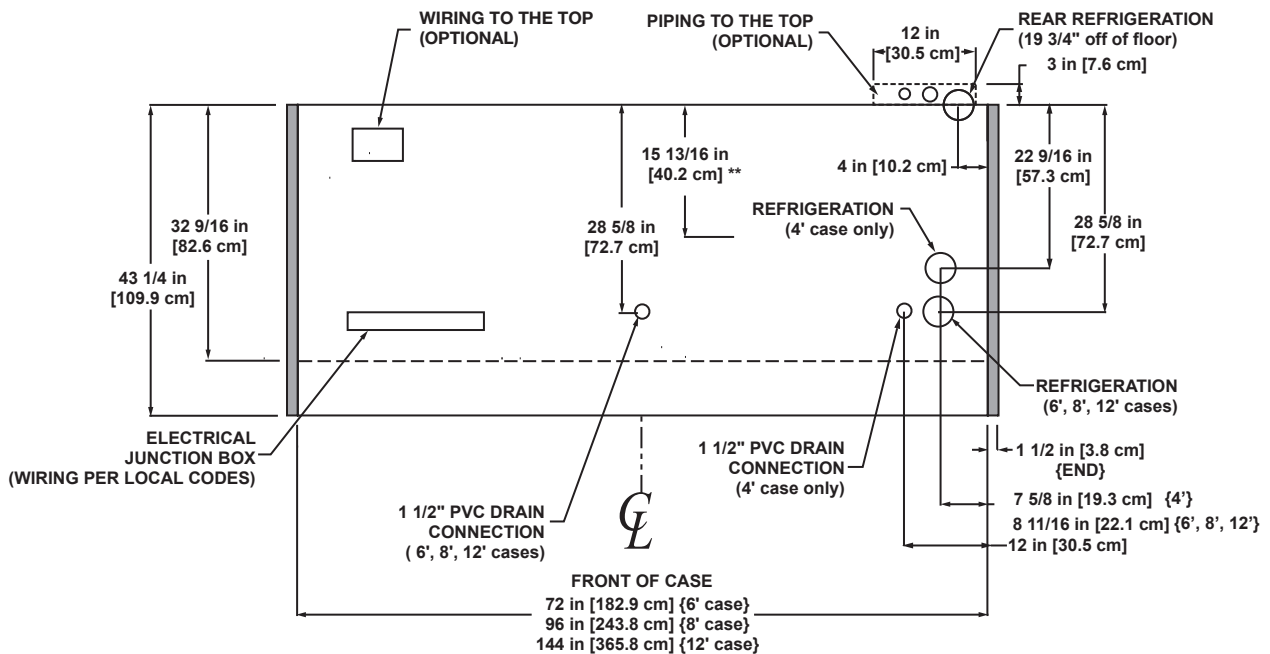
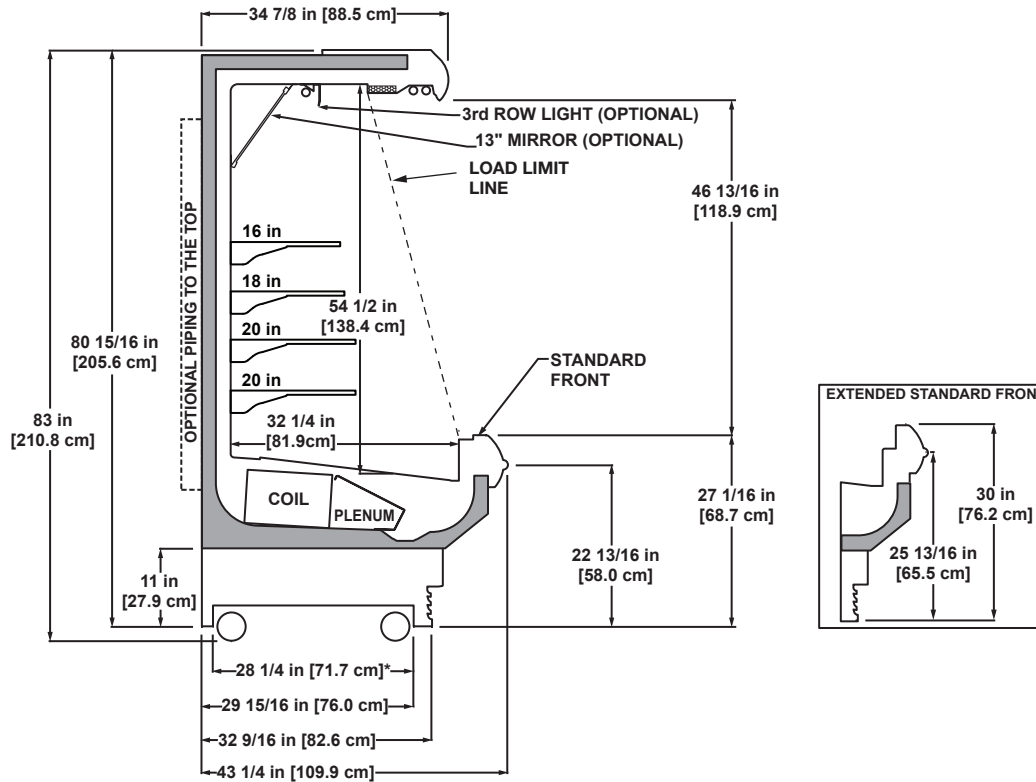
5 Average discharge air velocity at peak of defrost.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OHPH-NRG High Multi-Deck Merchandiser with Synerg-E™

6', 8' & 12' (Produce)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OWHP Wide Multi-Deck Merchandiser

8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.70	42	---	---	3.85	800	4.44	1065
12'	4	0.93	56	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1596	1480	6 - 8	26	31	350
Bulk Produce	1087	1008	6 - 8	29	36	250

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	26	45	50	45

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OWHP



Produce

NOTES:

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

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20" & 22"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



OWHPH Wide High Multi-Deck Merchandiser

8' & 12' (Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	4	0.93	56	---	---	3.85	800	4.44	1065
12'	5	1.17	70	---	---	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

Model	²BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge³ Air Velocity (FPM)
	Conventional	Parallel				
Cut Produce	1934	1793	6 - 8	26	30	330
Bulk Produce	1588	1472	6 - 8	29	31	230

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	35	47	45	47	26	45	50	45

1 NOTE: "-" indicates that feature is not an option on this case model.

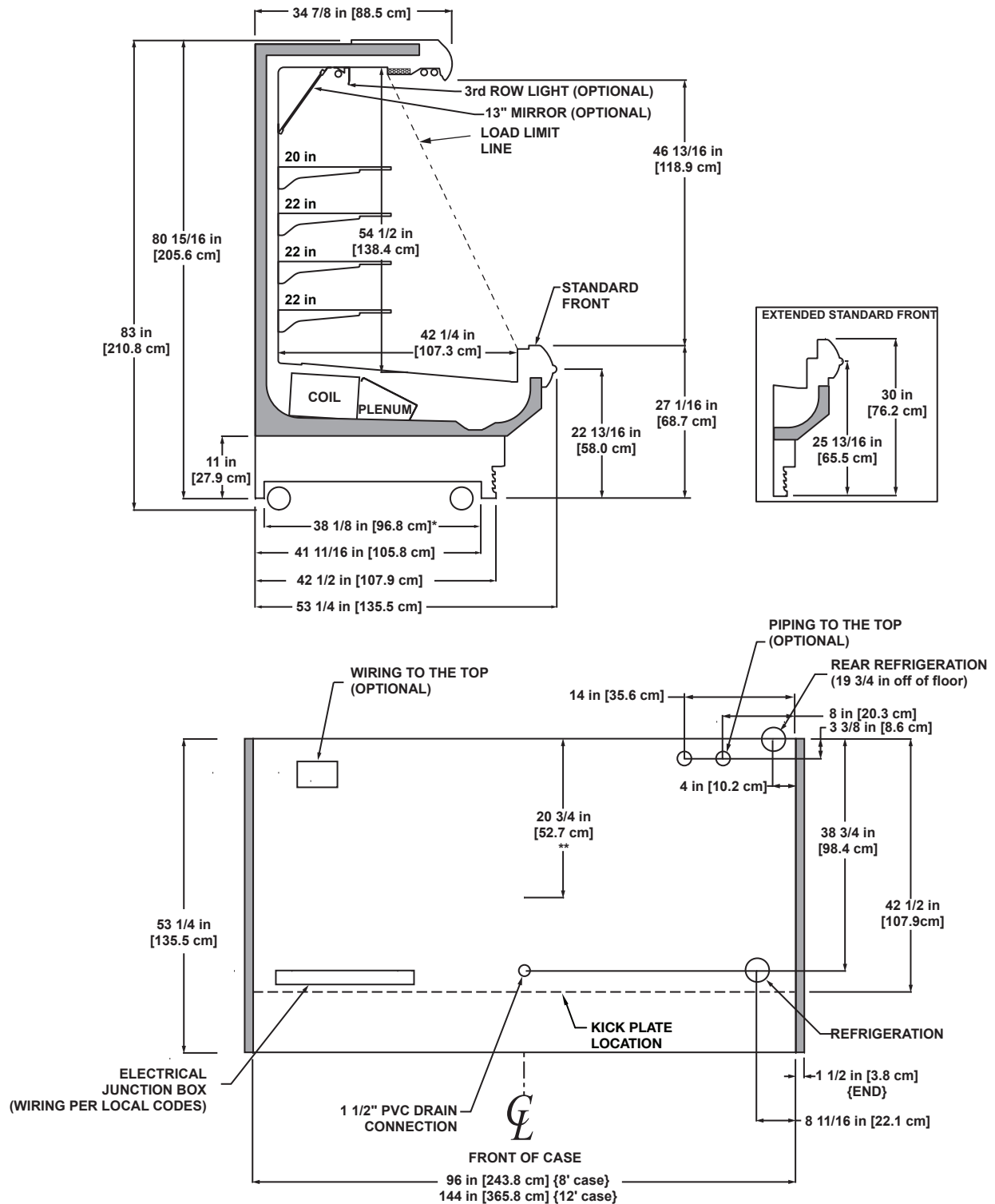
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OWHPH Wide High Multi-Deck Merchandiser

8' & 12' (Produce)



MULTI-DECK

Produce



ONNSA Narrow Multi-Deck Self-Contained Merchandiser

39", 47", 71", & 95" (Dairy)

System Requirements

Case Length	Volts	Phase	Frequency (Hz)	System Amperage	HP	RLA ¹ (amps)	LRA ² (amps)	Refrig.	Plug Style
39"	120	1	60	30	1/2	12.9	66.6	R134A	NEMA L5-30
47"	120	1	60	30	1/2	12.9	66.6	R134A	NEMA L5-30
71"	208	1	60	30	1	11.0	51	R404A	NEMA L14-30
95"	208	1	60	30	1-1/2	12.4	56	R404A	NEMA L14-30

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
39"	1	3'	0.07	8.3	0.12	14.9
47"	1	3'	0.07	8.3	0.12	14.9
71"	2	2'	0.05	6.0	0.09	10.8
95"	2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

Case Length	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
39"	37.2	19.9	6 - 8	35	275
47"	37.2	19.9	6 - 8	35	275
71"	50.1	19.9	6 - 8	35	275
95"	63.0	19.9	6 - 8	35	275

Defrost Controls

Case Length	Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
39" / 47"	6	- - - ⁴	- - -	28	52	- - -	- - -
72" / 96"	6	- - -	- - -	40	47	- - -	- - -

1 RLA = Running Load Amps

2 LRA = Locked Rotor Amps

3 Average discharge air velocity at peak of defrost.

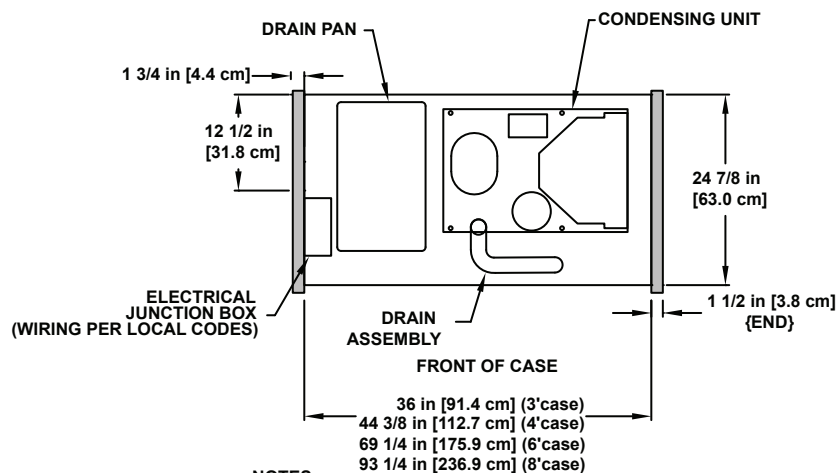
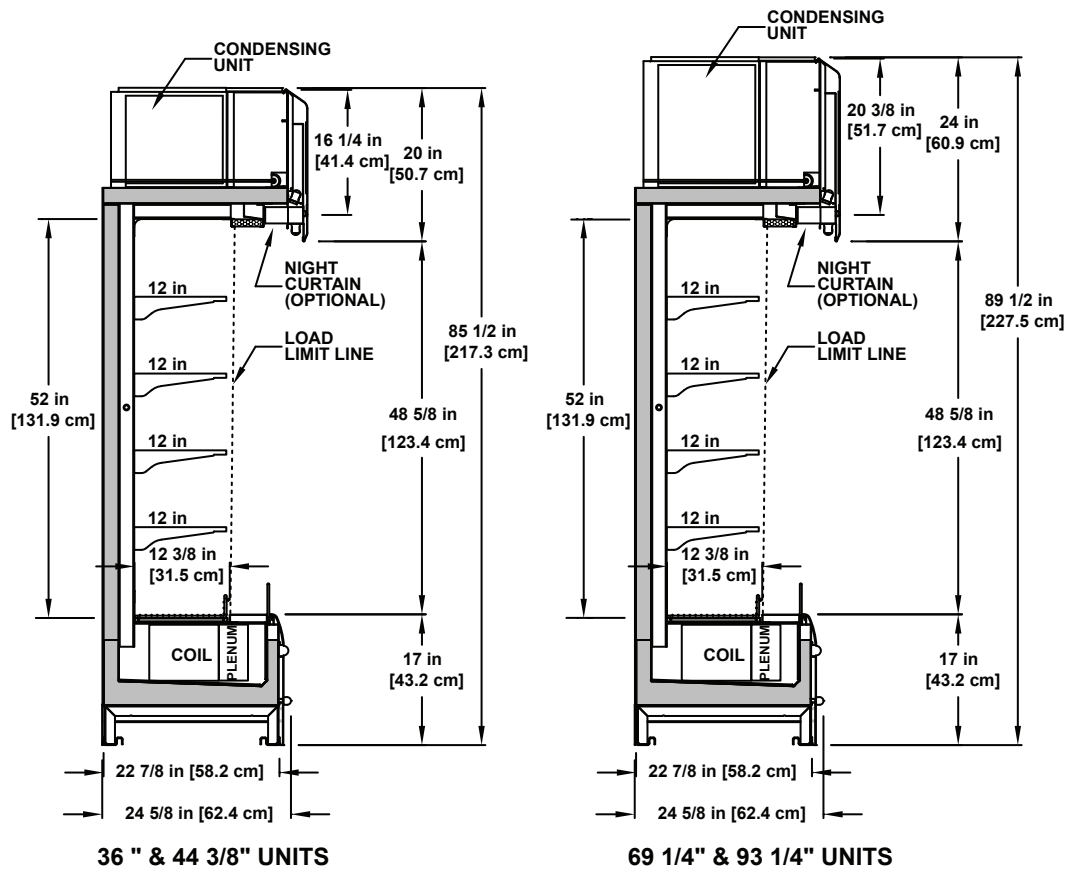
4 NOTE: "- - -" indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ONNSA Narrow Multi-Deck Self-Contained Merchandiser

39", 47", 71", & 95" (Dairy)



NOTES:

- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL.
- ENDS ADD APPROXIMATELY 1" TO THE CASE HEIGHT, 1/2" TO THE BACK & 1" TO THE FRONT
- AVAILABLE SHELF SIZE: 12"
- ENDS ALSO AVAILABLE IN 1" WIDTHS

MULTI-DECK

Dairy

ONNNSA Narrow Multi-Deck Self-Contained Merchandiser

39", 47", 71", & 95" (Dairy)

System Requirements

Case Length	Volts	Phase	Frequency (Hz)	System Amperage	HP	RLA ¹ (amps)	LRA ² (amps)	Refrig.	Plug Style
39"	120	1	60	30	1/2	12.9	66.6	R134A	NEMA L5-30
47"	120	1	60	30	1/2	12.9	66.6	R134A	NEMA L5-30
71"	208	1	60	30	1	11.0	51	R404A	NEMA L14-30
95"	208	1	60	30	1-1/2	12.4	56	R404A	NEMA L14-30

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
39"	1	3'	0.07	8.3	0.12	14.9
47"	1	3'	0.07	8.3	0.12	14.9
71"	2	2'	0.05	6.0	0.09	10.8
95"	2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

Case Length	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
39"	37.2	19.9	6 - 8	35	275
47"	37.2	19.9	6 - 8	35	275
71"	50.1	19.9	6 - 8	35	275
95"	63.0	19.9	6 - 8	35	275

Defrost Controls

Case Length	Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
39" / 47"	6	--- ⁴	---	28	52	---	---
72" / 96"	6	---	---	40	47	---	---

1 RLA = Running Load Amps

2 LRA = Locked Rotor Amps

3 Average discharge air velocity at peak of defrost.

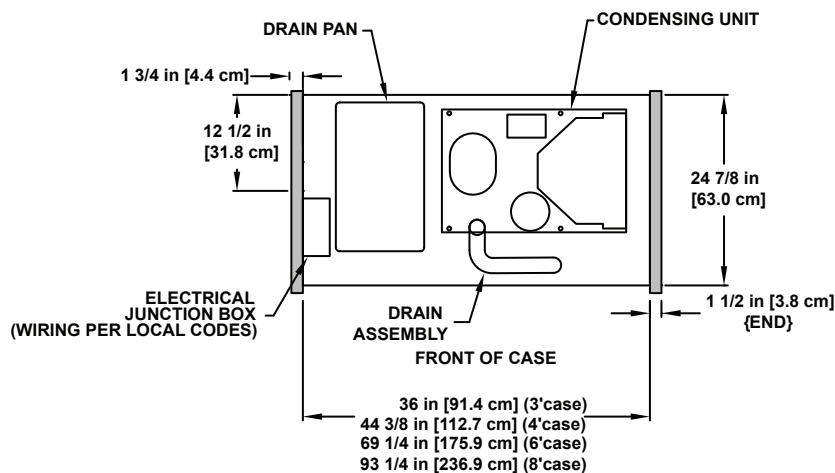
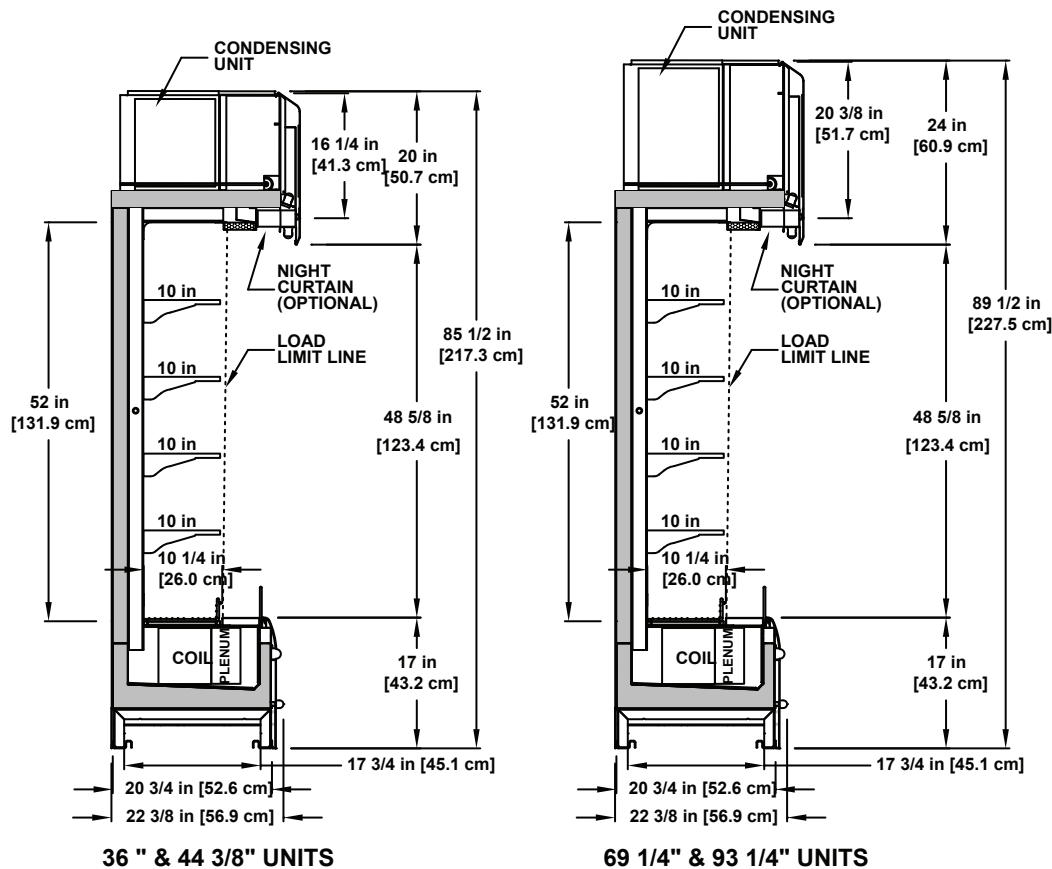
4 NOTE: "- - -" indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ONNNSA Narrow Multi-Deck Self-Contained Merchandiser

39", 47", 71", & 95" (Dairy)



NOTES:

- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- ENDS ADD APPROXIMATELY 1" TO THE CASE HEIGHT, 1/2" TO THE BACK & 1" TO THE FRONT
- AVAILABLE SHELF SIZE: 12"
- ENDS ALSO AVAILABLE IN 1" WIDTHS

MULTI-DECK

Dairy

ONU Narrow Multi-Deck Merchandiser

4'47" & 6'71" (Dairy / Deli / Meat / Produce)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4' / 47"	2	0.47	28	---	---	1.92	400	2.22	532
6' / 71"	3	0.70	42	---	---	2.88	600	3.33	798

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4' / 47"	1	4'	0.10	11.9	0.18	21.5
6' / 71"	2	3'	0.14	16.6	0.25	29.8

Guidelines & Control Settings

2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge3 Air Velocity (FPM)
Conventional	Parallel				
1548	1322	6 - 8	17	31	310

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost4		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	6 - 8	35	47	45	47	25	45	---	---

1 NOTE: "- - -" indicates that feature is not an option on this case model.

2 BTUH/ft notes:

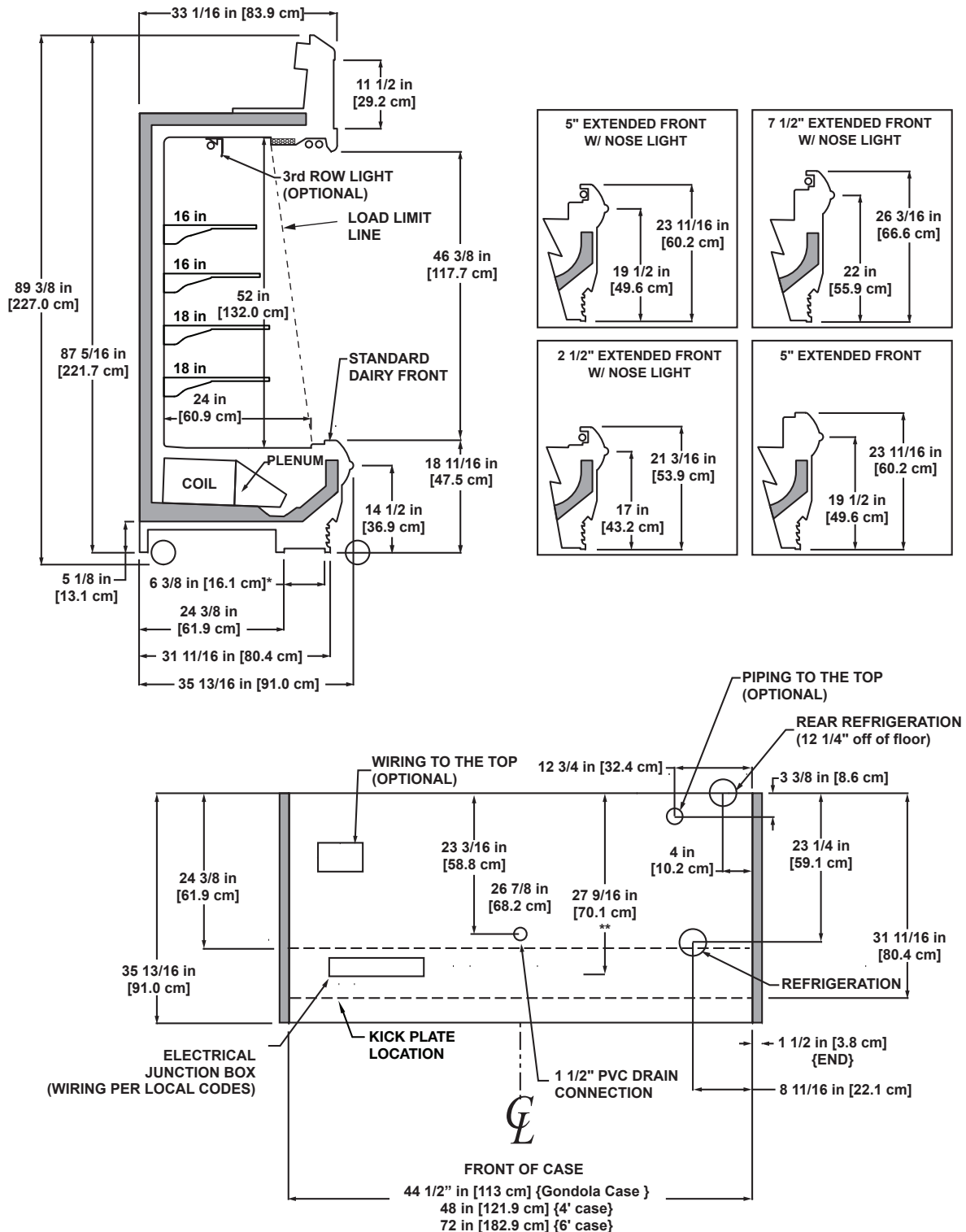
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

4 Timed-Off defrost not recommended for Fresh Meat application.

ONU Narrow Multi-Deck Merchandiser

4'47" & 6'71" (Dairy / Deli / Meat / Produce)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONUA Narrow Self-Contained Multi-Deck Merchandiser

4' / 47" & 6' / 71" (Dairy / Deli / Meat / Produce)

System Requirements

Case Length	Volts	Phase	Hz	Wire	Plug Style	Cord Length
4' / 47"	208	1	60	3 wire + ground	NEMA L14-30	10 ft
6' / 71"	208	1	60	3 wire + ground	NEMA L14-30	10 ft

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Condenser Fans		Drain Pump		Evaporator Pan Heater		Maximum Lights	
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4' / 47"	2	0.47	28	2.60	130	0.90	108	7.21	1500	1.87	224
6' / 71"	3	0.70	42	1.10	114	0.90	108	7.21	1500	2.93	352

Guidelines & Control Settings

Case ¹ Length	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
4' / 47"	43.9	33	6 - 8	27.5	310
6' / 71"	59.3	33	6 - 8	27.5	310

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ³ (amps)	LRA ⁴ (amps)	Refrig.	Lbs. of Refrig.
4' / 47"	208	1	60	1	9.0	43	R404A	5.9
6' / 71"	208	1	60	1-1/4	11.0	51	R404A	6.75

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	--- ⁵	---	40	45	---	---	---	---

1 Model ONUA only available for meat application with the 7 1/2" extended front w/ nose lights and no shelf lights.

2 Average discharge air velocity at peak of defrost.

3 RLA = Running Load AmpsV

4 LRA = Locked Rotor Amps

5 NOTE: "--" indicates that feature is not an option on this case model.

ONUA



MULTI-DECK

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ORDR Roll-In Rear-Load Multi-Deck Merchandiser

6', 8' & 12' (Dairy)

Electrical Data

Case Length	Fans Per Case		Upper High Efficiency Fans		Lower High Efficiency Fans		Anti-Condensate Heaters	
			120 Volts		120 Volts		120 Volts	
	Upper	Lower	Amps	Watts	Amps	Watts	Amps	Watts
6'	2	3	0.60	40	0.45	33	0.40	48
8'	3	4	0.90	60	0.60	44	0.58	70
12'	4	6	1.20	80	0.90	66	0.83	100

Electrical Data (cont'd)

Case Length	Defrost Heaters			
	208 Volts		240 Volts	
	Amps	Watts	Amps	Watts
6'	2.88	600	3.33	799
8'	3.85	800	4.44	1066
12'	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
6'	2	3'	0.14	16.6	0.25	29.8
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

¹ BTUH/ft		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel				
698	659	17	6 - 8	28	310

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	30	47	30	47	26	45	---	---

1 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Back-up coils with a capacity of 1666 BTUH/ft at a suction temperature of 20°F must be used for each case to refrigerate the area immediately behind the line-up to a depth of 10'. If the cooler is longer than the ORDR line-up and deeper than 10', other coils are needed to refrigerate the balance of the cooler area. Each auxiliary coil should be centered on each case and set back a distance of 3' to 5' from the back of the ORDR. The cooler box must have a maximum temperature of no more than 34°F.

2 Average discharge air velocity at peak of defrost.

3 NOTE: "- -" indicates that feature is not an option on this case model.

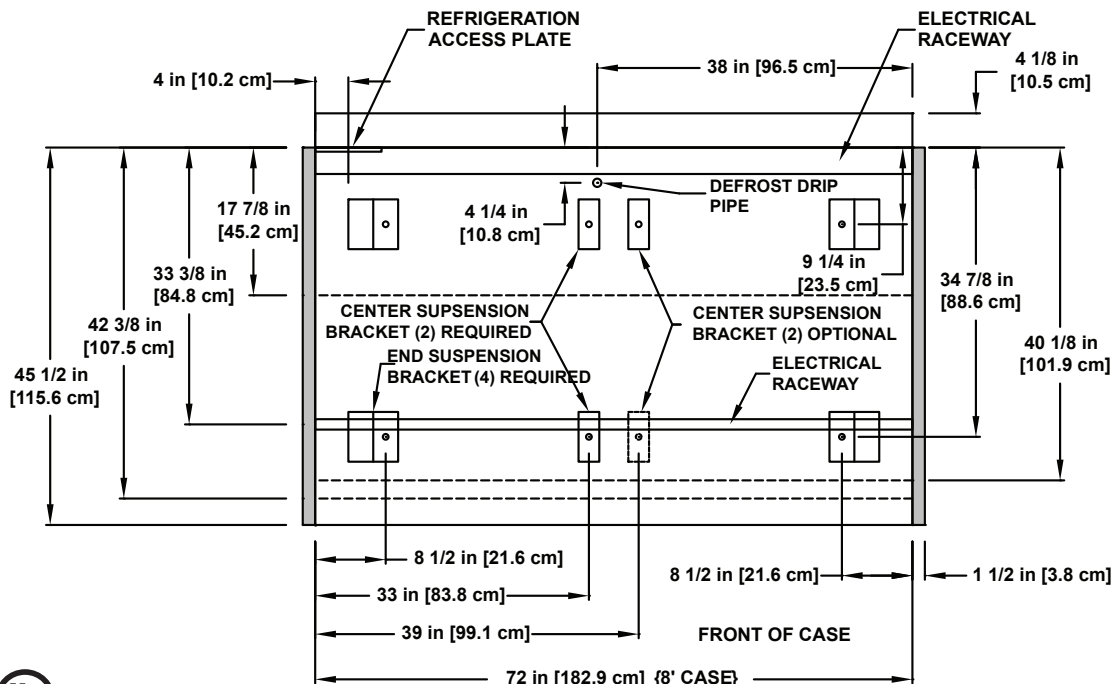
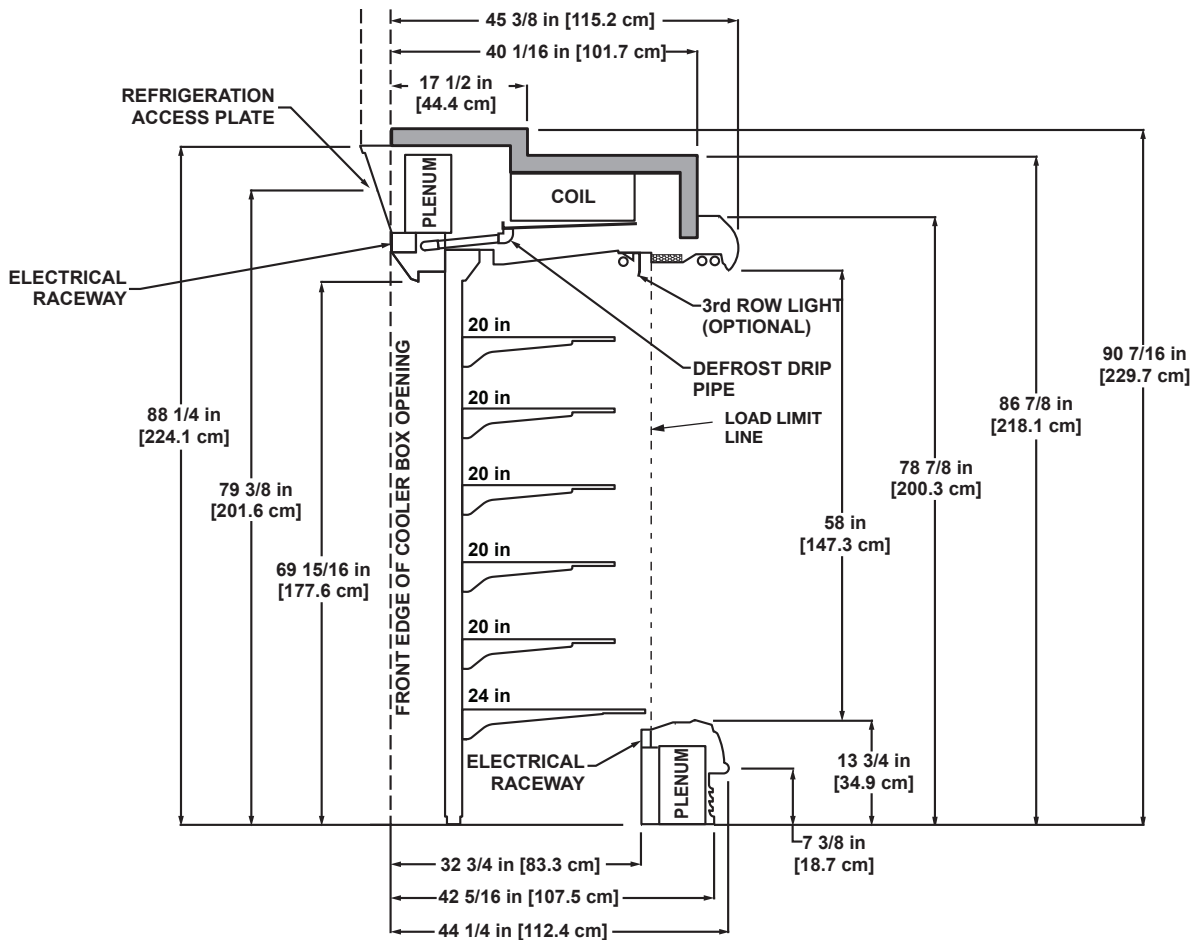


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ORDR Roll-In Rear-Load Multi-Deck Merchandiser

6', 8' & 12' (Dairy)

6' case

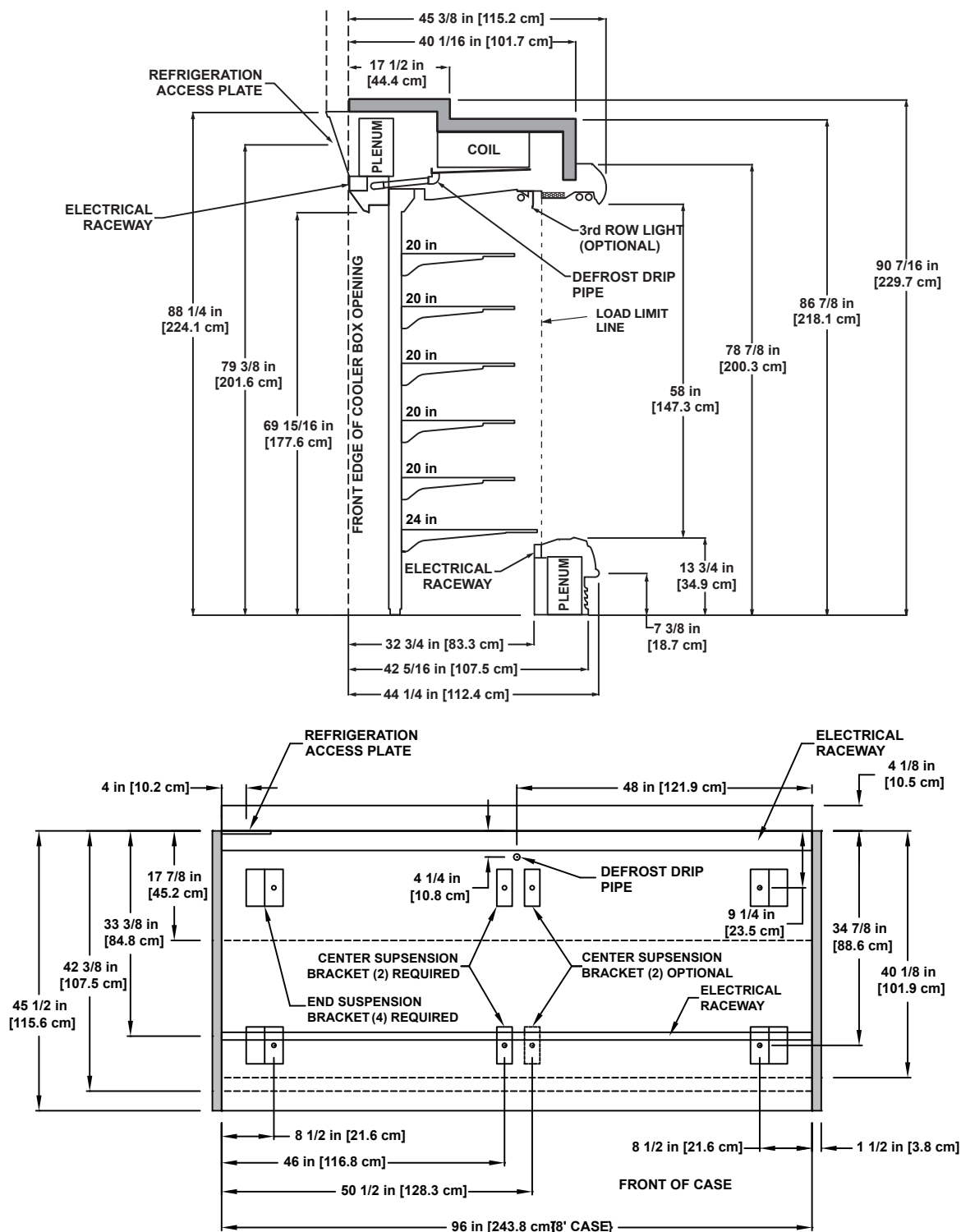


- AVAILABLE SHELF SIZES: 20" & 24"
- RECOMMENDED CONFIGURATION IS 5 ROWS OF 20" SHELVES WITH 1 ROW OF 24" SHELVES IN THE LOWEST POSITION

ORDR Roll-In Rear-Load Multi-Deck Merchandiser

6', 8' & 12' (Dairy)

8' case



NOTES:

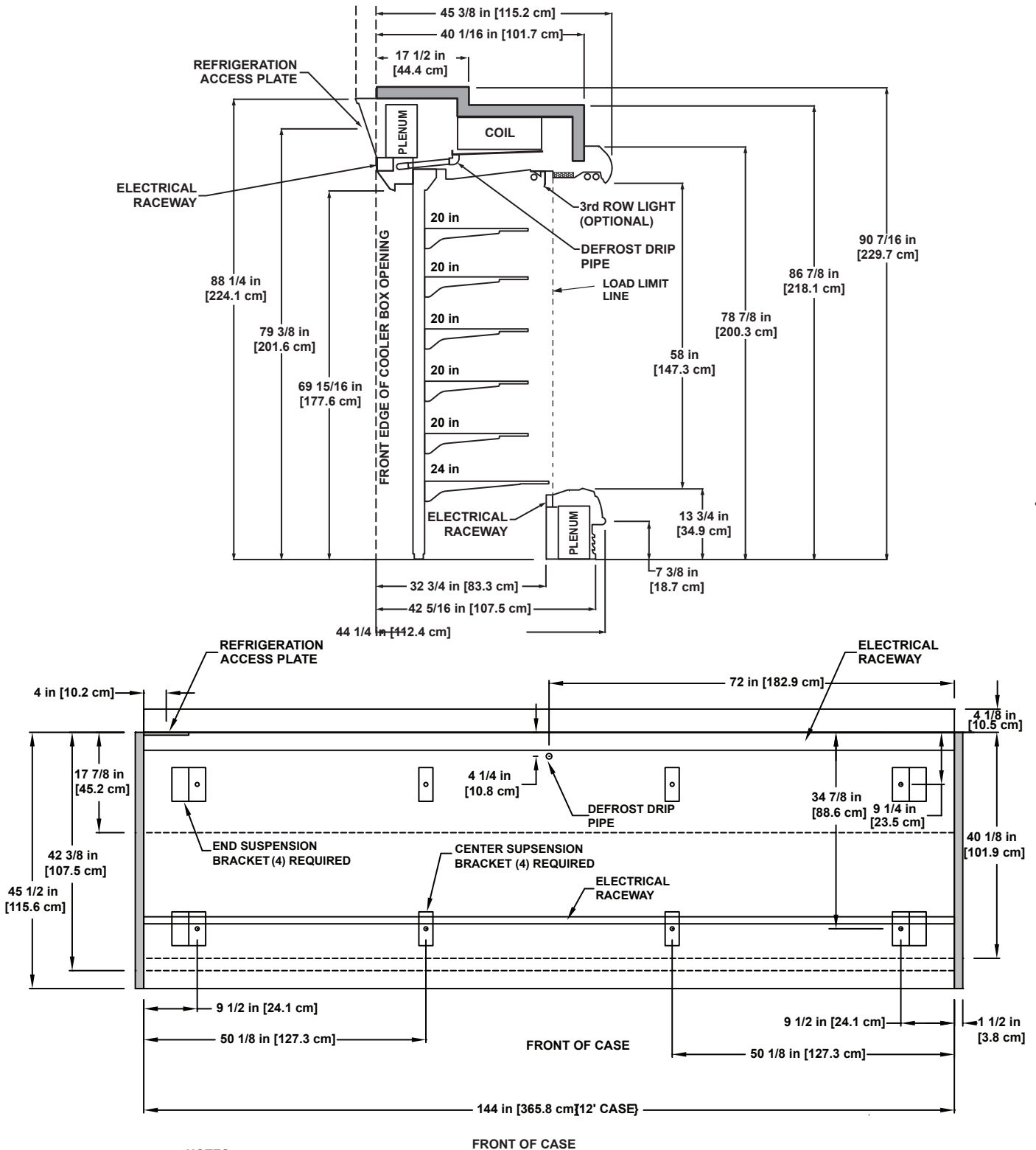
- AVAILABLE SHELF SIZES: 20" & 24"
- RECOMMENDED CONFIGURATION IS 5 ROWS OF 20" SHELVES WITH 1 ROW OF 24" SHELVES IN THE LOWEST POSITION



ORDR Roll-In Rear-Load Multi-Deck Merchandiser

6', 8' & 12' (Dairy)

12' case



NOTES:

- AVAILABLE SHELF SIZES: 20" & 24"
- RECOMMENDED CONFIGURATION IS 5 ROWS OF 20" SHELVES WITH 1 ROW OF 24" SHELVES IN THE LOWEST POSITION



ORDR-NRG Roll-In Rear-Load Multi-Deck Merchandiser with Synerg-E™ 8' & 12' (Dairy)

Electrical Data

Case Length	Fans Per Case		Upper High Efficiency Fans		Lower High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
	Upper	Lower	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	3	4	0.73	56	0.97	72	0.58	70	3.85	800	4.44	1066
12'	4	6	0.97	72	1.46	112	0.83	100	5.77	1200	6.67	1600

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control Settings

¹ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ² (°F)	Discharge ³ Air (°F)	Discharge ⁴ Air Velocity (FPM)
Conventional	Parallel				
698	659	6 - 8	25	28	310

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	30	47	30	47	26	45	-- ⁵	---

1 BTUH/ft notes:

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 92 BTUH per 4' lighted shelf and 69 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.
- Add 132 BTUH/ft when aftermarket merchandising accessories are utilized to determine the total BTUH load.
- Back-up coils must be used for each case to refrigerate the area immediately behind the line-up. Add 800 BTUH/ft of case opening to the normal walk-in cooler load. Use low-velocity coils to back up the rear load roll-in case for ceiling heights under 9' – for ceiling heights over 9', use high-velocity forced-air style coils. Each auxiliary coil should be centered on each case and set back a distance of 3' to 5' from the back of the ORDR. The cooler box must have a maximum temperature of no more than 34°F.

2 Listed evaporator temperature indicates unlighted shelves. For lighted shelves and/or aftermarket merchandising accessories, reduce the listed evaporator temperature by 2°F.

3 Conventional Discharge Air Control – Recommended Settings: Cut-In Temp = Discharge Air + 2°F; Cut-Out Temp = Discharge Air - 2°F

4 Average discharge air velocity at peak of defrost.

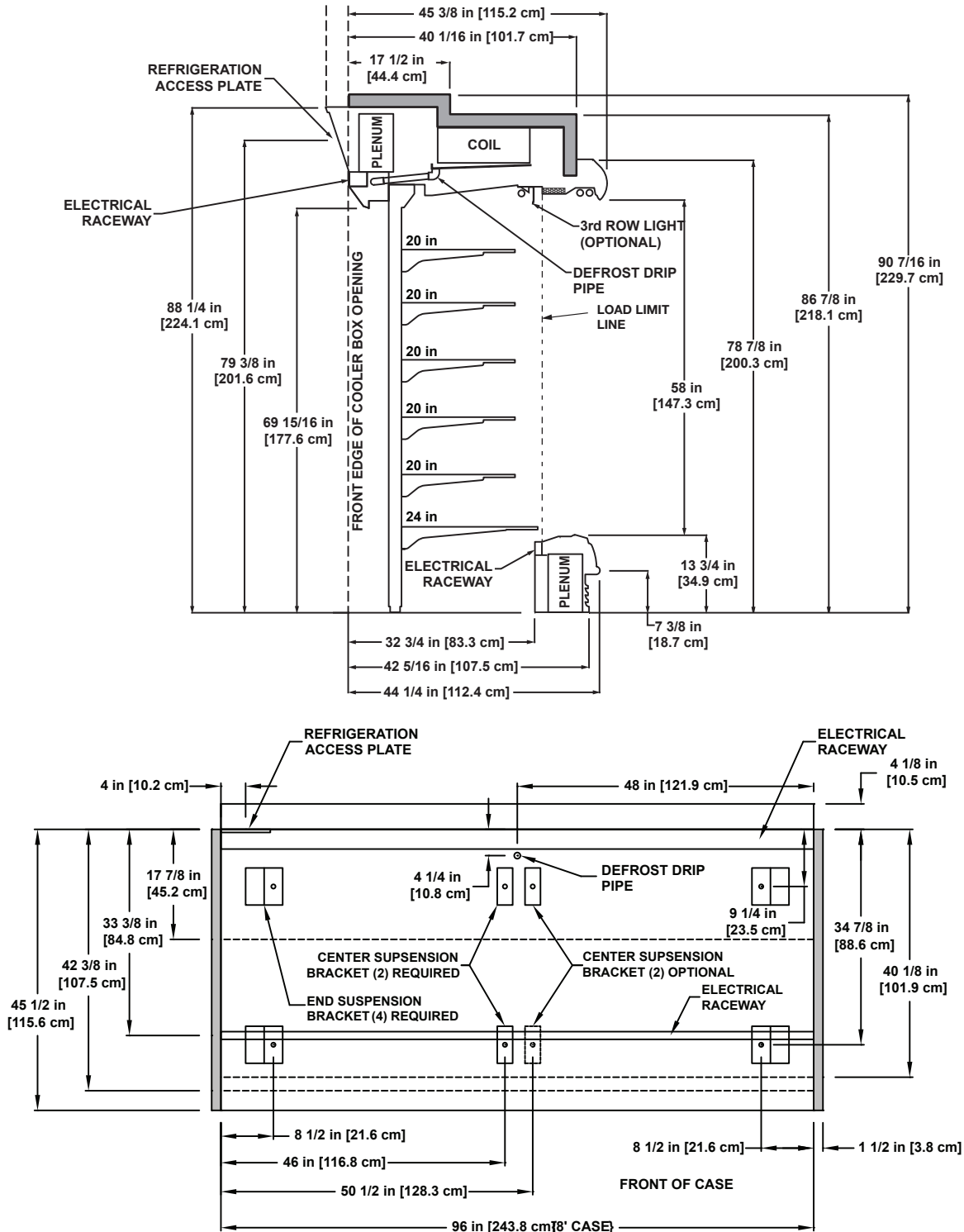
5 NOTE: "--" indicates that feature is not an option on this case model.

Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ORDR-NRG Roll-In Rear-Load Multi-Deck Merchandiser with Synerg-E™

8' & 12' (Dairy)

8' case



NOTES:

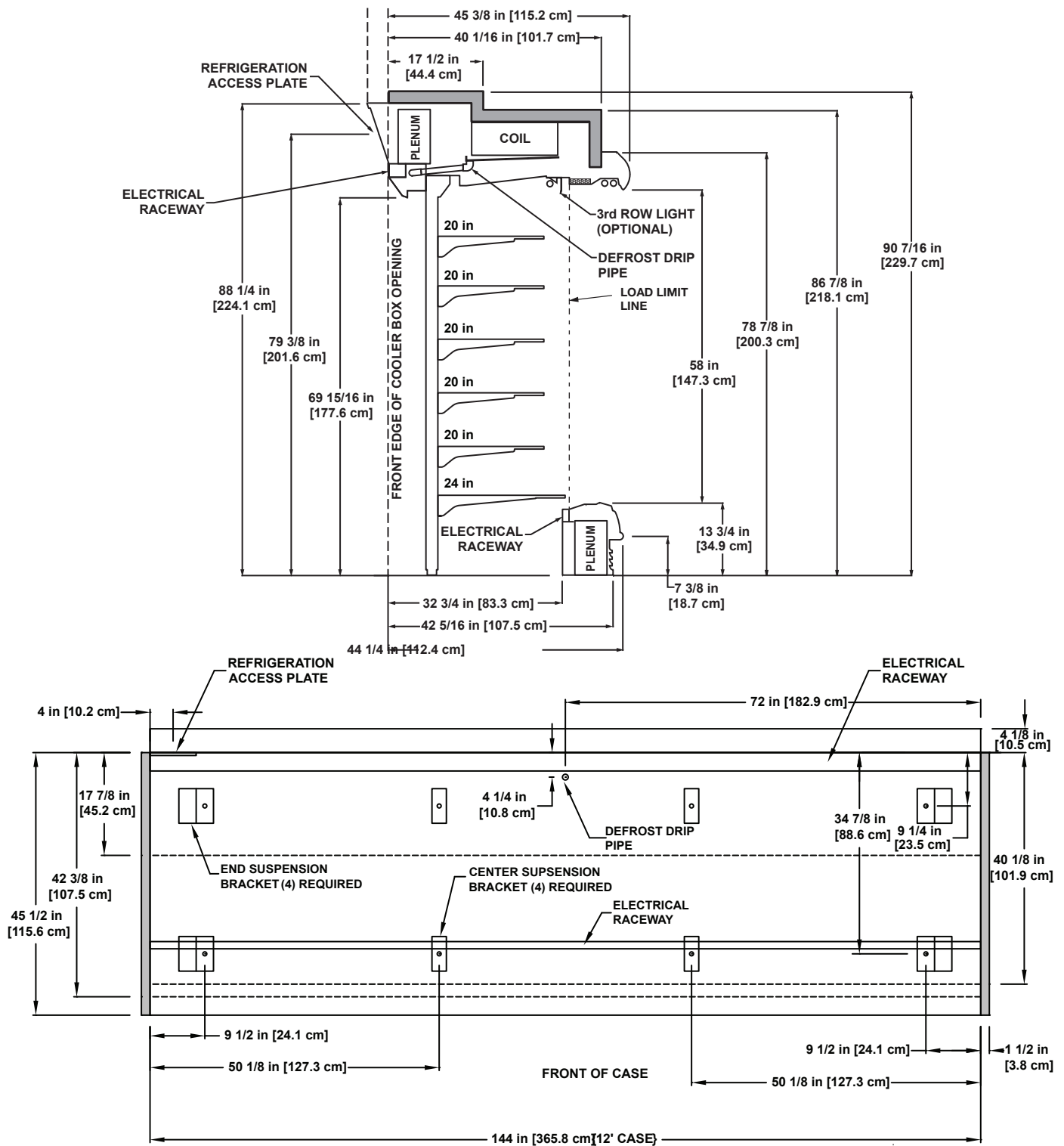
- AVAILABLE SHELF SIZES: 20" & 24"
- RECOMMENDED CONFIGURATION IS 5 ROWS OF 20" SHELVES WITH 1 ROW OF 24" SHELVES IN THE LOWEST POSITION



ORDR-NRG Roll-In Rear-Load Multi-Deck Merchandiser with Synerg-E™

8' & 12' (Dairy)

12' case



NOTES:

- AVAILABLE SHELF SIZES: 20" & 24"
- RECOMMENDED CONFIGURATION IS 5 ROWS OF 20" SHELVES WITH 1 ROW OF 24" SHELVES IN THE LOWEST POSITION



OWDRL Roll-In Front Load Merchandiser

8' & 12' (Bakery)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	4	0.47	35	---	---	---	---	---	---
12'	6	0.70	53	---	---	---	---	---	---

Lighting Data

Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
8'	2	4'	0.20	23.8	0.36	43.0
12'	3	4'	0.30	35.7	0.54	64.5

Guidelines & Control

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
OWDRL	1941	6-8	26	34	360

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	---	---	15	46	---	---	---	---

1 NOTE: "—" indicates not an option on this case model.

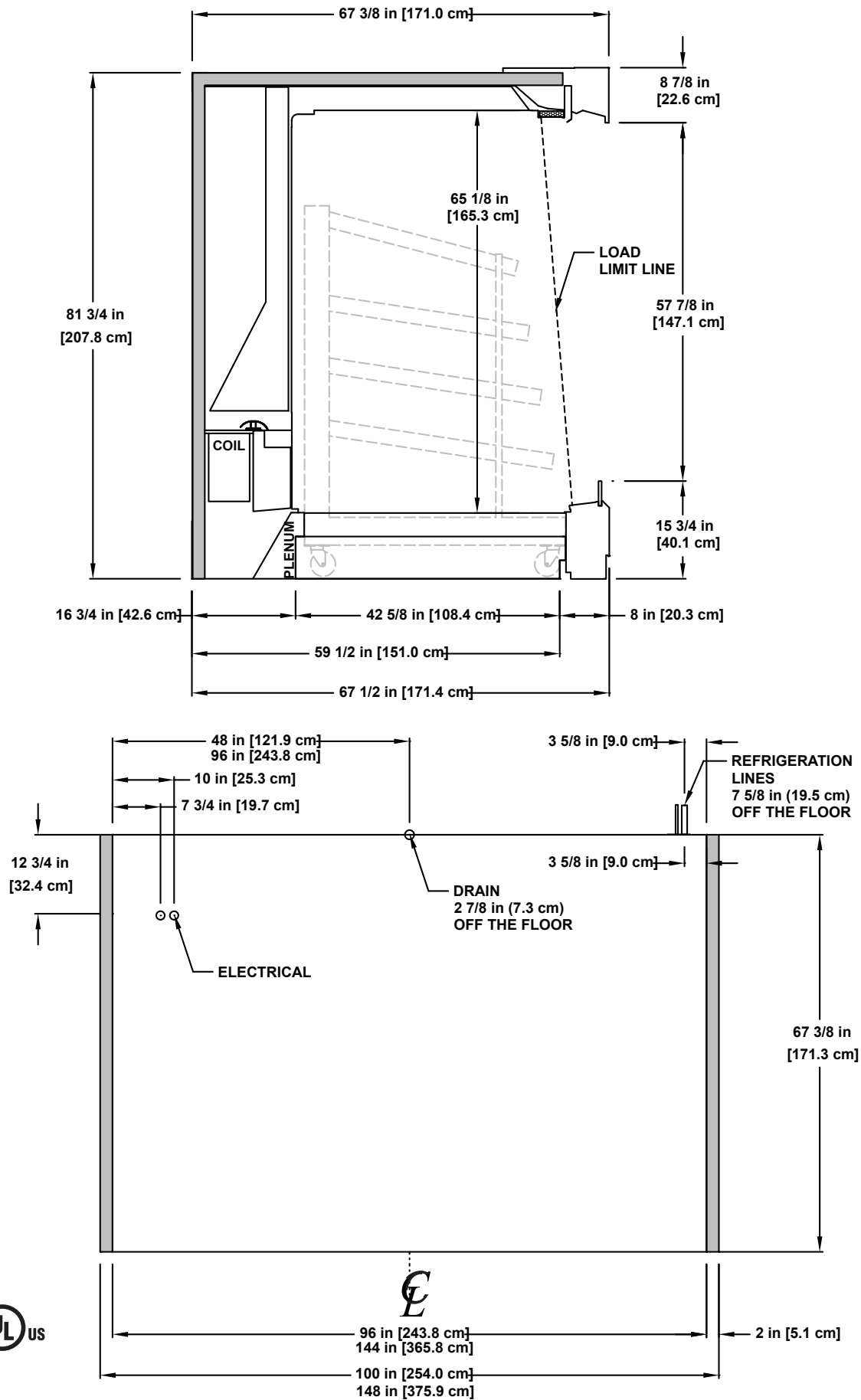
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

OWDRL Roll-In Front Load Merchandiser

8' & 12' (Bakery)

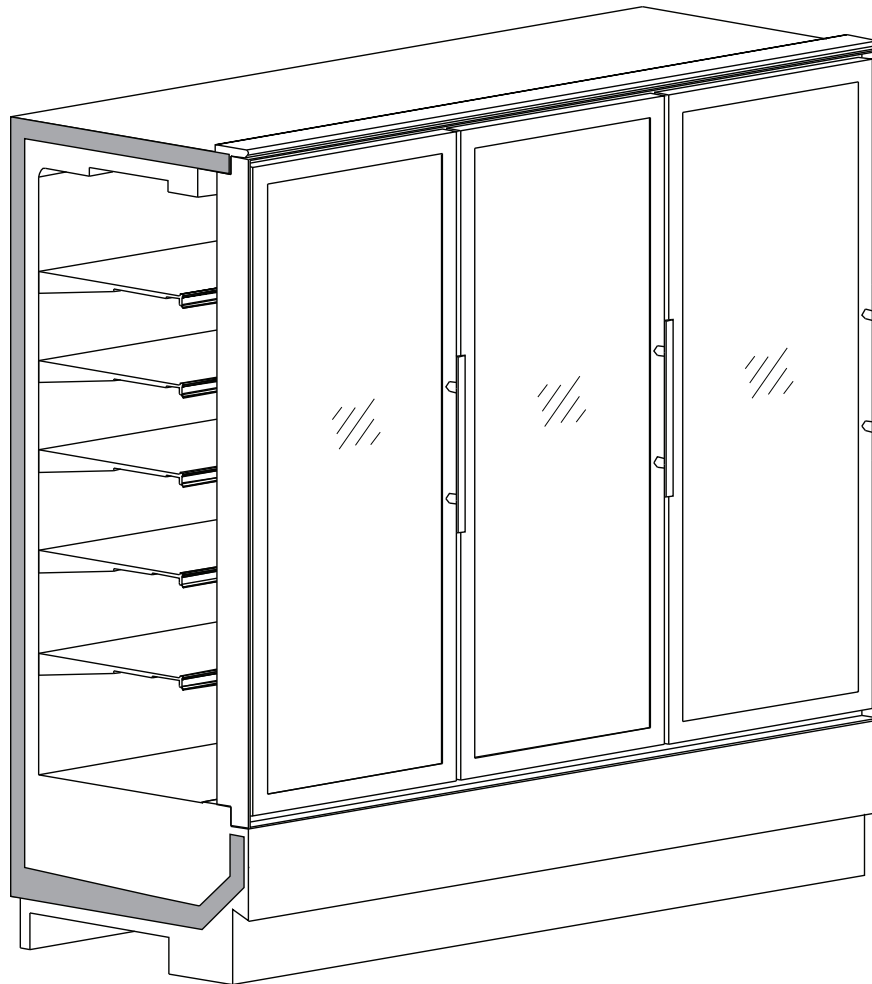


MULTI-DECK

Bakery



REACH-IN



NOTES

- Cases shown with an ANSI/NSF* mark are listed by NSF.
- Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Technical information contained herein is subject to change without notice.

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

6RBLH Reach-In Glass Door Merchandiser

2, 3, 4 & 5-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	2	0.31	18	4.39	914	5.06	1215
3-door	3	0.46	28	4.96	1032	5.71	1370
4-door	4	0.61	37	6.51	1355	7.55	1813
5-door	5	0.77	46	7.96	1655	9.17	2201
8'	4	0.61	37	3.85	800	4.44	1065
12'	6	0.92	55	5.78	1200	6.67	1600

Anti-Condensate Heater Data

Doors	Door Size	Anthony					
		101		Eliminator ²		Vista - C ²	
		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	1.09	110	0.80	96	1.00	120
3-door		1.60	162	1.17	140	1.33	160
4-door		2.11	213	1.53	184	1.72	206
5-door		2.60	262	1.88	226	2.10	252
8'	24"	---	---	---	---	1.23	148
	32"	1.62	194	1.19	143	---	---
12'	24"	---	---	---	---	1.71	205
	36"	2.26	272	1.66	199	---	---

Lighting Data

Doors	Door Size	LED Lighting							
		Optimax ⁴ Pro		Vista-C ⁴ Optimax Pro		GE IMMERSION		Crossfire ⁴ /Polaris	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	0.36	43	0.36	43	0.33	39	---	---
3-door		0.53	64	0.53	64	0.48	58	---	---
4-door		0.71	85	0.71	85	0.64	77	---	---
5-door		0.88	106	0.88	106	0.80	96	---	---
8'	24"	---	---	0.36	43	---	---	---	---
	32"	0.53	64	---	---	0.48	58	---	---
12'	24"	---	---	0.53	64	---	---	---	---
	36"	0.71	85	---	---	0.64	77	---	---

Guidelines & Control Settings

Application	Doors	Door Size	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
			Conventional	Parallel				
Beverage Produce	2-5 door	30"	723	683	34	6 - 8	38	250
	8'	24"	590	557	34	6 - 8	38	250
		32"	784	740	34	6 - 8	38	250
	12'	24"	590	557	34	6 - 8	38	250
		36"	916	865	34	6 - 8	38	250
Deli/Dairy Cut Produce	2-5 door	30"	755	713	32	6 - 8	36	250
	8'	24"	622	587	32	6 - 8	36	250
		32"	815	770	32	6 - 8	36	250
	12'	24"	622	587	32	6 - 8	36	250
		36"	948	895	32	6 - 8	36	250
Meat	2-5 door	30"	818	773	28	6 - 8	32	250
	8'	24"	666	629	28	6 - 8	32	250
		32"	886	837	28	6 - 8	32	250
	12'	24"	666	629	28	6 - 8	32	250
		36"	1031	974	28	6 - 8	32	250

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost ⁷		Timed-Off Defrost		Hot Gas Defrost ⁷	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁶	6 - 8	30	47	30	40	24	47

1 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.

2 Values provided are for doors with no heat on the glass.

3 NOTE: " - - " indicates that feature is that feature is not an option on this case model.

4 Low-power lights. High-power option available.

5 Average discharge air velocity at peak of defrost.

6 If timed-off defrost is utilized. If electric or hot gas defrost is utilized, case only requires 1 defrost per day.

7 Electric or Hot Gas defrost is recommended for meat application.

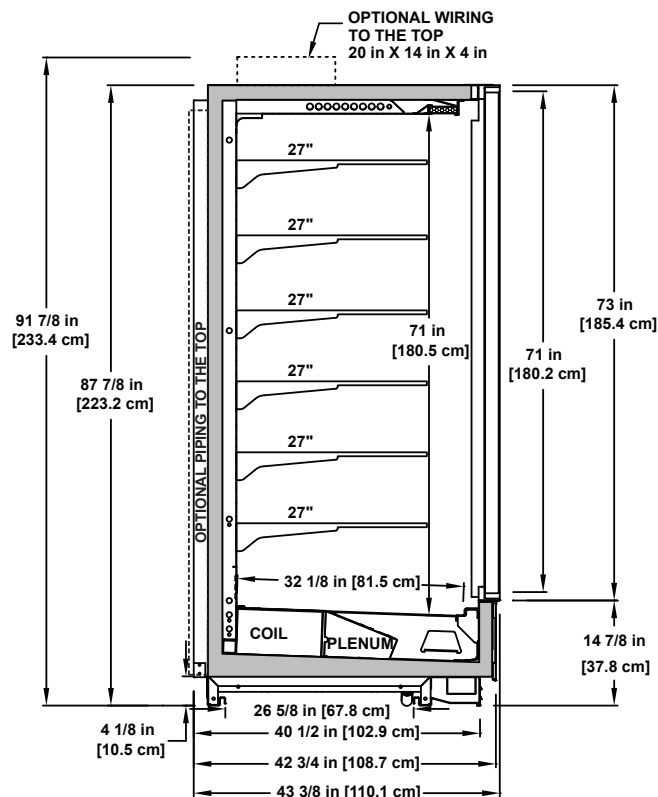


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm



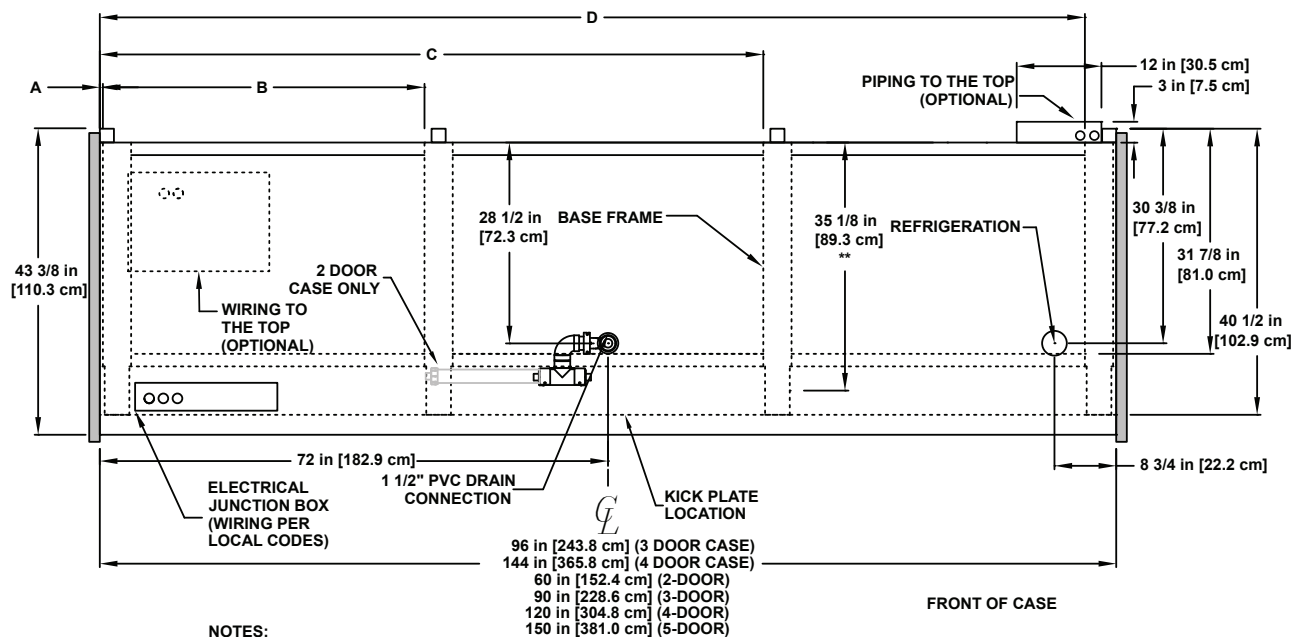
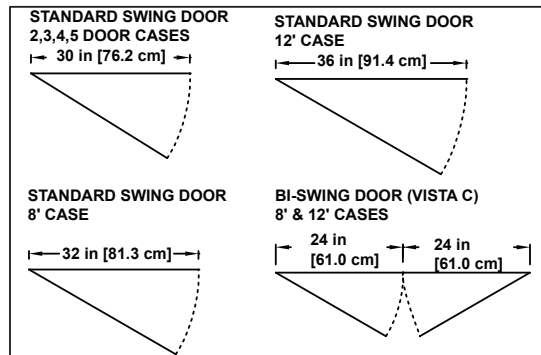
6RBLH Reach-In Glass Door Merchandiser

2, 3, 4 & 5-door / 8' & 12' (Beverage / Dairy / Deli / Meat)



6RBLH	Base Frame Structure					
Case Length	Doors	A	B	C	D	E
60"	2	3/8"	28"	55 1/2"		
90"	3	3/8"	28"	58"	85 1/2"	
120"	4	3/8"	28"	58"	88"	115 1/2"
150"	5	3/8"	28"	88"	118"	145 1/2"
96"	8ft	3/8"	54"	91 5/8"		
144"	12ft	3/8"	46"	94"	139 1/2"	

* Riser Support



NOTES:

- * : STUB-UP AREA
- ** : RECOMMENDED STUP-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1" TO CASE HEIGHT
- WIRING TO THE TOP ADDS APPROXIMATELY 4" TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE (ALL LENGTHS) - 1/2"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"
- SOLID SHELVES 18", 20", 22", 24", & 27"

REACH-IN

Beverage / Dairy / Deli / Meat



6RZLH Reach-In Glass Door Merchandiser

2, 3, 4 & 5-door (Frozen Food / Ice Cream)

Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters							
				1-Phase				3-Phase ¹			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
2-door	3	0.47	27	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	4	0.62	36	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	6	0.93	54	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	8	1.24	72	19.89	4138	22.93	5503	13.78	4138	15.88	5503

Lighting Data

Doors	LED Lighting			
	Optimax Pro ³		GE IMMERSION	
	120 Volts		120 Volts	
	Amps	Watts	Amps	Watts
2-door	0.36	43	0.33	39
3-door	0.53	64	0.48	58
4-door	0.71	85	0.64	77
5-door	0.88	106	0.80	96

Anti-Condensate Heater Data

Doors	Anthony					
	ELMD		Eliminaator ⁴		Eliminaator 2 ⁴	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
2-door	2.30	278	1.86	223	1.28	153
3-door	3.40	410	2.77	332	1.89	227
4-door	4.50	545	3.63	435	2.46	295
5-door	5.70	679	4.57	548	3.11	373

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD	1359	1320	-11	3 - 5	-4	350
	Eliminaator/2	1295	1258	-11	3 - 5	-4	350
Ice Cream	ELMD	1462	1420	-17	3 - 5	-10	350
	Eliminaator/2	1398	1358	-17	3 - 5	-10	350

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁶	--- ⁸	---	24	73 ⁸	---	---

1 3-phase load is unbalanced.

2 Figure given is maximum amps per phase.

3 Low-power lights. High-power option available.

4 Values provided are for doors with no heat on the glass.

5 Average discharge air velocity at peak of defrost.

6 The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

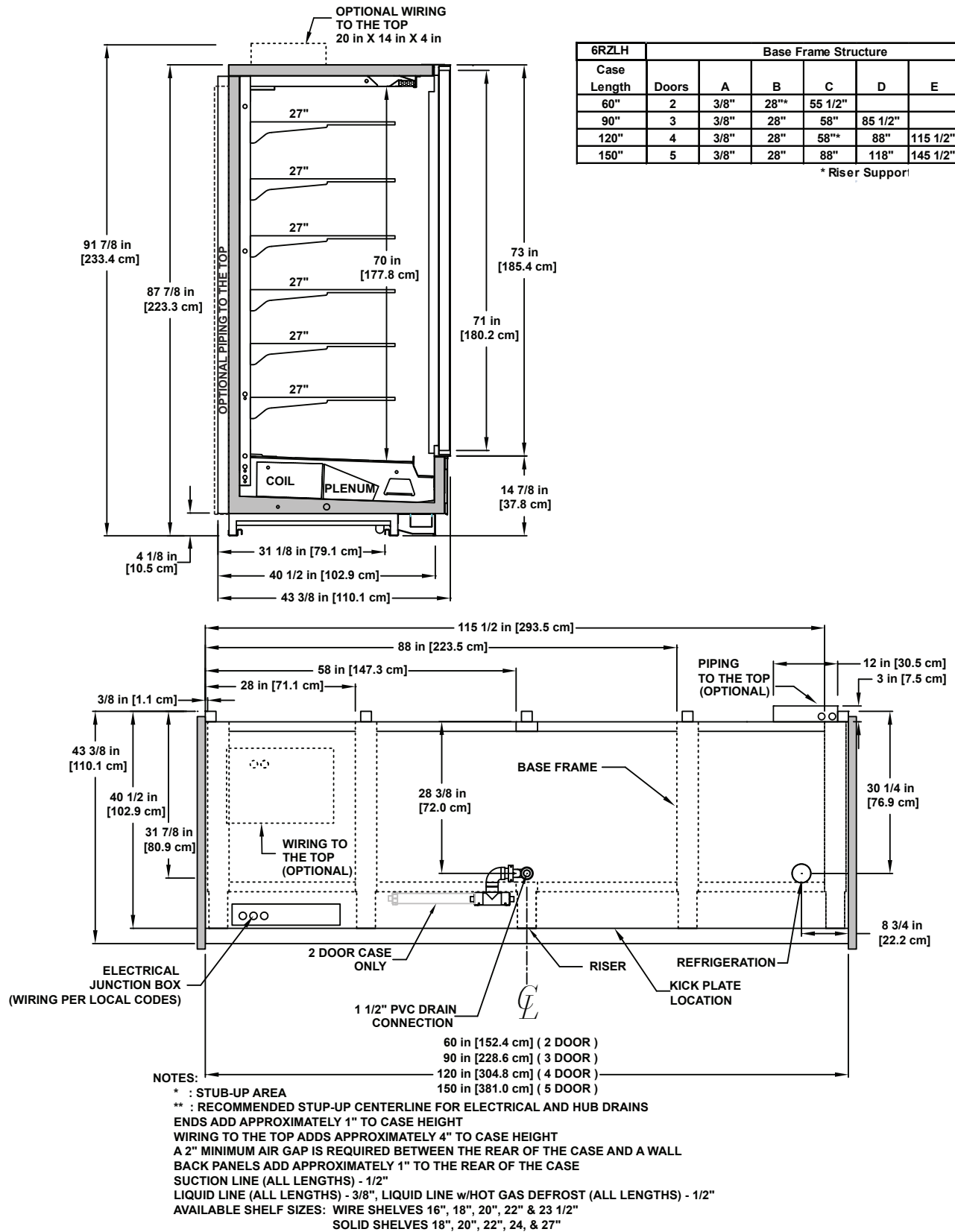
7 NOTE: "- - -" not an option on this case model.

8 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.



6RZLH Reach-In Glass Door Merchandiser

2, 3, 4 & 5-door (Frozen Food / Ice Cream)



REACH-IN

Frozen Food / Ice Cream



ONRB Narrow Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	2	0.31	18	4.39	914	5.06	1215
3-door	3	0.46	28	4.96	1032	5.71	1370
4-door	4	0.61	37	6.51	1355	7.55	1813
5-door	5	0.77	46	7.96	1655	9.17	2201
6-door	6	0.92	55	9.40	1955	10.79	2589
8'	3	0.46	28	3.85	800	4.44	1065
12'	4	0.61	37	5.77	1200	6.67	1600

Lighting Data

Doors	Door Size	LED Lighting							
		Optimax Pro ²		Vista-C ² Optimax Pro		GE IMMERSION		Crossfire ² /Polaris	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	0.33	39	0.33	39	0.27	32	0.25	30
3-door		0.48	58	0.48	58	0.40	48	0.38	45
4-door		0.64	77	0.64	77	0.53	64	0.50	60
5-door		0.80	96	0.80	96	0.67	80	0.63	75
6-door		0.96	115	0.96	115	0.80	96	0.75	90
8'	24"	---	---	0.33	39	---	---	---	---
	32"	0.48	58	---	---	0.40	48	0.38	45
12'	24"	---	---	0.48	58	---	---	---	---
	36"	0.64	77	---	---	0.53	64	0.50	60

Anti-Condensate Heater Data

Doors	Door Size	Anthony						Gemtron Tundra (NT)	
		101		Eliminaator ⁴		Vista - C ⁴		120 Volts	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	1.02	122	0.75	90	0.92	110	0.97	116
3-door		1.50	180	1.11	133	1.34	161	1.43	172
4-door		1.97	236	1.44	173	1.60	192	1.93	231
5-door		2.41	289	1.75	210	1.95	234	2.40	288
6-door		2.93	351	2.14	257	2.25	270	3.60	432
8'	24"	---	---	---	---	1.17	140	---	---
	32"	1.55	185	1.13	135	---	---	---	---
12'	24"	---	---	---	---	1.56	187	---	---
	36"	2.15	258	1.56	187	---	---	---	---

ONRB Narrow Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Guidelines & Control Settings

Application	Doors	Door Size	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
			Conventional	Parallel				
Beverage	2-6 door	30"	597	564	34	6 - 8	38	380
		24"	433	409	34	6 - 8	38	380
	8'	32"	627	592	34	6 - 8	38	380
		24"	433	409	34	6 - 8	38	380
		36"	723	683	34	6 - 8	38	380
Deli/Dairy	2-6 door	30"	629	594	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
	8'	32"	654	618	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
		36"	755	713	32	6 - 8	36	380
Meat	2-6 door	30"	715	675	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
	8'	32"	772	729	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
		36"	887	838	28	6 - 8	34	380

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost ⁷		Timed-Off Defrost		Hot Gas Defrost ⁷		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁶	6 - 8	30	47	30	40	24	47	- - -	- - -

1 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.

2 Low-power lights. High-power option available.

3 NOTE: "- - -" indicates that feature is that feature is not an option on this case model.

4 Values provided are for doors with no heat on the glass.

5 Average discharge air velocity at peak of defrost.

6 If timed-off defrost is utilized. If electric or hot gas defrost is utilized, case only requires 1 defrosts per day.

7 Electric or Hot Gas defrost is recommended for Meat application.

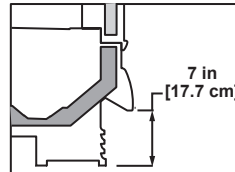
REACH-IN

Beverage / Dairy / Deli / Meat

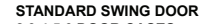
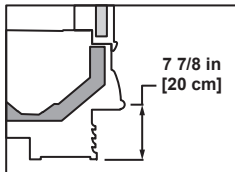


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ONRB



1/2 BUMPER OPTION



2,3,4,5,6 DOOR CASES

30 in [76.2 cm]

STANDARD SWING DOOR

8' CASE
32 in [81.3 cm]

STANDARD SWING DOOR

12' CASE
26 in [94.4 cm]

BI- SWING DOOR (VISTA-C)

8' & 12' CASES
 24 in [61.0 cm] 24 in

Figure 10 is a technical architectural drawing showing the elevation of the front of the building. It is a symmetrical facade. The central part features a main entrance with a pediment supported by columns. On either side of the central entrance are smaller wings, each with its own pediment. The drawing includes various architectural details such as windows, doors, and decorative moldings. The drawing is labeled with dimensions and notes.

Figure 10: Elevation view of the front of the building. The drawing shows a symmetrical facade with a central entrance and two side wings. The central entrance has a pediment supported by columns. The side wings have smaller pediments. The drawing is a technical elevation showing architectural details like windows, doors, and moldings.



**** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS**

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL



ONRBH High Narrow Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	2	0.31	18	4.39	914	5.06	1215
3-door	3	0.46	28	4.96	1032	5.71	1370
4-door	4	0.61	37	6.51	1355	7.55	1813
5-door	5	0.77	46	7.96	1655	9.17	2201
6-door	6	0.92	55	9.40	1955	10.79	2589
8'	3	0.46	28	3.85	800	4.44	1065
12'	4	0.61	37	5.77	1200	6.67	1600

Lighting Data

Doors	Door Size	LED Lighting							
		Optimax Pro ²		Vista-C ² Optimax Pro		GE IMMERSION		Crossfire ² /Polaris	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	0.33	39	0.33	39	0.27	32	0.25	30
3-door		0.48	58	0.48	58	0.40	48	0.38	45
4-door		0.64	77	0.64	77	0.53	64	0.50	60
5-door		0.80	96	0.80	96	0.67	80	0.63	75
6-door		0.96	115	0.96	115	0.80	96	0.75	90
8'	24"	---	---	0.33	39	---	---	---	---
	32"	0.48	58	---	---	0.40	48	0.38	45
12'	24"	---	---	0.48	58	---	---	---	---
	36"	0.64	77	---	---	0.53	64	0.50	60

Anti-Condensate Heater Data

Doors	Door Size	Anthony						Gemtron Tundra (NT)	
		101		Eliminaator ⁴		Vista - C ⁴		120 Volts	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	1.06	127	0.78	94	0.96	115	1.00	121
3-door		1.54	185	1.13	136	1.33	160	1.49	179
4-door		2.06	247	1.51	181	1.60	192	2.00	242
5-door		2.53	304	1.84	221	1.96	235	2.48	298
6-door		3.05	366	2.23	267	2.25	270	2.97	356
8'	24"	---	---	---	---	1.20	144	---	---
	32"	1.64	197	1.19	143	---	---	---	---
12'	24"	---	---	---	---	1.71	205	---	---
	36"	2.19	263	1.63	196	---	---	---	---

ONRBH High Narrow Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Guidelines & Control Settings

Application	Doors	Door Size	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
			Conventional	Parallel				
Beverage	2-6 door	30"	597	564	34	6 - 8	38	380
		24"	433	409	34	6 - 8	38	380
		32"	627	592	34	6 - 8	38	380
	12'	24"	433	409	34	6 - 8	38	380
		36"	723	683	34	6 - 8	38	380
Deli/Dairy	2-6 door	30"	629	594	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
		32"	654	618	32	6 - 8	36	380
	12'	24"	454	429	32	6 - 8	36	380
		36"	755	713	32	6 - 8	36	380
Meat	2-6 door	30"	715	675	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
		32"	772	729	28	6 - 8	34	380
	12'	24"	542	512	28	6 - 8	34	380
		36"	887	838	28	6 - 8	34	380

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost ⁷		Timed-Off Defrost		Hot Gas Defrost ⁷		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁶	6 - 8	30	47	30	40	24	47	- - -	- - -

1 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.

2 Low-power lights. High-power option available.

3 NOTE: "- - -" indicates that feature is that feature is not an option on this case model.

4 Values provided are for doors with no heat on the glass.

5 Average discharge air velocity at peak of defrost.

6 If timed-off defrost is utilized. If electric or hot gas defrost is utilized, case only requires 1 defrosts per day.

7 Electric or Hot Gas defrost is recommended for Meat application.

REACH-IN

Beverage / Dairy / Deli / Meat



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ORB Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	2	0.31	18	4.39	914	5.06	1215
3-door	3	0.46	28	4.96	1032	5.71	1370
4-door	4	0.61	37	6.51	1355	7.55	1813
5-door	5	0.77	46	7.96	1655	9.17	2201
6-door	6	0.92	55	9.40	1955	10.79	2589
8'	3	0.46	28	3.85	800	4.44	1065
12'	4	0.61	37	5.77	1200	6.67	1600

Lighting Data

Doors	Door Size	LED Lighting							
		Optimax Pro ²		Vista-C ² Optimax Pro		GE IMMERSION		Crossfire ² /Polaris	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	0.33	39	0.33	39	0.27	32	0.25	30
3-door		0.48	58	0.48	58	0.40	48	0.38	45
4-door		0.64	77	0.64	77	0.53	64	0.50	60
5-door		0.80	96	0.80	96	0.67	80	0.63	75
6-door		0.96	115	0.96	115	0.80	96	0.75	90
8'	24"	---	---	0.33	39	---	---	---	---
	32"	0.48	58	---	---	0.40	48	0.38	45
12'	24"	---	---	0.48	58	---	---	---	---
	36"	0.64	77	---	---	0.53	64	0.50	60

Anti-Condensate Heater Data

Doors	Door Size	Anthony						Gemtron Tundra (NT)	
		101		Eliminaator ⁴		Vista - C ⁴		120 Volts	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	1.02	122	0.75	90	0.92	110	0.97	116
3-door		1.50	180	1.11	133	1.34	161	1.43	172
4-door		1.97	236	1.44	173	1.60	192	1.93	231
5-door		2.41	289	1.75	210	1.95	234	2.40	288
6-door		2.93	351	2.14	257	2.25	270	3.60	432
8'	24"	---	---	---	---	1.17	140	---	---
	32"	1.55	185	1.13	135	---	---	---	---
12'	24"	---	---	---	---	1.56	187	---	---
	36"	2.15	258	1.56	187	---	---	---	---

ORB Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Guidelines & Control Settings

Application	Doors	Door Size	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
			Conventional	Parallel				
Beverage	2-6 door	30"	597	564	34	6 - 8	38	380
		24"	433	409	34	6 - 8	38	380
	8'	32"	627	592	34	6 - 8	38	380
		24"	433	409	34	6 - 8	38	380
		36"	723	683	34	6 - 8	38	380
Deli/Dairy	2-6 door	30"	629	594	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
	8'	32"	654	618	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
		36"	755	713	32	6 - 8	36	380
Meat	2-6 door	30"	715	675	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
	8'	32"	772	729	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
		36"	887	838	28	6 - 8	34	380

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost ⁷		Timed-Off Defrost		Hot Gas Defrost ⁷		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁶	6 - 8	30	47	30	40	24	47	- - -	- - -

1 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.

2 Low-power lights. High-power option available.

3 NOTE: "- - -" indicates that feature is that feature is not an option on this case model.

4 Values provided are for doors with no heat on the glass.

5 Average discharge air velocity at peak of defrost.

6 If timed-off defrost is utilized. If electric or hot gas defrost is utilized, case only requires 1 defrosts per day.

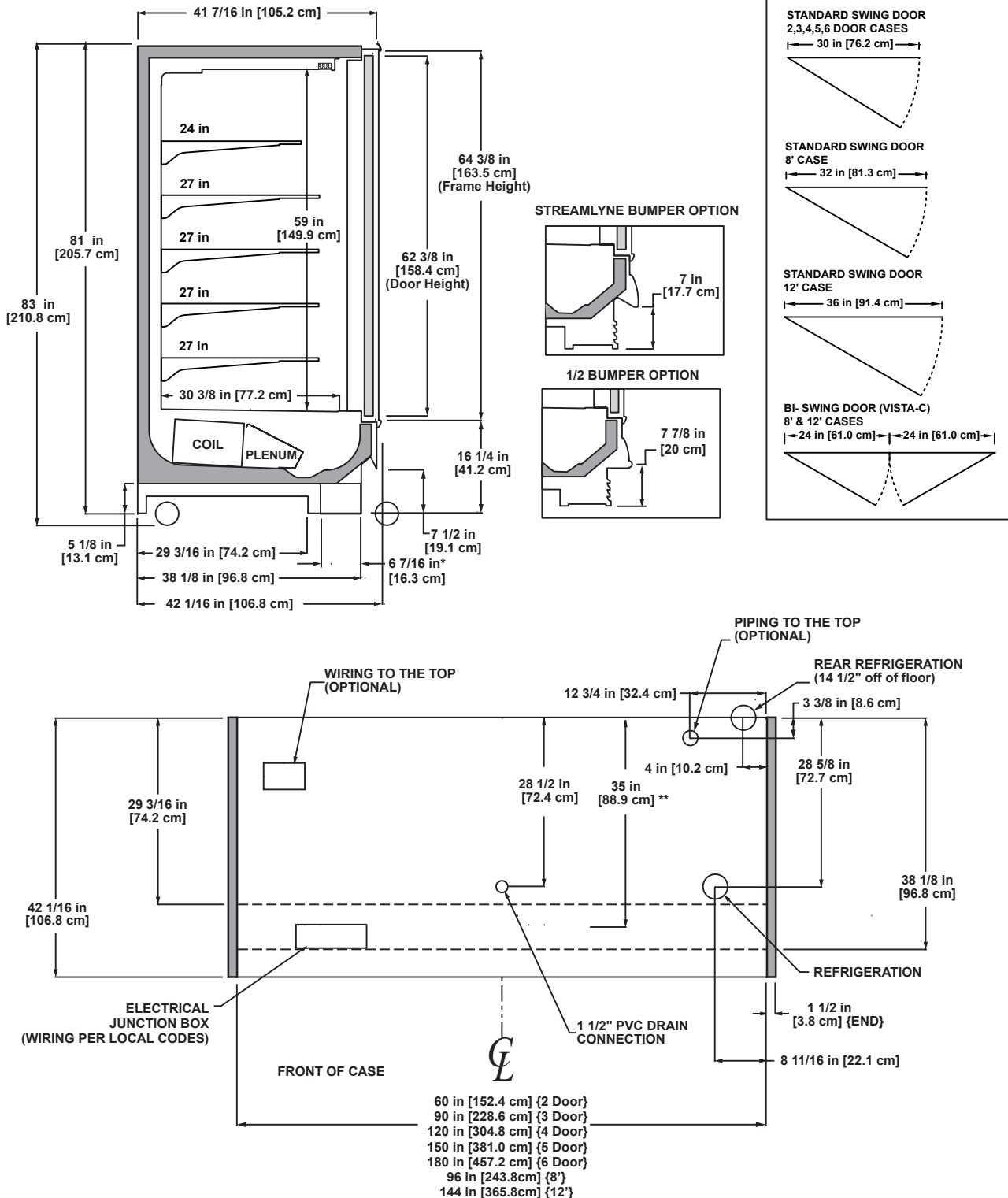
7 Electric or Hot Gas defrost is recommended for Meat application.

REACH-IN

Beverage / Dairy / Deli / Meat



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (ALL LENGTHS) 1/2"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES.
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

ORBH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
2-door	2	0.31	18	4.39	914	5.06	1215
3-door	3	0.46	28	4.96	1032	5.71	1370
4-door	4	0.61	37	6.51	1355	7.55	1813
5-door	5	0.77	46	7.96	1655	9.17	2201
6-door	6	0.92	55	9.40	1955	10.79	2589
8'	3	0.46	28	3.85	800	4.44	1065
12'	4	0.61	37	5.77	1200	6.67	1600

Lighting Data

Doors	Door Size	LED Lighting							
		Optimax Pro ²		Vista-C ² Optimax Pro		GE IMMERSION		Crossfire ² /Polaris	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	0.33	39	0.33	39	0.27	32	0.25	30
3-door		0.48	58	0.48	58	0.40	48	0.38	45
4-door		0.64	77	0.64	77	0.53	64	0.50	60
5-door		0.80	96	0.80	96	0.67	80	0.63	75
6-door		0.96	115	0.96	115	0.80	96	0.75	90
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	36"	0.64	77	---	---	0.53	64	0.50	60

Anti-Condensate Heater Data

Doors	Door Size	Anthony						Gemtron Tundra (NT)	
		101		Eliminaator ⁴		Vista - C ⁴		120 Volts	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	30"	1.06	127	0.78	94	0.96	115	1.00	121
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4-door		2.06	247	1.51	181	1.60	192	2.00	242
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6-door		3.05	366	2.23	267	2.25	270	2.97	356
8'	24"	---	---	---	---	1.20	144	---	---
	32"	1.64	197	1.19	143	---	---	---	---
12'	24"	---	---	---	---	1.71	205	---	---
	36"	2.19	263	1.63	196	---	---	---	---

ORBH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)

Guidelines & Control Settings

Application	Doors	Door Size	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
			Conventional	Parallel				
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		24"	433	409	34	6 - 8	38	380
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Deli/Dairy	2-6 door	30"	629	594	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
	8'	32"	654	618	32	6 - 8	36	380
		24"	454	429	32	6 - 8	36	380
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Meat	2-6 door	30"	715	675	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
	8'	32"	772	729	28	6 - 8	34	380
		24"	542	512	28	6 - 8	34	380
		36"	887	838	28	6 - 8	34	380

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost ⁷		Timed-Off Defrost		Hot Gas Defrost ⁷		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁶	6 - 8	30	47	30	40	24	47	- - -	- - -

1 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.

2 Low-power lights. High-power option available.

3 NOTE: "- - -" indicates that feature is that feature is not an option on this case model.

4 Values provided are for doors with no heat on the glass.

5 Average discharge air velocity at peak of defrost.

6 If timed-off defrost is utilized. If electric or hot gas defrost is utilized, case only requires 1 defrosts per day.

7 Electric or Hot Gas defrost is recommended for Meat application.

REACH-IN

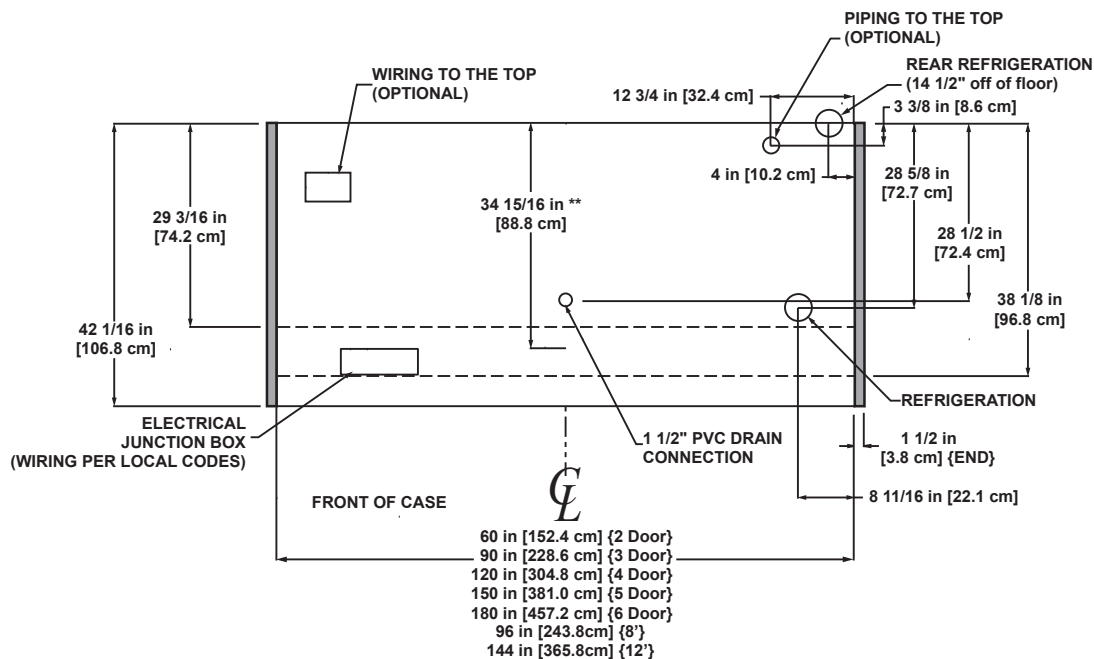
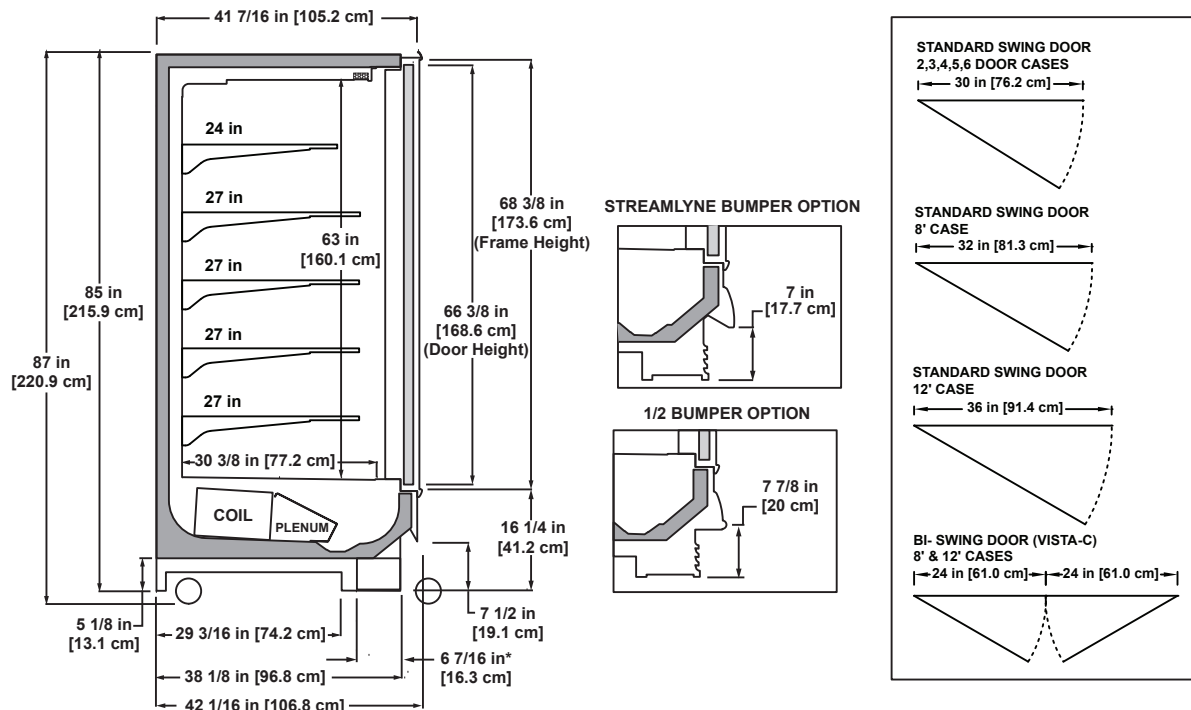
Beverage / Dairy / Deli / Meat



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ORBH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door / 8' & 12' (Beverage / Dairy / Deli / Meat)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (ALL LENGTHS) 1/2"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ORBR Reach-In Glass Door Rear Load Merchandiser

8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Doors ¹	Fans Per Case	High Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.46	28	3.85	800	4.44	1065
12'	4	0.61	37	5.75	1200	6.67	1600

Lighting Data

Doors	Door Size	LED Lighting							
		Optimax ² Pro		Vista-C ² Optimax Pro		GE IMMERSION		Crossfire ² /Polaris	
		120 Volts		120 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	24"	---	---	0.50	60	---	---	---	---
	32"	0.48	58	---	---	0.40	48	0.38	45
12'	24"	---	---	0.64	77	---	---	---	---
	36"	0.64	77	---	---	0.53	64	0.50	60

Anti-Condensate Heater Data

Doors	Door Size	Anthony						Gemtron Tundra (NT)	
		101		Eliminaator ⁴		Vista - C ⁴			
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	24"	---	---	---	---	1.17	140	---	---
	32"	1.55	185	1.13	135	---	---	---	---
12'	24"	---	---	---	---	1.56	187	---	---
	36"	2.15	258	1.56	187	---	---	---	---

Guidelines & Control Settings

Application	Doors	Door Size	⁵ BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
			Conventional	Parallel				
Beverage	8'	24"	718	678	34	6 - 8	38	380
		32"	957	904	34	6 - 8	38	380
	12'	24"	718	678	34	6 - 8	38	380
		36"	1077	1017	34	6 - 8	38	380
Dairy / Deli	8'	24"	744	703	32	6 - 8	36	380
		32"	992	937	32	6 - 8	36	380
	12'	24"	744	703	32	6 - 8	36	380
		36"	1116	1054	32	6 - 8	36	380
Meat	8'	24"	827	781	28	6 - 8	34	380
		32"	1102	1041	28	6 - 8	34	380
	12'	24"	827	781	28	6 - 8	34	380
		36"	1241	1172	28	6 - 8	34	380

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁷	6 - 8	30	47	30	40	24	47	---	---

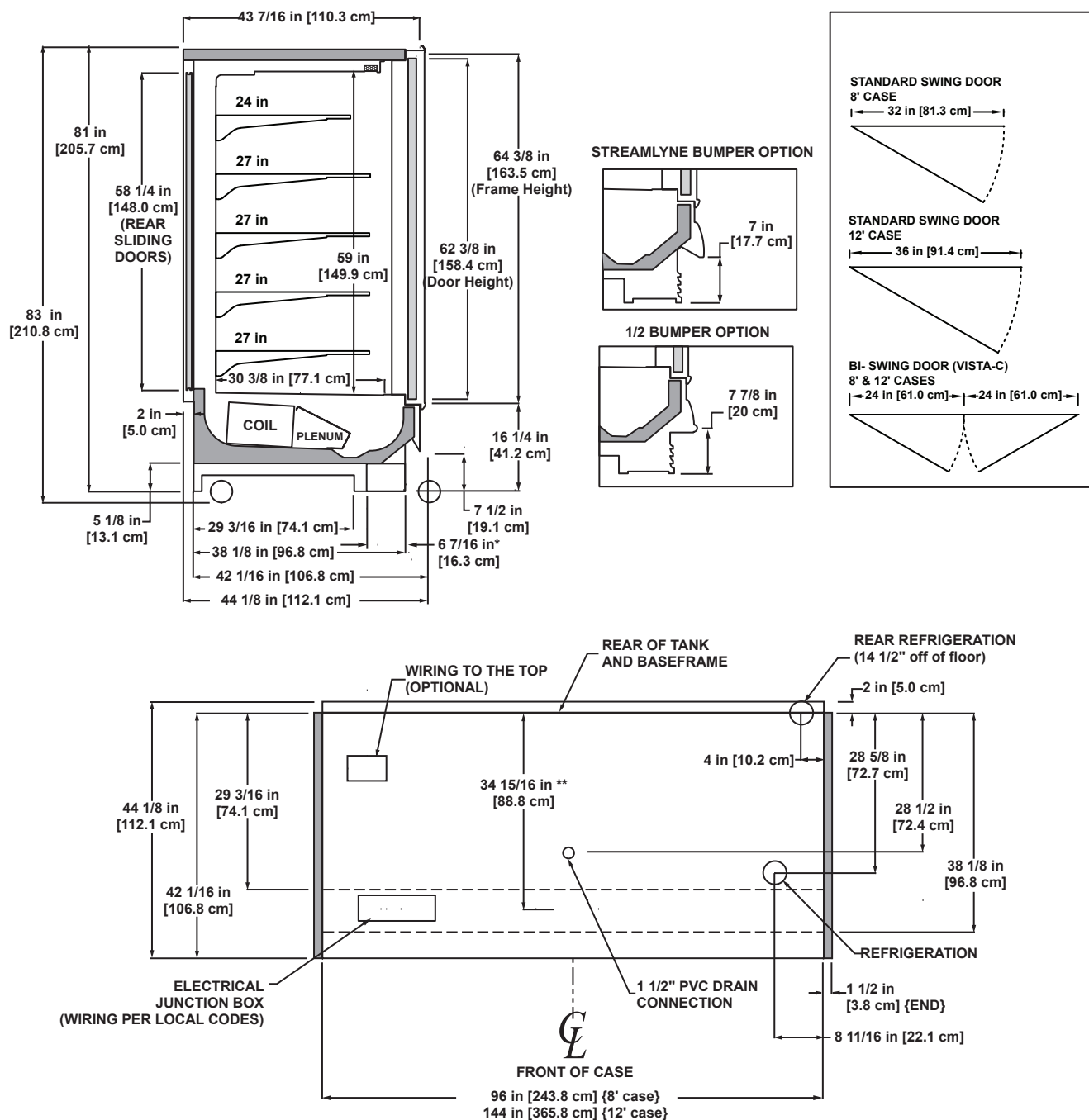
- 8-foot cases can consist of 3 (32") doors or 4 (24") doors; 12-foot cases can consist of 4 (36") doors or 6 (24") doors.
- Low-power lights. High-power option available.
- NOTE: " - - " indicates that feature is not an option on this case model.
- Values provided are for doors with no heat on the glass.
- Standard fans increase refrigeration load by 96 BTUH/fan.
- Average discharge air velocity at peak of defrost.
- If timed-off defrost is utilized. If electric or hot gas defrost is utilized, case only requires 1 defrosts per day.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ORBR Reach-In Glass Door Rear Load Merchandiser

8' & 12' (Beverage / Dairy / Deli / Meat)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- SUCTION LINE (ALL LENGTHS) 1/2"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ORS5DM Multi-Deck Reach-In Merchandiser

8' & 12' (Beverage / Dairy / Deli / Meat)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Defrost Heaters			
		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.46	28	3.85	800	4.44	1065
12'	4	0.61	37	5.77	1200	6.67	1600

Lighting Data

Case Length	Optimax ¹ Pro LED	
	120 Volts	
	Amps	Watts ²
8'	0.39	47
12'	0.58	70

Anti-Condensate Heater Data

Doors	Vista - C		Anthony 101B (NT)	
	120 Volts		120 Volts	
	Amps	Watts	Amps	Watts
8'	1.17	120	1.49	204
12'	1.56	165	1.94	233

Guidelines & Control Settings

Application	BTUH/door		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Beverage	439	415	6 - 8	34	38	380
Dairy / Deli	465	439	6 - 8	32	36	380
Meat	520	491	6 - 8	28	32	380

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost ⁵		Timed-Off Defrost		Hot Gas Defrost ⁵		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4 ⁴	6 - 8	30	47	30	40	24	47	-- ⁶	--

1 Horizontal lighting is included.

2 Low-power lights. High-power option available.

3 Average discharge air velocity at peak of defrost.

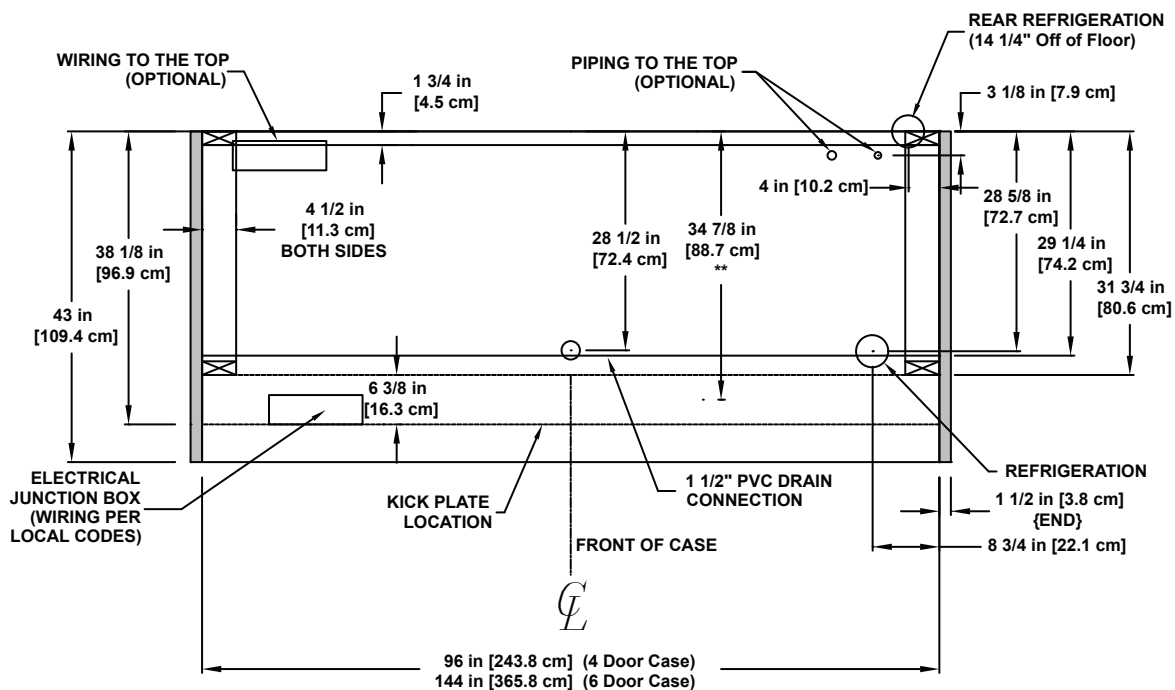
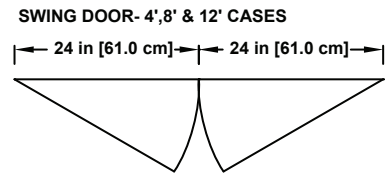
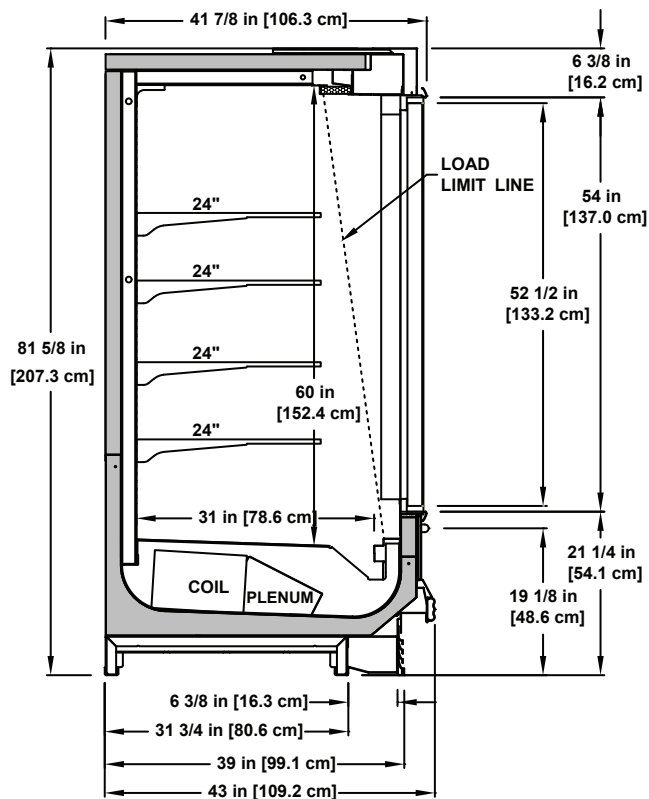
4 If Timed-Off defrost is utilized. If Electric or Hot Gas are utilized, the case only requires 1 defrost per day.

5 Electric or Hot Gas defrost is recommended for Meat application.

6 NOTE: "--" indicates that feature is not an option on this case model.

ORS5DM Multi-Deck Reach-In Merchandiser

8' & 12' (Beverage / Dairy / Deli / Meat)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND DRAINS

FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASE FRAME HEIGHT
ENDS ADD APPROXIMATELY 1" TO CASE HEIGHT
WIRING-TO-THE-TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"



REACH-IN

Beverage / Dairy / Deli / Meat

ONRZ Narrow Reach-In Glass Door Merchandiser

1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ¹ (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
1-door	1	0.15	9	4.89	1020	5.67	1359	2.82	1020	3.27	1359
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

Doors	LED Lighting					
	Optimax Pro ³		GE IMMERSION		Crossfire ³ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
1-door	0.17	20	0.13	16	0.13	15
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

Anti-Condensate Heater Data

Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁵		Eliminaator 2 ⁵		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
1-door	---	---	---	---	---	---	---	---	1.26	152	---	---
2-door	2.13	256	1.74	209	1.21	145	2.12	254	1.38	166	1.17	140
3-door	3.15	378	2.58	309	1.78	213	3.15	378	2.05	246	1.73	207
4-door	4.18	502	3.36	403	2.30	276	4.18	501	2.71	325	2.28	273
5-door	5.21	625	4.22	506	2.89	346	5.27	632	3.43	412	2.89	347
6-door	6.19	743	5.06	607	3.47	416	6.23	747	4.03	483	3.38	405

ONRZ Narrow Reach-In Glass Door Merchandiser

1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	1044	1014	-11	3 - 5	-3	460
	Eliminaator/2; Polar LE/EF (multi-door)	988	960	-11	3 - 5	-3	460
	Polar LE (single-door)	1389	1349	-8	3 - 5	2	300
Ice Cream	ELMD/Polar RE	1091	1060	-17	3 - 5	-8	460
	Eliminaator/2; Polar LE/EF (multi-door)	1027	998	-17	3 - 5	-8	460
	Polar LE (single-door)	1462	1420	-17	3 - 5	-7	305

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	---	---	24	73 ⁸	---	---

1 3-phase load is unbalanced.

2 Figure given is maximum line amperage per phase.

3 Low-power lights. High-power option available.

4 NOTE: " - - " indicates that feature is not an option on this case model.

5 Values provided are for doors with no heat on the glass.

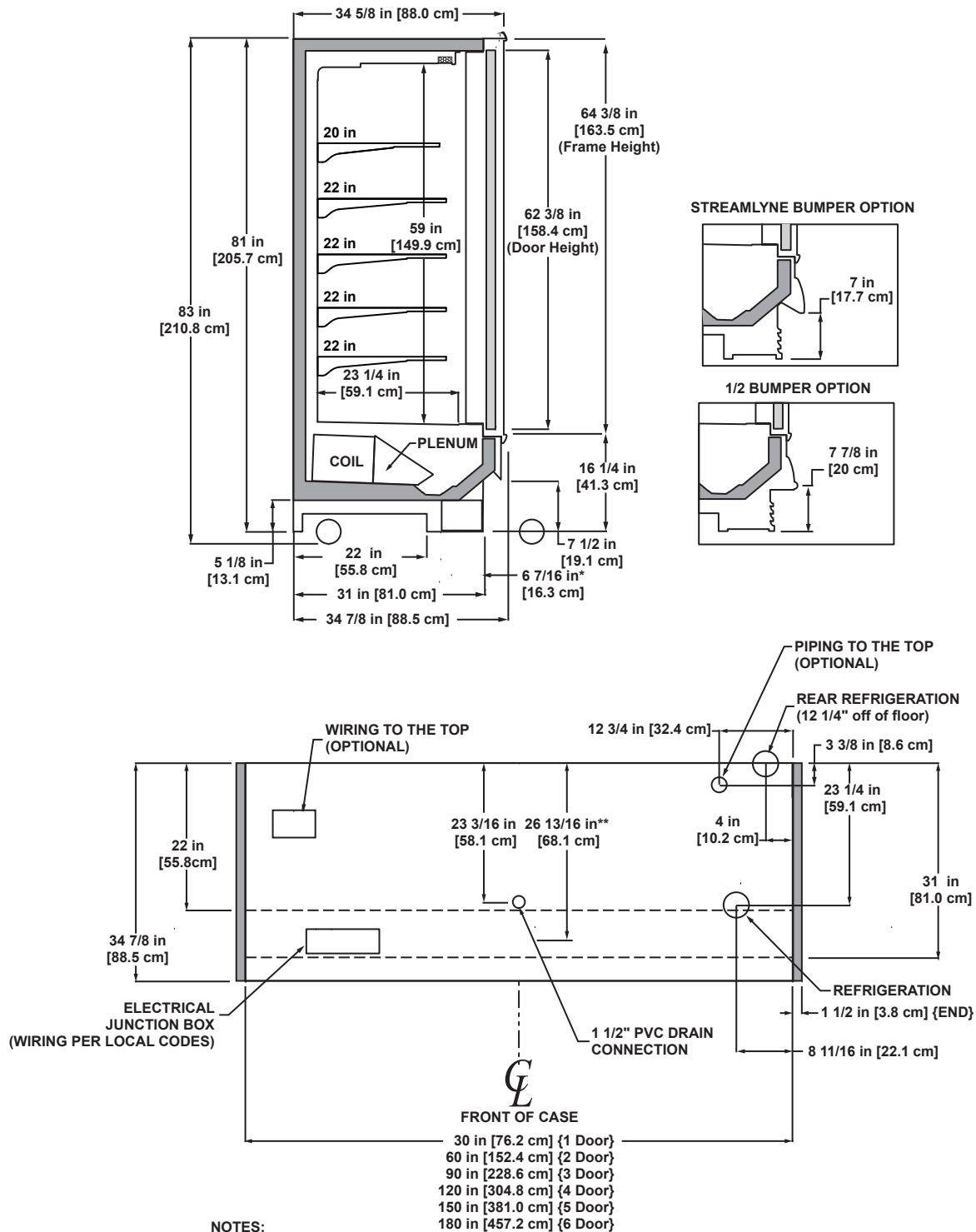
6 Average discharge air velocity at peak of defrost.

7 The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

8 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

REACH-IN

Frozen Food / Ice Cream



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (2DR & 3DR) 5/8", SUCTION LINE (4DR, 5DR & 6DR) 7/8"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20" & 22"; SOLID SHELVES 18", 20" & 22"
- TOP SHELF MUST BE 20" OR SHORTER
- RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

ONRZH High Narrow Reach-In Glass Door Merchandiser

1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ¹ (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
1-door	1	0.15	9	4.89	1020	5.67	1359	2.82	1020	3.27	1359
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

Doors	LED Lighting					
	Optimax Pro ³		GE IMMERSION		Crossfire ³ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
1-door	0.17	20	0.13	16	0.13	15
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

Anti-Condensate Heater Data

Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁵		Eliminaator 2 ⁵		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
1-door	---	---	---	---	---	---	---	---	1.31	157	---	---
2-door	2.21	265	1.79	214	1.24	149	2.11	253	1.43	171	1.19	143
3-door	3.26	391	2.63	315	1.81	217	3.16	379	2.13	256	1.78	214
4-door	4.33	520	3.46	415	2.37	284	4.21	505	2.84	341	2.38	285
5-door	5.39	647	4.35	522	2.98	358	5.31	637	3.53	424	2.95	354
6-door	6.39	767	5.20	624	3.56	427	6.29	755	4.24	509	3.54	425

ONRZH High Narrow Reach-In Glass Door Merchandiser

1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	1044	1014	-11	3 - 5	-3	460
	Eliminaator/2; Polar LE/EF (multi-door)	988	960	-11	3 - 5	-3	460
	Polar LE (single-door)	1389	1349	-8	3 - 5	2	300
Ice Cream	ELMD/Polar RE	1091	1060	-17	3 - 5	-8	460
	Eliminaator/2; Polar LE/EF (multi-door)	1027	998	-17	3 - 5	-8	460
	Polar LE (single-door)	1462	1420	-17	3 - 5	-7	305

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	---	---	24	73 ⁸	---	---

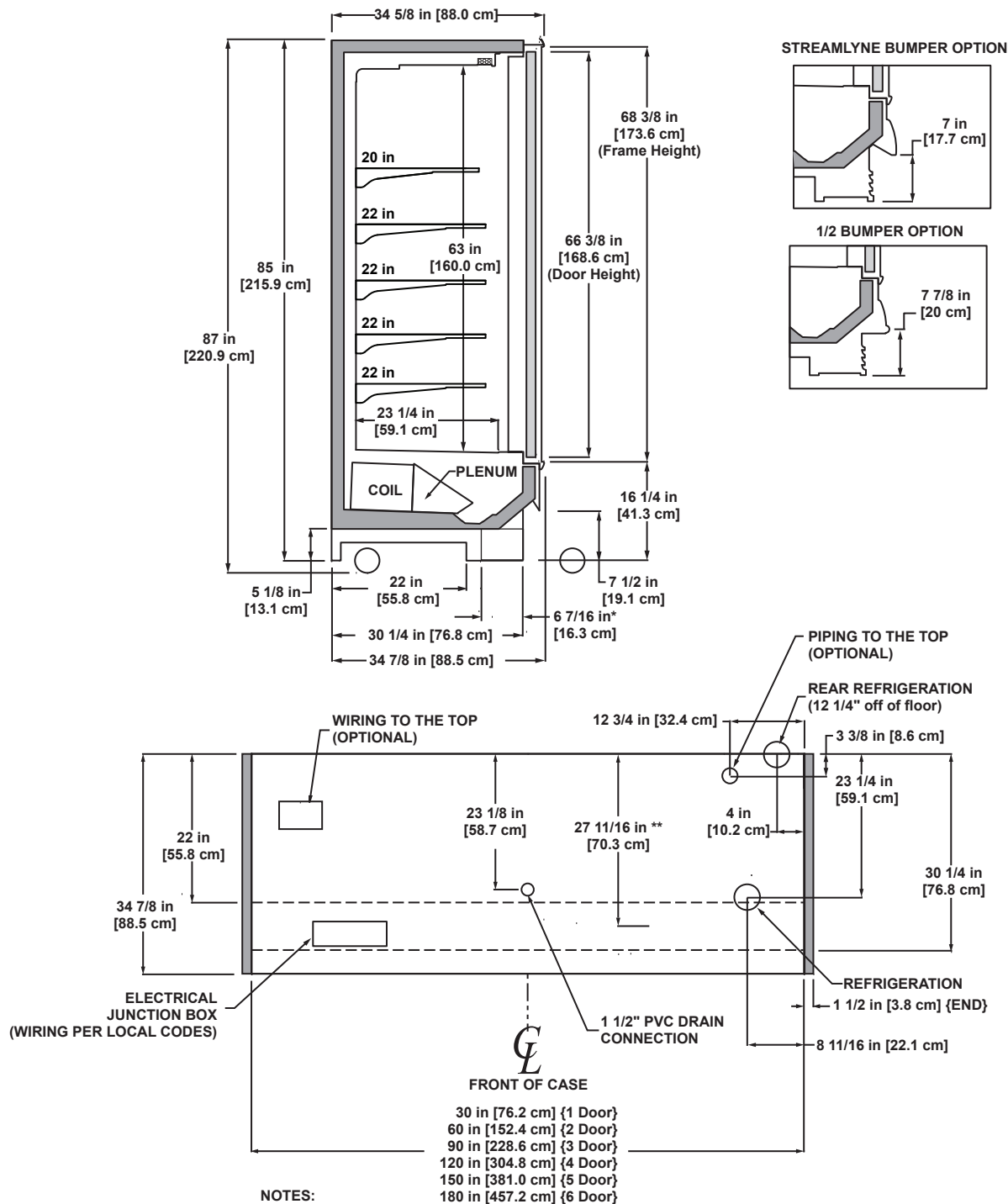
- 1 3-phase load is unbalanced.
- 2 Figure given is maximum line amperage per phase.
- 3 Low-power lights. High-power option available.
- 4 NOTE: " - - " indicates that feature is not an option on this case model.
- 5 Values provided are for doors with no heat on the glass.
- 6 Average discharge air velocity at peak of defrost.
- 7 The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- 8 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

REACH-IN

Frozen Food / Ice Cream

ONRZH High Narrow Reach-In Glass Door Merchandiser

1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)



NOTES:

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

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (2DR & 3DR) 5/8", SUCTION LINE (4DR, 5DR & 6DR) 7/8"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20" & 22"; SOLID SHELVES 18", 20" & 22"
- TOP SHELF MUST BE 20" OR SHORTER
- RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ORZ Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ¹ (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

Doors	LED Lighting					
	Optimax Pro ³		GE IMMERSION		Crossfire ³ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

Anti-Condensate Heater Data

Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁴		Eliminaator 2 ⁴		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	2.13	256	1.74	209	1.21	145	2.12	254	1.38	166	1.17	140
3-door	3.15	378	2.58	309	1.78	213	3.15	378	2.05	246	1.73	207
4-door	4.18	502	3.36	403	2.30	276	4.18	501	2.71	325	2.28	273
5-door	5.21	625	4.22	506	2.89	346	5.27	632	3.43	412	2.89	347
6-door	6.19	743	5.06	607	3.47	416	6.23	747	4.03	483	3.38	405

ORZ Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	1044	1014	-11	3 - 5	-3	405
	Eliminaator/2; Polar LE/EF	988	960	-11	3 - 5	-3	405
Ice Cream	ELMD/Polar RE	1091	1060	-17	3 - 5	-8	405
	Eliminaator/2; Polar LE/EF	1027	998	-17	3 - 5	-8	405

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁶	- - - ⁷	- - -	24	73 ⁸	- - -	- - -

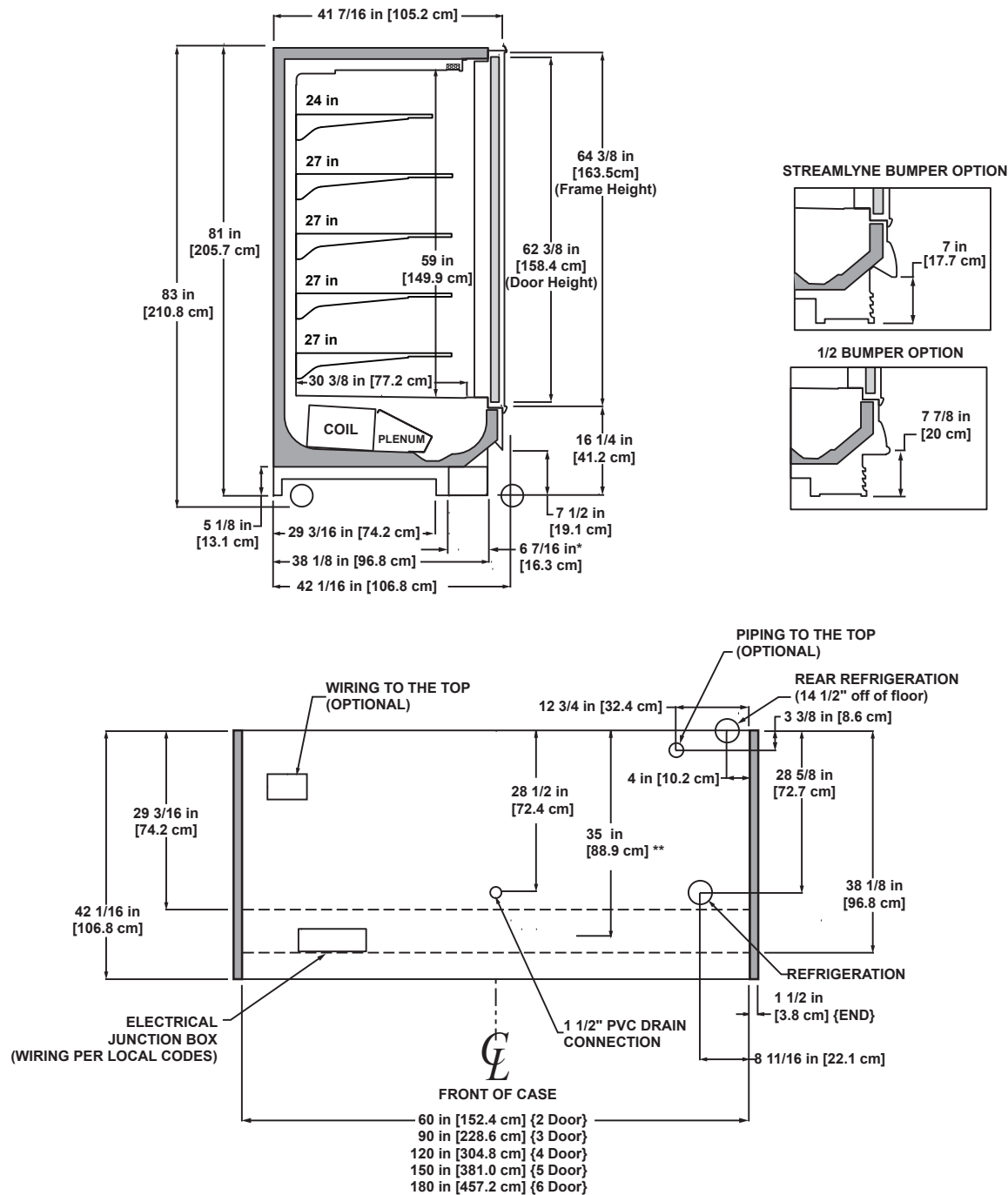
- 1 3-phase load is unbalanced.
- 2 Figure given is maximum line amperage per phase.
- 3 Low-power lights. High-power option available.
- 4 Values provided are for doors with no heat on the glass.
- 5 Average discharge air velocity at peak of defrost.
- 6 The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- 7 NOTE: "- - -" indicates that feature is not an option on this case model.
- 8 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

REACH-IN

Frozen Food / Ice Cream

ORZ Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)



ORZH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ¹ (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ²	Watts	Amps ²	Watts
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

Doors	LED Lighting					
	Optimax Pro ³		GE IMMERSION		Crossfire ³ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

Anti-Condensate Heater Data

Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁴		Eliminaator 2 ⁴		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	2.21	265	1.79	214	1.24	149	2.11	253	1.43	171	1.19	143
3-door	3.26	391	2.63	315	1.81	217	3.16	379	2.13	256	1.78	214
4-door	4.33	520	3.46	415	2.37	284	4.21	505	2.84	341	2.38	285
5-door	5.39	647	4.35	522	2.98	358	5.31	637	3.53	424	2.95	354
6-door	6.39	767	5.20	624	3.56	427	6.29	755	4.24	509	3.54	425

ORZH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	1044	1014	-11	3 - 5	-3	405
	Eliminaator/2; Polar LE/EF	988	960	-11	3 - 5	-3	405
Ice Cream	ELMD/Polar RE	1091	1060	-17	3 - 5	-8	405
	Eliminaator/2; Polar LE/EF	1027	998	-17	3 - 5	-8	405

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁶	--- ⁷	---	24	73 ⁸	---	---

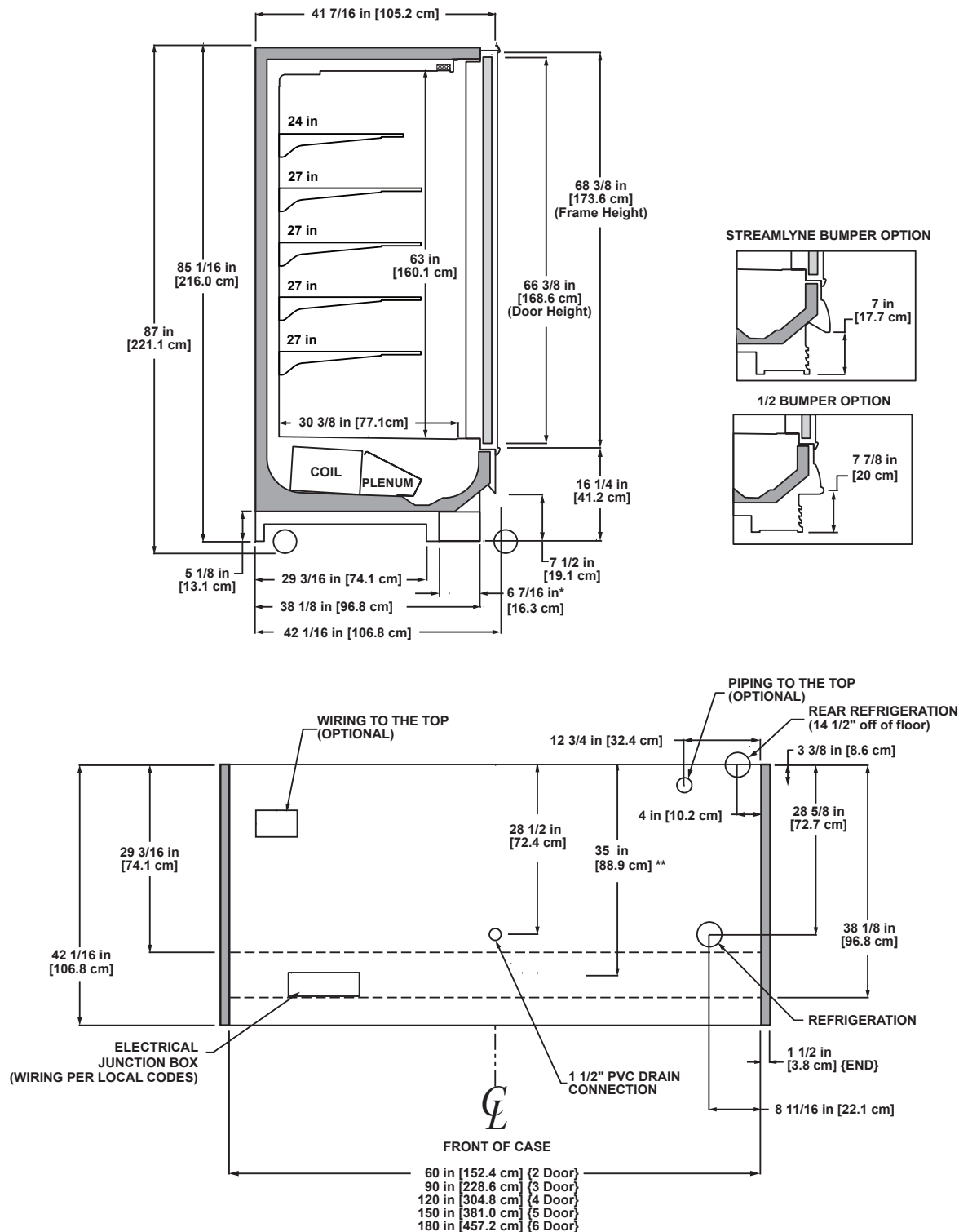
- 1 3-phase load is unbalanced.
- 2 Figure given is maximum line amperage per phase.
- 3 Low-power lights. High-power option available.
- 4 Values provided are for doors with no heat on the glass.
- 5 Average discharge air velocity at peak of defrost.
- 6 The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- 7 NOTE: "- - -" indicates that feature is not an option on this case model.
- 8 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

REACH-IN

Frozen Food / Ice Cream

ORZH High Reach-In Glass Door Merchandiser

2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE (2DR & 3DR) 5/8", LIQUID LINE (4DR, 5DR & 6DR) 7/8"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONRIZ Narrow Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Electrical Data

BACK-TO-BACK CONFIGURATION ¹											
Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ² (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ³	Watts	Amps ³	Watts
4-door	4	0.61	37	21.98	4572	25.32	6076	15.22	4572	17.52	6076
6-door	6	0.92	55	24.81	5160	28.54	6850	17.18	5160	19.76	6850
8-door	8	1.22	74	32.58	6776	37.78	9066	22.56	6776	26.16	9066
10-door	10	1.53	92	39.79	8276	45.86	11006	27.56	8276	31.76	11006
12-door	12	1.84	110	46.18	9605	53.29	12790	32.56	9605	36.92	12790
SINGLE-SIDE DATA											
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

BACK-TO-BACK CONFIGURATION						
Doors	LED Lighting					
	Optimax Pro ⁴		GE IMMERSION		Crossfire ⁴ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
4-door	0.65	78	0.53	64	0.50	60
6-door	0.97	116	0.80	96	0.75	90
8-door	1.28	154	1.07	128	1.00	120
10-door	1.60	192	1.33	160	1.25	150
12-door	1.92	230	1.60	192	1.50	180
SINGLE-SIDE DATA						
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

ONRIZ Narrow Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Anti-Condensate Heater Data

BACK-TO-BACK CONFIGURATION												
Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁵		Eliminaator 2 ⁵		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4-door	4.26	512	3.48	418	2.42	290	4.24	508	2.76	332	2.34	280
6-door	6.30	756	5.16	618	3.56	426	6.30	756	4.10	492	3.46	414
8-door	8.36	1004	6.72	806	4.60	552	8.36	1002	5.42	650	4.56	546
10-door	10.42	1250	8.44	1012	5.78	692	10.54	1264	6.86	824	5.78	694
12-door	12.38	1486	10.12	1214	6.94	832	12.46	1494	8.06	966	6.76	810

SINGLE-SIDE DATA												
2-door	2.13	256	1.74	209	1.21	145	2.12	254	1.38	166	1.17	140
3-door	3.15	378	2.58	309	1.78	213	3.15	378	2.05	246	1.73	207
4-door	4.18	502	3.36	403	2.30	276	4.18	501	2.71	325	2.28	273
5-door	5.21	625	4.22	506	2.89	346	5.27	632	3.43	412	2.89	347
6-door	6.19	743	5.06	607	3.47	416	6.23	747	4.03	483	3.38	405

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	891	866	-11	3 - 5	-3	460
	Eliminaator/2; Polar LE/EF	855	831	-11	3 - 5	-3	460
Ice Cream	ELMD/Polar RE	928	902	-17	3 - 5	-8	460
	Eliminaator/2; Polar LE/EF	873	848	-17	3 - 5	-8	460

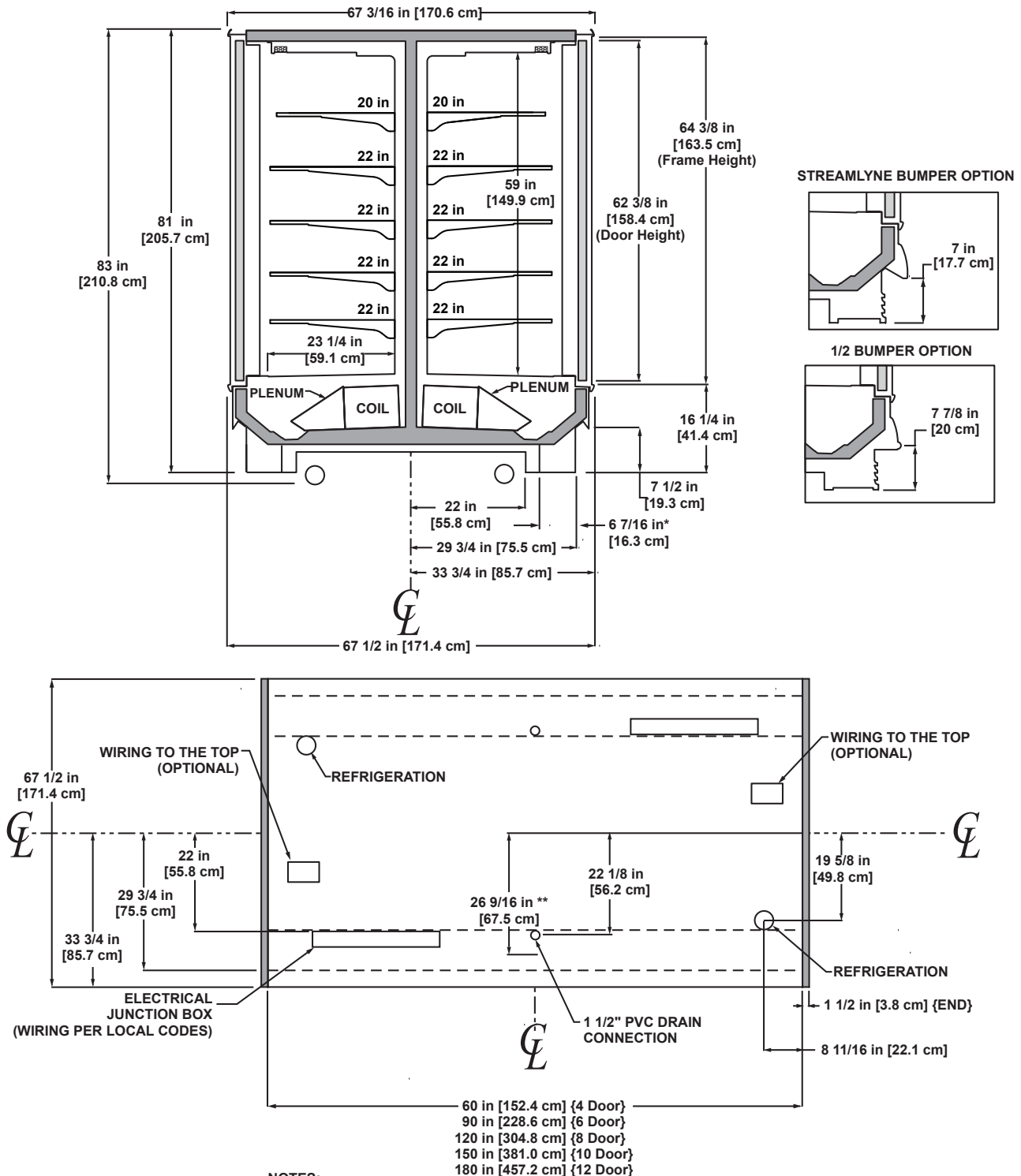
Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	- - - ⁸	- - -	24	73 ⁹	- - -	- - -

- For back-to-back configurations, customers are required to install separate current-limiting devices for each side of the case per the amperages listed. (Current-limiting devices are available for purchase through Hill PHOENIX)
- 3-phase load is unbalanced.
- Figure given is maximum line amperage per phase.
- Low-power lights. High-power option available.
- Values provided are for doors with no heat on the glass.
- Average discharge air velocity at peak of defrost.
- The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- NOTE: "- - -" indicates that feature is not an option on this case model.
- The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

ONRIZ Narrow Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- SUCTION LINE (2DR & 3DR) 5/8", SUCTION LINE (4DR, 5DR & 6DR) 7/8"
- LIQUID LINE (ALL LENGTHS) - 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) - 1/2"
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20" & 22"; SOLID SHELVES 18", 20" & 22"
- TOP SHELF MUST BE 20" OR SHORTER
- RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONRIZH High Narrow Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Electrical Data

BACK-TO-BACK CONFIGURATION ¹											
Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ² (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ³	Watts	Amps ³	Watts
4-door	4	0.61	37	21.98	4572	25.32	6076	15.22	4572	17.52	6076
6-door	6	0.92	55	24.81	5160	28.54	6850	17.18	5160	19.76	6850
8-door	8	1.22	74	32.58	6776	37.78	9066	22.56	6776	26.16	9066
10-door	10	1.53	92	39.79	8276	45.86	11006	27.56	8276	31.76	11006
12-door	12	1.84	110	46.18	9605	53.29	12790	32.56	9605	36.92	12790

SINGLE-SIDE											
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

BACK-TO-BACK CONFIGURATION						
Doors	LED Lighting					
	Optimax Pro ⁴		GE IMMERSION		Crossfire ⁴ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
4-door	0.65	78	0.53	64	0.50	60
6-door	0.97	116	0.80	96	0.75	90
8-door	1.28	154	1.07	128	1.00	120
10-door	1.60	192	1.33	160	1.25	150
12-door	1.92	230	1.60	192	1.50	180

SINGLE-SIDE DATA						
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

ONRIZH High Narrow Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Anti-Condensate Heater Data

BACK-TO-BACK CONFIGURATION												
Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁵		Eliminaator 2 ⁵		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4-door	4.42	530	3.58	428	2.48	298	4.22	506	2.86	342	2.38	286
6-door	6.52	782	5.26	630	3.62	434	6.32	758	4.26	512	3.56	428
8-door	8.66	1040	6.92	830	4.74	568	8.42	1010	5.68	682	4.76	570
10-door	10.78	1294	8.70	1044	5.96	716	10.62	1274	7.06	848	5.90	708
12-door	12.78	1534	10.40	1248	7.12	854	12.58	1510	8.48	1018	7.08	850
SINGLE-SIDE DATA												
2-door	2.21	265	1.79	214	1.24	149	2.11	253	1.43	171	1.19	143
3-door	3.26	391	2.63	315	1.81	217	3.16	379	2.13	256	1.78	214
4-door	4.33	520	3.46	415	2.37	284	4.21	505	2.84	341	2.38	285
5-door	5.39	647	4.35	522	2.98	358	5.31	637	3.53	424	2.95	354
6-door	6.39	767	5.20	624	3.56	427	6.29	755	4.24	509	3.54	425

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	891	866	-11	3 - 5	-3	460
	Eliminaator/2; Polar LE/EF	855	831	-11	3 - 5	-3	460
Ice Cream	ELMD/Polar RE	928	902	-17	3 - 5	-8	460
	Eliminaator/2; Polar LE/EF	873	848	-17	3 - 5	-8	460

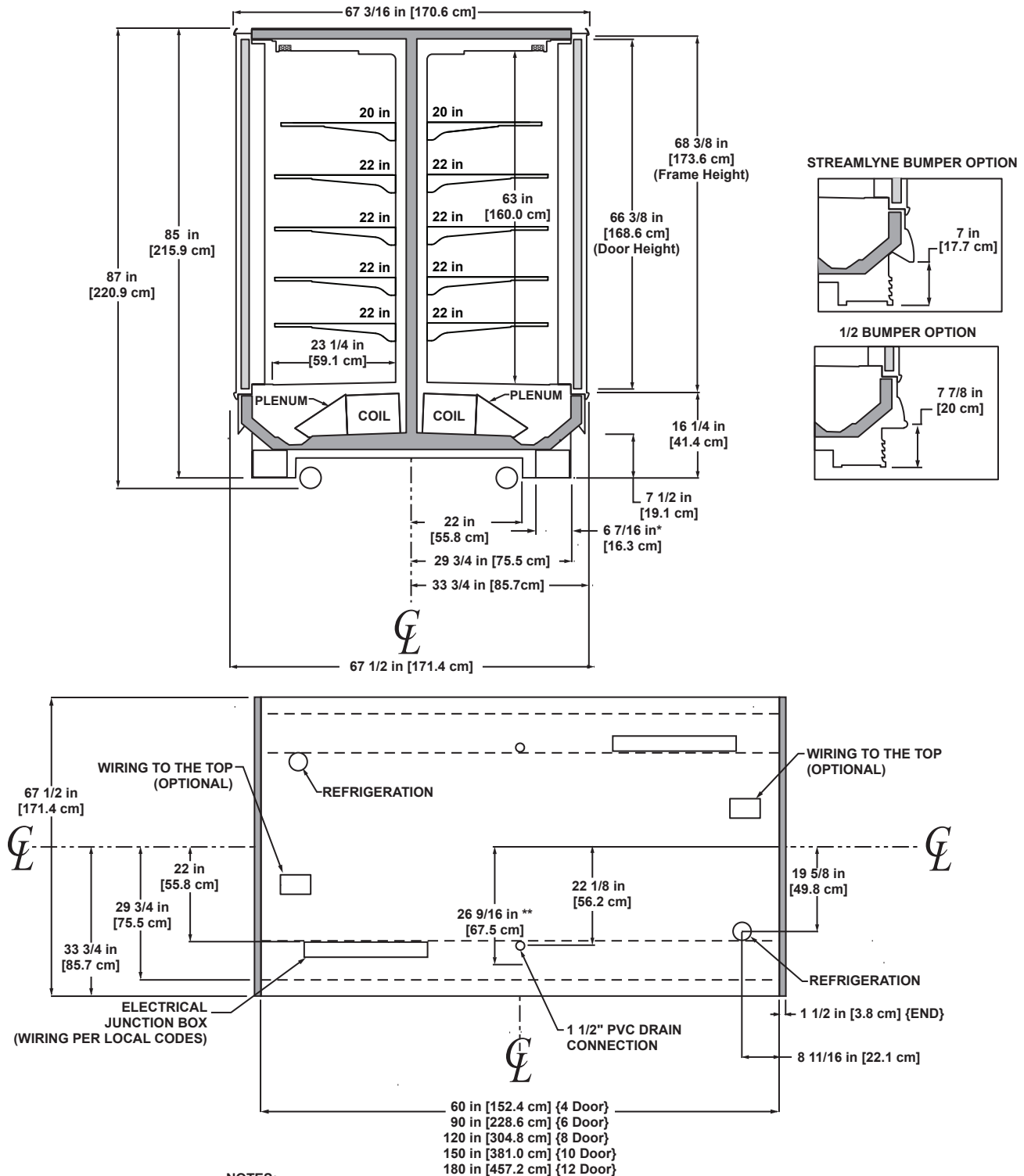
Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	---	---	24	73 ⁹	---	---

- For back-to-back configurations, customers are required to install separate current-limiting devices for each side of the case per the amperages listed. (Current-limiting devices are available for purchase through Hill PHOENIX)
- 3-phase load is unbalanced.
- Figure given is maximum line amperage per phase.
- Low-power lights. High-power option available.
- Values provided are for doors with no heat on the glass.
- Average discharge air velocity at peak of defrost.
- The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- NOTE: " - - " indicates that feature is not an option on this case model.
- The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

ONRIZH High Narrow Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)



ORIZ Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Electrical Data

BACK-TO-BACK CONFIGURATION ¹											
Doors	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ² (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ³	Watts	Amps ³	Watts
4-door	4	0.61	37	21.98	4572	25.32	6076	15.22	4572	17.52	6076
6-door	6	0.92	55	24.81	5160	28.54	6850	17.18	5160	19.76	6850
8-door	8	1.22	74	32.58	6776	37.78	9066	22.56	6776	26.16	9066
10-door	10	1.53	92	39.79	8276	45.86	11006	27.56	8276	31.76	11006
12-door	12	1.84	110	46.18	9605	53.29	12790	32.56	9605	36.92	12790

SINGLE-SIDE DATA											
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

BACK-TO-BACK CONFIGURATION						
Doors	LED Lighting					
	Optimax Pro ⁴		GE IMMERSION		Crossfire ⁴ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
4-door	0.65	78	0.53	64	0.50	60
6-door	0.97	116	0.80	96	0.75	90
8-door	1.28	154	1.07	128	1.00	120
10-door	1.60	192	1.33	160	1.25	150
12-door	1.92	230	1.60	192	1.50	180

SINGLE-SIDE DATA						
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

ORIZ Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Anti-Condensate Heater Data

BACK-TO-BACK CONFIGURATION												
Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁵		Eliminaator 2 ⁵		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4-door	4.26	512	3.48	418	2.42	290	4.24	508	2.76	332	2.34	280
6-door	6.30	756	5.16	618	3.56	426	6.30	756	4.10	492	3.46	414
8-door	8.36	1004	6.72	806	4.60	552	8.36	1002	5.42	650	4.56	546
10-door	10.42	1250	8.44	1012	5.78	692	10.54	1264	6.86	824	5.78	694
12-door	12.38	1486	10.12	1214	6.94	832	12.46	1494	8.06	966	6.76	810

SINGLE-SIDE DATA												
2-door	2.13	256	1.74	209	1.21	145	2.12	254	1.38	166	1.17	140
3-door	3.15	378	2.58	309	1.78	213	3.15	378	2.05	246	1.73	207
4-door	4.18	502	3.36	403	2.30	276	4.18	501	2.71	325	2.28	273
5-door	5.21	625	4.22	506	2.89	346	5.27	632	3.43	412	2.89	347
6-door	6.19	743	5.06	607	3.47	416	6.23	747	4.03	483	3.38	405

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	891	866	-11	3 - 5	-3	460
	Eliminaator/2; Polar LE/EF	855	831	-11	3 - 5	-3	460
Ice Cream	ELMD/Polar RE	928	902	-17	3 - 5	-8	460
	Eliminaator/2; Polar LE/EF	873	848	-17	3 - 5	-8	460

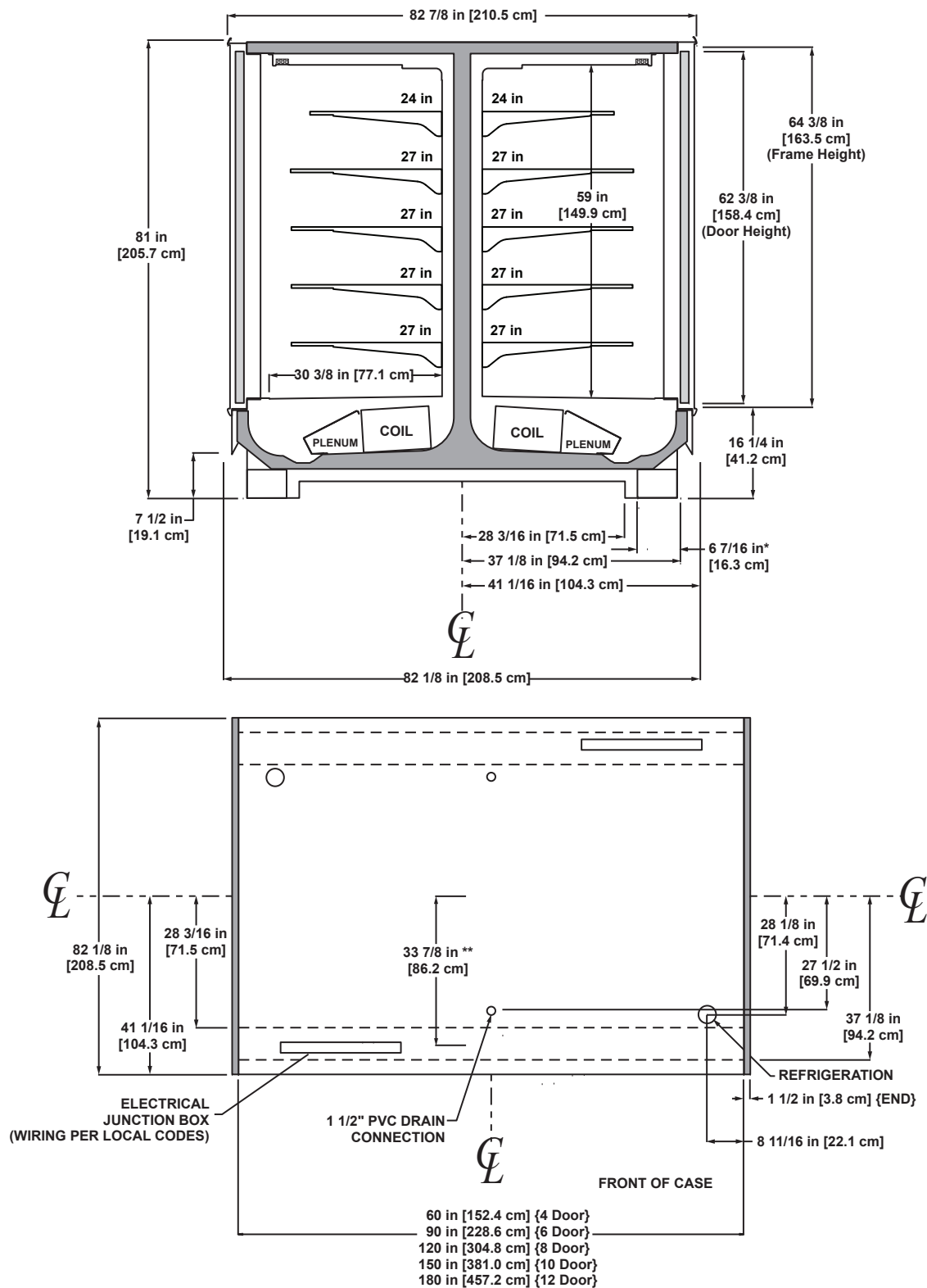
Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	---	---	24	73 ⁹	---	---

- For back-to-back configurations, customers are required to install separate current-limiting devices for each side of the case per the amperages listed. (Current-limiting devices are available for purchase through Hill PHOENIX)
- 3-phase load is unbalanced.
- Figure given is maximum line amperage per phase.
- Low-power lights. High-power option available.
- Values provided are for doors with no heat on the glass.
- Average discharge air velocity at peak of defrost.
- The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- NOTE: " - " indicates that feature is not an option on this case model.
- The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

ORIZ Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ORIZH High Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Electrical Data

BACK-TO-BACK CONFIGURATION ¹											
	Fans Per Case	High Efficiency Fans		Defrost Heaters (1-Phase)				Defrost Heaters ² (3-Phase)			
		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps ³	Watts	Amps ³	Watts
4-door	4	0.61	37	21.98	4572	25.32	6076	15.22	4572	17.52	6076
6-door	6	0.92	55	24.81	5160	28.54	6850	17.18	5160	19.76	6850
8-door	8	1.22	74	32.58	6776	37.78	9066	22.56	6776	26.16	9066
10-door	10	1.53	92	39.79	8276	45.86	11006	27.56	8276	31.76	11006
12-door	12	1.84	110	46.18	9605	53.29	12790	32.56	9605	36.92	12790
SINGLE-SIDE DATA											
2-door	2	0.31	18	10.99	2286	12.66	3038	7.61	2286	8.76	3038
3-door	3	0.46	28	12.40	2580	14.27	3425	8.59	2580	9.88	3425
4-door	4	0.61	37	16.29	3388	18.89	4533	11.28	3388	13.08	4533
5-door	5	0.77	46	19.89	4138	22.93	5503	13.78	4138	15.88	5503
6-door	6	0.92	55	23.09	4803	26.65	6395	16.28	4803	18.46	6395

Lighting Data

BACK-TO-BACK CONFIGURATION						
Doors	LED Lighting					
	Optimax Pro ⁴		GE IMMERSION		Crossfire ⁴ /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
4-door	0.65	78	0.53	64	0.50	60
6-door	0.97	116	0.80	96	0.75	90
8-door	1.28	154	1.07	128	1.00	120
10-door	1.60	192	1.33	160	1.25	150
12-door	1.92	230	1.60	192	1.50	180
SINGLE-SIDE DATA						
2-door	0.33	39	0.27	32	0.25	30
3-door	0.48	58	0.40	48	0.38	45
4-door	0.64	77	0.53	64	0.50	60
5-door	0.80	96	0.67	80	0.63	75
6-door	0.96	115	0.80	96	0.75	90

ORIZH High Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)

Anti-Condensate Heater Data

BACK-TO-BACK CONFIGURATION												
Doors	Anthony						Gemtron					
	ELMD		Eliminaator ⁵		Eliminaator 2 ⁵		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4-door	4.42	530	3.58	428	2.48	298	4.22	506	2.86	342	2.38	286
6-door	6.52	782	5.26	630	3.62	434	6.32	758	4.26	512	3.56	428
8-door	8.66	1040	6.92	830	4.74	568	8.42	1010	5.68	682	4.76	570
10-door	10.78	1294	8.70	1044	5.96	716	10.62	1274	7.06	848	5.90	708
12-door	12.78	1534	10.40	1248	7.12	854	12.58	1510	8.48	1018	7.08	850
SINGLE-SIDE DATA												
2-door	2.21	265	1.79	214	1.24	149	2.11	253	1.43	171	1.19	143
3-door	3.26	391	2.63	315	1.81	217	3.16	379	2.13	256	1.78	214
4-door	4.33	520	3.46	415	2.37	284	4.21	505	2.84	341	2.38	285
5-door	5.39	647	4.35	522	2.98	358	5.31	637	3.53	424	2.95	354
6-door	6.39	767	5.20	624	3.56	427	6.29	755	4.24	509	3.54	425

Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	891	866	-11	3 - 5	-3	460
	Eliminaator/2; Polar LE/EF	855	831	-11	3 - 5	-3	460
Ice Cream	ELMD/Polar RE	928	902	-17	3 - 5	-8	460
	Eliminaator/2; Polar LE/EF	873	848	-17	3 - 5	-8	460

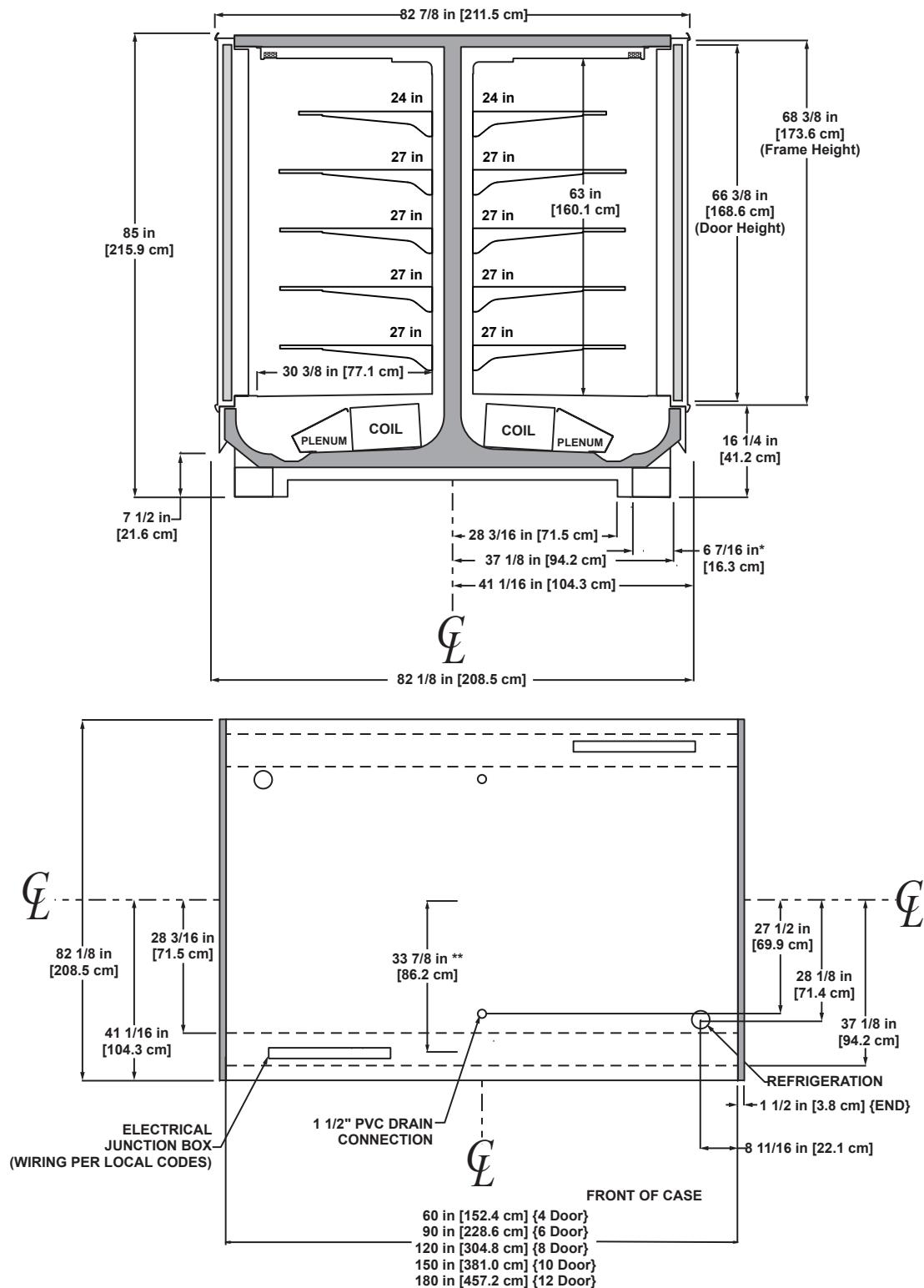
Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	73 ⁷	---	---	24	73 ⁹	---	---

- For back-to-back configurations, customers are required to install separate current-limiting devices for each side of the case per the amperages listed. (Current-limiting devices are available for purchase through Hill PHOENIX)
- 3-phase load is unbalanced.
- Figure given is maximum line amperage per phase.
- Low-power lights. High-power option available.
- Values provided are for doors with no heat on the glass.
- Average discharge air velocity at peak of defrost.
- The recommended location is in the center of the coil on the second pass. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.
- NOTE: " - - " indicates that feature is not an option on this case model.
- The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

ORIZH High Back-to-Back Reach-In Glass Door Merchandiser

4, 6, 8, 10 & 12-door (Frozen Food / Ice Cream)



NOTES:

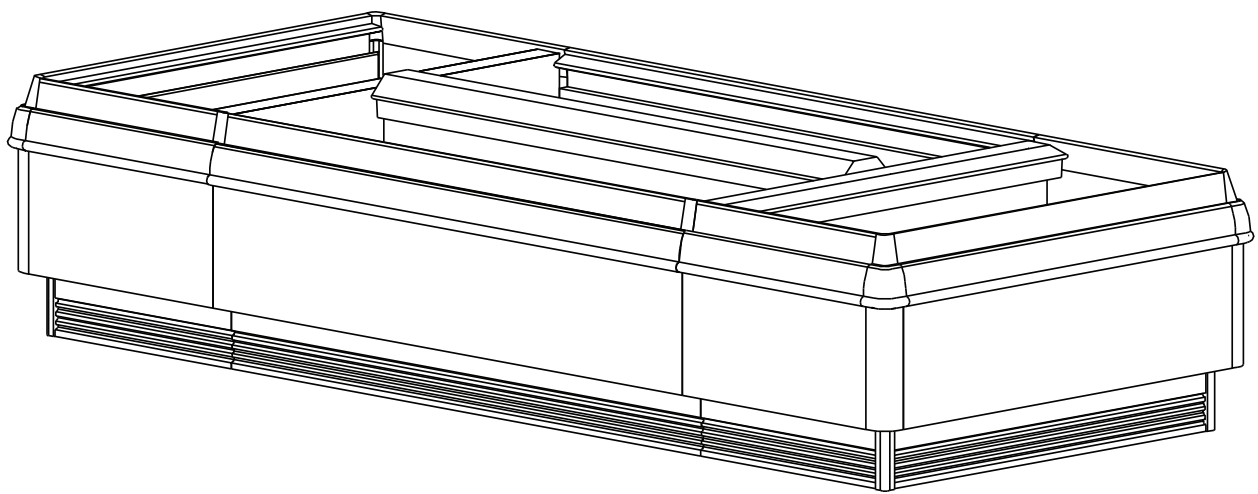
* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES
- RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



SINGLE DECK ISLAND



NOTES

- **Cases shown with an ANSI/NSF* mark are listed by NSF.**
- **Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.**
- **Allow for an extra 1/8" per joint when lining up merchandisers.**
- **Technical information contained herein is subject to change without notice.**

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

Electrical Data

Case Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIM	8'	6	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	1.20	88	1.08	130	7.22	1502	8.33	2000
ONIMB	8'	6	0.90	66	0.75	90	4.34	902	5.00	1200
	12'	8	1.20	88	1.17	140	7.22	1502	8.33	2000

Lighting Data

Case Model	Shelf Depth	Case Length	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
					120 Volts		120 Volts	
					Amps	Watts	Amps	Watts
ONIM	Super Structure	8'	2	2 (3ft)	0.14	16.6	0.25	29.8
		12'	4	2 (3ft), 2 (4ft)	0.34	40.4	0.61	72.8
ONIMB	Super Structure	8'	2	2 (5ft)	0.24	28.6	0.44	52.6
		12'	4	2 (4ft), 2 (5ft)	0.44	52.4	0.80	95.6

Guidelines & Control Settings

Application ¹	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Meat	886	821	6-8	12	25	180
Deli	859	796	6-8	17	28	180

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6-8	35	47	45	47	26	45	---	---

1 For "Meat" application, add 400 BTUH for each wraparound end; for "Deli" application, add 250 BTUH for each wraparound end.

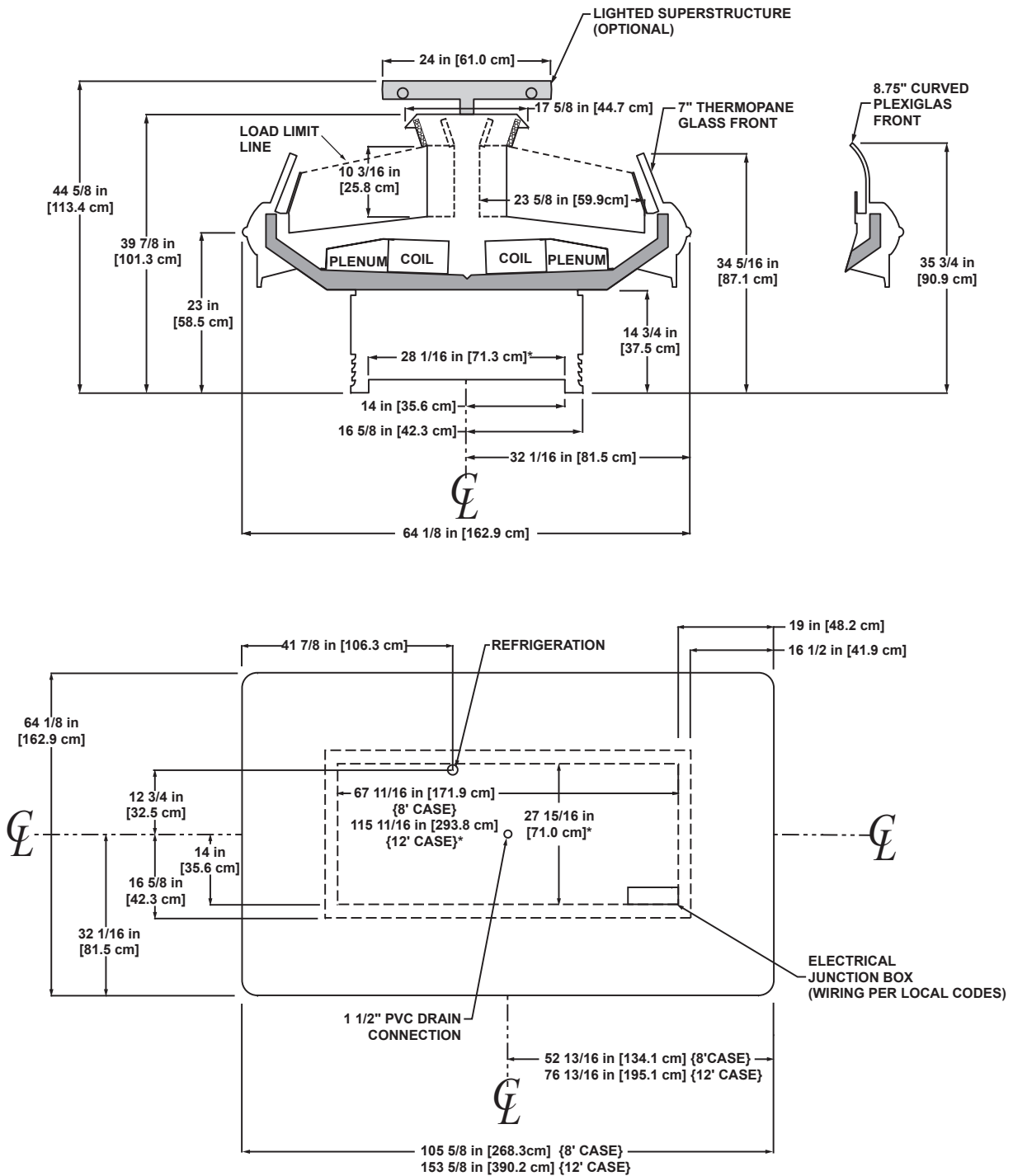
2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length °F the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length °F the case.

3 Average discharge air velocity at peak °F defrost.

4 NOTE: " - - " indicates that feature is not an option on this case model.

ONIM

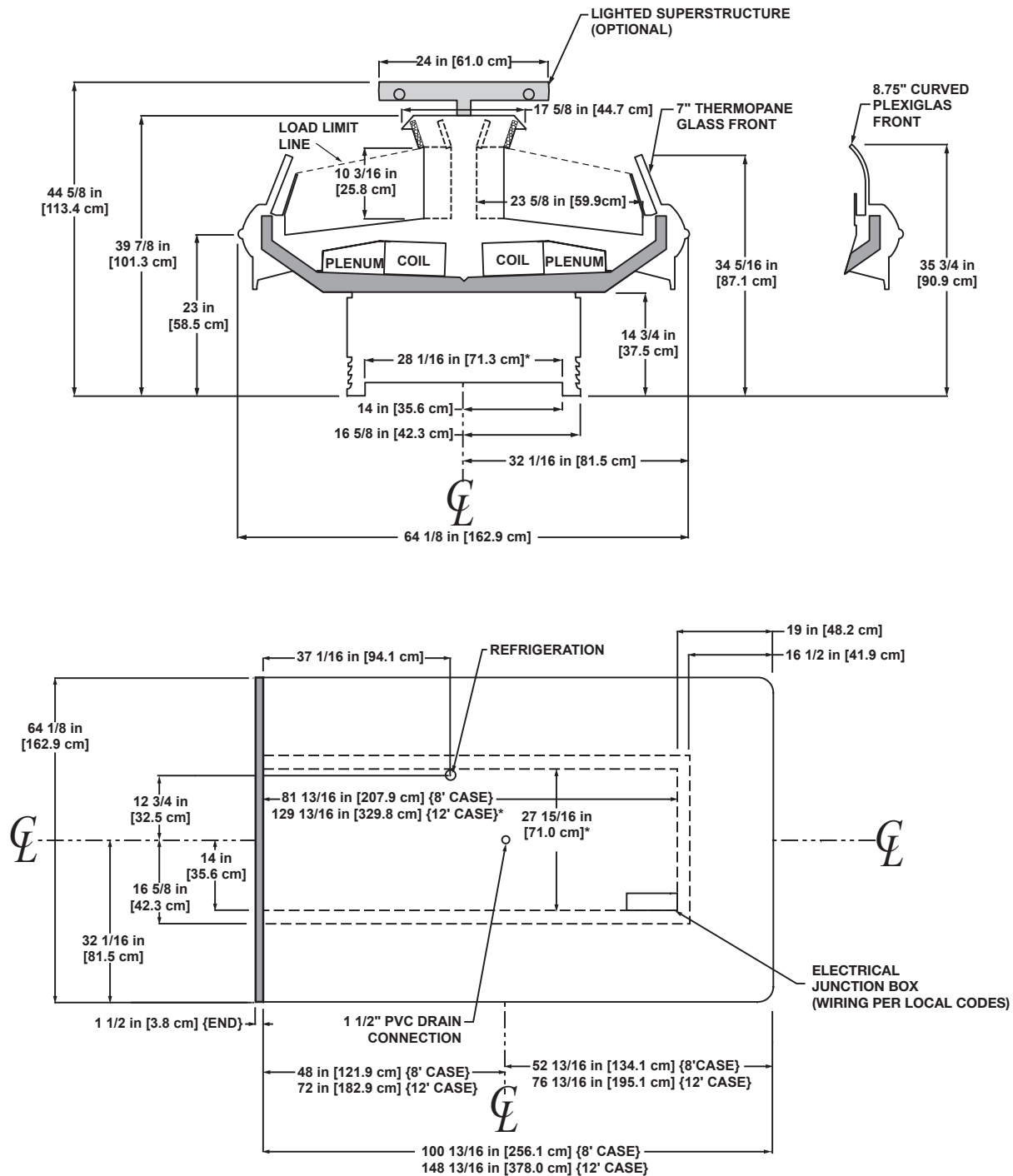


NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

ONIMB



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

Wide Single-Deck Island Merchandiser

OIM: 8' & 12' (Deli / Meat) Double Wrap-Around Ends

OIMB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End

OIMBB: 8' & 12' (Deli / Meat) Double Joint Ends

Electrical Data

Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIM	8'	6	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	1.20	88	1.08	130	7.22	1502	8.33	2000
OIMB	6'	4	0.60	44	0.57	68	3.25	676	3.75	900
	8'	6	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	1.20	88	1.08	130	7.22	1502	8.33	2000
OIMBB	8'	6	0.90	66	0.75	90	4.34	902	5.00	1200
	12'	8	1.20	88	1.17	140	7.22	1502	8.33	2000

Lighting Data

Model	Case Length	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
					120 Volts		120 Volts	
					Amps	Watts	Amps	Watts
OIM	8'	Super Structure	2	2 (3ft)	0.14	16.6	0.25	29.8
	12'		4	2 (3ft), 2 (4ft)	0.34	40.4	0.61	72.8
OIM-B	8'	Super Structure	2	2 (5ft)	0.24	28.6	0.44	52.6
	12'		4	2 (4ft), 2 (5ft)	0.44	52.4	0.80	95.6
OIM-BB	8'	Super Structure	4	4 (4ft)	0.40	47.6	0.72	86.0
	12'		6	6 (4ft)	0.60	71.4	1.08	129.0

Guidelines & Control Settings

Application ¹	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Meat	762	706	6-8	12	26	140
Deli	535	496	6-8	17	28	140

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6-8	40	47	45	47	26	45	---	---

1 For "Meat" application, add 400 BTUH for each wraparound end; for "Deli" application, add 250 BTUH for each wraparound end.

2 BTUH/ft notes:

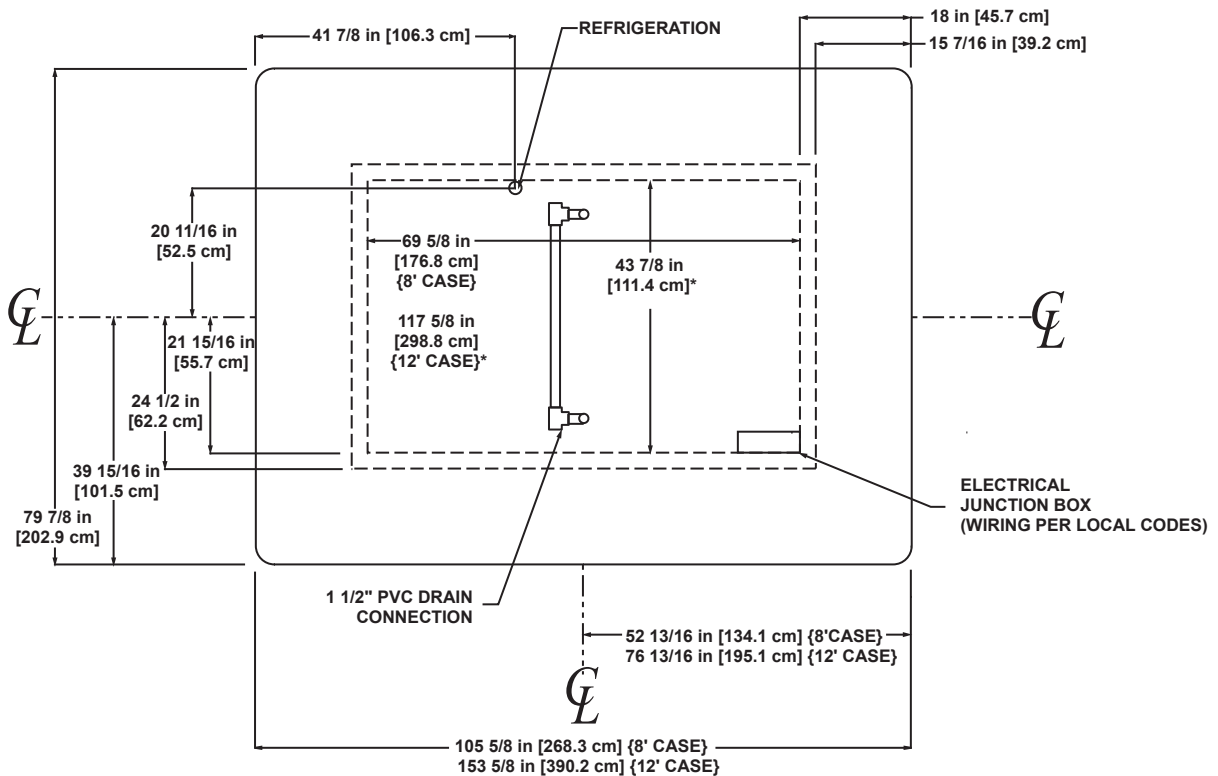
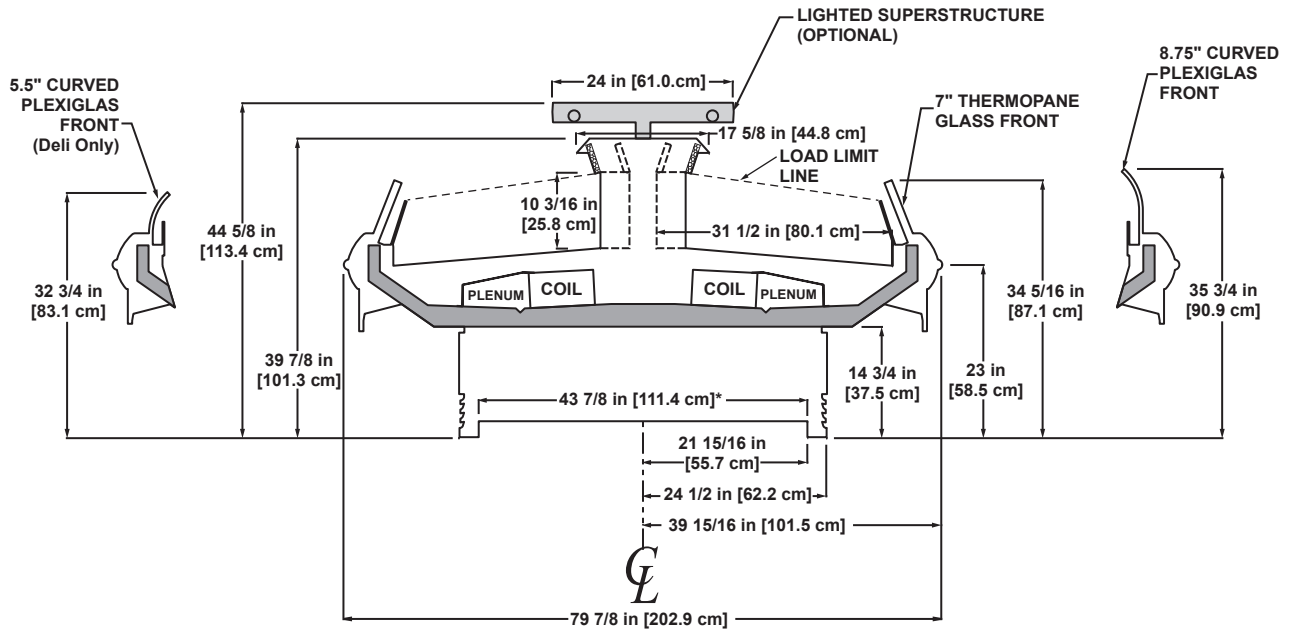
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length °F the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length °F the case.

3 Average discharge air velocity at peak °F defrost.

4 NOTE: " - - " indicates that feature is not an option on this case model.

Wide Single-Deck Island Merchandiser
OIM: 8' & 12' (Deli / Meat) Double Wrap-Around Ends
OIMB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End
OIMBB: 8' & 12' (Deli / Meat) Double Joint Ends

OIM



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



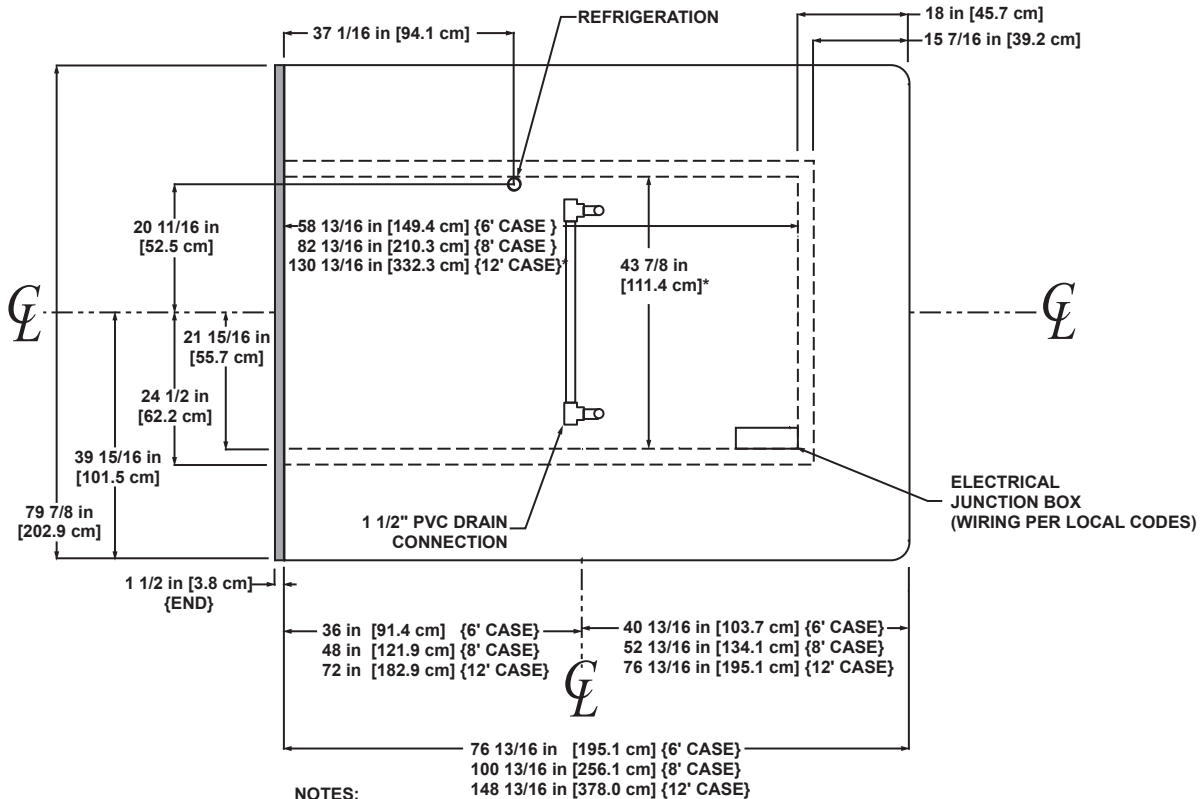
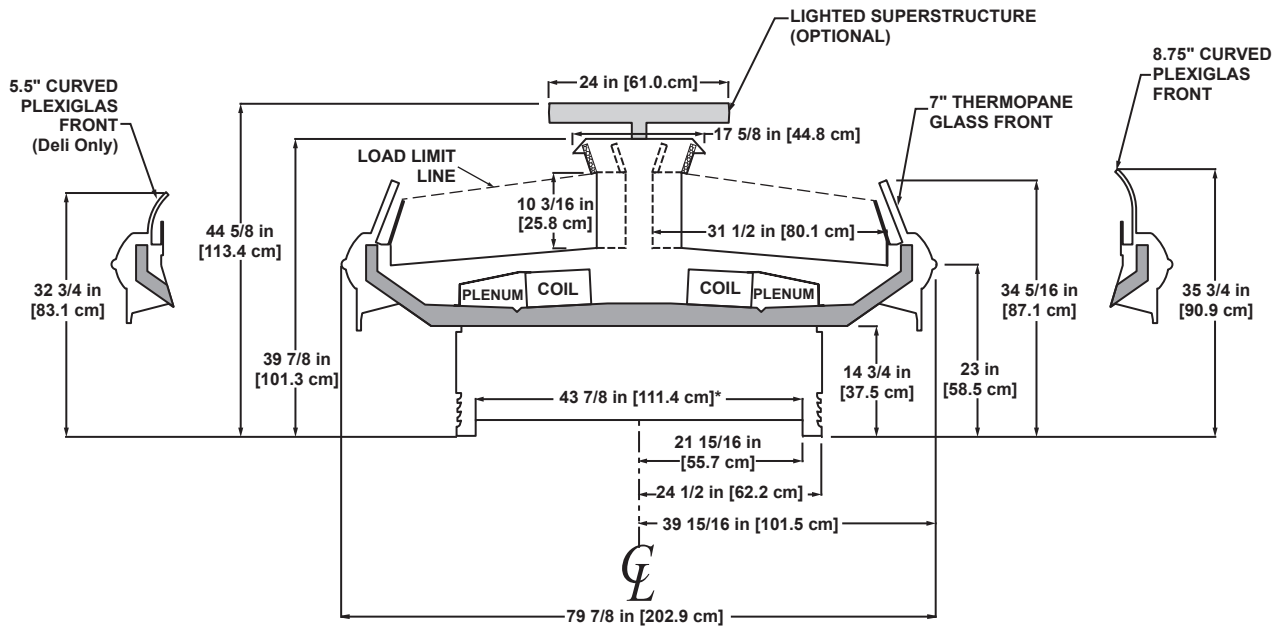
Wide Single-Deck Island Merchandiser

OIM: 8' & 12' (Deli / Meat) Double Wrap-Around Ends

OIMB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End

OIMBB: 8' & 12' (Deli / Meat) Double Joint Ends

OIMB

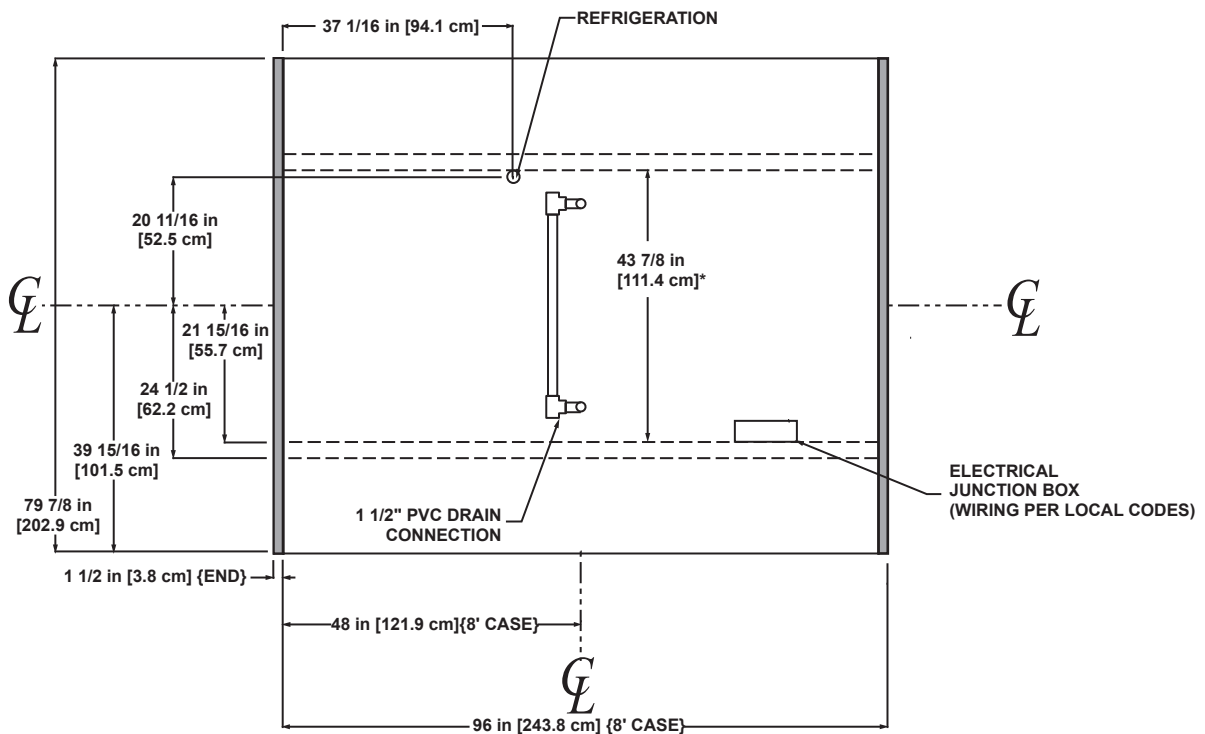
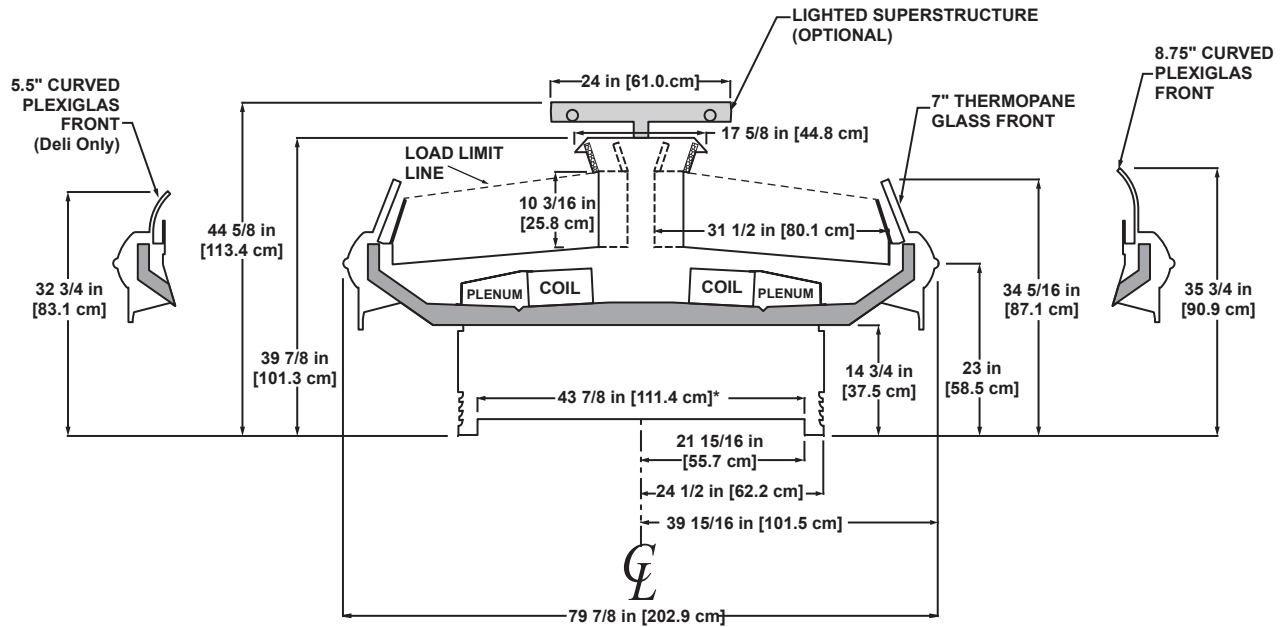


NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OIMBB



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

Narrow Single-Deck Island Merchandiser

ONIP: 8' & 12' (Bulk Produce) Narrow Double Wrap-Around Ends

ONIPB: 6', 8', 10' & 12' (Bulk Produce) Narrow Single Wrap-Around End

ONIPBB: 8' & 12' (Bulk Produce) Narrow Double Joint Ends

Electrical Data

Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIP	8'	6	0.90	66	0.23	28	---	---	---	---
	12'	8	1.20	88	0.55	66	---	---	---	---
ONIPB	6'	4	0.60	44	0.31	37	---	---	---	---
	8'	6	0.90	66	0.46	55	---	---	---	---
	10'	6	0.90	66	0.66	79	---	---	---	---
	12'	8	1.20	88	0.78	94	---	---	---	---
ONIPBB	8'	6	0.90	66	0.84	101	---	---	---	---
	12'	8	1.20	88	1.26	151	---	---	---	---

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
631	586	6-8	22	34	140

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6-8	---	---	44	38	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- For ONIP, add 600 BTUH for each wraparound end.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak °F defrost.

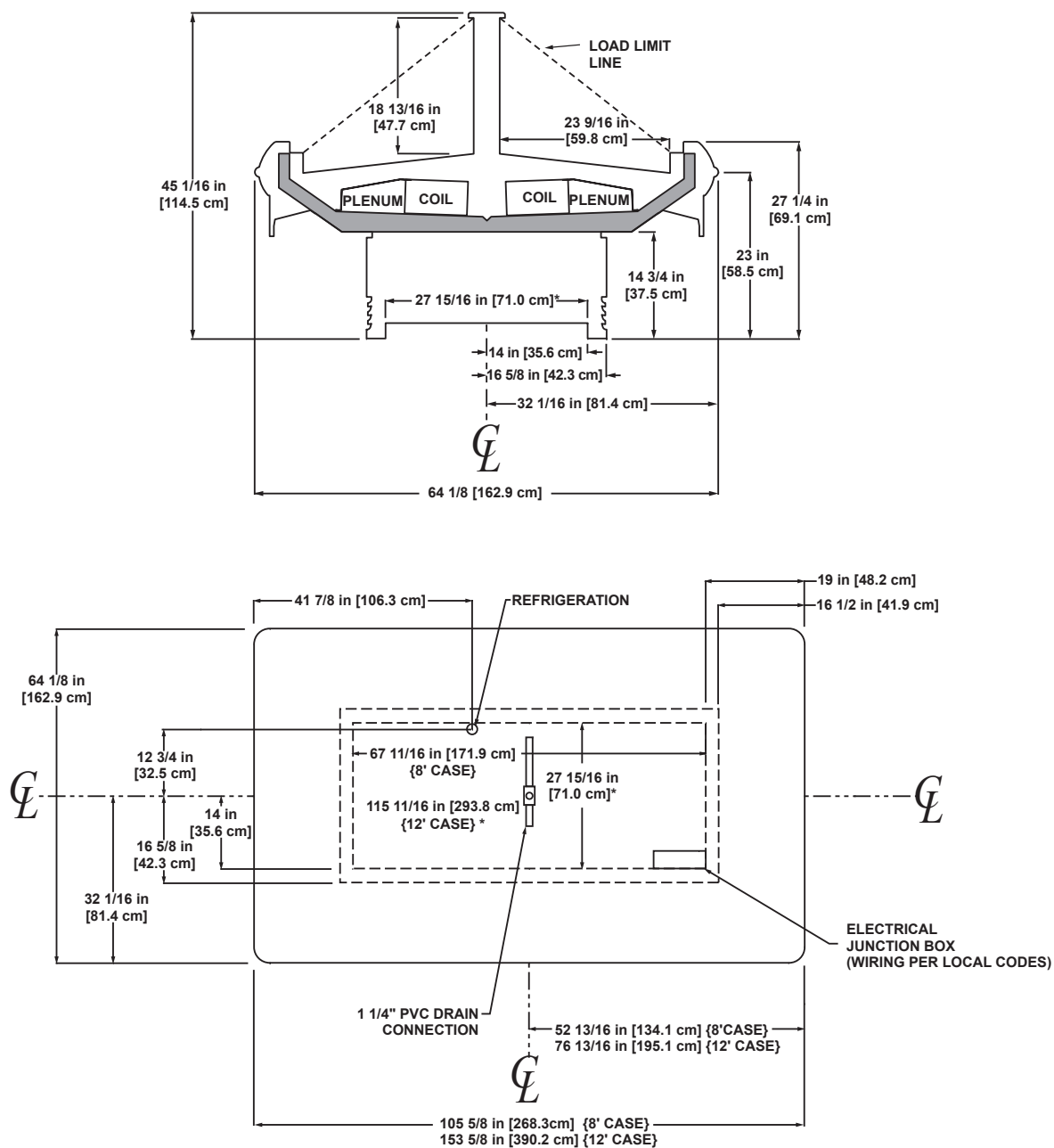
Narrow Single-Deck Island Merchandiser

ONIP: 8' & 12' (Bulk Produce) Narrow Double Wrap-Around Ends

ONIPB: 6', 8', 10' & 12' (Bulk Produce) Narrow Single Wrap-Around End

ONIPBB: 8' & 12' (Bulk Produce) Narrow Double Joint Ends

ONIP



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 1/2"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

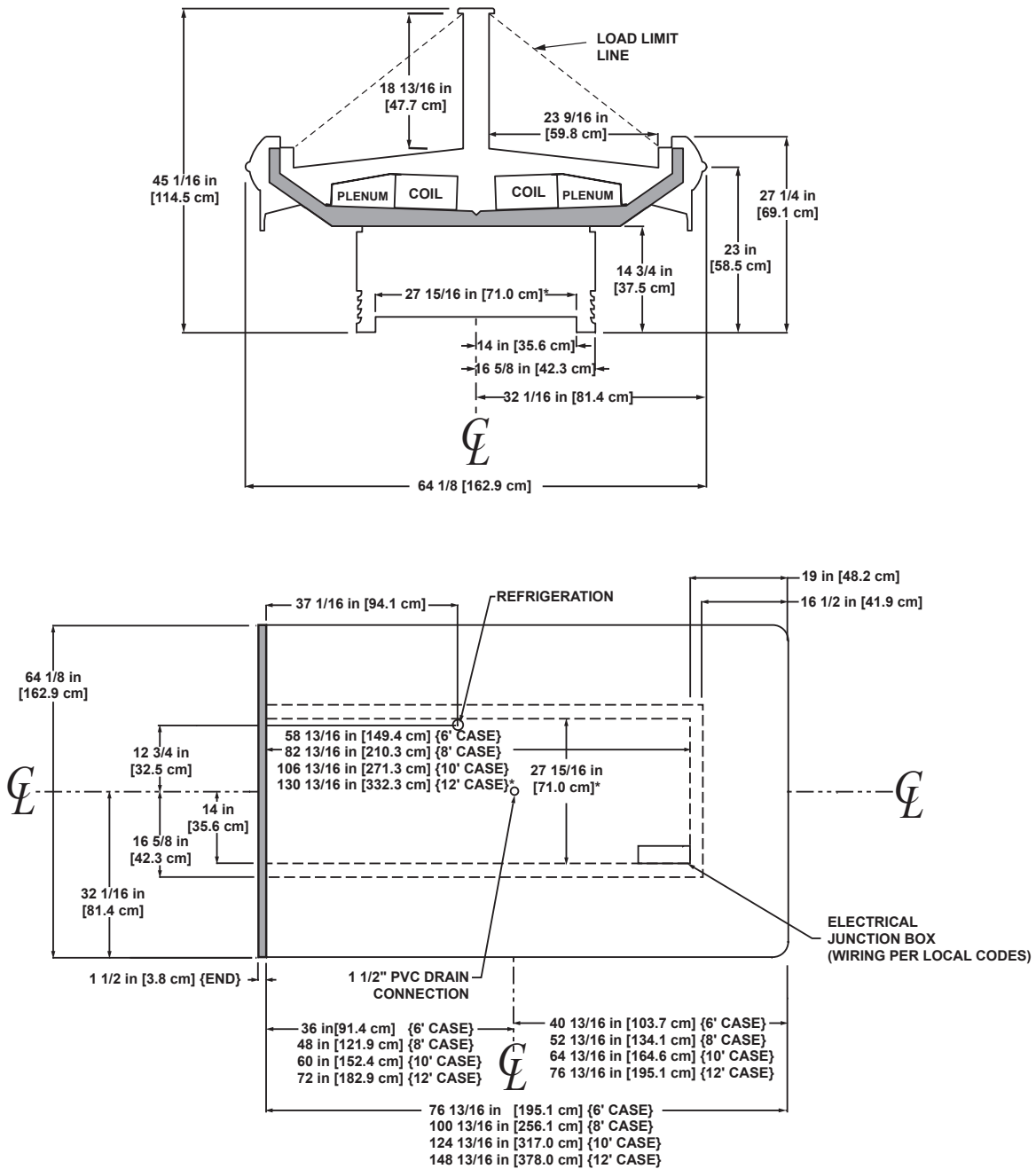
Narrow Single-Deck Island Merchandiser

ONIP: 8' & 12' (Bulk Produce) Narrow Double Wrap-Around Ends

ONIPB: 6', 8', 10' & 12' (Bulk Produce) Narrow Single Wrap-Around End

ONIPBB: 8' & 12' (Bulk Produce) Narrow Double Joint Ends

ONIPB



NOTES:

* STUB-UP AREA

• SUCTION LINE - 7/8", LIQUID LINE - 3/8"

• DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

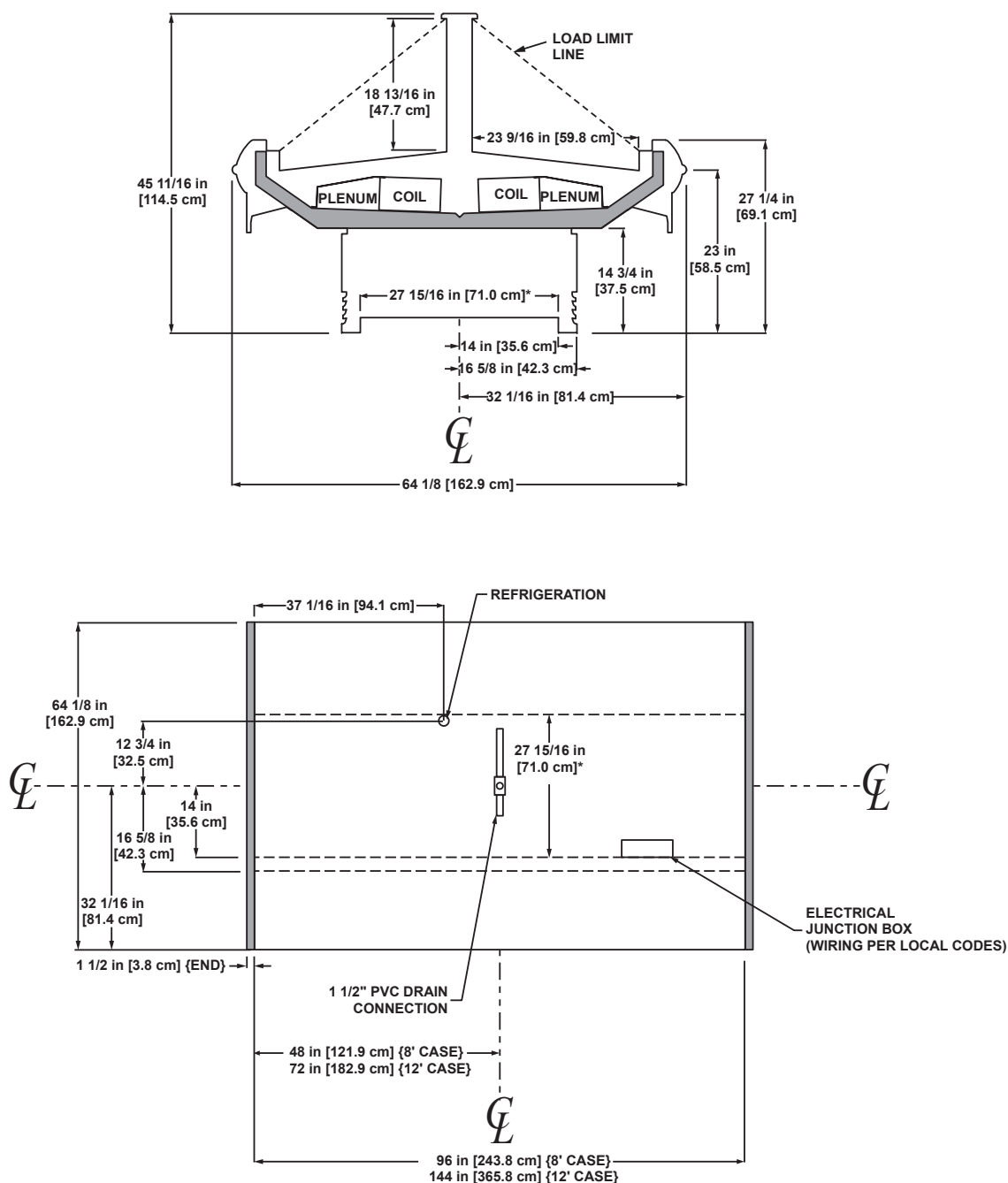
Narrow Single-Deck Island Merchandiser

ONIP: 8' & 12' (Bulk Produce) Narrow Double Wrap-Around Ends

ONIPB: 6', 8', 10' & 12' (Bulk Produce) Narrow Single Wrap-Around End

ONIPBB: 8' & 12' (Bulk Produce) Narrow Double Joint Ends

ONIPBB



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

Wide Single-Deck Island Merchandiser

OIP: 8' & 12' (Bulk Produce) Wide Double Wrap-Around Ends

OIPB: 6', 8', 10' & 12' (Bulk Produce) Wide Single Wrap-Around End

OIPBB: 8' & 12' (Bulk Produce) Wide Double Joint Ends

Electrical Data

Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIP	8'	6	0.90	66	0.23	28	---	---	---	---
	12'	8	1.20	88	0.55	66	---	---	---	---
OIPB	6'	4	0.60	44	0.31	37	---	---	---	---
	8'	4	0.90	66	0.46	55	---	---	---	---
	10'	6	0.90	66	0.66	79	---	---	---	---
	12'	8	1.20	88	0.78	94	---	---	---	---
OIPBB	8'	6	0.90	66	0.84	101	---	---	---	---
	12'	8	1.20	88	1.26	151	---	---	---	---

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
631	586	6-8	22	34	140

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6-8	---	---	44	38	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 BTUH/ft notes:

- For ONIP, add 600 BTUH for each wraparound end.
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak °F defrost.

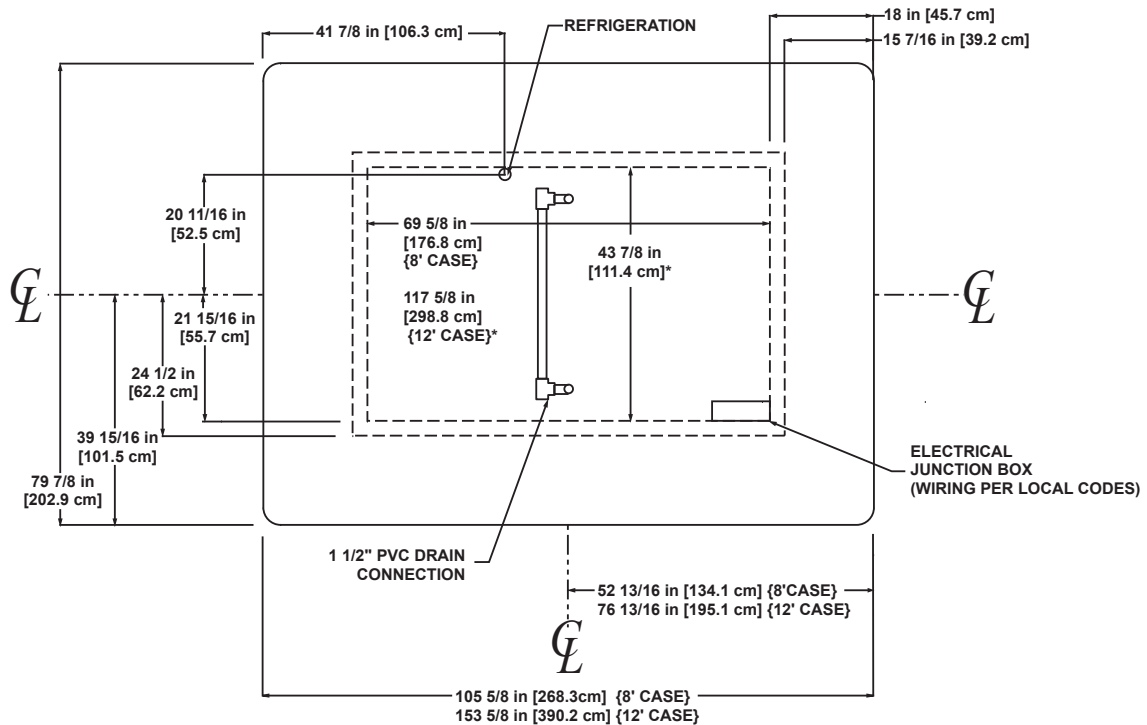
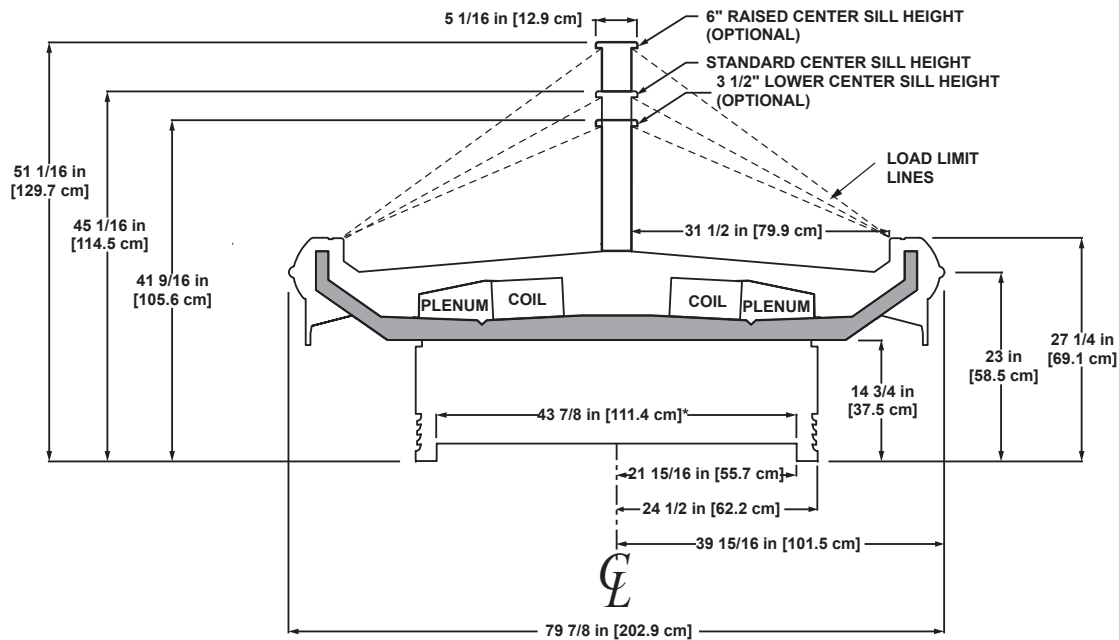
Wide Single-Deck Island Merchandiser

OIP: 8' & 12' (Bulk Produce) Wide Double Wrap-Around Ends

OIPB: 6', 8', 10' & 12' (Bulk Produce) Wide Single Wrap-Around End

OIPBB: 8' & 12' (Bulk Produce) Wide Double Joint Ends

OIP



NOTES:

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



Top View Dimensions:

- Overall width: 79 7/8 in [202.9 cm]
- Overall height: 51 1/16 in [129.7 cm]
- Center sill height (optional): 6" [15.2 cm]
- Standard center sill height: 3 1/2" [8.9 cm]
- Lower center sill height (optional): 3 1/2" [8.9 cm]
- Load limit lines: 31 1/2 in [79.9 cm]
- Plenum width: 14 3/4 in [37.5 cm]
- Coil width: 43 7/8 in [111.4 cm]*
- Refrigeration height: 21 15/16 in [55.7 cm]
- Electrical junction box height: 24 1/2 in [62.2 cm]
- Overall height to top of unit: 27 1/4 in [69.1 cm]
- Height to bottom of unit: 23 in [58.5 cm]

Side View Dimensions:

- Overall width: 76 13/16 in [195.1 cm] {6' CASE}
- Overall width: 100 13/16 in [256.1 cm] {8' CASE}
- Overall width: 124 13/16 in [317.0 cm] {10' CASE}
- Overall width: 148 13/16 in [378.0 cm] {12' CASE}
- Refrigeration height: 43 7/8 in [111.4 cm]*
- Electrical junction box height: 18 in [45.7 cm]
- Electrical junction box height: 15 7/16 in [39.2 cm]
- Refrigeration height: 58 13/16 in [149.4 cm] {6' CASE}
- Refrigeration height: 82 13/16 in [210.3 cm] {8' CASE}
- Refrigeration height: 106 13/16 in [271.3 cm] {10' CASE}
- Refrigeration height: 130 13/16 in [332.3 cm] {12' CASE}
- Refrigeration height: 21 15/16 in [55.7 cm]
- Refrigeration height: 24 1/2 in [62.2 cm]
- Refrigeration height: 39 15/16 in [101.5 cm]
- Refrigeration height: 79 7/8 in [202.9 cm]
- Refrigeration height: 1 1/2 in [3.8 cm] {END}
- Refrigeration height: 36 in [91.4 cm] {6' CASE}
- Refrigeration height: 48 in [121.9 cm] {8' CASE}
- Refrigeration height: 60 in [152.4 cm] {10' CASE}
- Refrigeration height: 72 in [182.9 cm] {12' CASE}

* STUB-UP AREA

- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

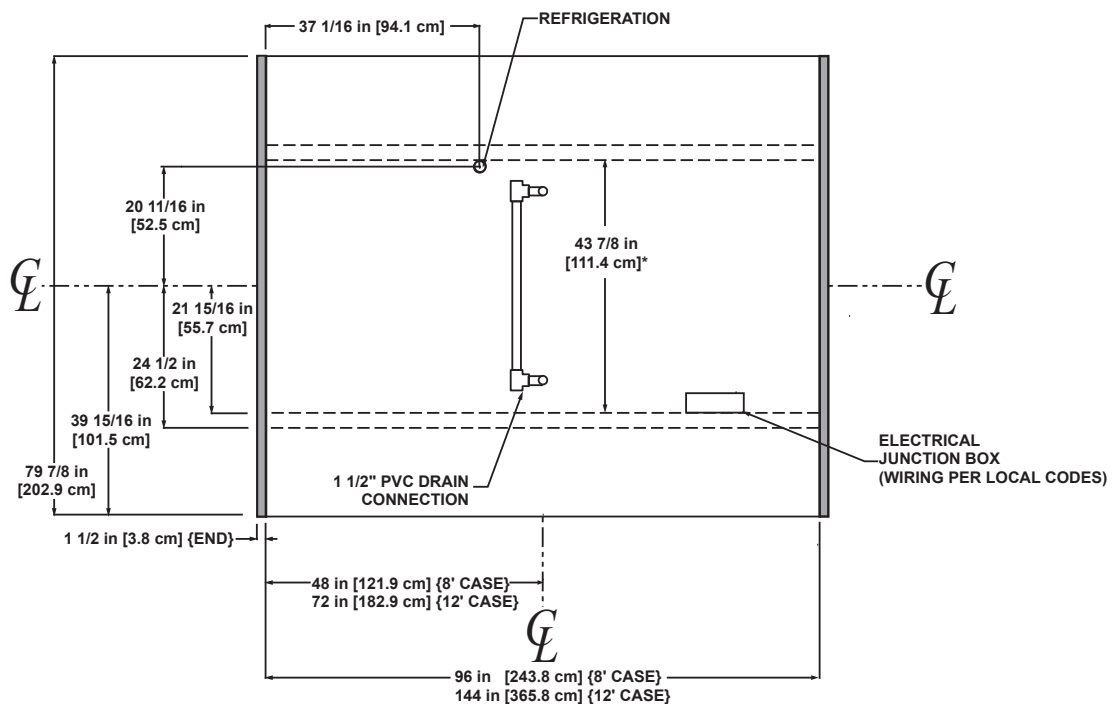
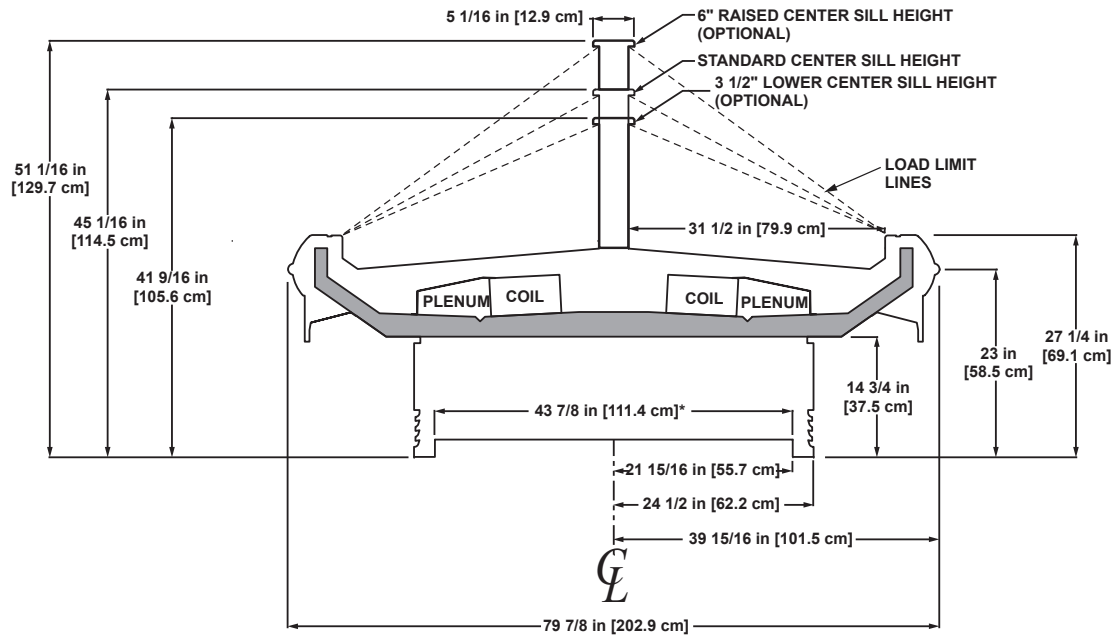
Wide Single-Deck Island Merchandiser

OIP: 8' & 12' (Bulk Produce) Wide Double Wrap-Around Ends

OIPB: 6', 8', 10' & 12' (Bulk Produce) Wide Single Wrap-Around End

OIPBB: 8' & 12' (Bulk Produce) Wide Double Joint Ends

OIPBB



NOTES:

* STUB-UP AREA

• SUCTION LINE - 7/8", LIQUID LINE - 3/8"

• DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OIPA Wide Single-Deck Island Self-Contained Merchandiser

8' & 12' (Bulk Produce)

System Requirements

Case Length	Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
8'	208	1	60	3 wire + ground	17.30	25
12'	208	1	60	3 wire + ground	23.61	30

Electrical Data

Case Length	Fans Per Case	Anti-Condensate Heater		Defrost Heaters				Drain Heater Pan		Maximum Lights	
		120 Volts		208 Volts		204 Volts		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	6	0.23	28	---	---	---	---	4.81	1000	3.78	454
12'	8	0.55	66	---	---	---	---	4.81	1000	5.04	605

Guidelines & Control Settings

Case Length	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ² Air Velocity (FPM)
8'	45	6-8	34	140
12'	45	6-8	34	140

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ⁴ (amps)	LRA ⁵ (amps)	Refrig.	Lbs. Of Refrig.
8'	208	1	60	3/4	9.0	43.00	R404A	7.8
12' ³	208	1	60	3/4	6.8	33.70	R404A	11.9

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	---	---	44	38	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 Average discharge air velocity at peak °F defrost.

3 This case uses two condensing units.

4 RLA = Running Load Amps

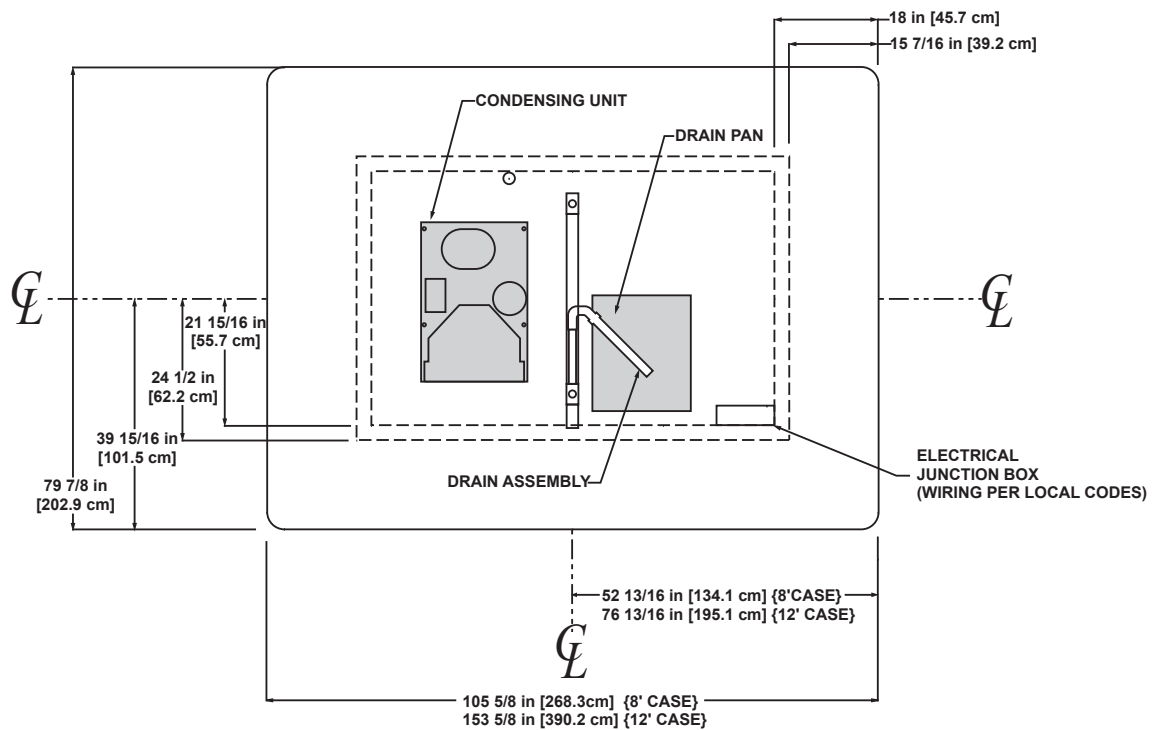
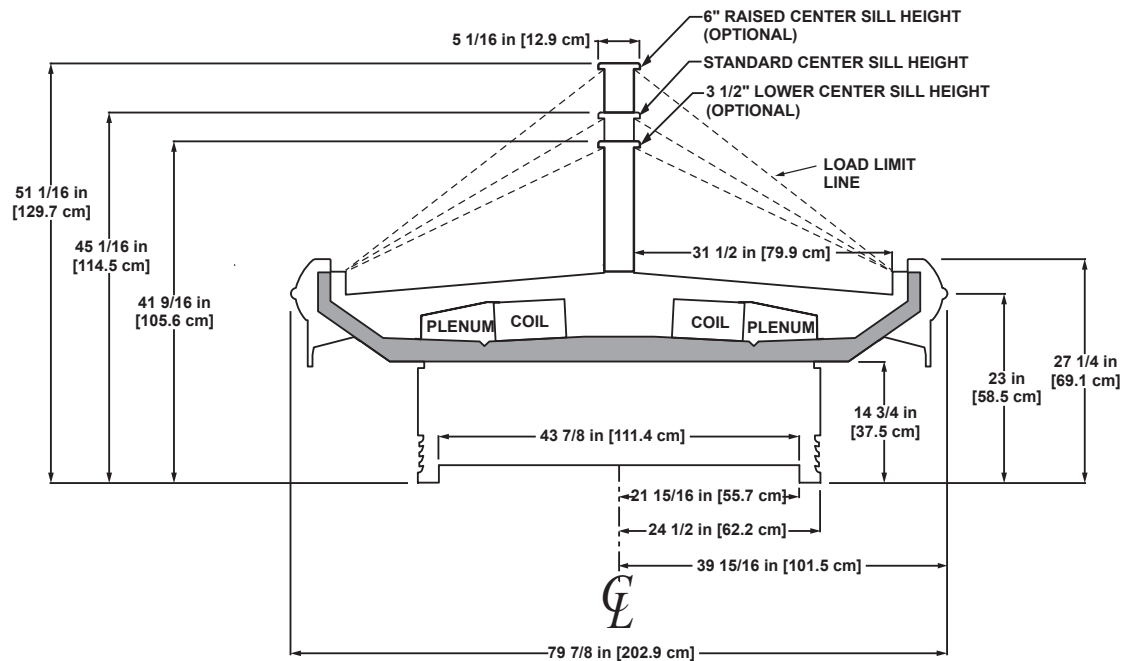
5 LRA = Locked Rotor Amps



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OIPA Wide Single-Deck Island Self-Contained Merchandiser

8' & 12' (Bulk Produce)



NOTES:

- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONZ Narrow Single-Deck Island Merchandiser

8' & 12' (Frozen Food / Ice Cream)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters						Drain Heaters		Defrost Heaters			
				Solid ² Front		Glass Front		Stainless Steel ³ Glass Cap (Glass Front Only)							
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
F-8 ¹	3	0.45	33	1.31	157	1.51	181	0.42	49	0.13	15	7.69	1600	8.88	2130
F-12'	4	0.60	44	1.98	238	2.21	265	0.74	88	0.13	15	11.54	2400	13.31	3195
C-8'	3	0.45	33	1.31	157	1.51	181	0.42	49	0.13	15	11.54	2400	13.31	3195
C-12'	4	0.60	44	1.98	238	2.21	265	0.74	88	0.13	15	17.31	3600	19.98	4795

Guidelines & Control Settings

Application	⁴ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food	426	408	3-5	-12	-2	393
Ice Cream	488	468	3-5	-22	-13	400
Medium Temp.	317	310	6-8	17	24	400

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen Food / Ice Cream	2	13 - 15	35	47	--- ⁶	---	20	60	---	---
Medium Temp.	1	13 - 15	35	49	---	---	20	60	---	---

1 "F" = frozen food; "C" = ice cream.

2 Solid wrap-around ends have no anti-condensate heaters.

3 Data provided is for one wrap-around end; double numbers for two wrap-around ends. Data only applies to glass front cases.

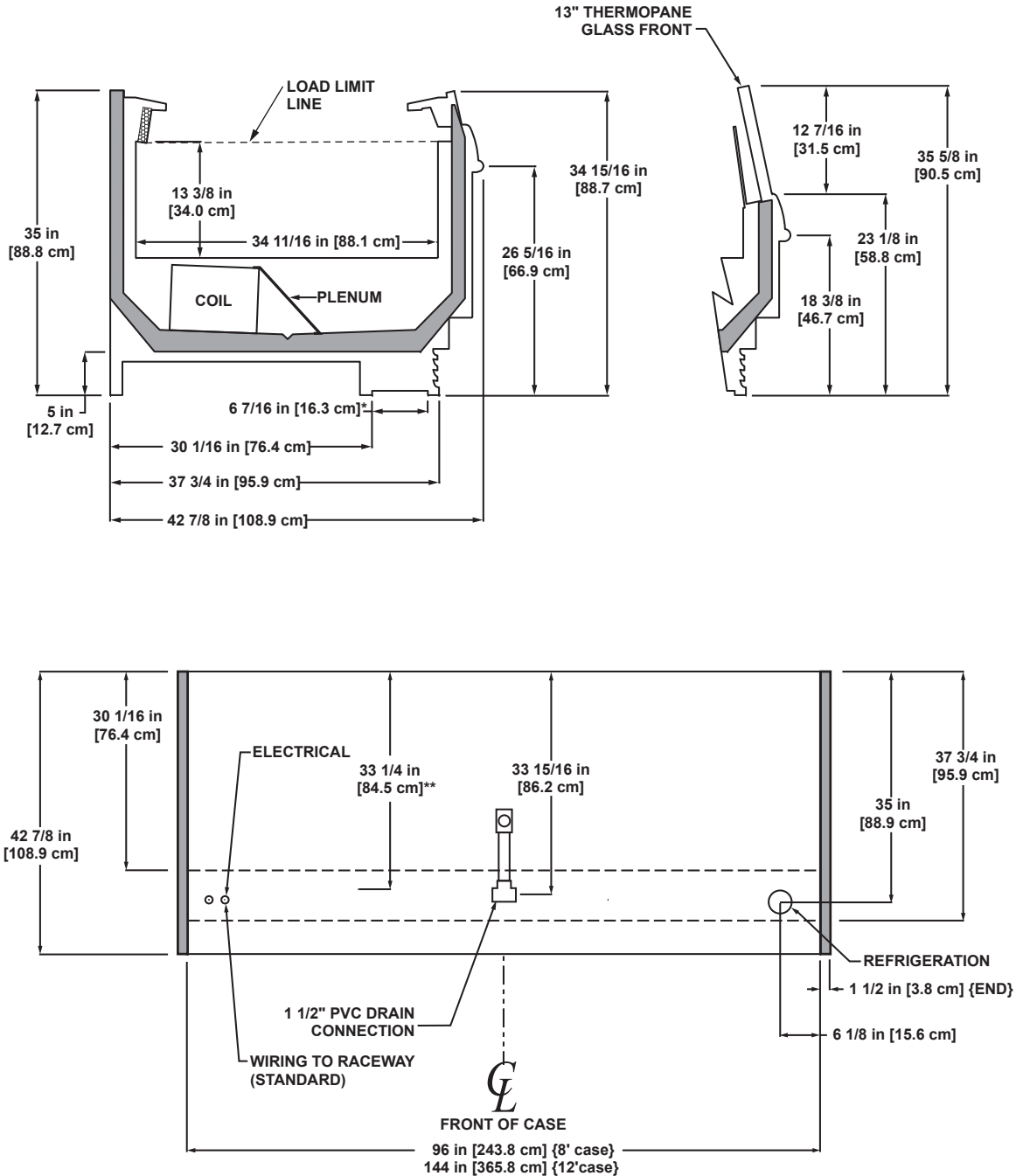
4 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

5 Average discharge air velocity at peak °F defrost.

6 NOTE: " - - - " indicates that feature is not an option on this case model.

ONZ Narrow Single-Deck Island Merchandiser

8' & 12' (Frozen Food / Ice Cream)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

SINGLE DECK ISLAND

Frozen Food / Ice Cream



ONIZ Narrow Single-Deck Island Merchandiser

6', 8', 10' & 12' (Frozen Food / Ice Cream)

Electrical Data

Case ¹ Length	Fans Per Case	High Efficiency Fans		Drain Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
F-6'	2	0.30	22	0.13	15	5.77	1200	6.66	1598
F-8'	3	0.45	33	0.13	15	7.69	1600	8.88	2130
F-10'	3	0.45	33	0.13	15	9.62	200	11.10	2663
F-12'	4	0.60	44	0.13	15	11.54	2400	13.31	3195
C-6'	2	0.30	22	0.13	15	11.54	2400	13.32	3196
C-8'	3	0.45	33	0.13	15	15.38	3200	17.75	4260
C-10'	3	0.45	33	0.13	15	16.13	3355	18.65	4476
C-12'	4	0.60	44	0.13	15	23.08	4800	26.63	6390

Anti-Condensate Heater Data

Case Length	Solid Front		Solid Wrap End ³ (Stainless Steel Glass Cap)		Glass Front		Glass Front ² Glass Cap		Glass Wrap ³ End	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
6'	1.12	134	0.26	31	1.52	179	0.37	44	0.57	68
8'	1.31	157	0.26	31	1.55	181	0.42	50	0.57	68
10'	1.60	192	0.26	31	- - -	- - -	0.62	74	0.57	68
12'	1.98	238	0.26	31	2.21	265	0.74	89	0.57	68

Guidelines & Control Settings

Application	⁴ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food	426	408	3-5	-12	-2	350
Ice Cream	488	468	3-5	-22	-13	350
Medium Temp.	325	310	6-8	17	27	350

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen Food / Ice Cream	2	13 - 15	35	47	- - - ⁶	- - -	20	60	- - -	- - -
Medium Temp.	1	13 - 15	35	49	45	47	20	60	- - -	- - -

1 "F" = frozen food application; "C" = ice cream application.

2 Glass cap heater for stainless steel glass cap option only.

3 Data provided is for one wrap-around end; double numbers for two wrap-around ends. Data takes into account stainless steel glass cap.

4 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

5 Average discharge air velocity at peak °F defrost.

6 NOTE: "- - -" indicates that feature is not an option on this case model.

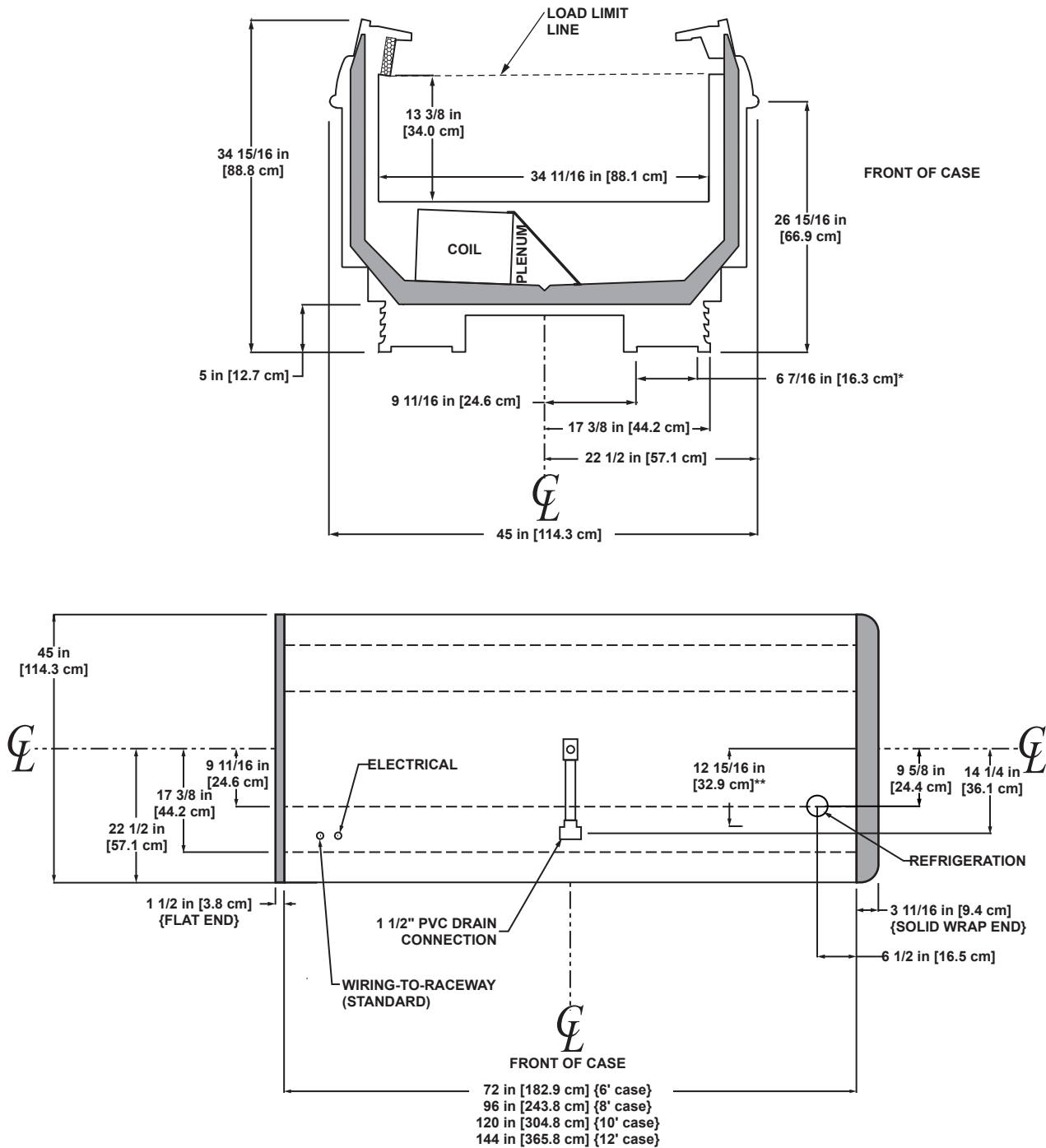


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ONIZ Narrow Single-Deck Island Merchandiser

6', 8', 10' & 12' (Frozen Food / Ice Cream)

STANDARD FRONT



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

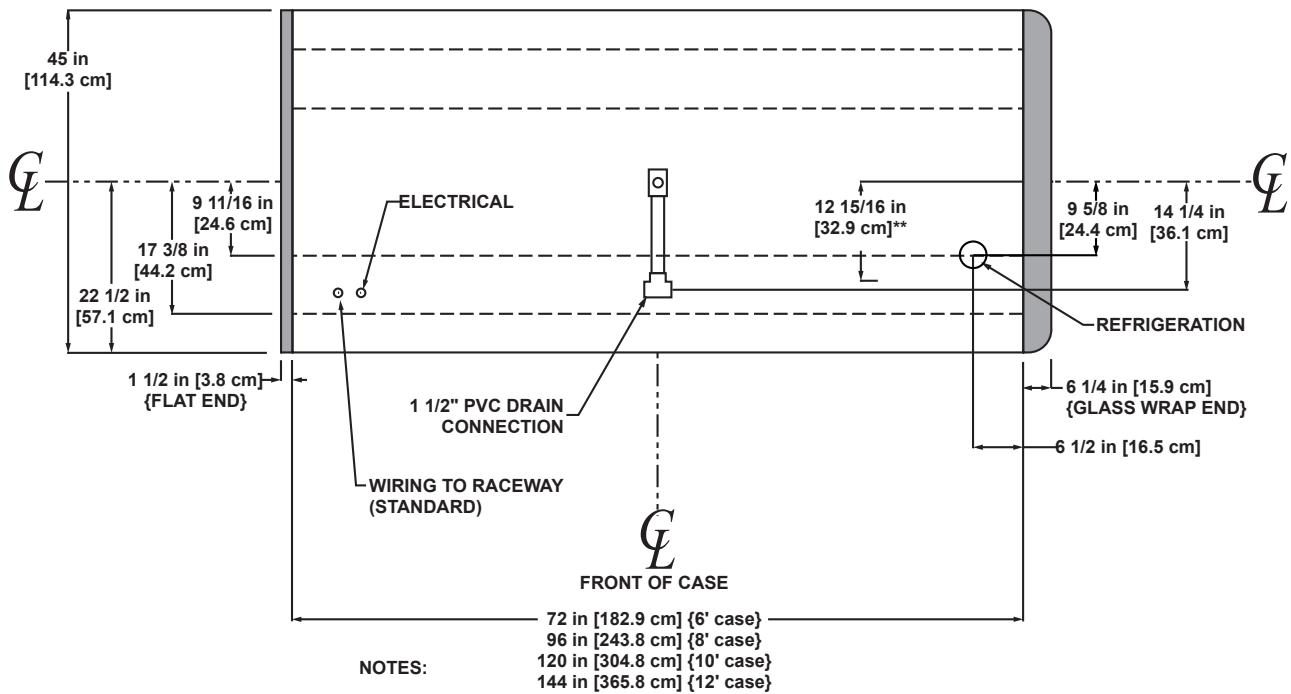
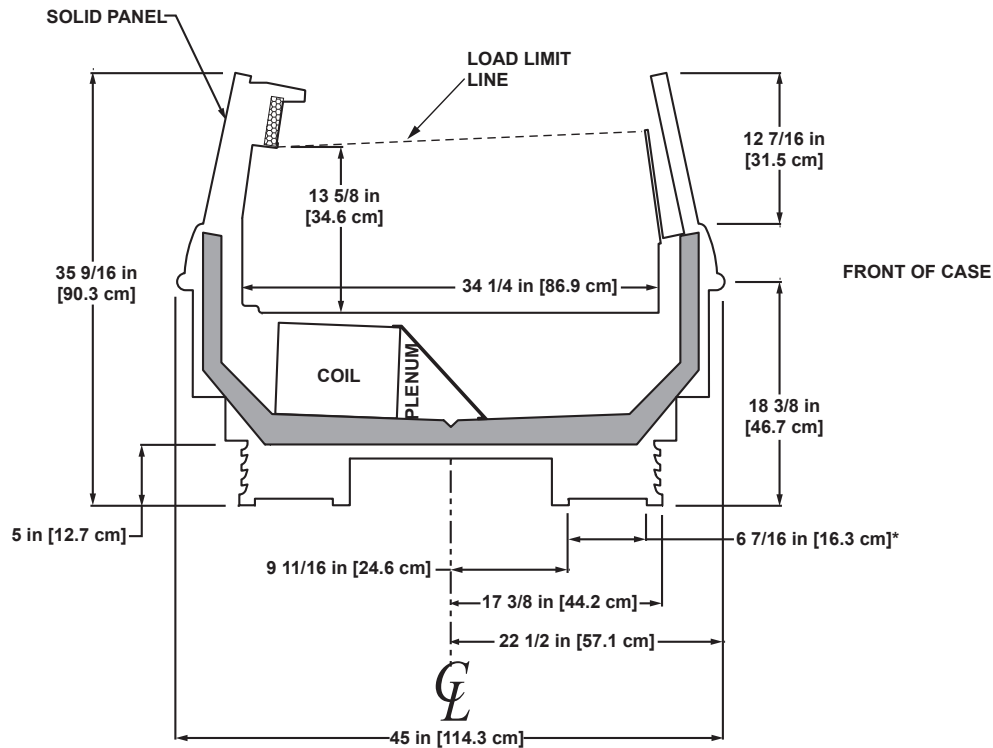
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONIZ Narrow Single-Deck Island Merchandiser

6', 8', 10' & 12' (Frozen Food / Ice Cream)

THERMOPANE GLASS FRONT



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

• SUCTION LINE - 7/8", LIQUID LINE - 3/8"

• DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ONIZGG Narrow Single Deck Island Vertical Glass Merchandiser

5', 8' & 12' (Frozen Food)

Electrical Data

Case Length	Fans Per Case	Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Drain Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
5' ¹	2	0.68	34	0.30	22	1.69	203	0.13	15	5.77	1200	6.66	1598
8'	3	1.02	51	0.45	33	2.54	305	0.13	15	7.69	1600	8.88	2130
12'	4	1.36	68	0.60	44	3.48	417	0.13	15	11.54	2400	13.31	3195

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Return Air (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel					
553	530	6-8	-22	2	-10	255

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	13-15	35	47	--- ⁴	---	20	60	---	---

1 5' case data is preliminary.

2 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

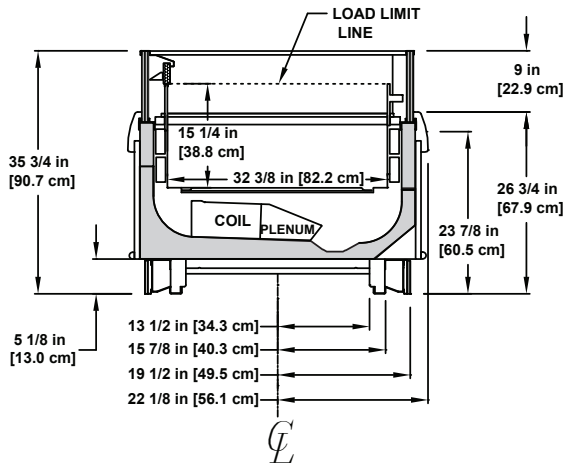
3 Average discharge air velocity at peak °F defrost.

4 NOTE: "---" indicates that feature is not an option on this case model.

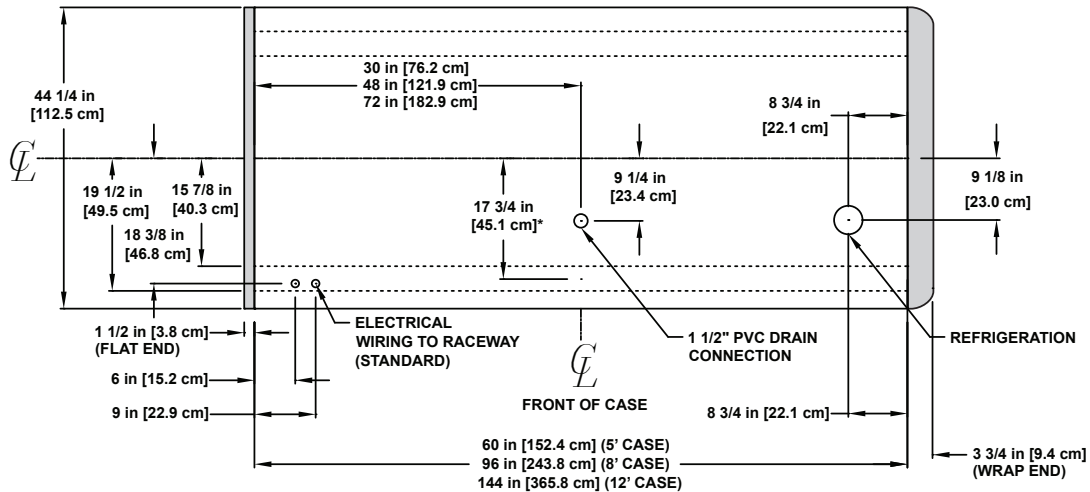
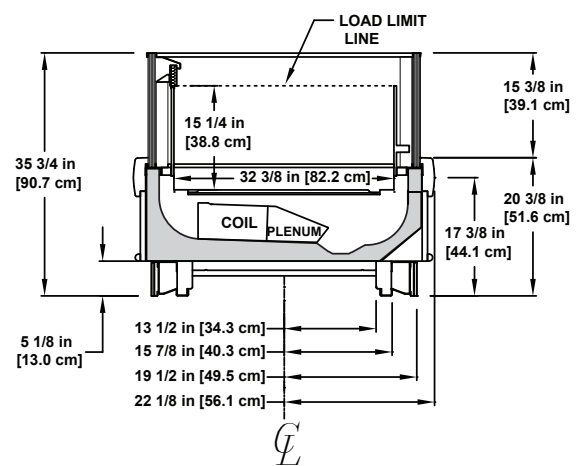
ONIZGG Narrow Single Deck Island Vertical Glass Merchandiser

5', 8' & 12' (Frozen Food)

10" GLASS FRONT



17" GLASS FRONT



NOTES:
 * STUB UP AREA
 ** RECOMENDED STUB-UP CENTER LINE FOR ELECTRICAL AND HUB DRAINS

SINGLE DECK ISLAND

Frozen Food

OIZ Single-Deck Island Merchandiser

8' & 12' (Frozen Food)

Electrical Data

Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters				Drain Heaters		Defrost Heaters			
				Solid Front		Solid Wrap End ¹ (Stainless Steel Glass Cap)							
		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	3	0.45	33	1.31	157	0.25	31	0.13	15	7.69	1600	8.88	2130
12'	4	0.60	44	1.98	238	0.25	31	0.13	15	11.54	2400	13.31	3195

Guidelines & Control Settings

Application	³ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator ⁴ (°F)	Discharge Air (°F)	Discharge ⁵ Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food ²	509	488	3-5	-22	-4	200
Medium Temp.	327	320	6-8	17	35	200

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen Food	2	13 - 15	35	47	---	---	20	60	---	---
Medium Temp.	1	13 - 15	35	49	---	---	20	60	---	---

1 Figures provided are for single wrap-around end; double figures for two wrap-around ends.

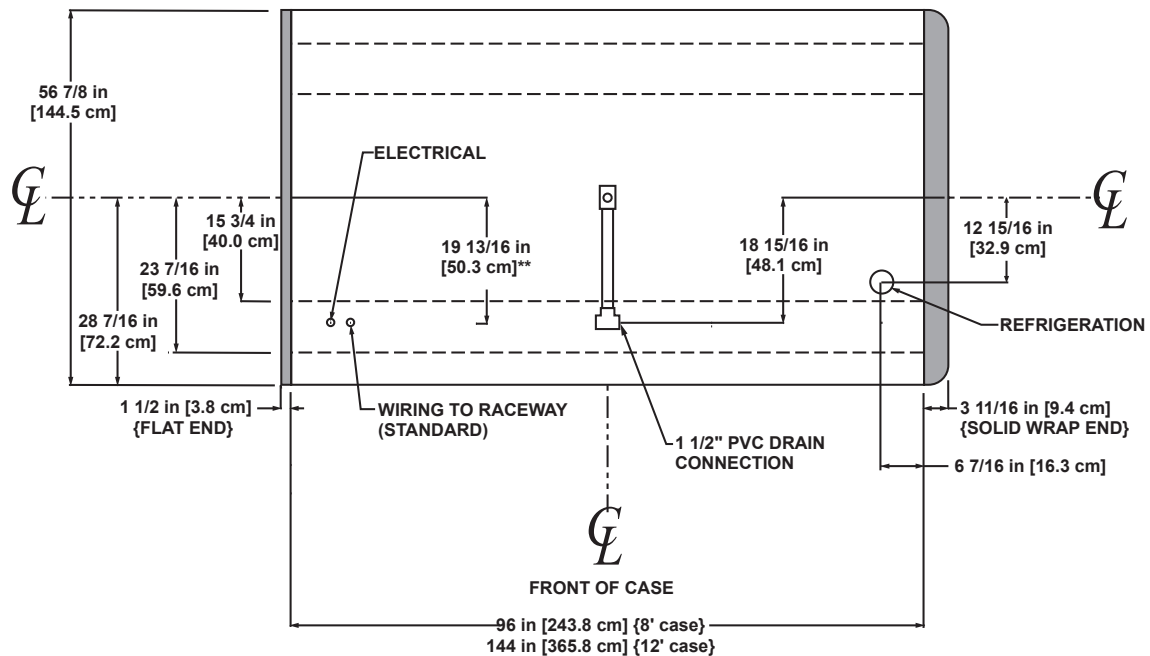
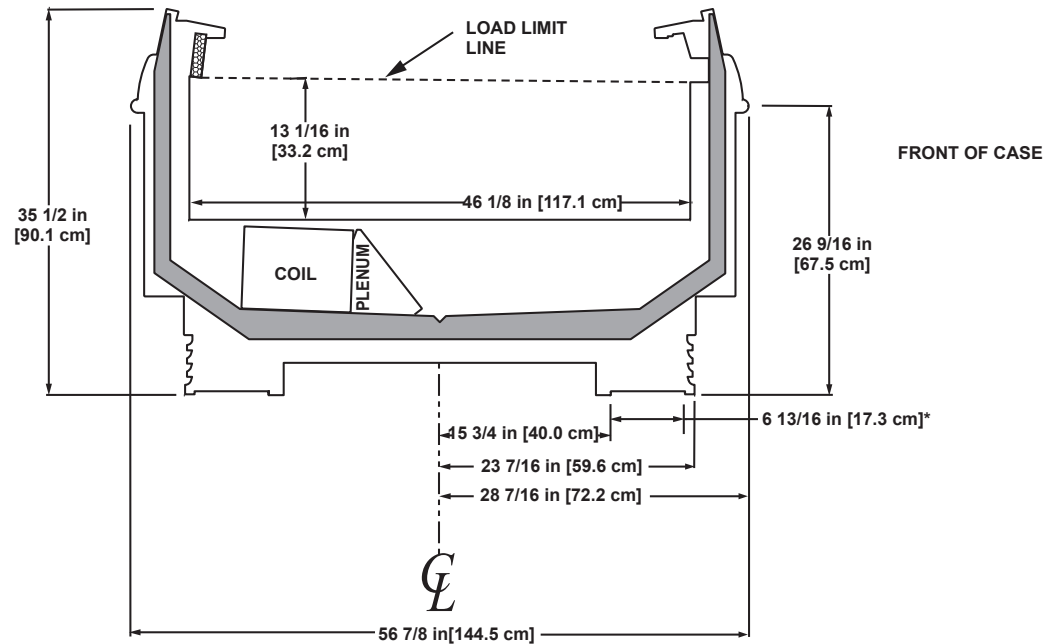
2 Not intended for frozen juice application.

3 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

4 Listed evaporator temperature indicates unlighted shelves. For lighted shelves, reduce the listed evaporator temperature by 2°F.

5 Average discharge air velocity at peak °F defrost.

6 NOTE: " - - " indicates that feature is not an option on this case model.



SINGLE DECK ISLAND

Frozen Food

NOTES:

- * STUB-UP AREA
** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
 - DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

OWIZ Wide Single-Deck Island Merchandiser

8' & 12' (Frozen Food / Ice Cream)

Electrical Data

Case ¹ Length	Fans Per Case	High Efficiency Fans		Drain Heaters		Defrost ² Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
F-8'	4	0.60	44	0.26	30	7.69	1600	8.88	2130
F-12'	6	0.90	66	0.26	30	11.54	2400	13.31	3195
C-8'	4	0.60	44	0.26	30	11.54	2400	13.31	3195
C-12'	6	0.90	66	0.26	30	17.31	3600	19.98	4795

Anti-Condensate Heater Data

Case Length	Solid ³ Front		Glass Front		Glass ⁴ Cap		Glass Wrap ⁵ End		Super Structure	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	2.62	314	3.02	362	0.50	60	0.68	82	0.50	60
12'	3.96	475	4.38	526	0.74	89	0.68	82	0.76	91

Lighting Data

Case Length	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
				Standard Power (Cornice or Shelf)		High Power (Cornice)	
				120 Volts		120 Volts	
				Amps	Watts	Amps	Watts
8'	Super Structure/All Shelves	4	4ft	0.40	47.6	0.72	86.0
12'	Super Structure/All Shelves	6	4ft	0.595	71.4	1.08	129.0

Guidelines & Control

Application	⁶ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ⁷ Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food	610	587	3-5	-12	-6	180
Ice Cream	719	692	3-5	-22	-16	180
Medium Temp.	456	450	6-8	17	27	180

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen Food / Ice Cream	1	13-15	60	49	--- ⁸	---	20	60	---	---
Medium Temp.	1	13-15	35	49	---	---	20	60	---	---

1 "F" = frozen food; "C" = ice cream.

2 Defrost data for one side °F case only.

3 Solid wraparound ends have no anti-condensate heaters.

4 Glass cap heater for stainless steel glass cap option only.

5 Data given is for one glass wraparound end.

6 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

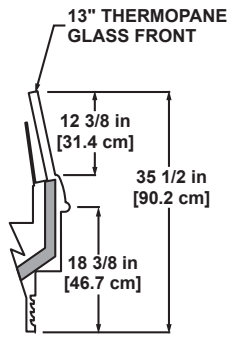
7 Average discharge air velocity at peak °F defrost.

8 NOTE: " - - - " indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OWIZ



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



OWIZV Wide Island Vertical Glass Merchandiser

6', 8', 10' & 12' (Frozen Food/Ice Cream)

Electrical Data

Case ¹ Length	Fans per Case	High Efficiency Fans				Drain Heaters		Anti-Condensate Heaters						Defrost ⁴ Heaters			
		Standard Case		Sliding Doors				Solid ² Front		Glass Front		Glass Wrap ³ End					
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
F- 6'	4	0.29	16	0.17	11	0.26	30	1.08	129	1.93	232	0.68	82	5.77	1200	6.66	1598
F- 8'	4	0.29	16	0.17	11	0.26	30	1.82	218	2.55	306	0.68	82	7.69	1600	8.88	2130
F-10'	6	0.44	24	0.26	17	0.26	30	2.40	288	3.31	397	0.68	82	9.62	2000	11.10	2663
F-12'	6	0.44	24	0.26	17	0.26	30	2.85	343	4.06	487	0.68	82	11.54	2400	13.31	3195
C-6'	4	0.29	16	0.17	11	0.26	30	1.08	129	1.93	232	0.68	82	8.70	1800	10.00	2400
C-8'	4	0.29	16	0.17	11	0.26	30	1.82	218	2.55	306	0.68	82	11.54	2400	13.31	3195
C-10'	6	0.44	24	0.26	17	0.26	30	2.40	288	3.31	397	0.68	82	14.42	3000	16.64	3994
C-12'	6	0.44	24	0.26	17	0.26	30	2.85	343	4.06	487	0.68	82	17.31	3600	19.98	4795

Lighting Data (Superstructure)

Case ⁵ Length	Lights Per Row	Light Length	Fluorescent Lighting (Per Light Row)		Clearvoyant LED Lighting (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
					120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts
6'	4	3'	0.74	88	0.28	33.2	0.50	59.6
8'	4	4'	0.94	112	0.40	47.6	0.72	86.0
10'	6	3'(4) / 4' (2)	1.20	144	0.48	57	0.86	102.6
12'	6	4'	1.44	168	0.60	71	1.08	129.0

Guidelines & Control Settings

Application	Case Type	BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ⁶ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	Open	610	587	3 - 5	-12	-6	180
	Doors	335	322	3 - 5	-11	-8	70
Ice Cream	Open	719	692	3 - 5	-22	-16	180
	Doors	345	332	3 - 5	-20	-15	70
Med. Temp	NA	458	450	6 - 8	17	27	180

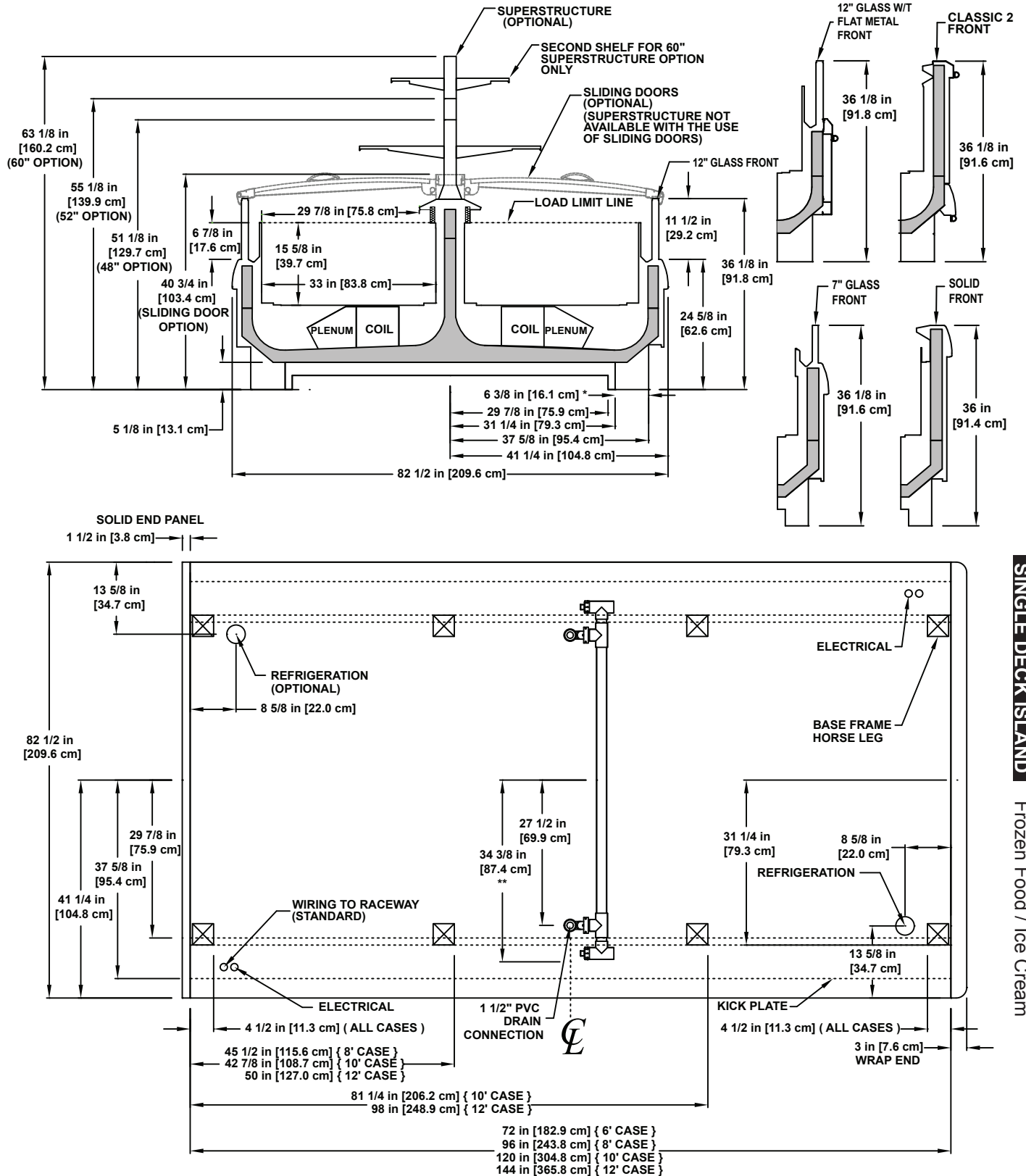
Defrost Controls

Application	Case Type	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
				Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen/ Ice Cream	Open	1	13 - 15	60	49	---	---	20	60	---	---
	Doors	1	13 - 15	30	49	---	---	10	60	---	---
Med. Temp	Open	1	13 - 15	35	49	---	---	20	60	---	---
	Doors	1	13 - 15	18	49	---	---	10	60	---	---

- "F" = frozen food; "C" = ice cream.
- Solid wraparound ends have no anti-condensate heaters.
- Data given is for one glass wraparound end.
- Defrost data for one side °F case only.
- Light values represent both sides °F superstructure.
- Average discharge air velocity at peak °F defrost.
- NOTE: " - - - " indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm



NOTES:

* STUB-UP AREA

** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

SUCTION LINE - 7/8", LIQUID LINE - 1/2"



OWEZ Wide Single-Deck Island End Cap Merchandiser

(Frozen Food / Ice Cream)

Electrical Data

Application	Fans Per Case	High Efficiency Fans		Drain Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
Frozen Food	2	0.30	22	0.13	15	5.77	1200	6.65	1596
Ice Cream	2	0.30	22	0.13	15	8.65	1800	9.98	2394

Anti-Condensate Heater Data

Solid Front		Glass Front		Glass ¹ Cap	
120 Volts		120 Volts		120 Volts	
Amps	Watts	Amps	Watts	Amps	Watts
1.56	187	1.96	235	0.51	61

Guidelines & Control Settings

Application	² BTUH/case		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Frozen Food	2769	2663	3-5	-12	-6	200
Ice Cream	3429	3298	3-5	-22	-16	200
Medium Temp.	2196	2150	6-8	17	27	200

Defrost Controls

Application	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
			Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen Food / Ice Cream	1	13-15	60	49	- - - ⁴	- - -	20	60	- - -	- - -
Medium Temp.	1	13-15	35	49	- - -	- - -	20	60	- - -	- - -

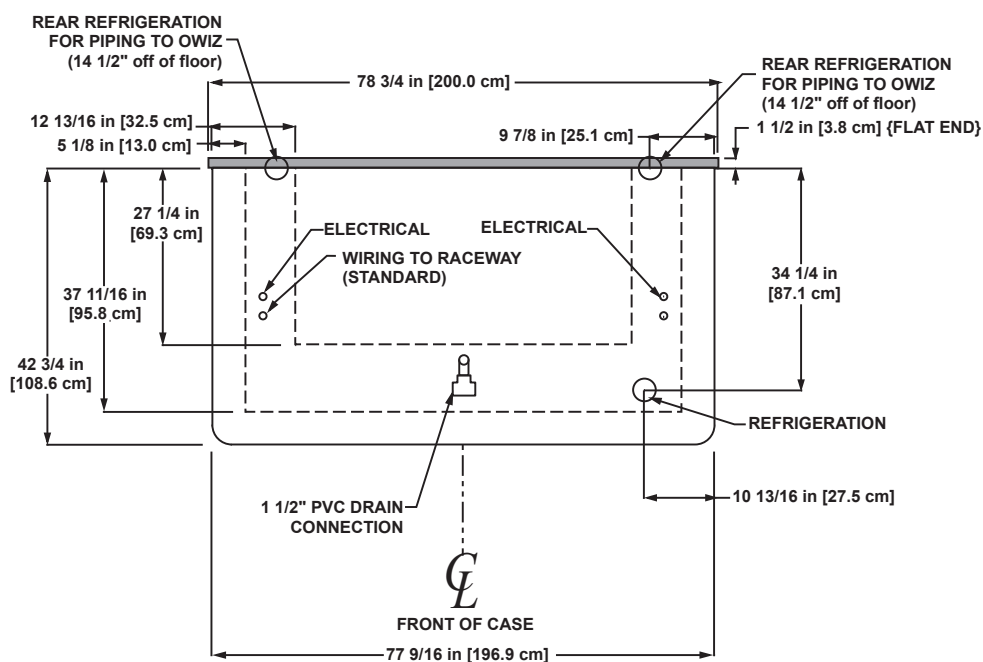
1 Glass cap heater for stainless steel glass cap option only.

2 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak °F defrost.

4 NOTE: "- - -" indicates that feature is not an option on this case model.

SINGLE DECK ISLAND



OWEZV Wide Island End Cap Vertical Glass Merchandiser (Frozen Food/Ice Cream)

Electrical Data

Application	Fans per Case	High Efficiency Fans				Drain Heaters		Anti-Condensate Heaters				Defrost Heaters			
		Standard Case		Sliding Doors				Solid Front		Glass ² Front					
		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
F ¹	2	0.15	8	0.09	6	0.13	15	0.81	98	1.48	178	5.77	1200	6.65	1596
C ¹	2	0.15	8	0.09	6	0.13	15	0.81	98	1.48	178	8.65	1800	9.98	2394

Guidelines & Control Settings

Application	Case Type	BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
Frozen	Open	2769	2663	3 - 5	-12	-6	200
	Doors	1518	1460	3 - 5	-11	-5	70
Ice Cream	Open	3429	3298	3 - 5	-22	-16	200
	Doors	1638	1575	3 - 5	-20	-14	70
Med. Temp	NA	2227	2150	6 - 8	17	27	200

Defrost Controls

Application	Case Type	Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
				Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Frozen/ Ice Cream	Open	1	13 - 15	60	49	---	---	20	60	---	---
	Doors	1	13 - 15	30	49	---	---	10	60	---	---
Med. Temp	Open	1	13 - 15	35	49	---	---	20	60	---	---
	Doors	1	13 - 15	18	49	---	---	10	60	---	---

1 "F" = frozen food; "C" = ice cream.

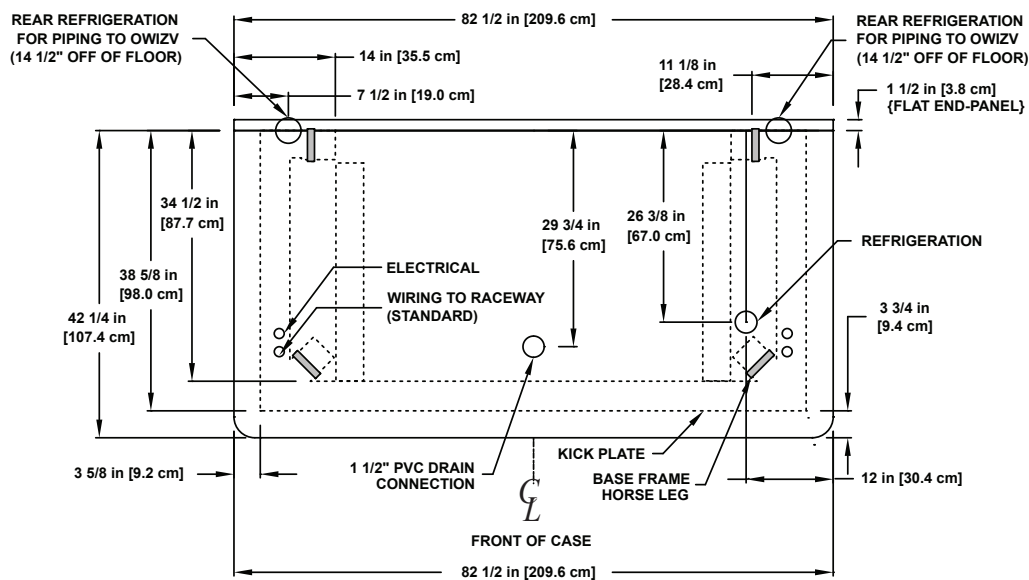
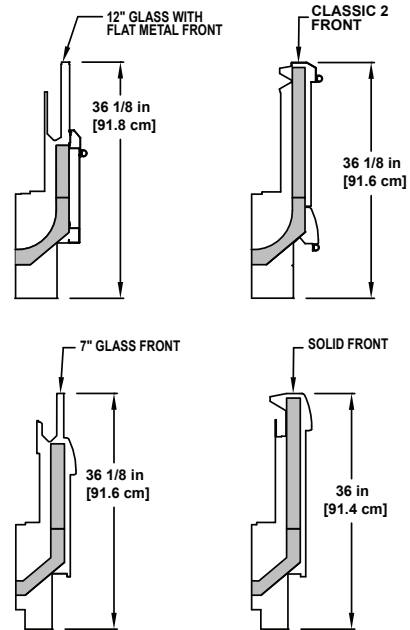
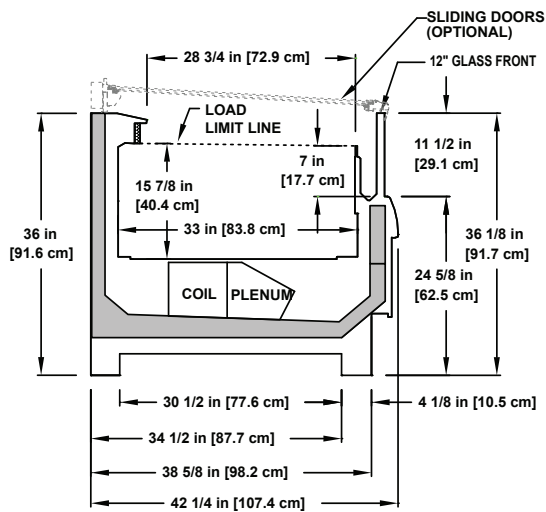
2 Data applies to both 7" & 12" glass fronts.

3 Average discharge air velocity at peak °F defrost.

4 NOTE: " - - " indicates that feature is not an option on this case model.

OWEZV Wide Island End Cap Vertical Glass Merchandiser

(Frozen Food/Ice Cream)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- SUCTION LINE - 7/8", LIQUID LINE - 1/2"
- FLAT END-PANEL REQUIRED WHEN CASE IS STANDALONE

SINGLE DECK ISLAND

Frozen Food / Ice Cream



OWZGG Wide Single-Deck Island Merchandiser

8' & 12' (Frozen Food)

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Fans Per Case	Glass Heater		Defrost Heaters			
		120 Volts			120 Volts		208 Volts		240 Volts	
		Amps	Watts		Amps	Watts	Amps	Watts	Amps	Watts
8'	2	0.30	22	--- ¹	1.57	189	7.69	1600	8.87	2130
12'	3	0.45	33	---	2.10	253	11.54	2400	13.31	3195

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
422	382	3-5	-22	-10	255

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	5	50	45	---	---	20	60	---	---

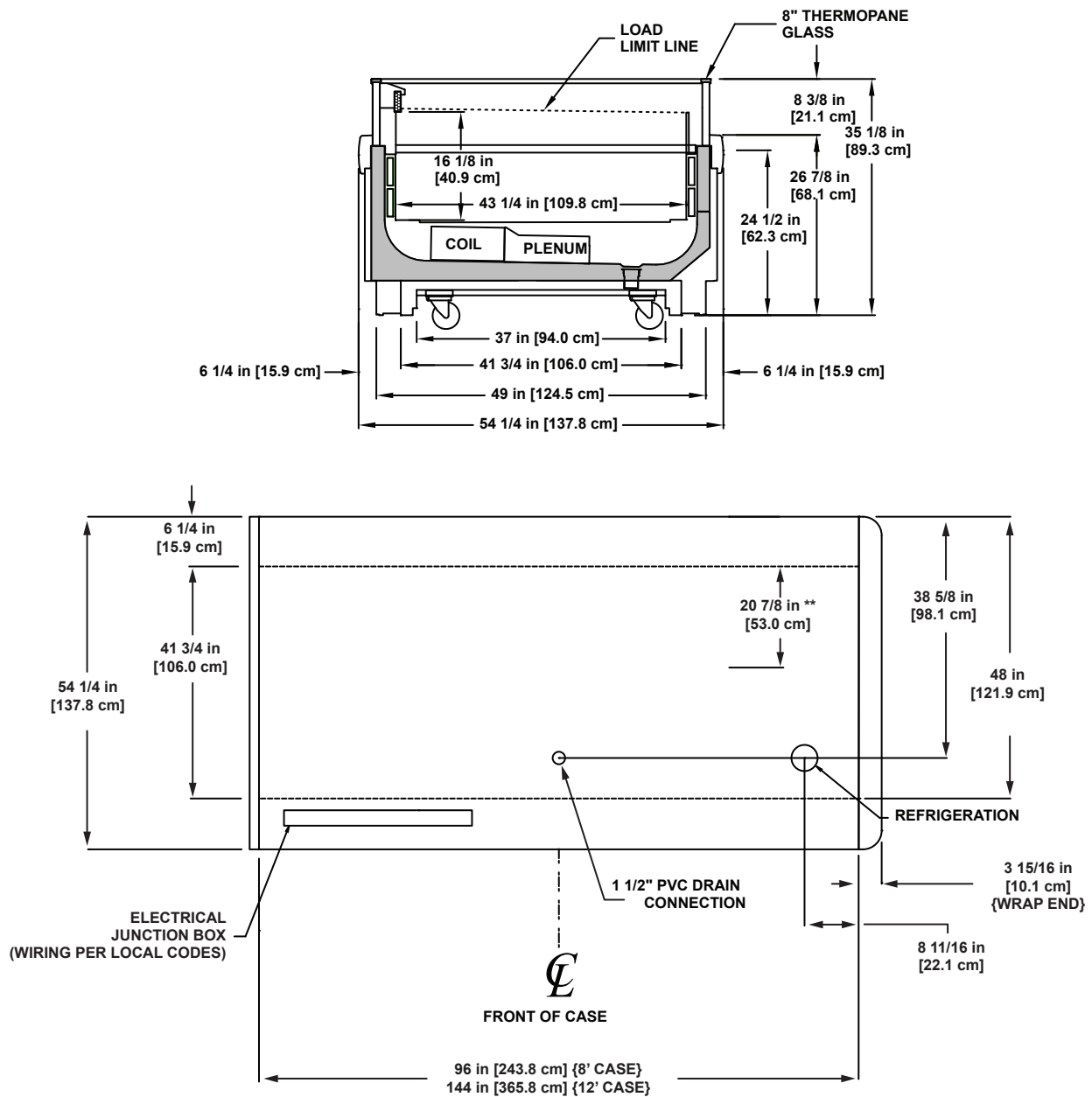
1 NOTE: " - - " indicates that feature is not an option on this case model.

2 Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

3 Average discharge air velocity at peak °F defrost.

OWZGG Wide Single-Deck Island Merchandiser

8' & 12' (Frozen Food)



NOTES:

- * STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE - 7/8"; LIQUID LINE - 1/2"

SINGLE DECK ISLAND

Frozen Food

OEWS Single-Deck End Cap Merchiser

(Frozen Food)

Electrical Data

Fans Per Case	High-Efficiency Fans		Fans Per Case	Glass Heater		Defrost Heaters			
	120 Volts			120 Volts		208 Volts		240 Volts	
	Amps	Watts		Amps	Watts	Amps	Watts	Amps	Watts
1	0.15	11	---	0.68	82	3.84	800	4.44	1065

Guidelines & Control

BTUH/ft		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge ² Air Velocity (FPM)
Conventional	Parallel					
359	325	-22	3 - 5	-10	12	255

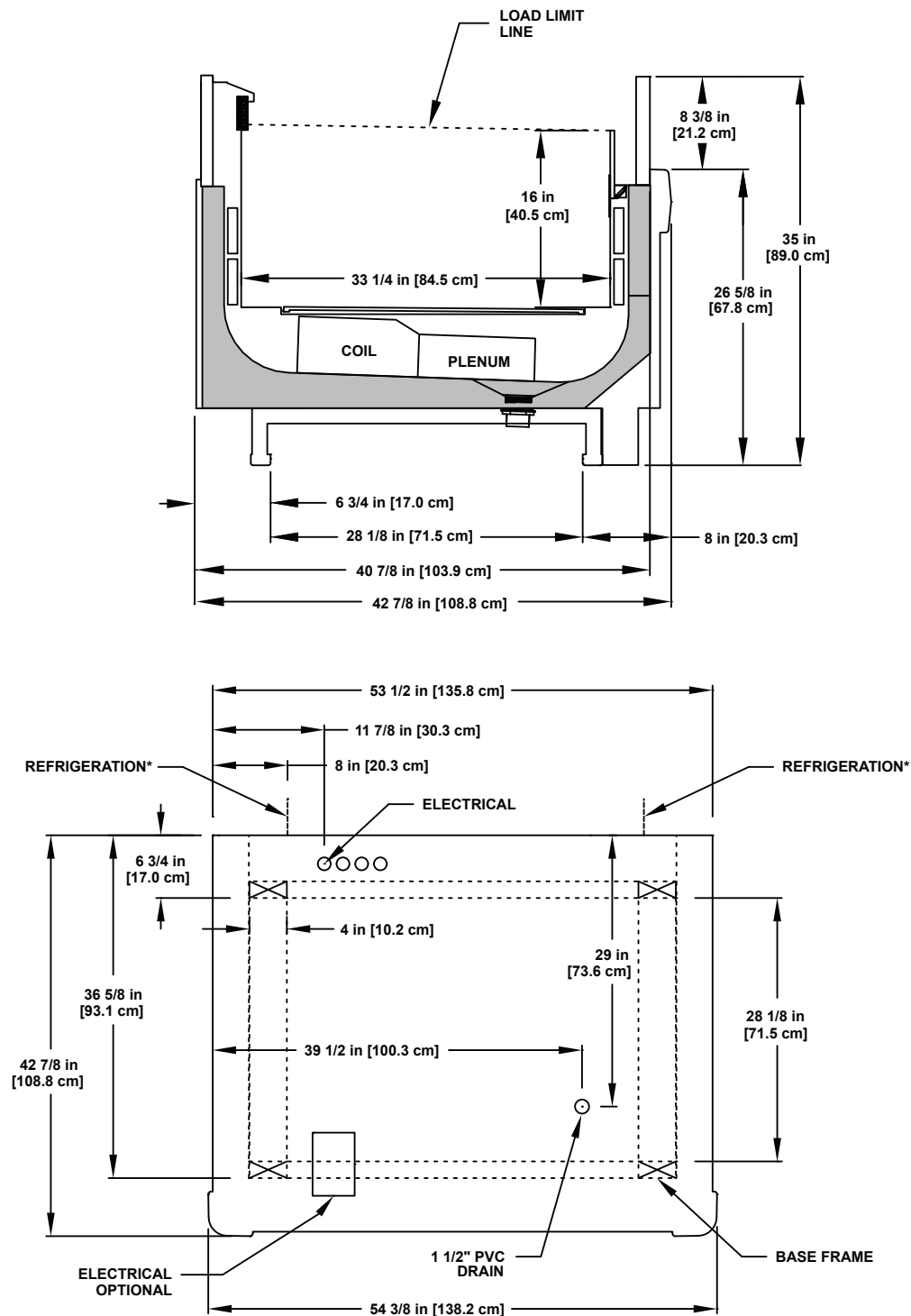
Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	5	50	45	---	---	20	60	---	---

1 "---" indicates feature is not an option with this case.

2 Average discharge air velocity at peak °F defrost.

OEWS Single-Deck End Cap Merchandiser (Frozen Food)



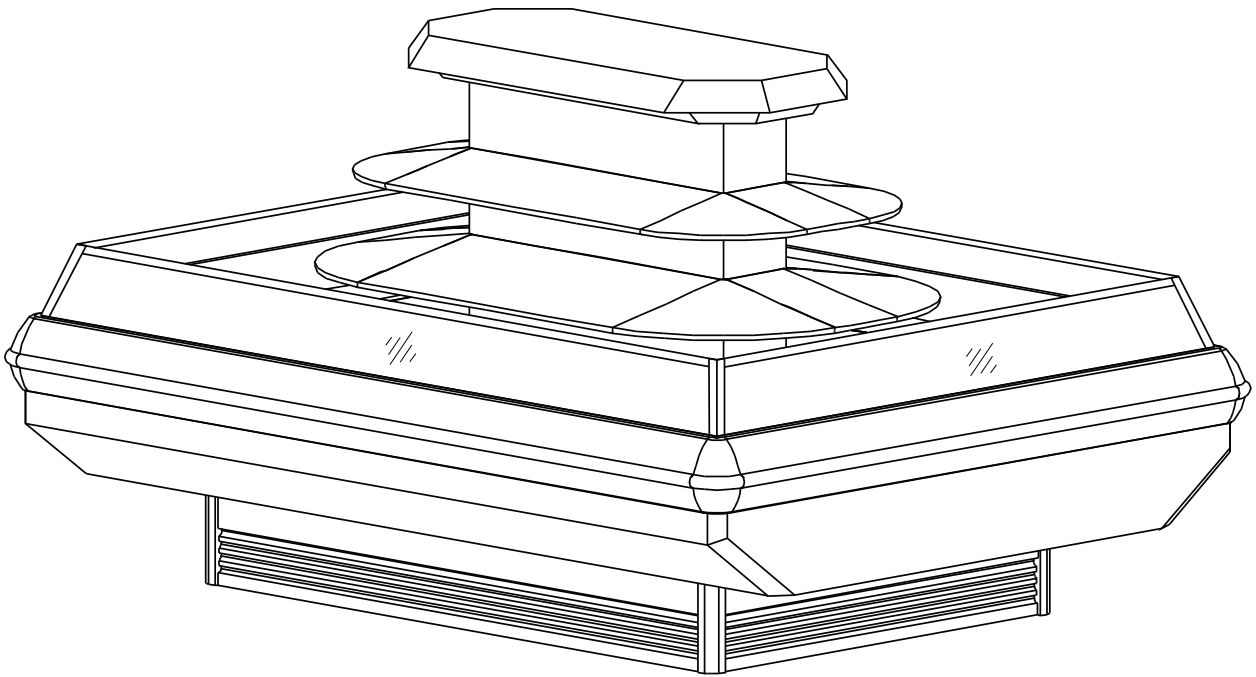
* NOTE:
DEPENDENT ON WHICH END OF THE OWZGG
THE CASE IS ATTACHED

SINGLE DECK ISLAND

Frozen Food



MULTI-DECK ISLAND



NOTES

- **Cases shown with an ANSI/NSF* mark are listed by NSF.**
- **Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.**
- **Allow for an extra 1/8" per joint when lining up merchandisers.**
- **Technical information contained herein is subject to change without notice.**

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

O2IM Wide Multi-Deck Island Merchandiser

8' & 12' (Deli / Meat) Double Wrap-Around End

Electrical Data

Case Length	Fans Per Case	Standard Fans		High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	6	3.00	180	0.46	27.6	0.67	80	7.70	1600	8.88	2130
12'	8	4	240	0.61	36.8	1.06	126.9	11.54	2400	13.33	3200

Lighting Data

Case Length	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting ¹ (Per Light Row)			
				Standard Power (Cornice or Shelf)		High Power (Cornice)	
				120 Volts		120 Volts	
				Amps	Watts	Amps	Watts
8'	Top Sill	4	2 (2ft), 2 (4ft)	0.50	59.6	0.90	107.4
	8"	4	2(0.5ft), 2 (3ft)	0.31	37.4	0.54	65.0
	10, 12, 14, 16	4	2(0.5ft), 4 (3ft)	0.33	39.2	0.59	70.4
12'	Top Sill	6	2 (2ft), 4 (4ft)	0.50	59.6	0.90	107.4
	8"	6	2(0.5ft), 4 (3ft)	0.31	37.4	0.54	65.0
	10, 12, 14, 16	6	2(0.5ft), 4 (3ft)	0.33	39.2	0.59	70.40

Guidelines & Control Settings

Application	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Meat	1382	1248	6 - 8	17	26	270
Deli	1287	1162	6 - 8	22	30	270

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost ⁴		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	30	47	45	45	26	45	- - - ⁵	- - -

1 LED lighting values are for a full row of shelves (including wraparounds).

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

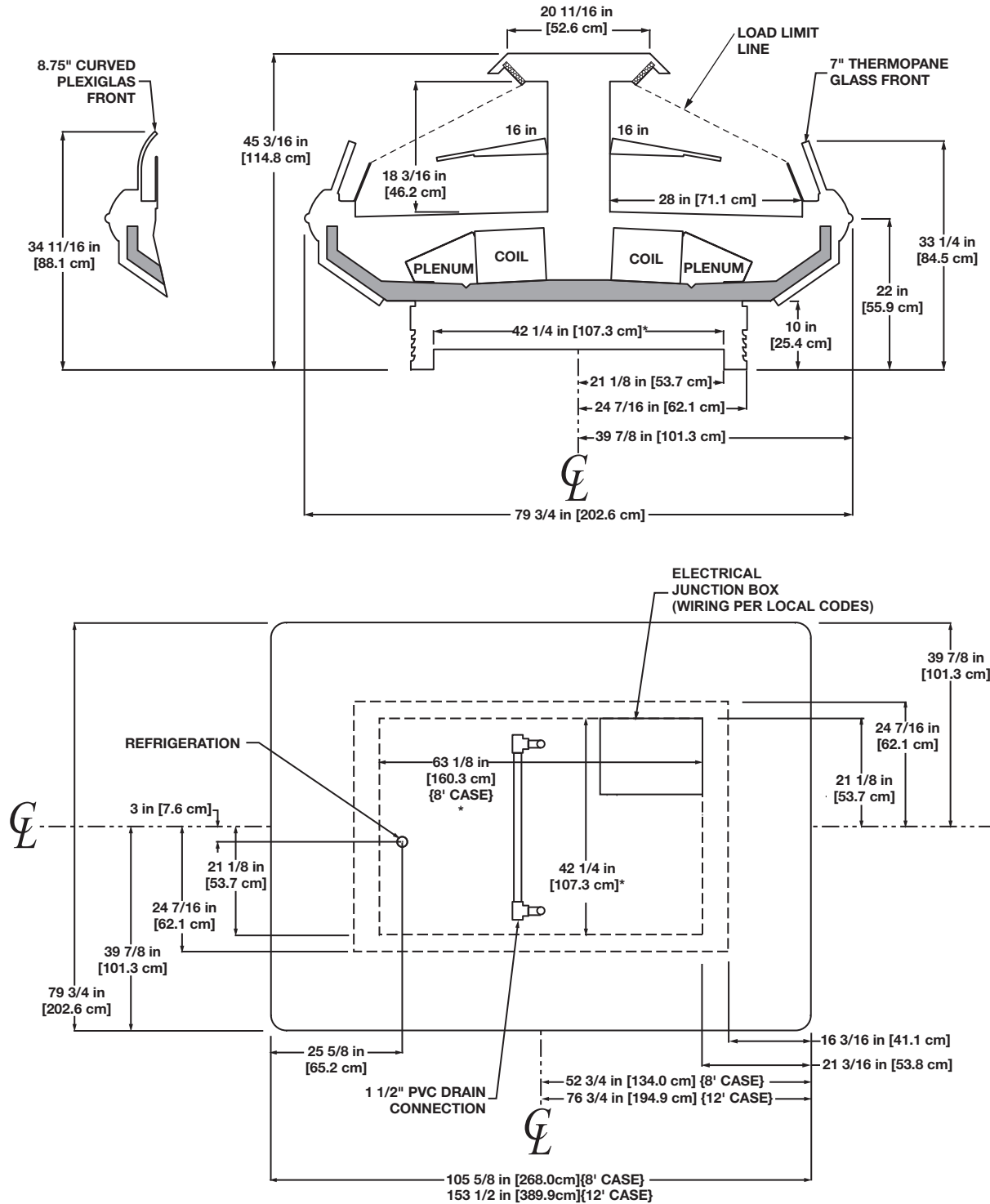
3 Average discharge air velocity at peak of defrost.

4 Only recommended with a High-Efficiency Coil with a 22(°F) evaporator temperature.

5 NOTE: "- - -" indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm



NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



ON3IM Narrow Multi-Deck Island Merchandiser

8' & 12' (Deli / Meat) Double Wrap-Around End

Electrical Data

Case Length	Fans Per Case	High-Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		120 Volts		120 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
8'	6	0.46	27.6	0.67	80	7.70	1600	8.88	2130
12'	8	0.62	36.8	1.06	127	11.54	2400	13.32	3200

Lighting Data

Case Length	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting ¹ (Per Light Row)			
				Standard Power (Cornice or Shelf)		High Power (Cornice)	
				120 Volts		120 Volts	
				Amps	Watts	Amps	Watts
8'	Top Sill	4	2 (2ft), 2 (4ft)	0.50	59.6	0.90	107.4
	8"	4	2(0.5ft), 2 (3ft)	0.31	37.4	0.54	65.0
	10, 12, 14, 16	4	2(0.5ft), 4 (3ft)	0.33	39.2	0.59	70.4
12'	Top Sill	6	2 (2ft), 4 (4ft)	0.50	59.6	0.90	107.4
	8"	6	2(0.5ft), 4 (3ft)	0.31	37.4	0.54	65.0
	10, 12, 14, 16	6	2(0.5ft), 4 (3ft)	0.33	39.2	0.59	70.40

Guidelines & Control Settings

Application	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
	Conventional	Parallel				
Meat	1306	1179	6 - 8	17	26	270
Deli	1191	1075	6 - 8	22	30	270

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost ⁴		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	30	47	45	45	26	45	--- ⁵	---

¹ LED lighting values are for a full row of shelves (including wraparounds).

² BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.

- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

³ Average discharge air velocity at peak of defrost.

⁴ Only recommended with a High-Efficiency Coil with a 22(°F) evaporator temperature.

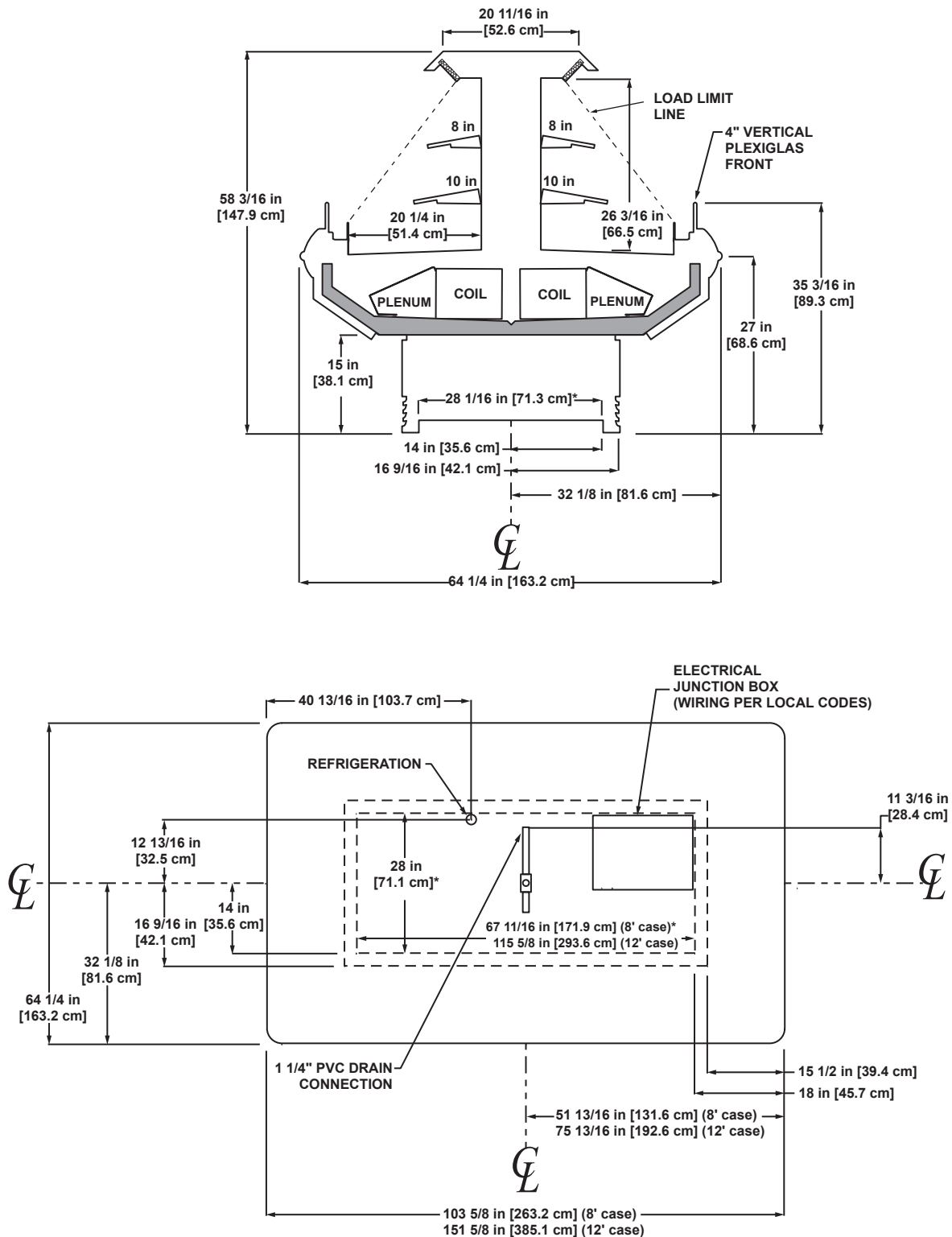
⁵ NOTE: "---" indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

ON3IM Narrow Multi-Deck Island Merchandiser

8' & 12' (Deli / Meat) Double Wrap-Around End



NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 8", 10" & 12"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



Electrical Data

Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3IM	8'	6	0.46	27.6	0.67	80	7.70	1600	8.88	2130
	12'	8	0.62	36.8	1.06	127	11.54	2400	13.32	3200
O3IMB	6'	4	0.31	18.4	0.63	76	5.77	1200	6.66	1596
	8'	6	0.46	27.6	0.88	106	7.70	1600	8.88	2130
	12'	8	0.62	36.8	1.24	149	11.54	2400	13.32	3200
O3IMBB	8'	6	0.46	27.6	0.91	109	7.70	1600	8.88	2130

Lighting Data

Model	Case End	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting ¹ (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
					120 Volts		120 Volts	
					Amps	Watts	Amps	Watts
O3IM	8' Wrapped	Top Sill	4	2 (2ft), 2 (4ft)	0.50	59.6	0.90	107.4
		8"	4	2 (0.5ft), 2 (3ft)	0.31	37.4	0.54	65
		10, 12, 14, 16	4	2 (0.5ft), 4 (3ft)	0.33	39.2	0.59	70.4
	12' Wrapped	Top Sill	6	2 (2ft), 4 (4ft)	0.50	59.6	0.90	107.4
		8"	6	2 (0.5ft), 4 (3ft)	0.31	37.4	0.54	65
		10, 12, 14, 16	6	2 (0.5ft), 4 (3ft)	0.33	39.2	0.59	70.4
O3IM-B	6' Single Butt	Top Sill	3	1 (2ft), 2 (4ft)	0.25	29.8	0.45	53.7
		8"	3	1 (0.5ft), 2 (3ft)	0.16	18.7	0.27	32.5
		10, 12, 14, 16	3	1 (1ft), 2 (3ft)	0.16	19.6	0.29	35.2
	8' Single Butt	Top Sill	5	1 (2ft), 4 (3ft)	0.33	39.2	0.59	70.3
		8"	3	1 (0.5ft), 2 (5ft)	0.26	30.7	0.46	55.3
		10, 12, 14, 16	3	1 (1ft), 2 (5ft)	0.26	31.6	0.48	58.0
	12' Single Butt	Top Sill	7	1 (2ft), 6 (3ft)	0.47	55.8	0.83	100.1
		8"	5	1 (0.5ft), 2 (4ft), 2 (5ft)	0.45	54.5	0.82	98.3
		10, 12, 14, 16	5	1 (1ft), 2 (4ft), 2 (5ft)	0.46	55.4	0.84	101.0
		10, 12, 14, 16	5	1 (1ft), 2 (4ft), 2 (5ft)	0.46	55.4	0.84	101.0
O3IM-BB	8' Double Butt	Top Sill/Shelves	4	4 (4ft)	0.40	47.6	0.72	86.0

Guidelines & Control Settings

Model	Application	² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
O3IM	Meat	1657	1496	6 - 8	17	26	270
	Deli	1513	1366	6 - 8	22	30	270
O3IMB	Meat	1657	1496	6 - 8	17	26	270
	Deli	1513	1366	6 - 8	22	30	270
O3IMBB	Meat	1402	1266	6 - 8	17	26	270
	Deli	1305	1178	6 - 8	22	30	270

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost ⁴		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	30	47	45	45	26	45	- - - ⁵	- - -

1 LED lighting values are for a full row of shelves (including wraparounds).

2 BTUH/ft notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

4 Only recommended with a High-Efficiency Coil with a 22(°F) evaporator temperature.

5 NOTE: "- - -" indicates that feature is not an option on this case model.

O3IM

O3IMB/O3IMBB

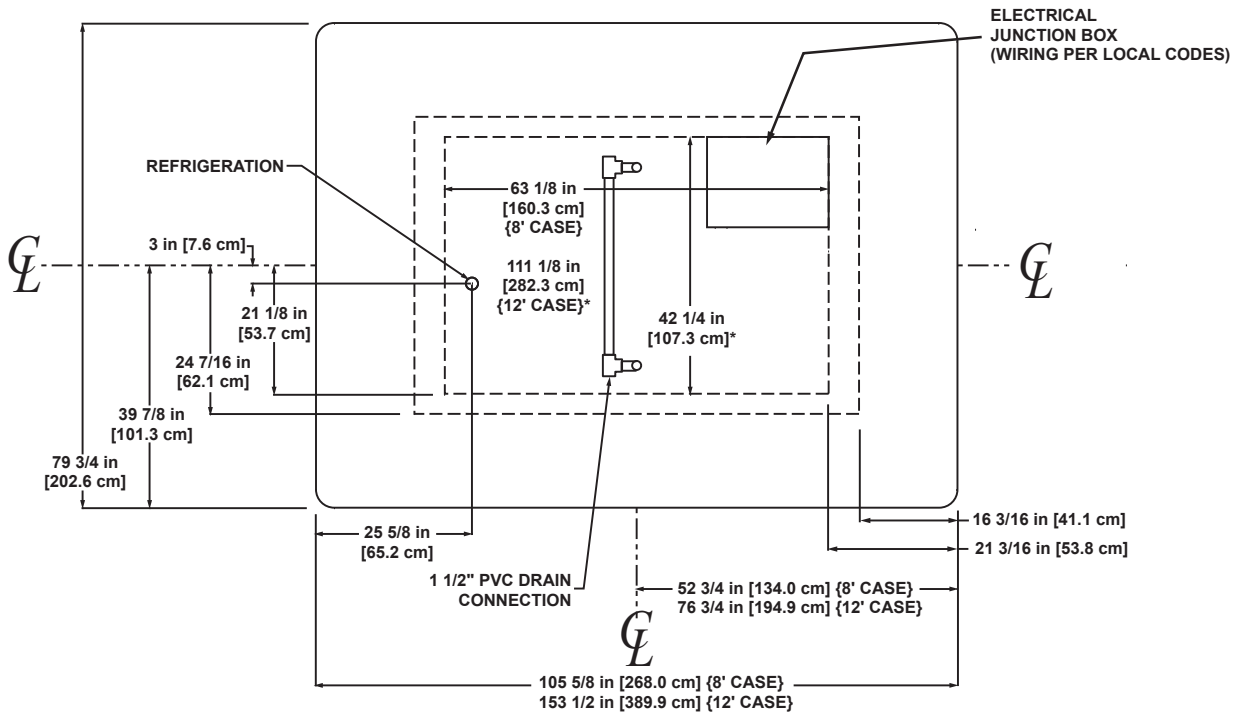
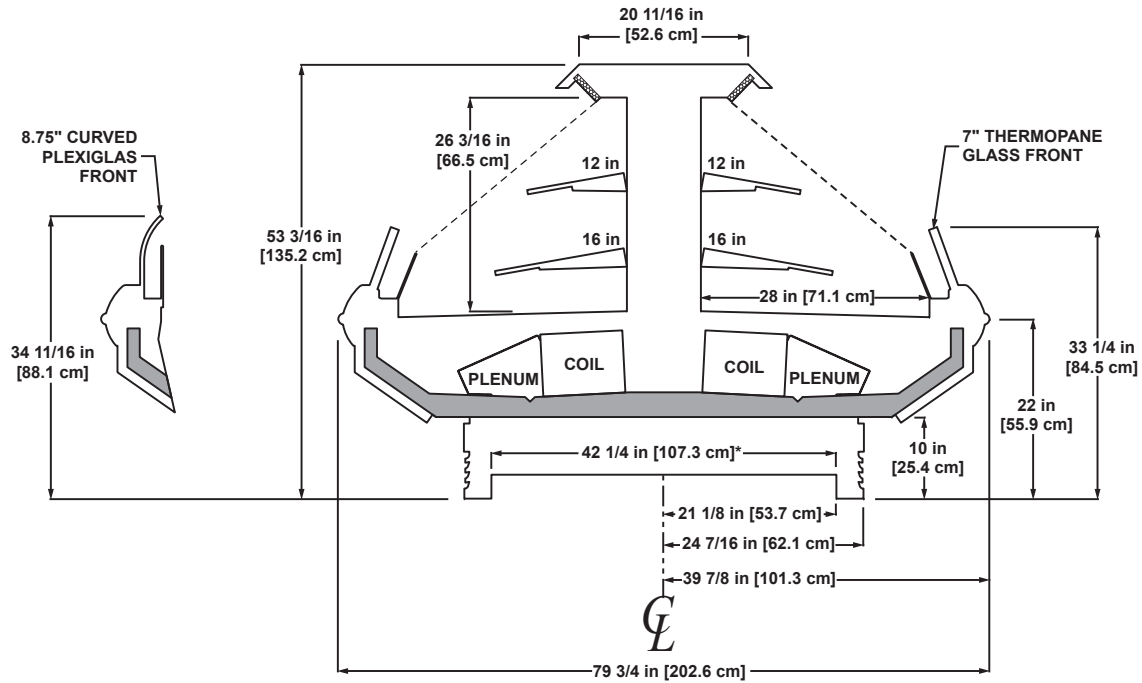
Wide Multi-Deck Island Merchandiser

O3IM: 8' & 12' (Deli / Meat) Double Wrap-Around Ends

O3IMB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End

O3IMBB: 8' (Deli / Meat) Double Joint Ends

O3IM



NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



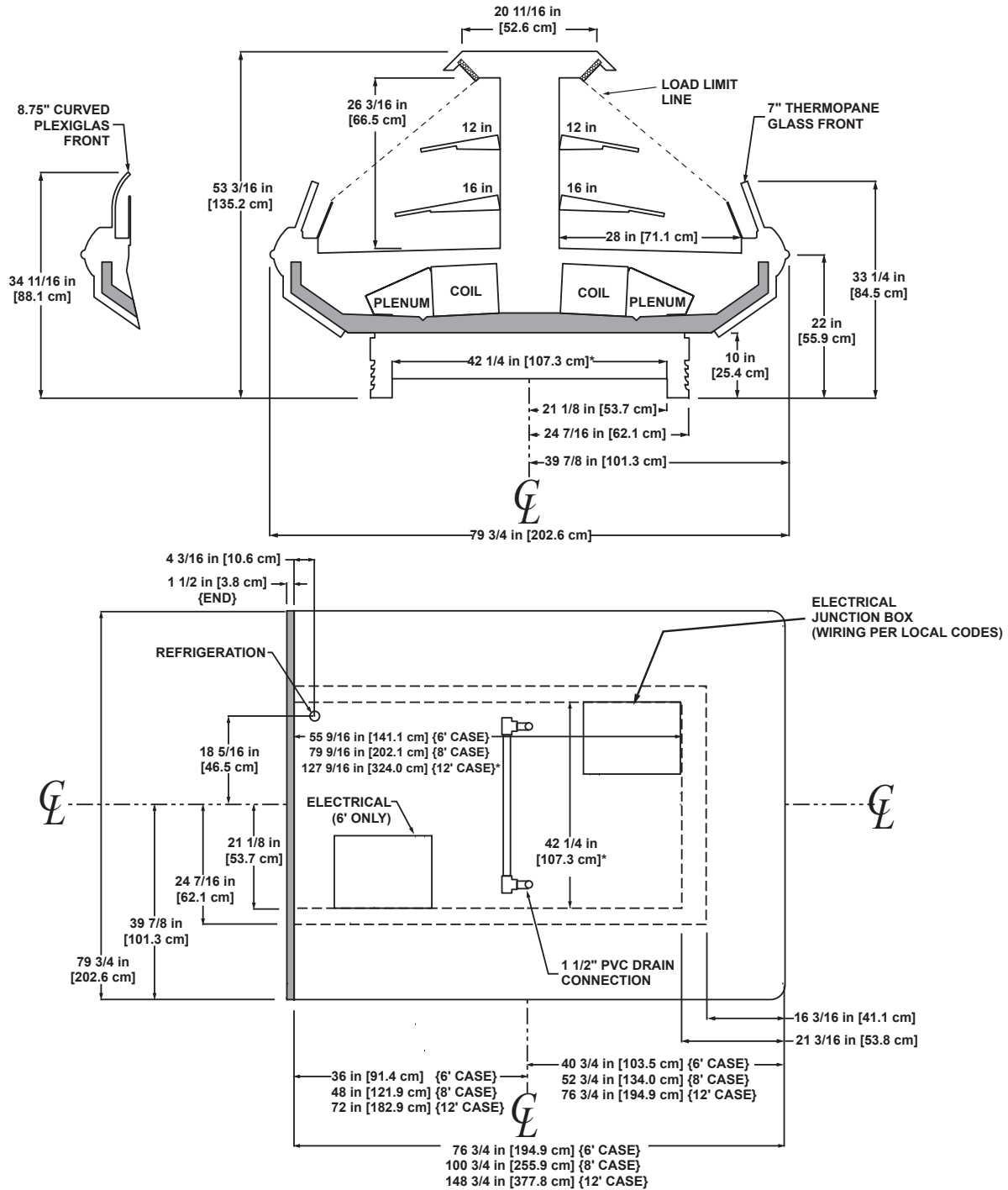
Wide Multi-Deck Island Merchandiser

O3IM: 8' & 12' (Deli / Meat) Double Wrap-Around Ends

O3IMB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End

O3IMBB: 8' (Deli / Meat) Double Joint Ends

O3IMB



NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



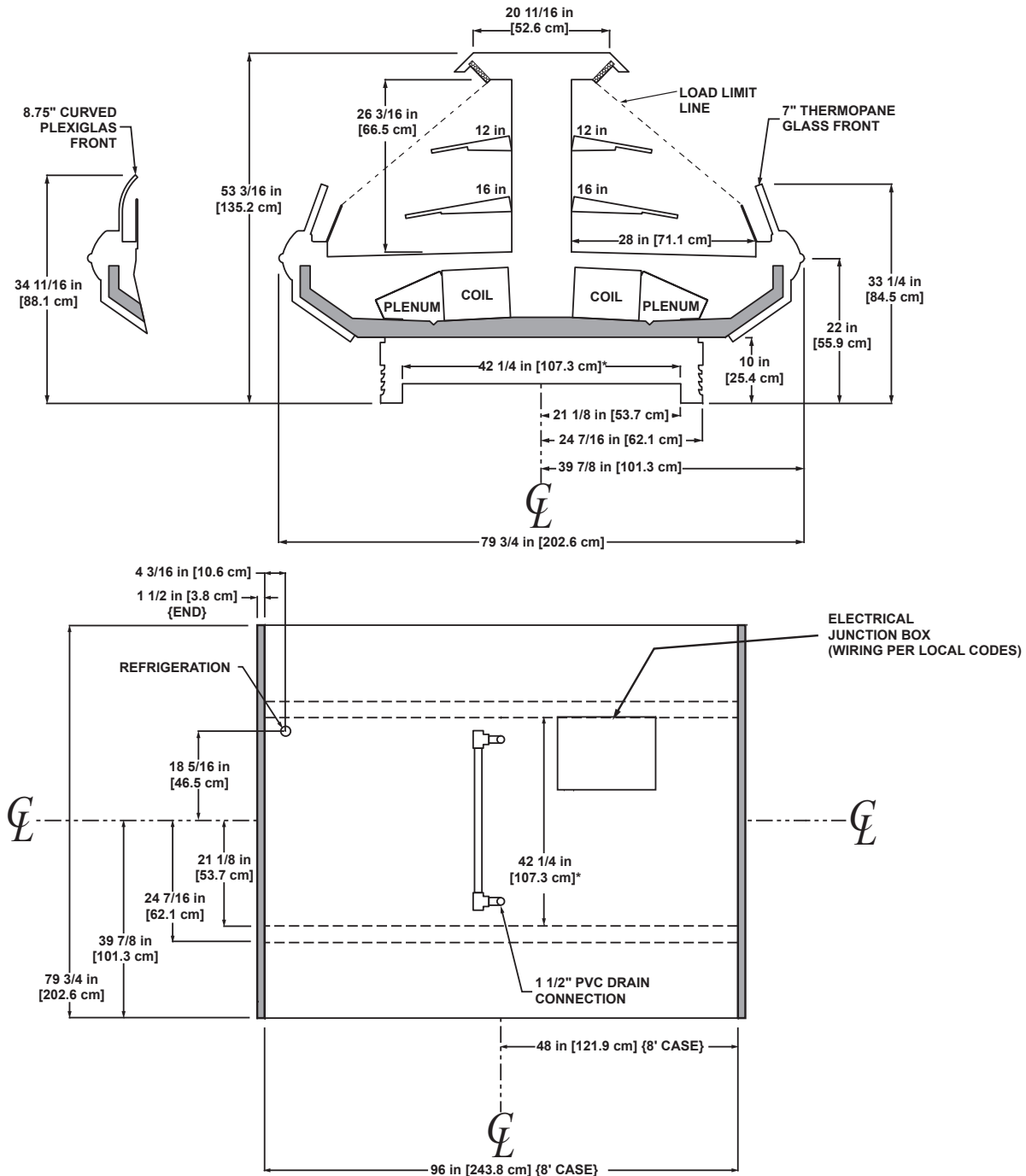
Wide Multi-Deck Island Merchandiser

O3IM: 8' & 12' (Deli / Meat) Double Wrap-Around Ends

O3IMB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End

O3IMBB: 8' (Deli / Meat) Double Joint Ends

O3IMBB



NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

Electrical Data

Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3IP	8'	6	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	1.20	88	1.08	130	7.22	1502	8.33	2000
O3IPB	8'	6	0.90	66	0.75	90	4.34	902	5.00	1200
	12'	8	1.20	88	1.17	140	7.22	1502	8.33	2000

Lighting Data

Model	Case Length	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting ¹ (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
					120 Volts		120 Volts	
					Amps	Watts	Amps	Watts
O3IP	8'	Top Sill	4	2 (2ft), 2 (4ft)	0.30	35.8	0.54	64.4
		12"	8	6 (0.5ft), 2 (1ft)	0.16	18.6	0.23	27
		16"	8	6 (0.5ft), 2 (1.5ft)	0.21	25.2	0.27	32.4
	12'	Top Sill	6	2 (2ft), 4 (4ft)	0.50	59.6	0.90	107.4
		12"	8	4 (0.5ft), 2 (1ft), 2 (4ft)	0.32	38.2	0.54	64.6
		16"	8	4 (0.5ft), 2 (1.5ft), 2 (4ft)	0.37	44.8	0.56	67.3
O3IP-B	8'	Top Sill	5	1 (2ft), 4 (3ft)	0.33	39.2	0.59	70.3
		12"	5	2 (0.5ft), 1 (1ft), 2 (4ft)	0.33	39.4	0.45	53.8
		16"	5	2 (0.5ft), 1 (1.5ft), 2 (4ft)	0.36	42.7	0.47	56.5
	12'	Top Sill	7	1 (2ft), 6 (3ft)	0.47	55.8	0.83	100.1
		12"	7	2 (0.5ft), 1 (1ft), 4 (4ft)	0.53	63.2	0.81	96.8
		16"	7	2 (0.5ft), 1 (1.5ft), 4 (4ft)	0.55	66.5	0.83	99.5

Guidelines & Control Settings

² BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
Conventional	Parallel				
1045	946	6 - 8	22	34	160

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost ⁴		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	30	47	44	38	26	45	---	---

1 LED lighting values are for a full row of shelves (including wraparounds).

2 BTUH/ft notes:

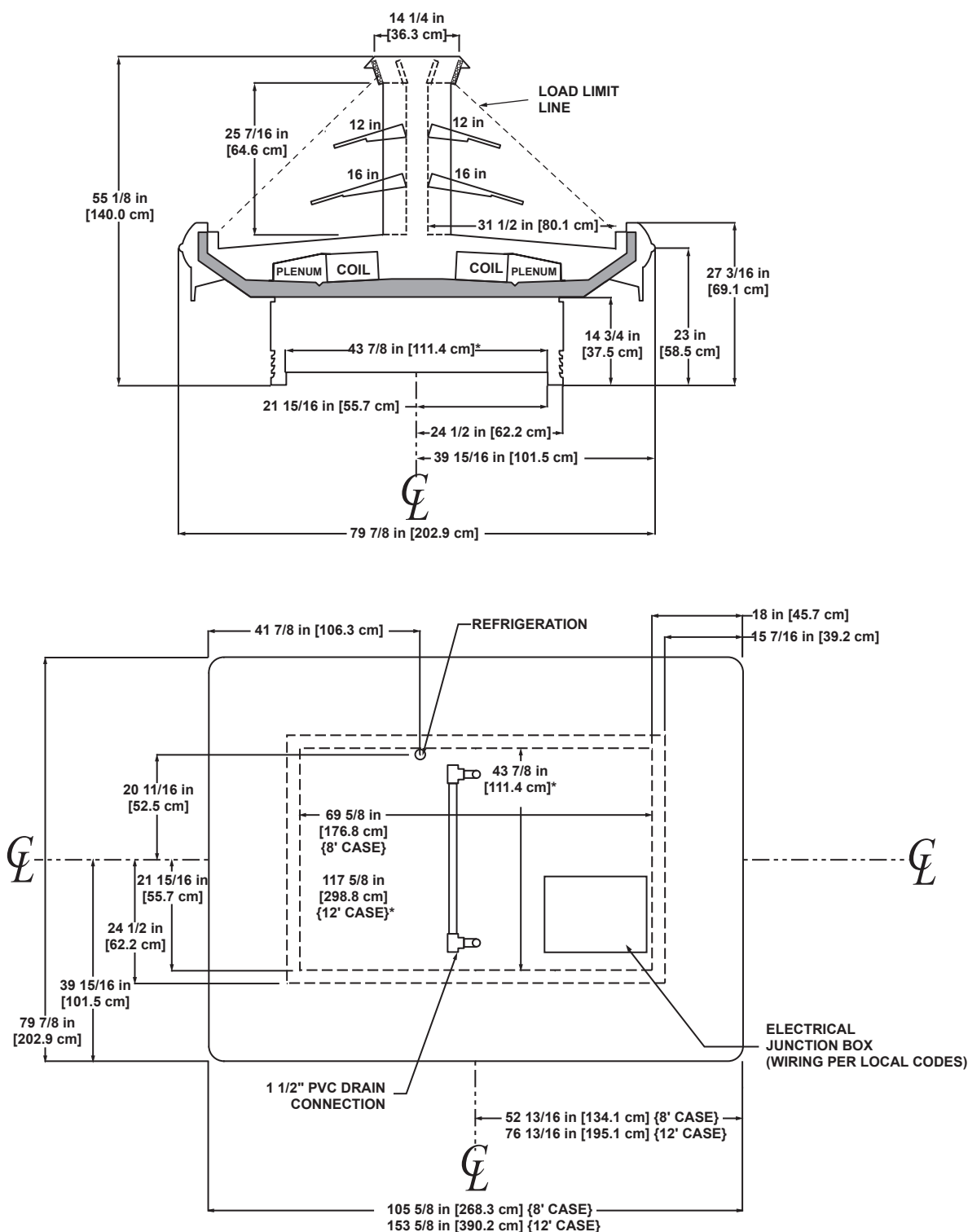
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

4 Only recommended with a High-Efficiency Coil with a 22(°F) evaporator temperature.

5 NOTE: "- - -" indicates that feature is not an option on this case model.

O3IP



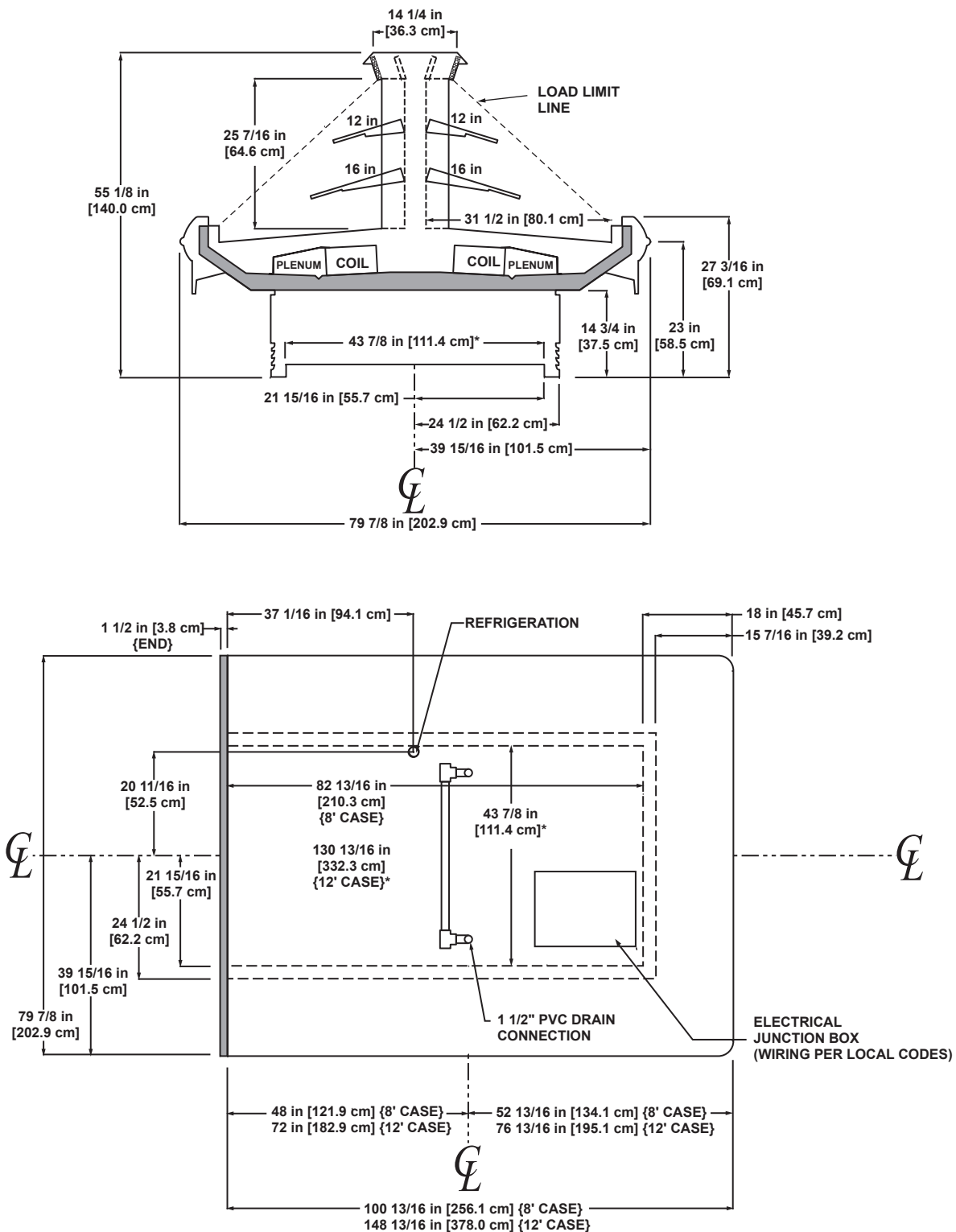
NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 12" & 16"



O3IPB



Electrical Data

Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	120 Volts		120 Volts		120 Volts		240 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2	0.3	21	---	---	---	---	---	---

Lighting Data

Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting ² (Per Light Row)			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
Top Sill	3	1ft	0.08	9	0.14	16.2
Shelf	3	1ft	0.08	9	0.14	16.2

Guidelines & Control Settings

³ BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ⁴ Air Velocity (FPM)
Conventional	Parallel				
2836	2600	6 - 8	22	30	235

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	---	---	40	47	---	---	---	---

1 NOTE: " - - " indicates that feature is not an option on this case model.

2 LED lighting values are for a full row of shelves (including wraparounds).

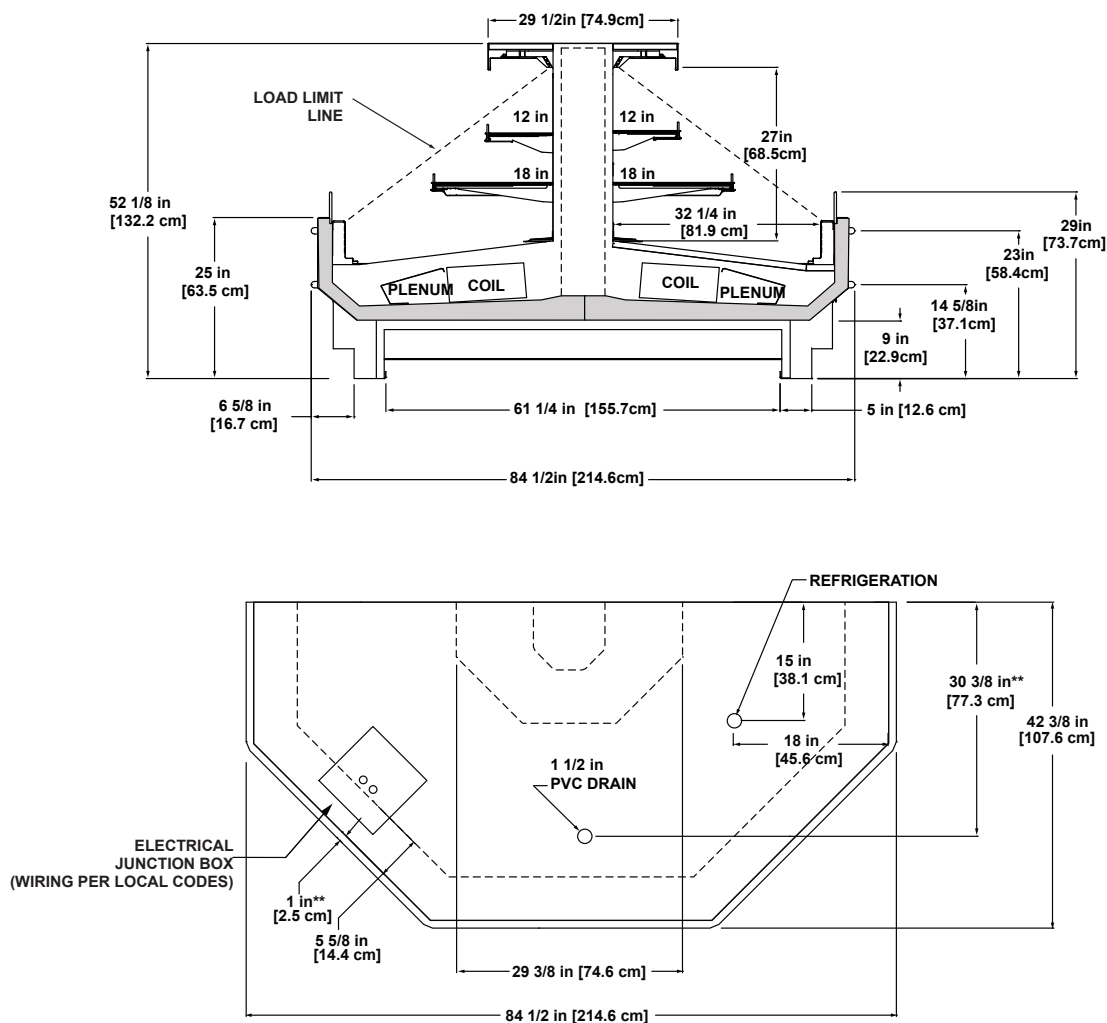
3 BTUH/case notes:

- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

4 Average discharge air velocity at peak of defrost.

Multi-Deck Island End Cap Merchandiser

(Dairy / Deli / Meat / Produce)



NOTES:

- * STUB-UP AREA
 - ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
-
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARIES WITH BASEFRAME HEIGHT
 - REFER TO O3UM FOR SUCTION AND LIQUID LINE SIZES
 - SHELF SIZES BASED ON O3UM SHELF SELECTION
 - DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

Electrical Data

Model	Case Length	Fans Per Case	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			120 Volts		120 Volts		208 Volts		240 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O4ID	8'	6	0.70	42.0	0.67	80	7.70	1600	8.88	2130
	12'	8	0.94	56.0	1.06	127	11.54	2400	13.32	3200
O4IDB	6'	4	0.47	28.0	0.63	76	5.77	1200	6.66	1596
	8'	6	0.70	42.0	0.88	106	7.70	1600	8.88	2130
	12'	8	0.94	56.0	1.24	149	11.54	2400	13.32	3200
O4IDBB	8'	6	0.70	42.0	0.91	109	7.70	1600	8.88	2130

Lighting Data

Model	Case End	Shelf Depth	Lights Per Row	Light Length	Clearvoyant LED Lighting ¹ (Per Light Row)			
					Standard Power (Cornice or Shelf)		High Power (Cornice)	
					120 Volts		120 Volts	
					Amps	Watts	Amps	Watts
O4ID	8' Wrapped	Top Sill	4	2 (2ft), 2 (4ft)	0.50	59.6	0.90	107.4
		8"	4	2 (0.5ft), 2 (3ft)	0.31	37.4	0.54	65.0
		10, 12, 14, 16	4	2 (0.5ft), 4 (3ft)	0.33	39.2	0.59	70.4
	12' Wrapped	Top Sill	6	2 (2ft), 4 (4ft)	0.50	59.6	0.90	107.4
		8"	6	2 (0.5ft), 4 (3ft)	0.31	37.4	0.54	65.0
		10, 12, 14, 16	6	2 (0.5ft), 4 (3ft)	0.33	39.2	0.59	70.4
O4IDB	6' Single Butt	Top Sill	3	1 (2ft), 2 (4ft)	0.25	29.8	0.45	53.7
		8"	3	1 (0.5ft), 2 (3ft)	0.16	18.7	0.27	32.5
		10, 12, 14, 16	3	1 (1ft), 2 (3ft)	0.16	19.6	0.29	35.2
	8' Single Butt	Top Sill	5	1 (2ft), 4 (3ft)	0.33	39.2	0.59	70.3
		8"	3	1 (0.5ft), 2 (5ft)	0.26	30.7	0.46	55.3
		10, 12, 14, 16	3	1 (1ft), 2 (5ft)	0.26	31.6	0.48	58
	12' Single Butt	Top Sill	7	1 (2ft), 6 (3ft)	0.47	55.8	0.83	100.1
		8"	5	1 (0.5ft), 2 (4ft), 2 (5ft)	0.45	54.5	0.82	98.3
		10, 12, 14, 16	5	1 (1ft), 2 (4ft), 2 (5ft)	0.46	55.4	0.84	101
		10, 12, 14, 16	5	1 (1ft), 2 (4ft), 2 (5ft)	0.46	55.4	0.84	101
O4IDBB	8' Double Butt	Top Sill/Shelves	4	4 (4ft)	0.40	47.6	0.72	86

Guidelines & Control Settings

Model	Application	2BTUH/ft		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge ³ Air Velocity (FPM)
		Conventional	Parallel				
O4ID	Meat	2189	1976	6 - 8	17	25	130
	Deli	2023	1826	6 - 8	22	28	130
O4IDB	Meat	2189	1976	6 - 8	17	25	130
	Deli	2023	1826	6 - 8	22	28	130
O4IDBB	Meat	1858	1677	6 - 8	17	25	130
	Deli	1740	1571	6 - 8	22	28	130

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost ⁴		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	30	47	45	45	26	45	- - - ⁵	- - -

1 LED lighting values are for a full row of shelves (including wraparounds).

2 BTUH/ft notes:

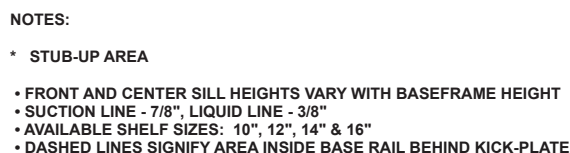
- Standard fans (see Appendix C) increase refrigeration load by 96 BTUH/fan.
- Listed BTUH/ft indicate unlighted shelves. For LED lighting, add 36 BTUH per 4' lighted shelf and 27 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case. For T8 lighted shelves (see Appendix D) and 3rd row lighting, add 80 BTUH per 4' lighted shelf and 60 BTUH per 3' lighted shelf to determine Total Lighting BTUH Load, then divide the Total Lighting BTUH Load by the length of the case.

3 Average discharge air velocity at peak of defrost.

4 Only recommended with a High-Efficiency Coil with a 22(°F) evaporator temperature.

5 NOTE: "- - -" indicates that feature is not an option on this case model.

Wide Multi-Deck Island Merchandiser
O4ID: 8' & 12' (Deli / Meat) Double Wrap-Around Ends
O4IDB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End
O4IDBB: 8' (Deli / Meat) Double Joint Ends



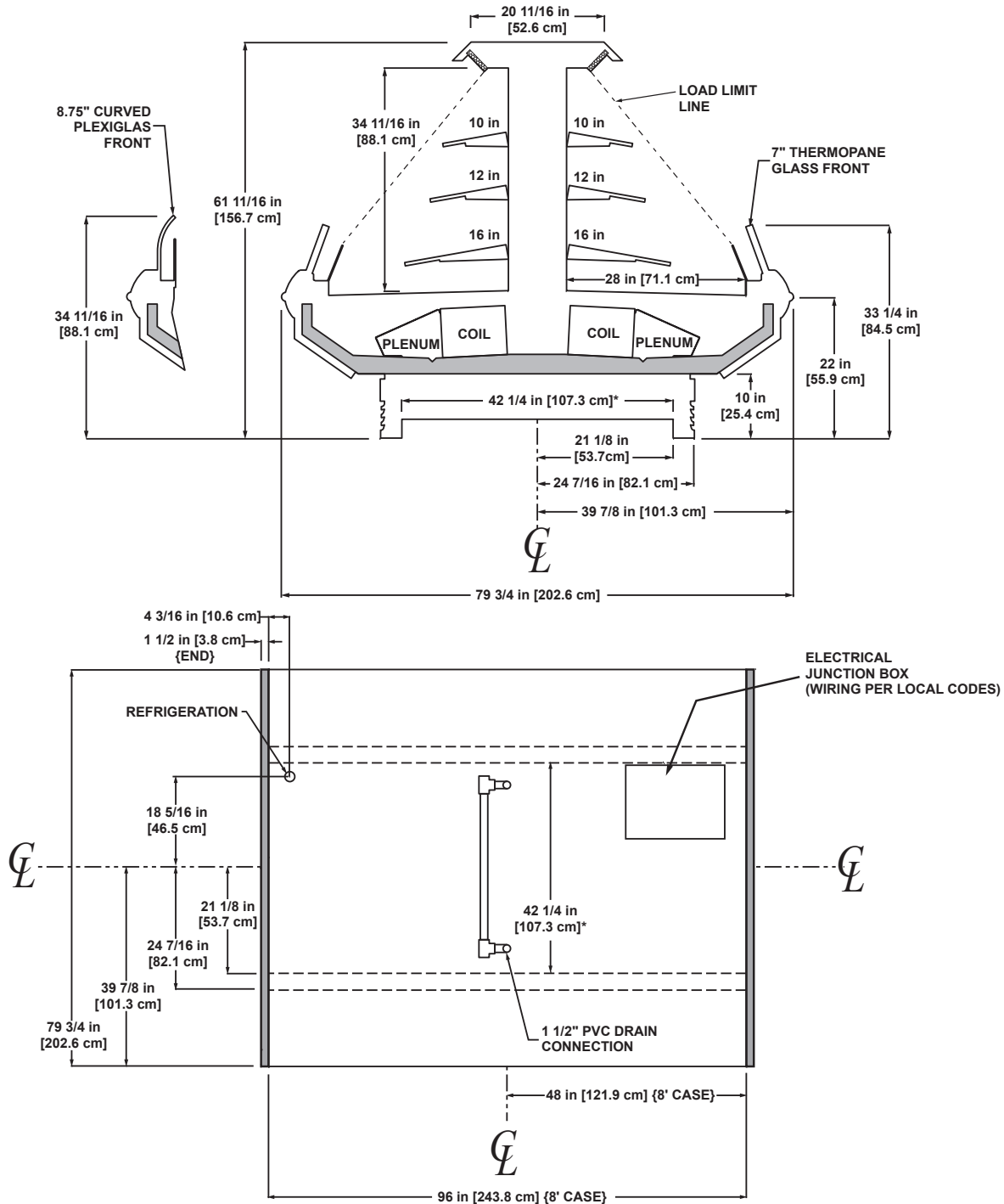
Wide Multi-Deck Island Merchandiser

O4ID: 8' & 12' (Deli / Meat) Double Wrap-Around Ends

O4IDB: 6', 8' & 12' (Deli / Meat) Single Wrap-Around End

O4IDBB: 8' (Deli / Meat) Double Joint Ends

O4IDBB

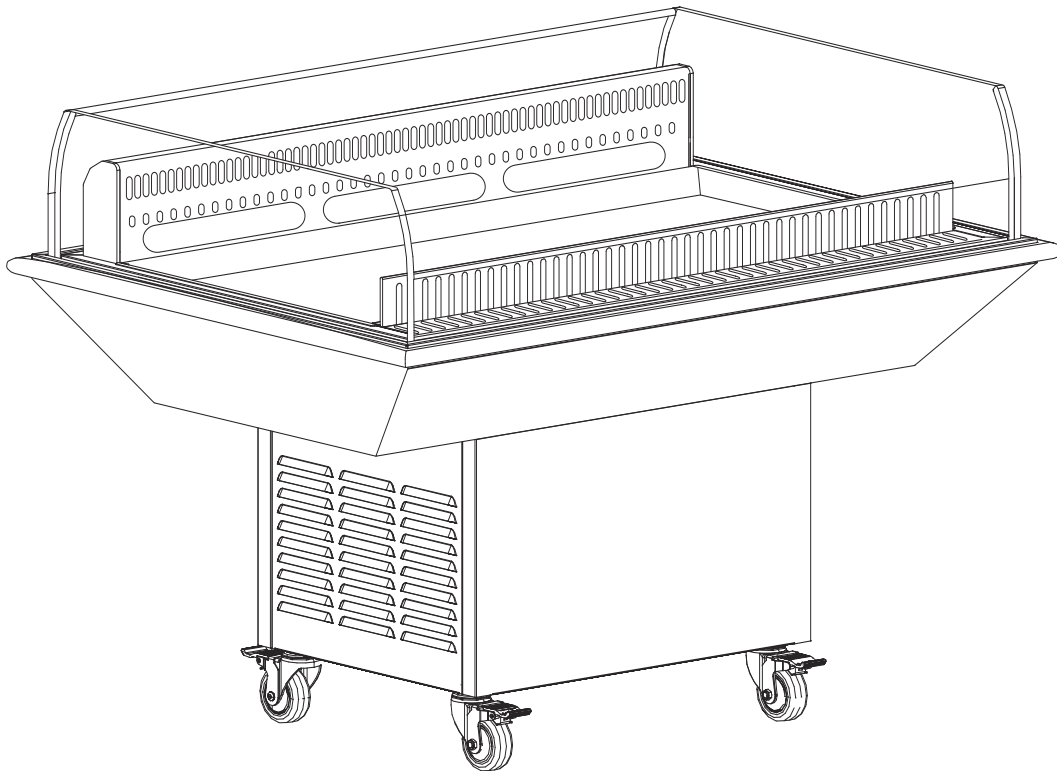


NOTES:

* STUB-UP AREA

- FRONT AND CENTER SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
- SUCTION LINE - 7/8", LIQUID LINE - 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE

MOBILE SELF-CONTAINED



NOTES

- Cases shown with an ANSI/NSF* mark are listed by NSF.
- Cases shown with a UL* mark are listed by Underwriters Laboratories Inc.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Technical information contained herein is subject to change without notice.

* ANSI - American National Standard Institute
NSF - National Sanitation Foundation
UL - Underwriters Laboratories Inc

MDCA Mobile Single-Deck Self-Contained Merchandiser

4' & 6' (Deli)

System Requirements

Case Length	Volts	Phase	Hz	Plug Style	Cord Length
4'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft
6'	120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

Case Length	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
4'	52	6 - 8	25	295
6'	52	6 - 8	25	295

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.
4'	120	1	60	1/3	7.4	29.8	R404A
6'	120	1	60	1/2	10.1	51.0	R404A

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	35	47	--- ⁴	---	---	---	---	---

¹ Average discharge air velocity at peak of defrost.

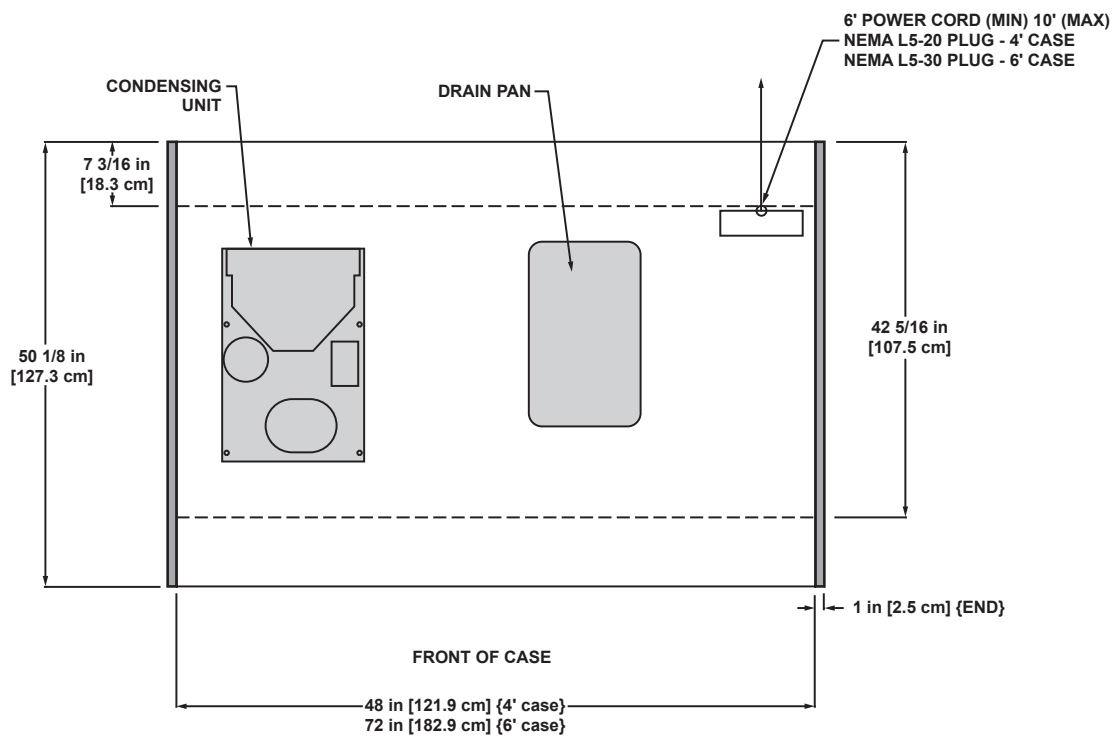
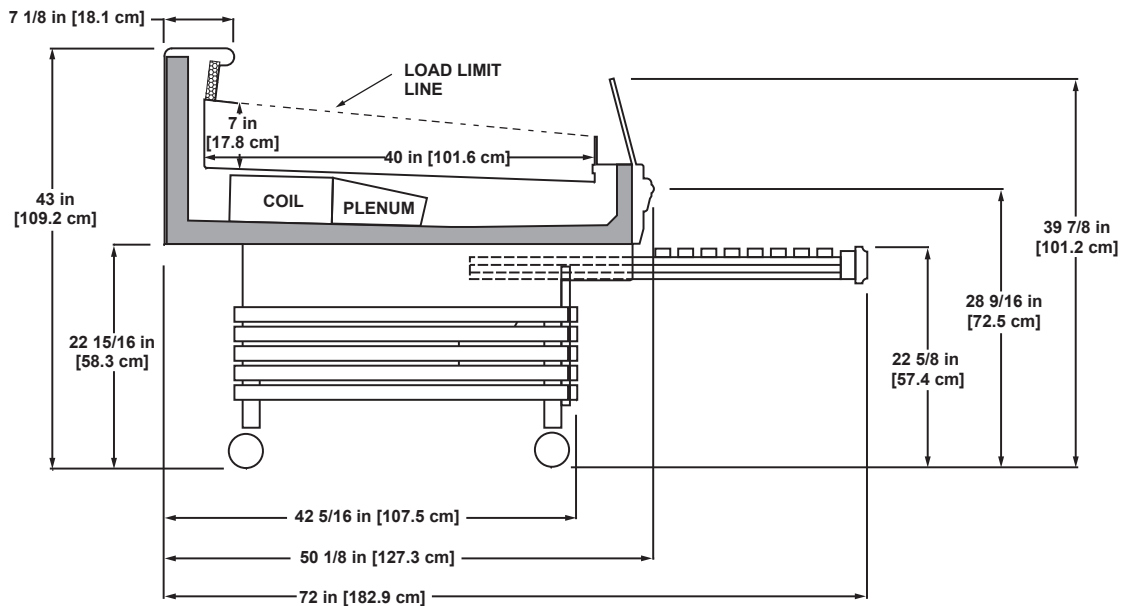
² RLA = Running Load Amps

³ LRA = Locked Rotor Amps

⁴ NOTE: "---" indicates that feature is not an option on this case model.

MDCA Mobile Single-Deck Self-Contained Merchandiser

4' & 6' (Deli)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- CASE BASEFRAME ALLOWS OVERALL HEIGHT TO BE LOWERED AS MUCH AS 6" IN 1" INCREMENTS



MIDA Mobile Single-Deck Self-Contained Merchandiser

4' (Deli)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-15 or NEMA 5-15	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
7.85	60.5	6 - 8	24	70

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refriger.
120	1	60	1/4	8.0	34.6	R404A	2.1

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	6 - 8	- - - ⁴	- - -	45	47	- - -	- - -	- - -	- - -

1 Average discharge air velocity at peak of defrost.

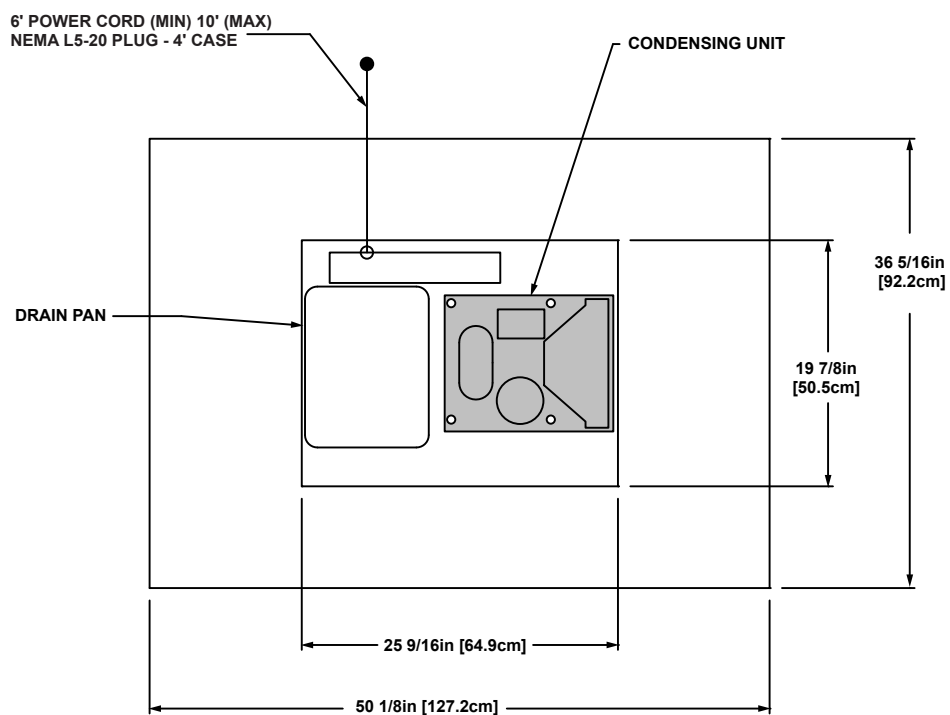
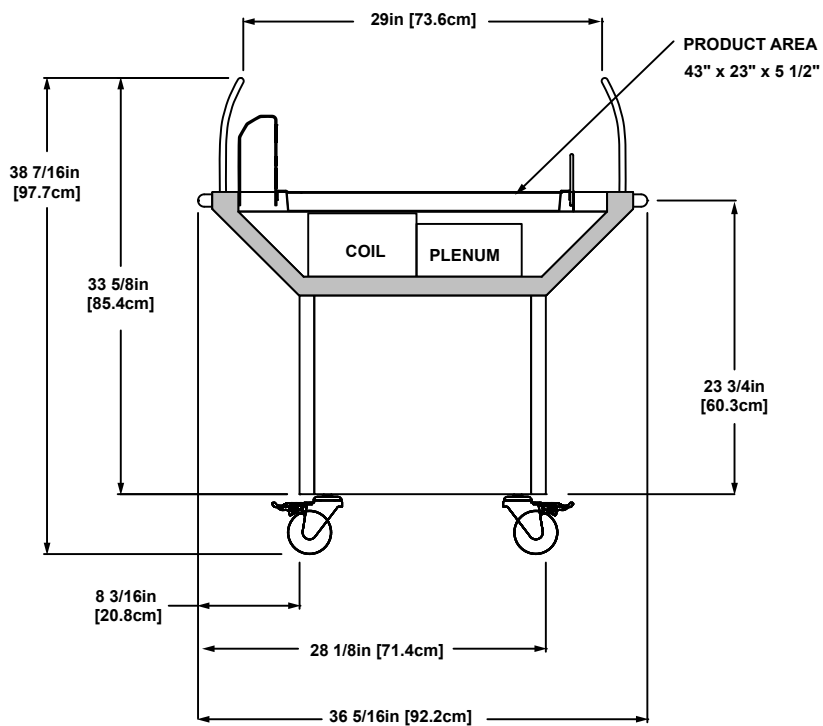
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "- - -" indicates that feature is not an option on this case model.

MIDA Mobile Single-Deck Self-Contained Merchandiser

4' (Deli)



MOBILE
SELF-CONTAINED

Deli



MMCA Mobile Single-Deck Self-Contained Merchandiser

4', 6' & 8' (Deli / Meat)

System Requirements

Case Length	Volts	Phase	Hz	Plug Style	Cord Length
4'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft
6'	120	1	60	NEMA L5-30	10 ft
8'	120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

Case Length	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
4'	49	6 - 8	24	140
6'	49	6 - 8	24	140
8'	49	6 - 8	24	140

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.
4'	120	1	60	1/3	7.4	29.8	R404A
6'	120	11	60	1/2	10.1	51.0	R404A
8'	120	1	60	1/2	10.1	51.0	R404A

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	35	47	--- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

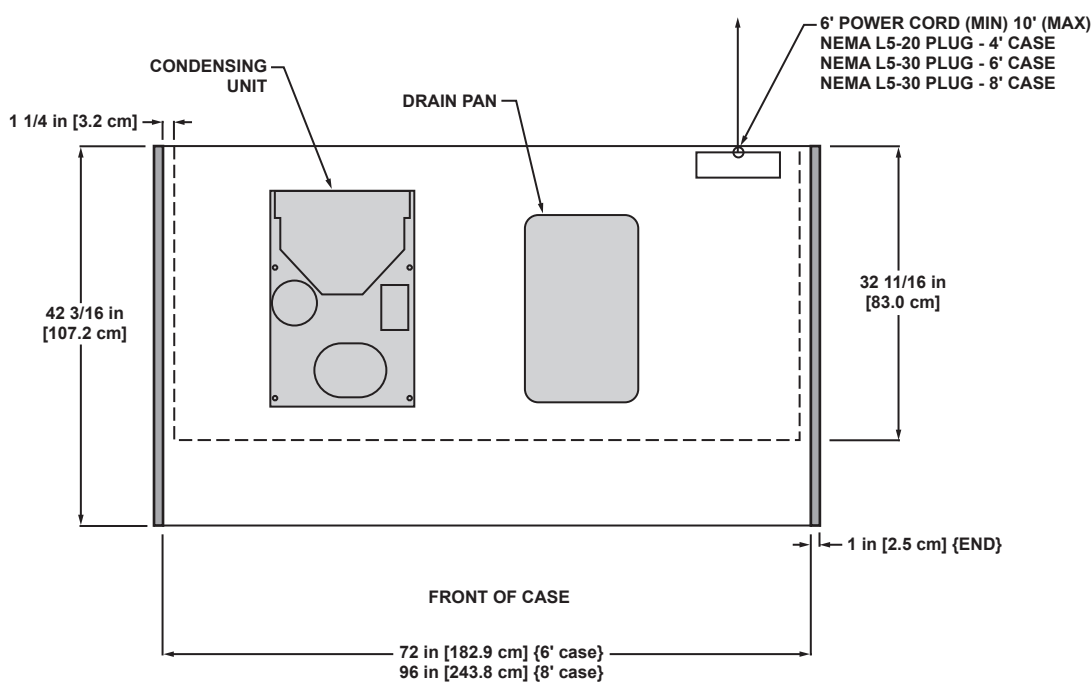
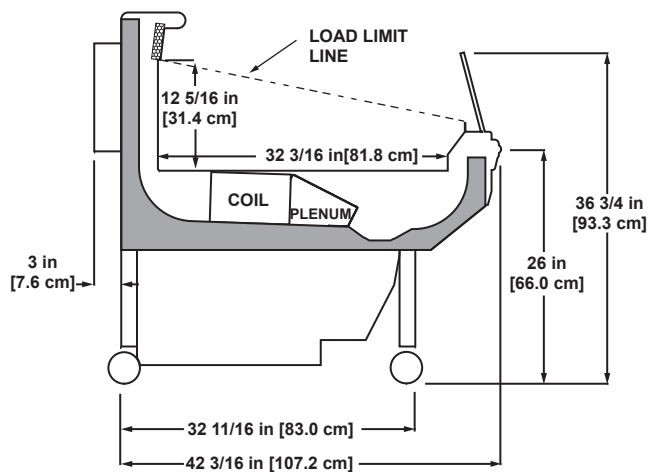
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "---" indicates that feature is not an option on this case model.

MMCA Mobile Single-Deck Self-Contained Merchandiser

4', 6' & 8' (Deli / Meat)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT



MPCA Mobile Single-Deck Self-Contained Merchandiser

8' (Deli / Meat)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
19.9	6 - 8	30	163

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.
120	1	60	1/2	12.9	66.3	R134A

Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	6 - 8	40	49	60	47	--- ⁴	---	---	---

1 Average discharge air velocity at peak of defrost.

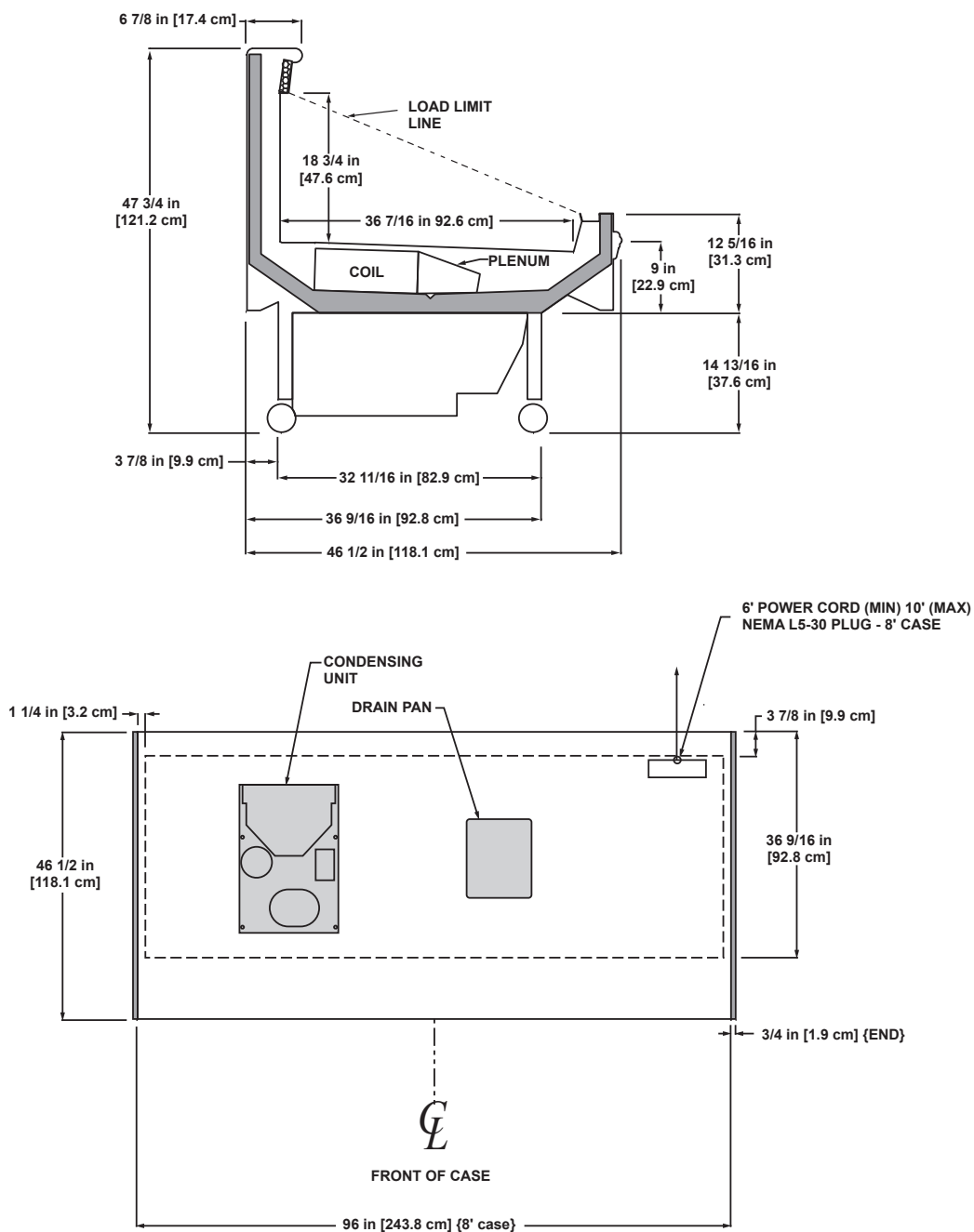
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: " - - - " indicates that feature is not an option on this case model.

MPCA Mobile Single-Deck Self-Contained Merchandiser

8' (Deli / Meat)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

MOBILE
SELF-CONTAINED

Deli / Meat



02.5UMA Mobile Multi-Deck Self-Contained Merchandiser

4', 6' & 8' (Dairy / Deli / Meat / Produce)

System Requirements

Case Length	Volts	Phase	Hz	Plug Style	Cord Length
4'	120	1	60	NEMA L5-20	10'
6'	120	1	60	NEMA L5-30	10'
6'	208/230	1	60	NEMA L14-30	10'
8'	208/230	1	60	NEMA L14-30	10'

Guidelines & Control Settings

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
40	6-8	26	225

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
4'	115	1	60	1/2	10.5	54.5	R404A	3.6
6'	115	1	60	3/4	15	70	R404A	4.3
6'	208/230	1	60	3/4	6.1	40	R404A	4.3
8'	208/230	1	60	1-1/4	11	51	R404A	5.3

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	40	47	45	45	--- ⁴	---	---	---

1 Average discharge air velocity at peak of defrost.

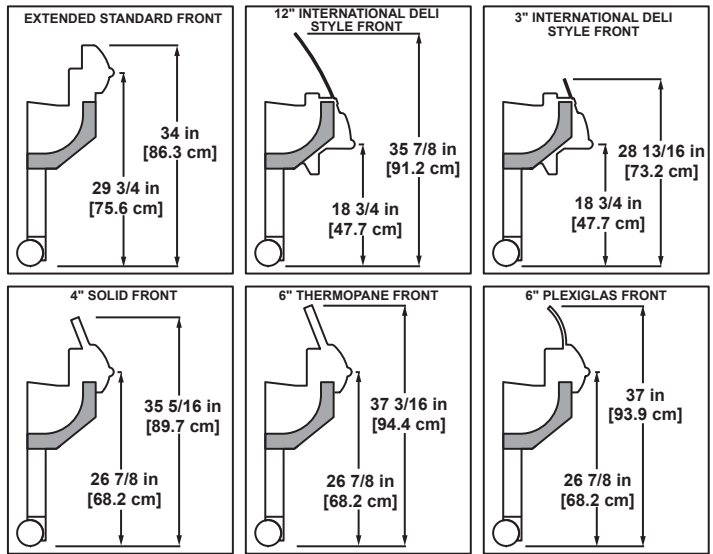
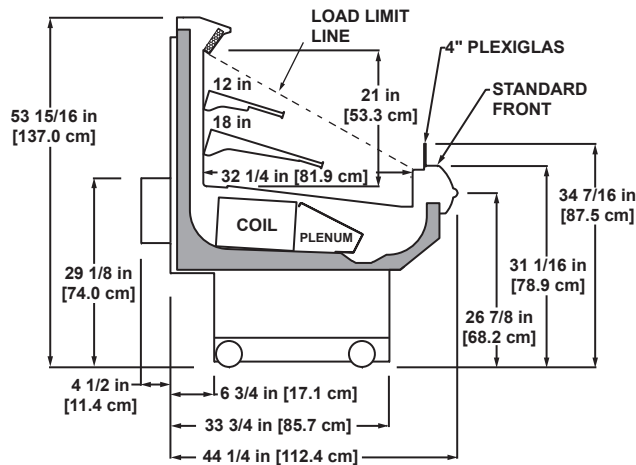
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

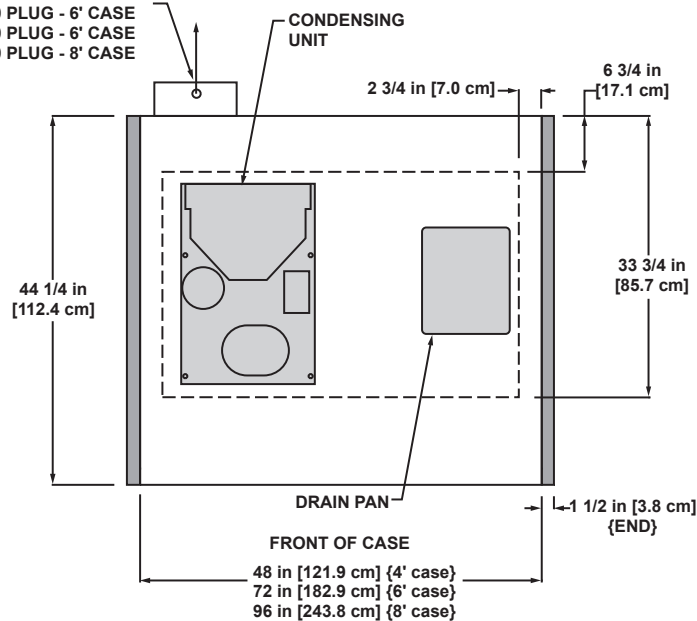
4 NOTE: " - - " indicates that feature is not an option for this case model.

02.5UMA Mobile Multi-Deck Self-Contained Merchandiser

4', 6' & 8' (Dairy / Deli / Meat / Produce)



6' POWER CORD (MIN) 10' (MAX)
 NEMA L5-20 PLUG - 4' CASE
 NEMA L5-30 PLUG - 6' CASE
 NEMA L14-30 PLUG - 6' CASE
 NEMA L14-20 PLUG - 8' CASE



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"



O3UMA Mobile Multi-Deck Self-Contained Merchandiser

4', 6' & 8' (Dairy / Deli / Meat / Produce)

System Requirements

Case Length	Volts	Phase	Hz	Plug Style	Cord Length
4'	120	1	60	NEMA L5-20	10'
6'	120	1	60	NEMA L5-30	10'
6'	208/230	1	60	NEMA L14-30	10'
8'	208/230	1	60	NEMA L14-30	10'

Guidelines & Control Settings

Front Sill	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
Solid	32.1	40	6 - 8	26	225

Condensing Unit Data

Case Length	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
4'	115	1	60	1/2	10.5	54.5	R404A	3.6
6'	115	1	60	3/4	15	70	R404A	4.3
6'	208/230	1	60	3/4	6.1	40	R404A	4.3
8'	208/230	1	60	1-1/4	11	51	R404A	5.3

Defrost Controls

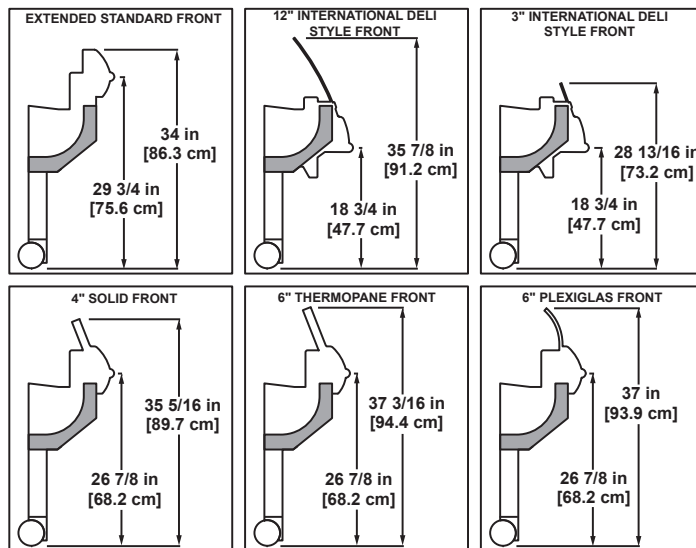
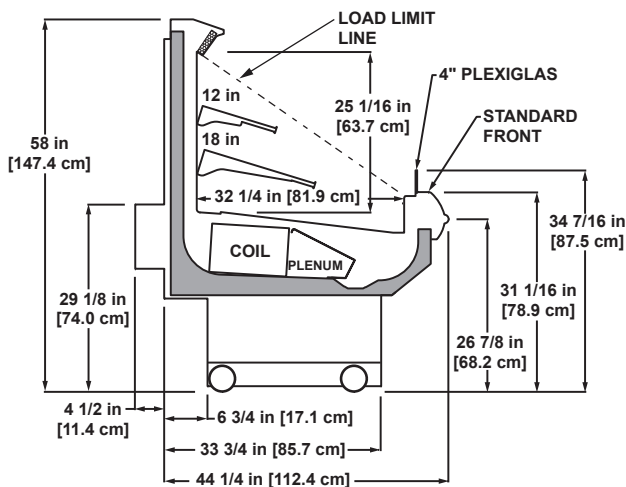
Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	40	47	--- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

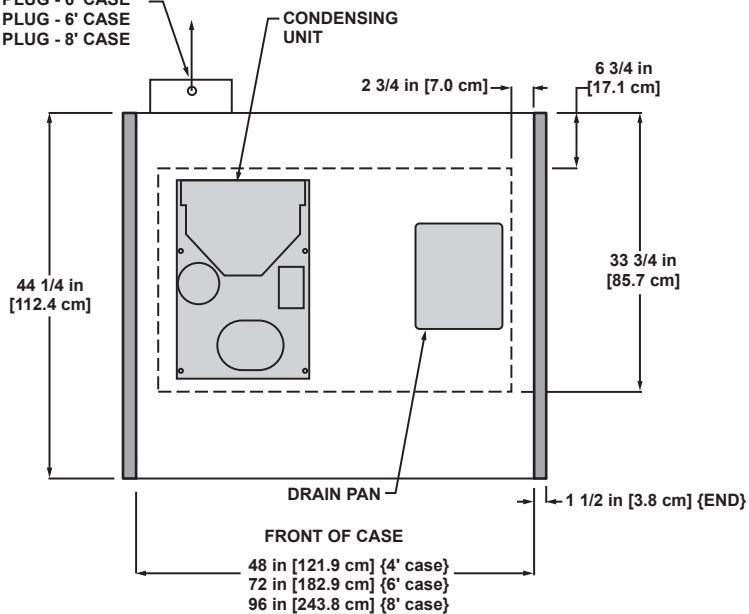
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "- - -" indicates that feature is not an option for this case model.



6' POWER CORD (MIN) 10' (MAX)
NEMA L5-20 PLUG - 4' CASE
NEMA L5-30 PLUG - 6' CASE
NEMA L14-30 PLUG - 6' CASE
NEMA L14-20 PLUG - 8' CASE



- NOTES:**
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 - AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
 - PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
 - RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"

O3UMA-56" Mobile Multi-Deck Self-Contained Merchandiser

4' (Dairy / Deli / Meat / Produce)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
24.1	18-20	6 - 8	31	230

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refriger.
120	1	60	1/2	10.2	51.0	R134A	2.84

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
6	40	47	--- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

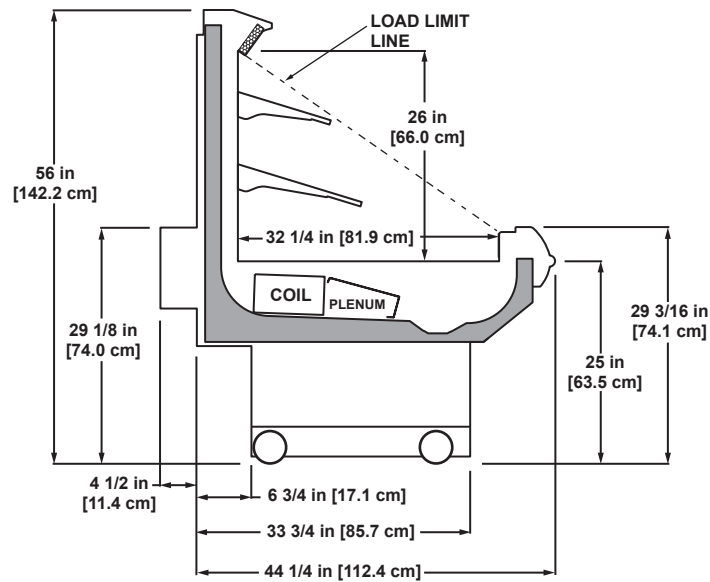
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

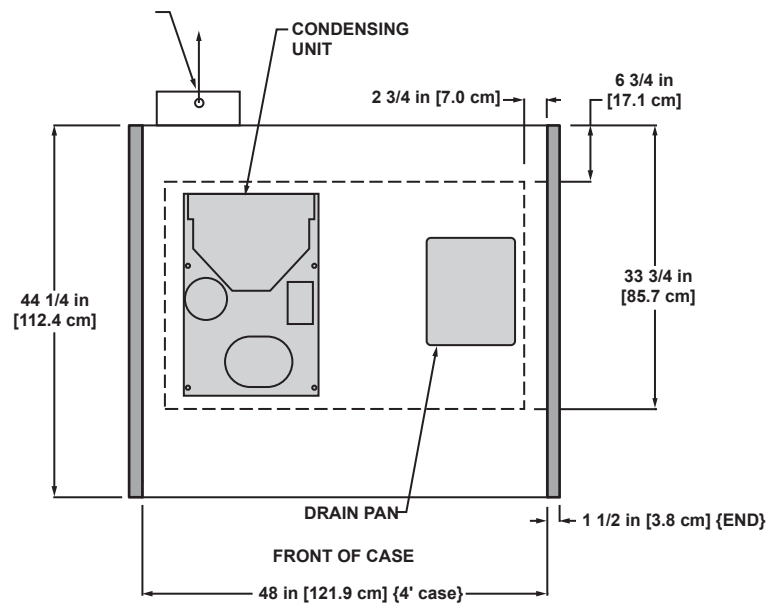
4 NOTE: "---" indicates that feature is not an option on this case model.

O3UMA-56" Mobile Multi-Deck Self-Contained Merchandiser

4' (Dairy / Deli / Meat / Produce)



6' POWER CORD (MIN) 10' (MAX)
NEMA L5-20 PLUG - 4' CASE



NOTE:
ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

MOBILE
SELF-CONTAINED

Dairy / Deli / Meat / Produce



03.5UMA Mobile Multi-Deck Self-Contained Merchandiser

6' (Dairy / Deli / Meat / Produce)

System Requirements

Case Length	Volts	Phase	Hz	Plug Style	Cord Length
6'	208/230	1	60	NEMA L14-30	10'

Guidelines & Control Settings

Front Sill	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
Solid	TBD	18-20	6 - 8	31	230

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
208/230	1	60	1-1/4	11	51	R404A	4.25

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	40	47	--- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

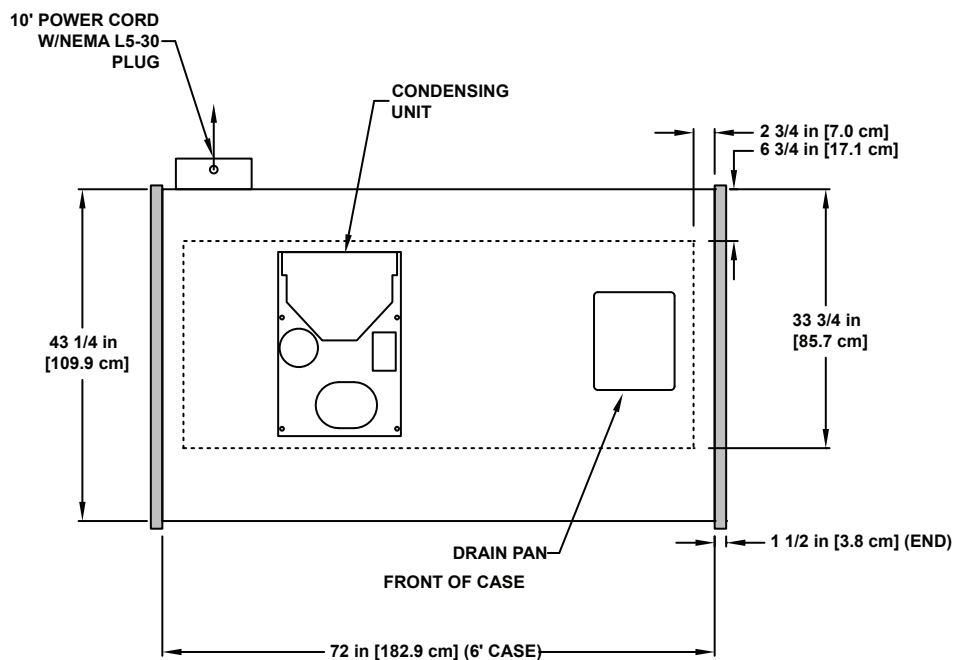
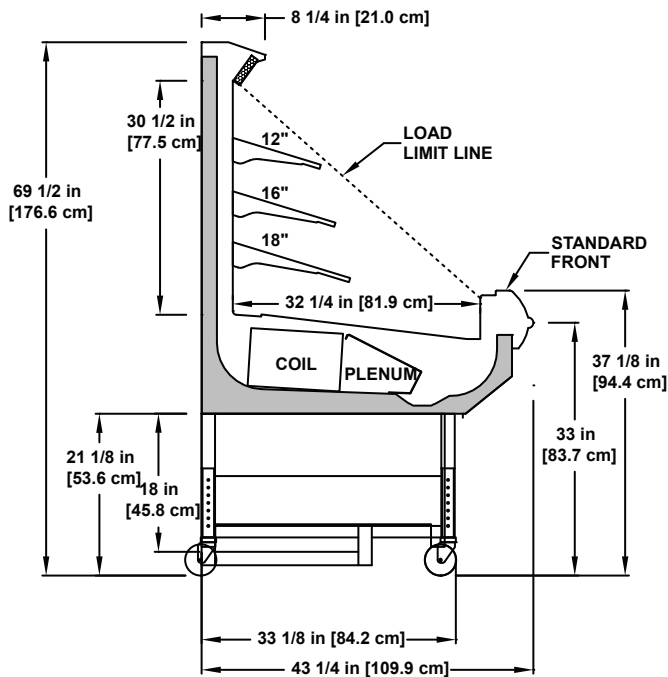
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "- - -" indicates that feature is not an option for this case model.

03.5UMA Mobile Multi-Deck Self-Contained Merchandiser

6' (Dairy / Deli / Meat / Produce)



NOTE:
ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
BASE FRAME SHOWN AT THE LOWEST HEIGHT AVAILABLE



OHMA Mobile High Multi-Deck Self-Contained Merchandiser

4' (Meat)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
208	1	60	NEMA L14-20P	10 ft

Lighting Data

Lights Per Row	Light Length	Clearvoyant LED Lighting (Per Light Row)			
		Standard Power (Cornice)		High Power (Cornice)	
		120 Volts		120 Volts	
		Amps	Watts	Amps	Watts
1	4'	0.10	11.9	0.18	21.5

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge ¹ Air Velocity (FPM)
40	52-54	6-8	31.7	39.3	350

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
208	1	60	3/4	6.2	34	R404A	5

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	--- ⁴	---	60	48	---	---	---	---

1 Average discharge air velocity at peak of defrost.

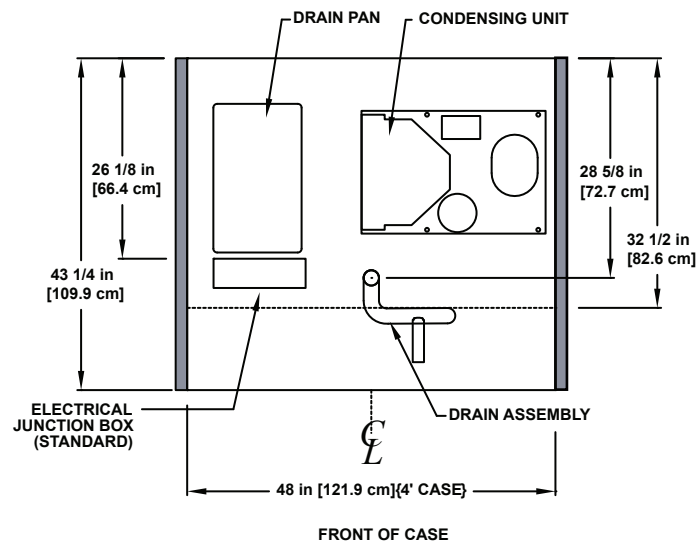
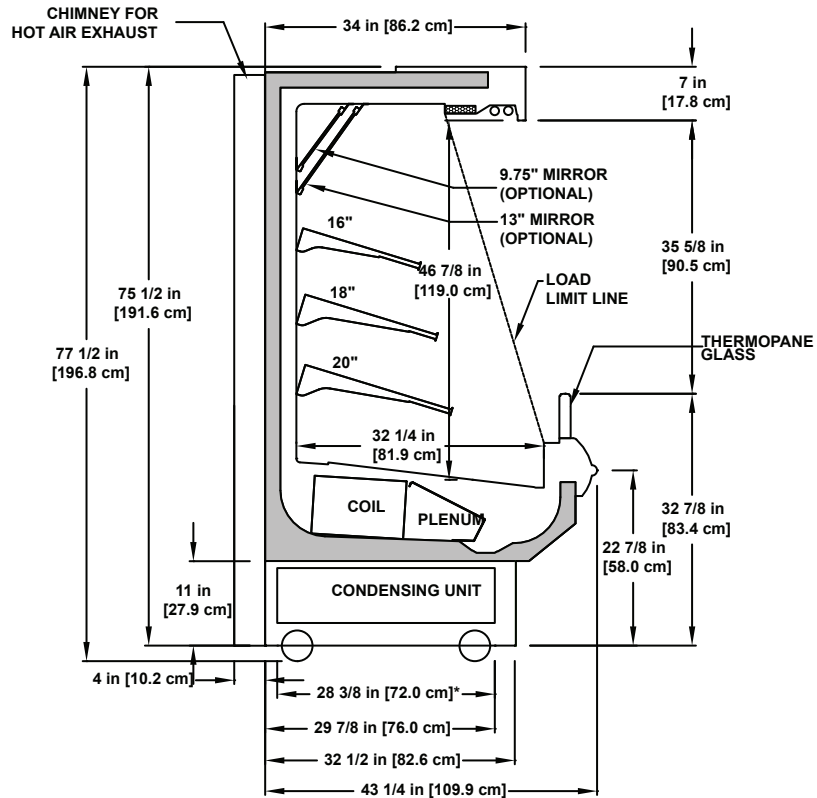
2 RLA - "Running Load Amps"

3 LRA - "Locked Rotor Amps"

4 NOTE: " - - - " not an option on this case model.

OHMA Mobile High Multi-Deck Self-Contained Merchandiser

4' (Meat)



MOBILE
SELF-CONTAINED

Meat



O2SIA International Style Mobile Self-Contained Merchandiser

4' (Deli / Meat / Seafood)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
14.02	16	6 - 8	24	240

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refriger.
120	1	60	1/3	7.2	29.0	R134A	2.25

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
3	45	50	- - - ⁴	- - -	- - -	- - -	- - -	- - -

1 Average discharge air velocity at peak of defrost.

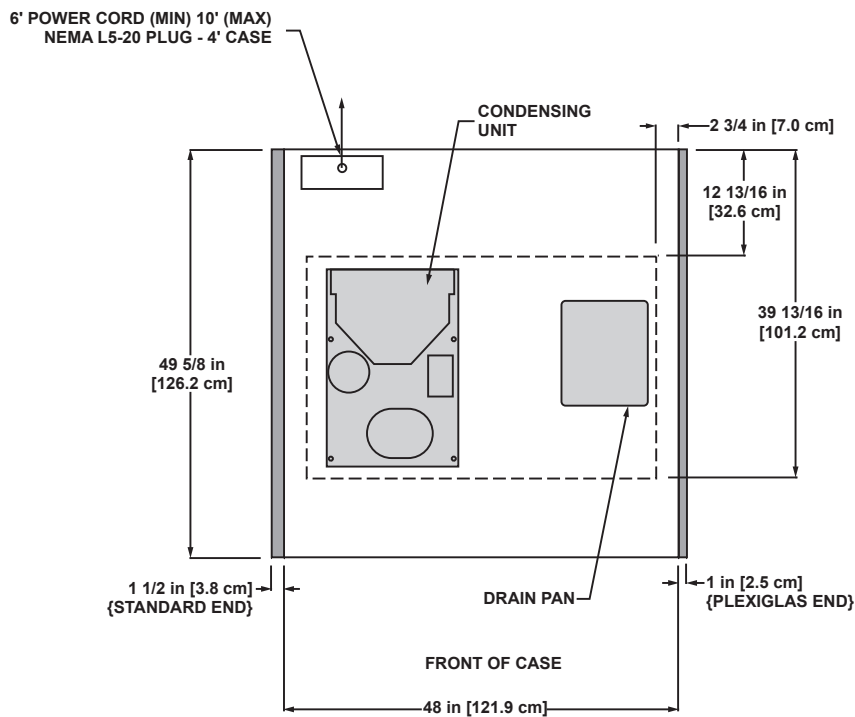
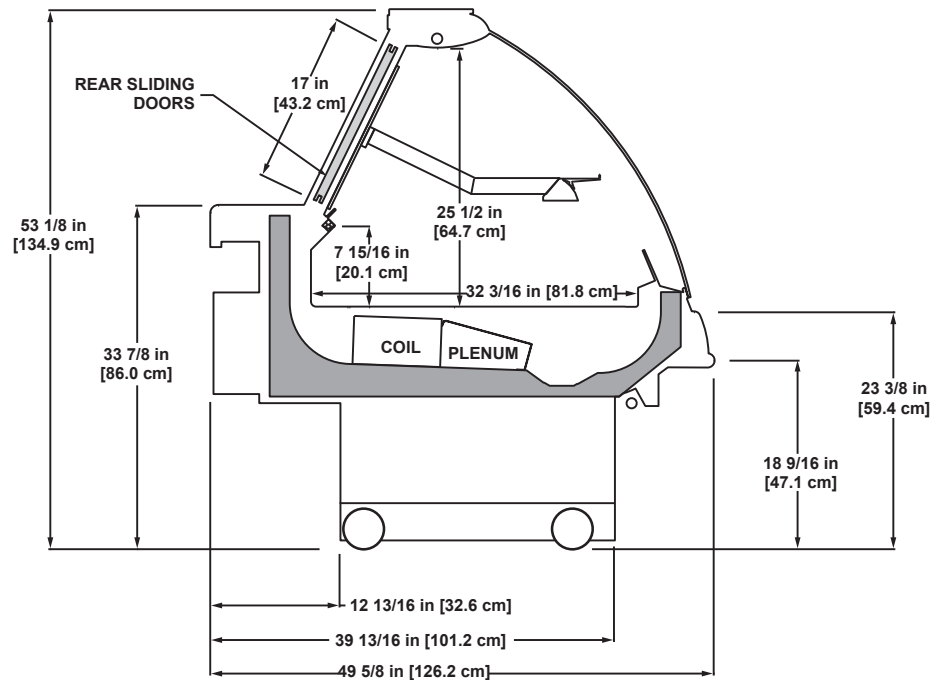
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "- - -" indicates that feature is not an option on this case model.

O2SIA International Style Mobile Self-Contained Merchandiser

4' (Deli / Meat / Seafood)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT



OSIA International Style Mobile Self-Contained Merchandiser

4' (Deli / Meat / Seafood)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
12 - 14	6 - 8	26	175

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
120	1	60	1/3	7.2	29.0	R134A	2.25

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	45	47	-- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

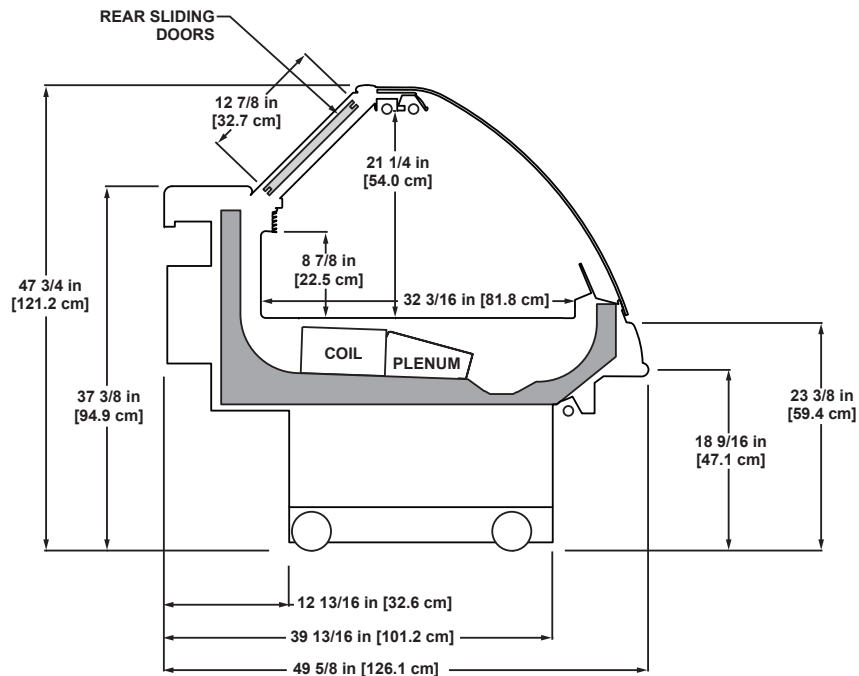
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

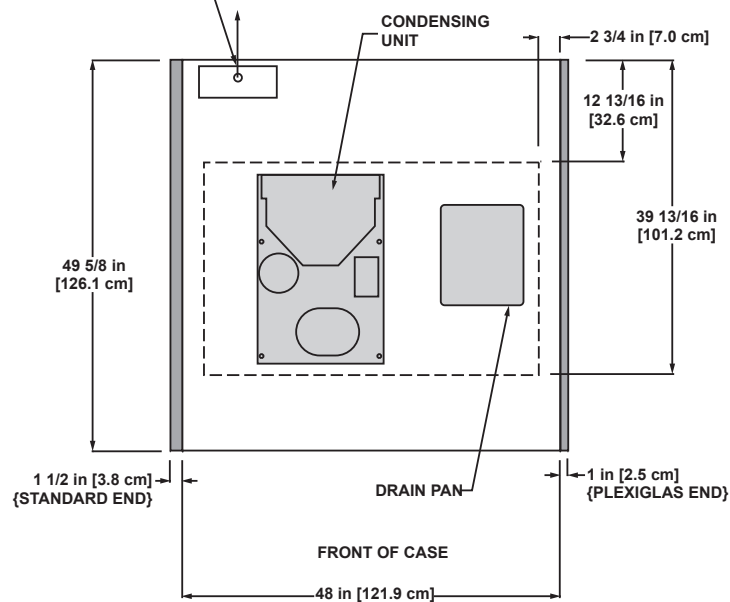
4 NOTE: "--" indicates that feature is not an option on this case model.

OSIA International Style Mobile Self-Contained Merchandiser

4' (Deli / Meat / Seafood)



6' POWER CORD (MIN) 10' (MAX)
NEMA L5-20 PLUG - 4' CASE



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

MOBILE
SELF-CONTAINED

Deli / Meat / Seafood



OSIOA International Style Mobile Self-Contained Merchandiser

4' (Deli / Meat / Seafood)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
14.1	12 - 14	6 - 8	26	182

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.
120	1	60	1/2	10.4	48.0	R134A

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	40	47	--- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

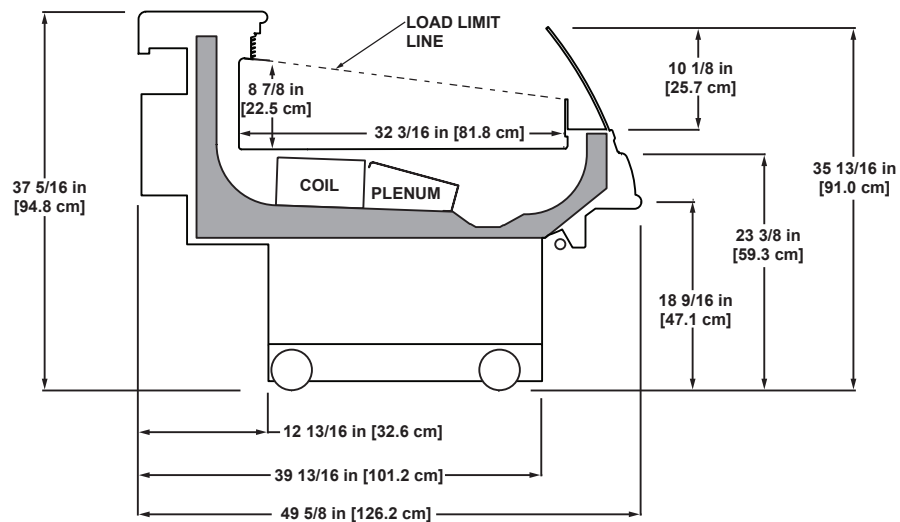
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

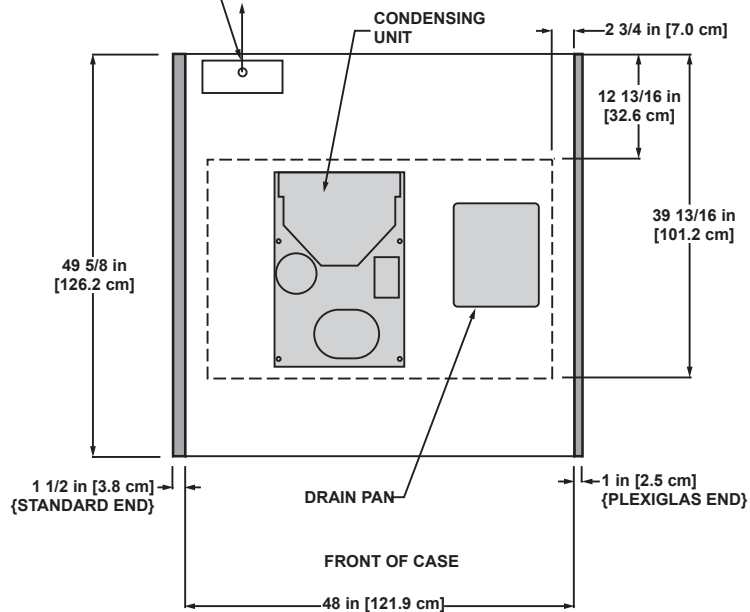
4 NOTE: "---" indicates that feature is not an option on this case model.

OSIOA International Style Mobile Self-Contained Merchandiser

4' (Deli / Meat / Seafood)



6' POWER CORD (MIN) 10' (MAX)
NEMA L5-20 PLUG - 4' CASE



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

MOBILE
SELF-CONTAINED

Deli / Meat / Seafood



OSIOPA International Style Mobile Self-Contained Prep Merchandiser

4' (Deli / Meat / Seafood)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

Application	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
Deli	13.6	20	6 - 8	34	200
Meat	18.0	16	6 - 8	32	200

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
120	1	60	1/3	7.2	29.0	R134A	2.25

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	40	47	--- ⁴	---	---	---	---	---

1 Average discharge air velocity at peak of defrost.

2 RLA = Running Load Amps

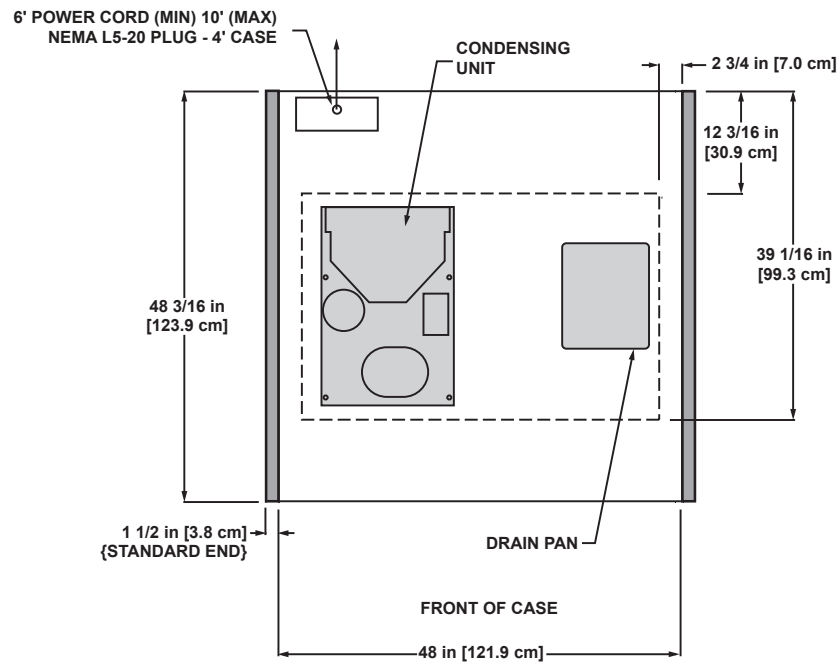
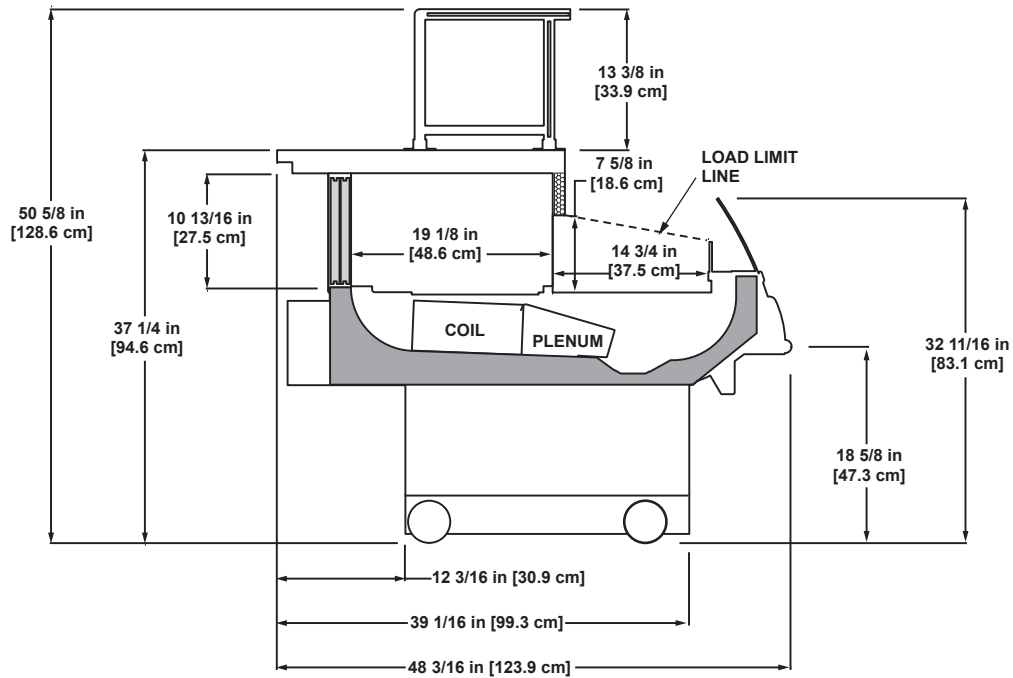
3 LRA = Locked Rotor Amps

4 NOTE: "---" indicates that feature is not an option on this case model.

Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OSIOPA International Style Mobile Self-Contained Prep Merchandiser

4' (Deli / Meat / Seafood)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

MOBILE
SELF-CONTAINED

Deli / Meat / Seafood

OSIOA-P International Style Mobile Self-Contained Prep Merchandiser 4' (Sushi)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
32.0	12 - 14	6 - 8	26	182

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.
120	1	60	3/4	15.2	66.3	R134A

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	40	47	--- ⁴	---	---	---	---	---

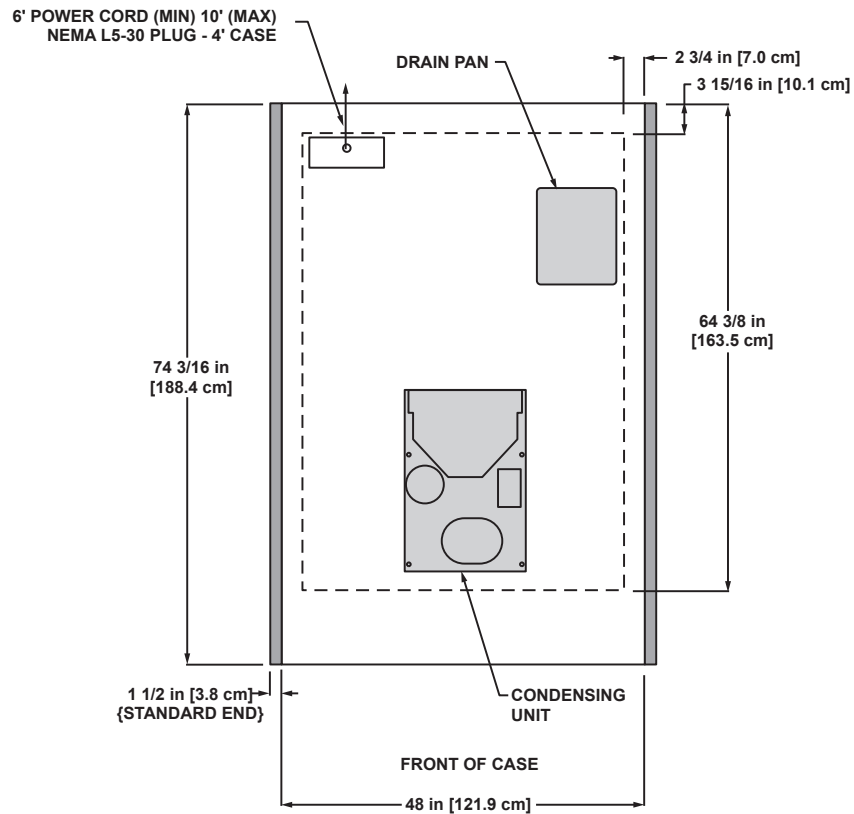
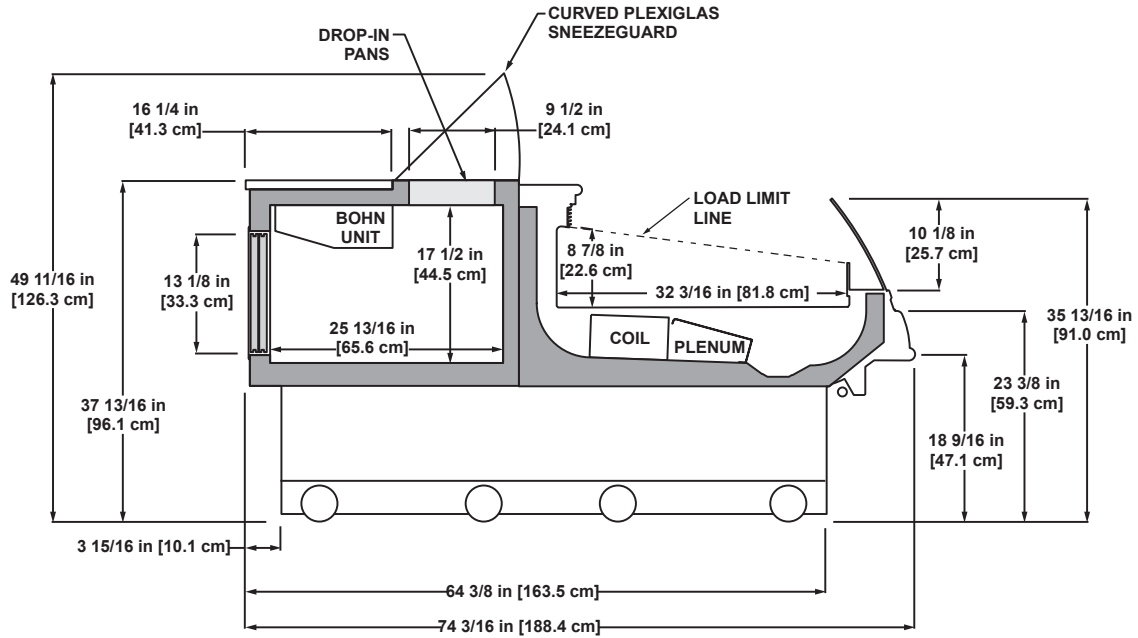
1 Average discharge air velocity at peak of defrost.

2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: " - - - " indicates that feature is not an option on this case model.

OSIOA-P International Style Mobile Self-Contained Prep Merchandiser 4' (Sushi)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT



OSIOZA International Style Mobile Self-Contained Merchandiser 4' (Dual Temp.)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
25.0	12 - 14	3-4	-24	220

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refriger.
120	1	60	3/4	10.9	85.5	R404A	3.75

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
2	45	45	- - - ⁴	- - -	- - -	- - -	- - -	- - -

1 Average discharge air velocity at peak of defrost.

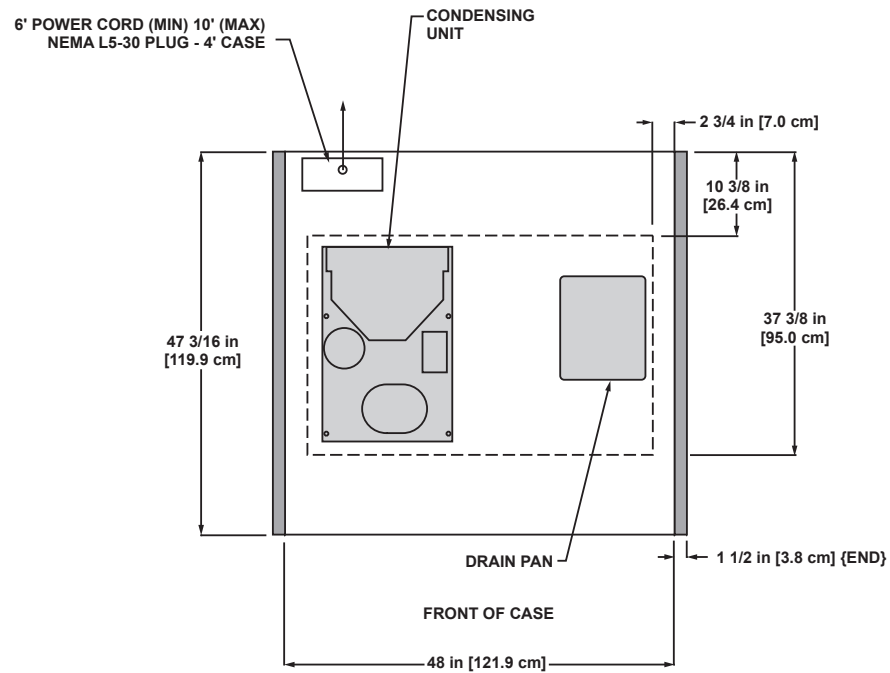
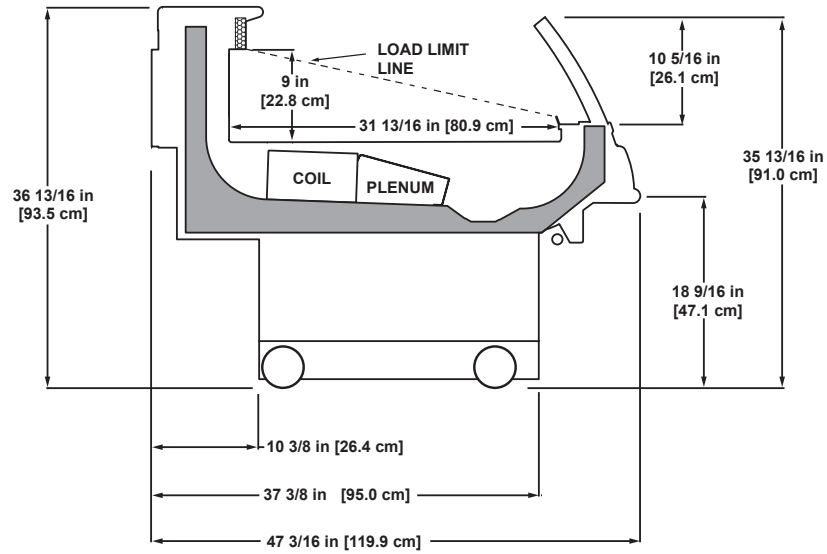
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "- - -" indicates that feature is not an option on this case model.

Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

OSIOZA International Style Mobile Self-Contained Merchandiser 4' (Dual Temp.)



NOTES:

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

MOBILE
SELF-CONTAINED

Dual Temp.



OWZA Mobile Single-Deck Self-Contained Merchandiser

8' (Frozen Food)

System Requirements

Volts	Phase	Hz	Plug ¹ Style	Cord Length
208	1	60	NEMA L14-30P	10'
230	1	60	NEMA L6-30	10'

Condensing Unit Data (2 units/case)

Application	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refrig.
Medium Temp.	1	60	3/4	7.7	37.0	R404A	5
Low Temp.	1	60	1-1/2	15.4	74.0	R404A	10

Guidelines & Control Settings

Application	24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ⁴ Air Velocity (FPM)
Medium Temp.	9.3	60.8	6 - 8	25.7	200
Low Temp.	13.5	16.3	6 - 8	-17	200

Defrost Controls

Application	Defrosts Per Day	Electric Defrost ⁶		Timed Off Defrost ⁷		Hot Gas Defrost		Reverse Air Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
Medium Temp.	3	--- ⁵	---	50	46	---	---	---	---
Low Temp.	2	50	46	50	46	---	---	---	---

1 For export cases, a NEMA L6-30 electrical plug is used.

2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 Average discharge air velocity at peak of defrost.

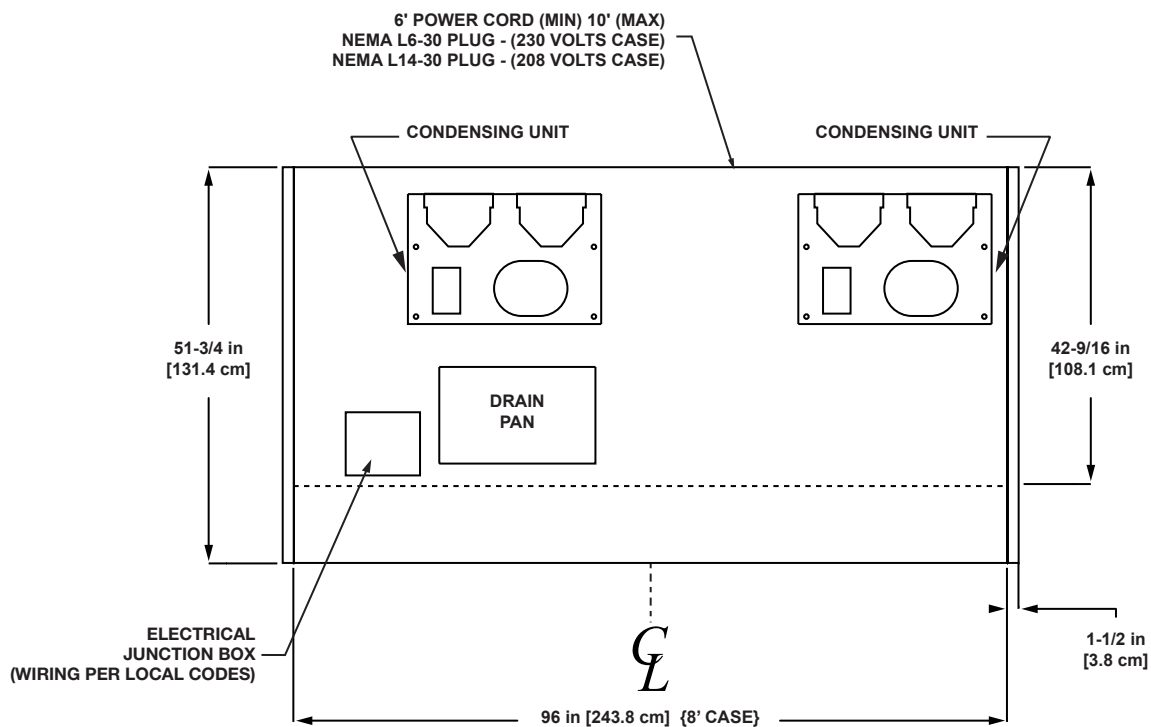
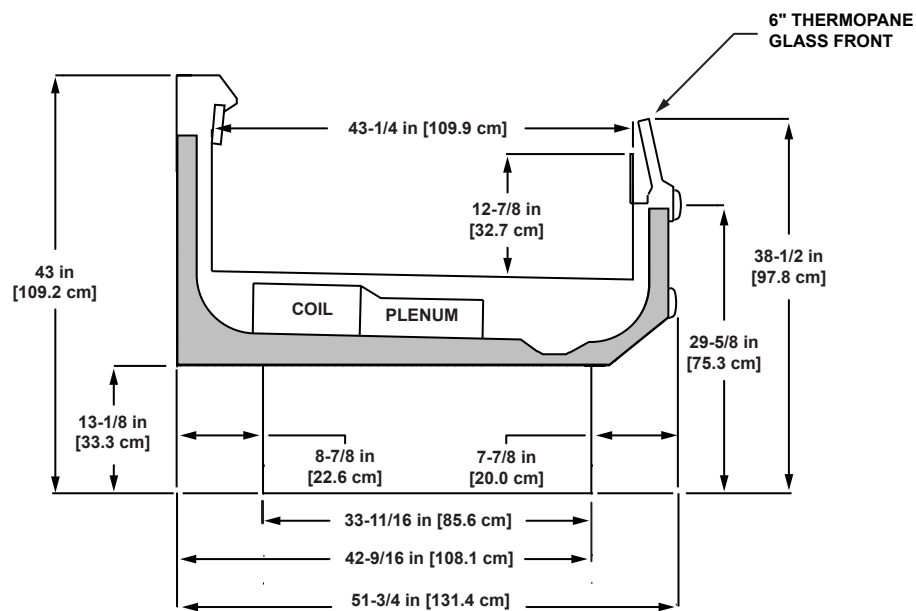
5 NOTE: "- - -" not an option on this case model.

6 Low temperature defrost

7 Medium temperature defrost

OWZA Mobile Single-Deck Self-Contained Merchandiser

8' (Frozen Food)



MOBILE
SELF-CONTAINED

Frozen Food



UPA Mobile Single-Deck Self-Contained Merchandiser

8' (Boxed Produce)

System Requirements

Volts	Phase	Hz	Plug Style	Cord Length
120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

24hr Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge ¹ Air Velocity (FPM)
25.0	12 - 14	3-4	32	220

Condensing Unit Data

Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	Lbs. of Refriger.
120	1	60	3/4	10.9	85.5	R404A	3.75

Defrost Controls

Defrosts Per Day	Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
4	--- ⁴	---	45	47	---	---	---	---

1 Average discharge air velocity at peak of defrost.

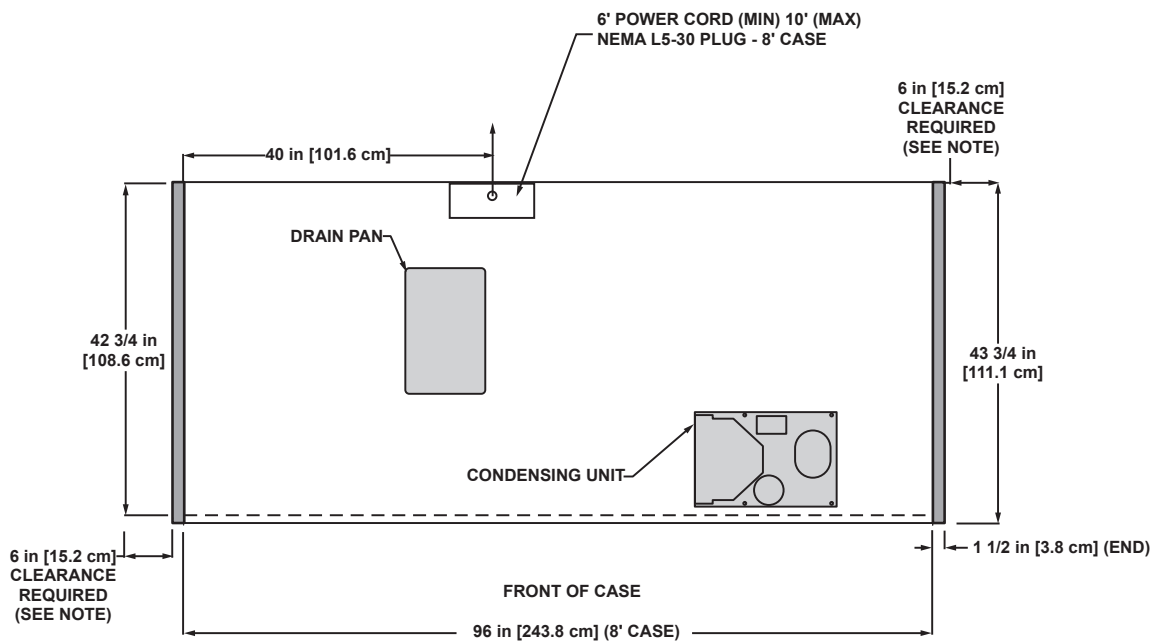
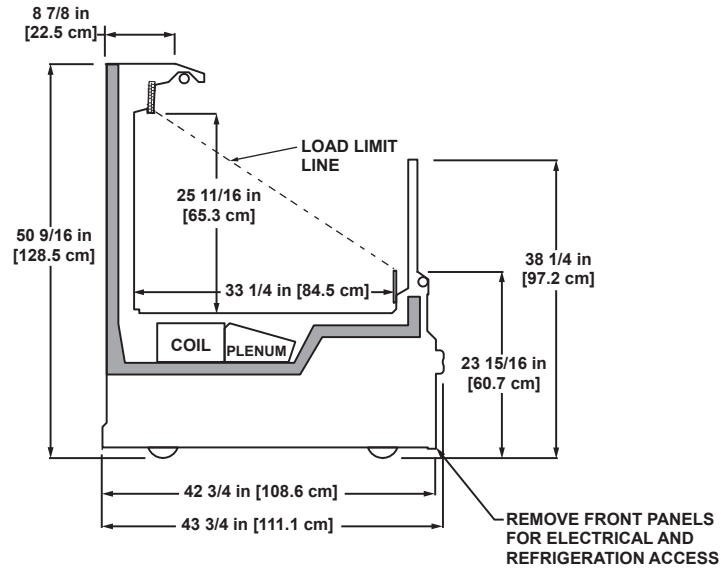
2 RLA = Running Load Amps

3 LRA = Locked Rotor Amps

4 NOTE: "---" indicates that feature is not an option on this case model.

UPA Mobile Single-Deck Self-Contained Merchandiser

8' (Boxed Produce)



NOTES:

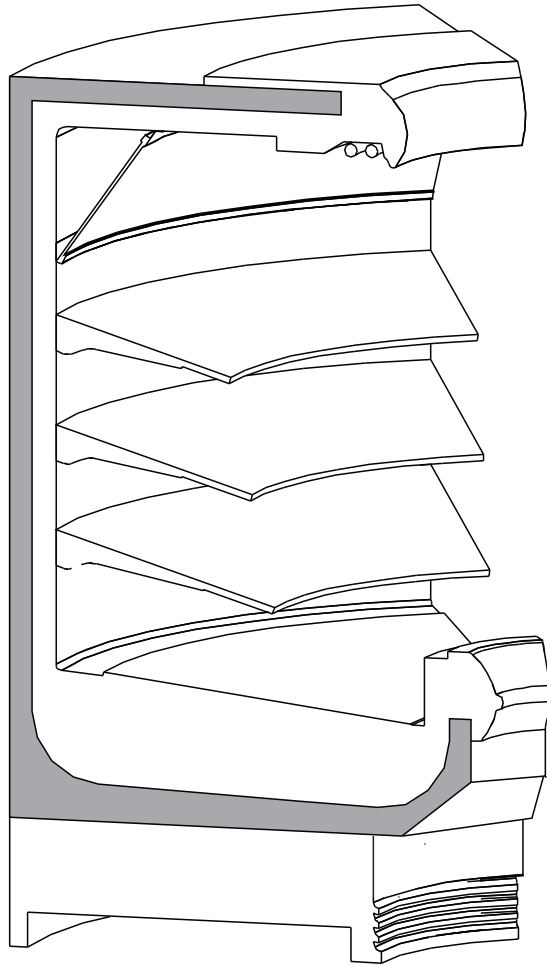
- CASE CLEARANCE: MINIMUM 6" FROM BOTH ENDS
- AVAILABLE SHELF SIZES: 10", 12", 14", & 16"

MOBILE
SELF-CONTAINED

Boxed Produce



CURVED CASES



NOTES

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Technical information contained herein is subject to change without notice.*



CURVED CASE Merchandiser

30°, 45°, 60°, & 90° Inside and Outside

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
							120 Volts		120 Volts		120 Volts	
			Conventional	Parallel			Amps	Watts	Amps	Watts	Amps	Watts
OC	30° I/S	7.5	629	550	22	1	0.36	36	0.15	18	---	---
	45° I/S	11.3	937	820	22	1	0.36	36	0.21	25	---	---
	60° I/S	15.1	1246	1090	22	1	0.36	36	0.26	31	---	---
	90° I/S	22.6	1863	1630	22	2	0.72	71	0.39	47	---	---
	30° O/S	6.5	549	480	22	1	0.36	36	0.04	5	---	---
	45° O/S	9.8	811	710	22	1	0.36	36	0.05	6	---	---
	60° O/S	13.1	1086	950	22	1	0.36	36	0.08	10	---	---
	90° O/S	19.6	1623	1420	22	2	0.72	71	0.10	12	---	---

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
							120 Volts		120 Volts		120 Volts	
			Conventional	Parallel			Amps	Watts	Amps	Watts	Amps	Watts
OM	30° I/S	6.6	651	570	22	1	0.36	36	0.15	18	0.75	90
	45° I/S	9.9	971	850	22	1	0.36	36	0.21	25	0.75	90
	60° I/S	13.3	1303	1140	22	1	0.36	36	0.26	31	1.50	180
	90° I/S	19.9	1943	1700	22	2	0.72	71	0.39	47	1.50	180
	30° O/S	6.1	606	530	22	1	0.36	36	0.04	5	0.75	90
	45° O/S	9.2	903	790	22	1	0.36	36	0.05	6	0.75	90
	60° O/S	12.2	1200	1050	22	1	0.36	36	0.08	10	1.50	180
	90° O/S	18.3	1794	1570	22	2	0.72	71	0.10	12	1.50	180

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate Heaters		Maximum Lighting	
							120 Volts		120 Volts		120 Volts	
			Conventional	Parallel			Amps	Watts	Amps	Watts	Amps	Watts
39" Rear Sill	OP											
	30° I/S	6.1	441	410	29	1	0.36	36	--- ³	---	---	---
	45° I/S	6.2	666	620	29	1	0.36	36	---	---	---	---
	60° I/S	12.2	881	820	29	1	0.36	36	---	---	---	---
	90° I/S	18.4	1322	1230	29	2	0.72	71	---	---	---	---
	30° O/S	5.4	387	360	29	1	0.36	36	---	---	---	---
	45° O/S	8.1	580	540	29	1	0.36	36	---	---	---	---
	60° O/S	10.8	774	720	29	1	0.36	36	---	---	---	---
	90° O/S	16.1	1161	1080	29	2	0.72	71	---	---	---	---

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate Heaters		Maximum Lighting		
							120 Volts		120 Volts		120 Volts		
			Conventional	Parallel			Amps	Watts	Amps	Watts	Amps	Watts	
43" Rear Sill	OP	30° I/S	7.0	623	580	29	1	0.36	36	---	---	---	---
		45° I/S	10.5	924	860	29	1	0.36	36	---	---	---	---
		60° I/S	14.0	1236	1150	29	1	0.36	36	---	---	---	---
		90° I/S	21.0	1848	1720	29	2	0.72	71	---	---	---	---
		30° O/S	5.8	516	480	29	1	0.36	36	---	---	---	---
		45° O/S	8.7	774	720	29	1	0.36	36	---	---	---	---
		60° O/S	11.6	1021	950	29	1	0.36	36	---	---	---	---
		90° O/S	17.4	1537	1430	29	2	0.72	71	---	---	---	---

1 Listed wedge BTUH indicates lighted shelves/cornice.

2 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

3 NOTE: " - - " indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

CURVED CASE Merchandiser

30°, 45°, 60°, & 90° Inside and Outside

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O2UM	30° I/S	7.8	1456	1350	22	1	0.36	36	0.15	18	1.55	186
	45° I/S	11.7	2190	2030	22	1	0.36	36	0.21	25	1.55	186
	60° I/S	15.6	2912	2700	22	1	0.36	36	0.26	31	1.90	288
	90° I/S	23.4	4369	4050	22	2	0.72	71	0.39	47	2.85	342
	30° O/S	6.5	1219	1130	22	1	0.36	36	0.04	5	1.55	186
	45° O/S	9.8	1823	1690	22	1	0.36	36	0.05	6	1.55	186
	60° O/S	13.0	2438	2260	22	1	0.36	36	0.08	10	1.90	288
	90° O/S	19.5	3646	3380	22	2	0.72	71	0.10	12	2.85	342

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O2.5UM	30° I/S	8.4	1564	1450	22	1	0.36	36	0.15	18	2.35	282
	45° I/S	12.7	2341	2170	22	1	0.36	36	0.21	25	2.35	282
	60° I/S	16.9	3117	2890	22	1	0.36	36	0.26	31	2.55	306
	90° I/S	25.3	4681	4340	22	2	0.72	71	0.39	47	4.45	534
	30° O/S	6.9	1284	1190	22	1	0.36	36	0.04	5	2.35	282
	45° O/S	10.4	1920	1780	22	1	0.36	36	0.05	6	2.35	282
	60° O/S	13.8	2556	2370	22	1	0.36	36	0.08	10	2.55	306
	90° O/S	20.7	3829	3550	22	2	0.72	71	0.10	12	4.45	534

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O3UM	30° I/S	9.3	1629	1510	22	1	0.36	36	0.15	18	2.35	282
	45° I/S	14.0	2438	2260	22	1	0.36	36	0.21	25	2.35	282
	60° I/S	18.7	3258	3020	22	1	0.36	36	0.26	31	2.55	306
	90° I/S	28.0	4876	4520	22	2	0.72	71	0.39	47	4.45	534
	30° O/S	7.5	1316	1220	22	1	0.36	36	0.04	5	2.35	282
	45° O/S	11.3	1974	1830	22	1	0.36	36	0.05	6	2.35	282
	60° O/S	15.1	2632	2440	22	1	0.36	36	0.08	10	2.55	306
	90° O/S	22.6	3937	3650	22	2	0.72	71	0.10	12	4.45	534

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O3.5UM	30° I/S	10.4	2028	1880	22	1	0.36	36	0.15	18	3.15	378
	45° I/S	15.7	3042	2820	22	1	0.36	36	0.21	25	3.15	378
	60° I/S	20.9	4056	3760	22	1	0.36	36	0.26	31	3.20	384
	90° I/S	31.3	6084	5640	22	2	0.72	71	0.39	47	6.05	726
	30° O/S	8.2	1596	1480	22	1	0.36	36	0.04	5	3.15	378
	45° O/S	12.3	2384	2210	22	1	0.36	36	0.05	6	3.15	378
	60° O/S	16.4	3182	2950	22	1	0.36	36	0.08	10	3.20	384
	90° O/S	24.6	4768	4420	22	2	0.72	71	0.10	12	6.05	726

1 Listed wedge BTUH indicates lighted shelves/cornice.

2 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

CURVED CASE Merchandiser

30°, 45°, 60°, & 90° Inside and Outside

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O4UM	30° I/S	12.1	2260	2040	22	1	0.36	36	0.15	18	3.15	378
	45° I/S	18.2	3390	3060	22	1	0.36	36	0.21	25	3.15	378
	60° I/S	24.3	4519	4080	22	1	0.36	36	0.26	31	3.20	384
	90° I/S	36.4	6779	6120	22	2	0.72	71	0.39	47	6.05	726
	30° O/S	9.4	1750	1580	22	1	0.36	36	0.04	5	3.15	378
	45° O/S	14.0	2614	2360	22	1	0.36	36	0.05	6	3.15	378
	60° O/S	18.7	3489	3150	22	1	0.36	36	0.08	10	3.20	384
	90° O/S	28.1	5228	4720	22	2	0.72	71	0.10	12	6.05	726

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O5UM	30° I/S	13.2	2315	2090	22	1	0.36	36	0.15	18	3.95	474
	45° I/S	19.8	3467	3130	22	1	0.36	36	0.21	25	3.95	474
	60° I/S	26.3	4619	4170	22	1	0.36	36	0.26	31	3.85	462
	90° I/S	39.5	6934	6260	22	2	0.72	71	0.39	47	7.65	918
	30° O/S	10.1	1772	1600	22	1	0.36	36	0.04	5	3.95	474
	45° O/S	15.1	2647	2390	22	1	0.36	36	0.05	6	3.95	474
	60° O/S	20.1	3534	3190	22	1	0.36	36	0.08	10	3.85	462
	90° O/S	30.2	5295	4780	22	2	0.72	71	0.10	12	7.65	918

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
O5DM Deli	30° I/S	21.3	2217	2020	22	1	0.36	36	--- ³	---	5.00	600
	45° I/S	32.0	3326	3030	22	1	0.36	36	---	---	5.00	600
	60° I/S	42.6	4423	4030	22	1	0.36	36	---	---	5.25	630
	90° I/S	64.0	6640	6050	22	2	0.72	71	---	---	10.00	1200
	30° O/S	20.5	2129	1940	22	1	0.36	36	---	---	5.00	600
	45° O/S	30.8	3194	2910	22	1	0.36	36	---	---	5.00	600
	60° O/S	41.0	4259	3880	22	1	0.36	36	---	---	5.25	630
	90° O/S	61.5	6388	5820	22	2	0.72	71	---	---	10.00	1200

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate Heaters		Maximum Lighting	
							120 Volts		120 Volts		120 Volts	
			Conventional	Parallel			Amps	Watts	Amps	Watts	Amps	Watts
O5DM Dairy	30° I/S	21.3	2074	1890	26	1	0.36	36	---	---	5.00	600
	45° I/S	32.0	3117	2840	26	1	0.36	36	---	---	5.00	600
	60° I/S	42.6	4149	3780	26	1	0.36	36	---	---	5.25	630
	90° I/S	64.0	6223	5670	26	2	0.72	71	---	---	10.00	1200
	30° O/S	20.5	1998	1820	26	1	0.36	36	---	---	5.00	600
	45° O/S	30.8	2996	2730	26	1	0.36	36	---	---	5.00	600
	60° O/S	41.0	3995	3640	26	1	0.36	36	---	---	5.25	630
	90° O/S	61.5	5993	5460	26	2	0.72	71	---	---	10.00	1200

1 Listed wedge BTUH indicates lighted shelves/cornice.

2 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

3 NOTE: " - - " indicates that feature is not an option on this case model.



Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

CURVED CASE Merchandiser

30°, 45°, 60°, & 90° Inside and Outside

CURVED CASES

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
OHM	30° I/S	17.3	1972	1780	22	1	0.36	36	0.04	5	3.95	474
	45° I/S	26.0	2946	2660	22	1	0.36	36	0.10	12	3.95	474
	60° I/S	34.6	3932	3550	22	1	0.36	36	0.34	41	4.10	492
	90° I/S	52.0	5893	5320	22	2	0.72	71	0.32	38	7.90	948
	30° O/S	16.2	1839	1660	22	1	0.36	36	0.10	12	3.95	474
	45° O/S	24.2	2747	2480	22	1	0.36	36	0.14	17	3.95	474
	60° O/S	32.3	3666	3310	22	1	0.36	36	0.18	22	4.10	492
	90° O/S	48.5	5494	4960	22	2	0.72	71	0.28	34	7.90	948

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
OHMH	30° I/S	18.3	2193	1980	22	1	0.36	36	0.08	10	4.75	570
	45° I/S	27.4	3290	2970	22	1	0.36	36	0.20	24	4.75	570
	60° I/S	36.6	4386	3960	22	1	0.36	36	0.68	82	4.75	570
	90° I/S	54.9	6580	5940	22	2	0.72	71	0.64	77	9.50	1140
	30° O/S	15.9	1916	1730	22	1	0.36	36	0.20	24	4.75	570
	45° O/S	23.9	2869	2590	22	1	0.36	36	0.28	34	4.75	570
	60° O/S	31.8	3822	3450	22	1	0.36	36	0.36	44	4.75	570
	90° O/S	47.8	5727	5170	22	2	0.72	71	0.56	68	9.50	1140

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
							120 Volts		120 Volts		120 Volts	
			Conventional	Parallel			Amps	Watts	Amps	Watts	Amps	Watts
OHP	30° I/S	17.2	1780	1650	26	1	0.36	36	---	---	3.95	474
	45° I/S	25.8	2664	2470	26	1	0.36	36	---	---	3.95	474
	60° I/S	34.4	3560	3300	26	1	0.36	36	---	---	4.10	492
	90° I/S	51.6	5329	4940	26	2	0.72	71	---	---	7.90	948
	30° O/S	16.1	1672	1550	26	1	0.36	36	---	---	3.95	474
	45° O/S	24.2	2502	2320	26	1	0.36	36	---	---	3.95	474
	60° O/S	32.3	3333	3090	26	1	0.36	36	---	---	4.10	492
	90° O/S	48.4	5005	4640	26	2	0.72	71	---	---	7.90	948

Case Model	Wedge Model	Volume (ft)	BTUH/wedge ¹		Suction Temp. (°F)	Fans Per Case	Hi-Efficiency Fans		Anti-Condensate ² Heaters		Maximum Lighting	
			Conventional	Parallel			120 Volts		120 Volts		120 Volts	
							Amps	Watts	Amps	Watts	Amps	Watts
OHPH	30° I/S	18.3	2006	1860	26	1	0.36	36	0.04	5	4.75	570
	45° I/S	27.5	3009	2790	26	1	0.36	36	0.10	12	4.75	570
	60° I/S	36.7	4013	3720	26	1	0.36	36	0.34	41	4.75	570
	90° I/S	55.0	6019	5580	26	2	0.72	71	0.32	38	9.50	1140
	30° O/S	15.8	1737	1610	26	1	0.36	36	0.10	12	4.75	570
	45° O/S	23.7	2600	2410	26	1	0.36	36	0.14	17	4.75	570
	60° O/S	31.6	3462	3210	26	1	0.36	36	0.18	22	4.75	570
	90° O/S	47.4	5188	4810	26	2	0.72	71	0.28	34	9.50	1140

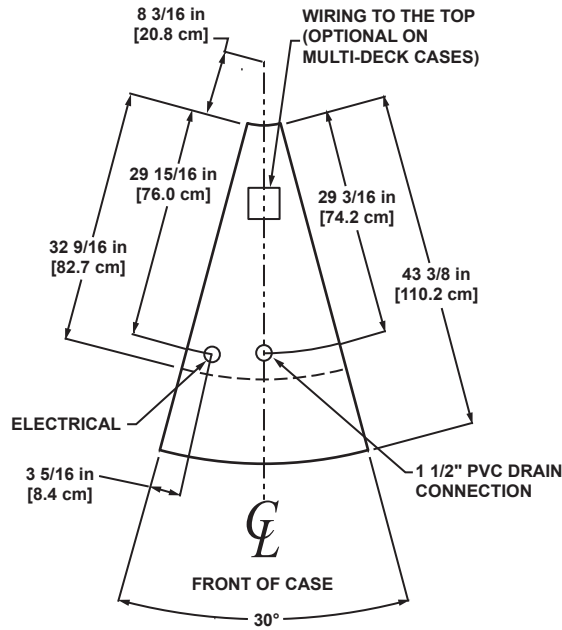
1 Listed wedge BTUH indicates lighted shelves/cornice.

2 Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.

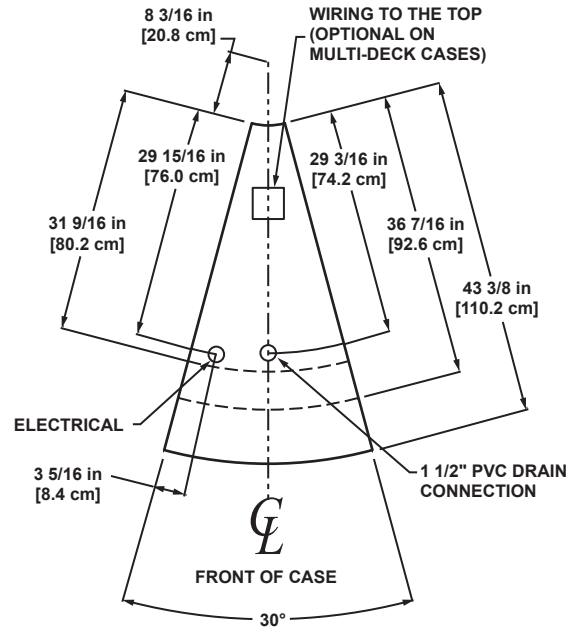


Medium Temperature Defrost Schedule	
Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

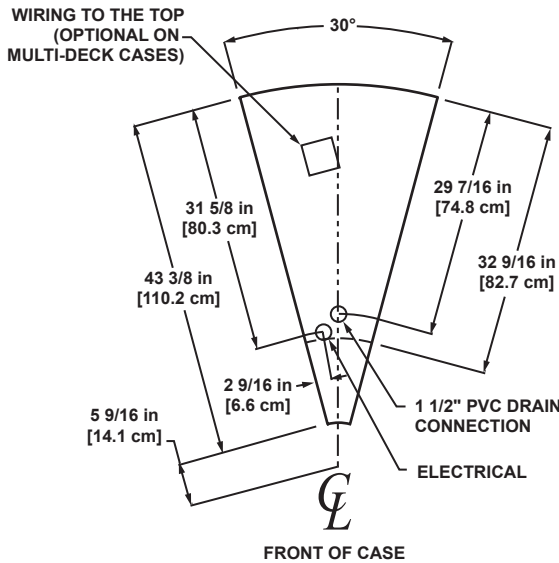
30° CURVED CASE



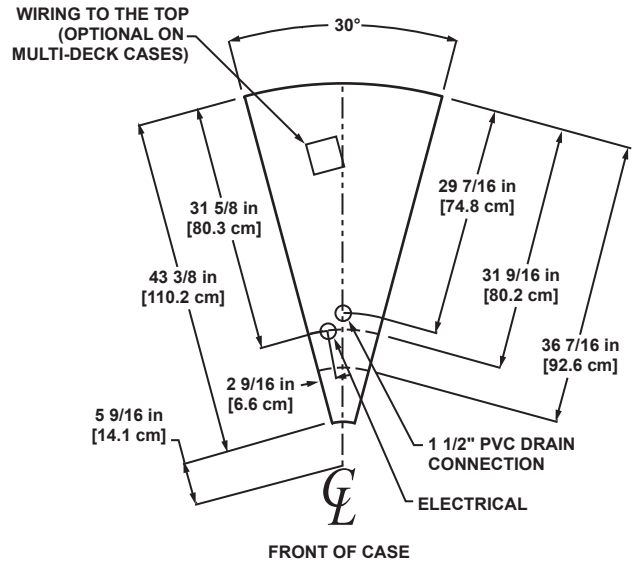
30° OUTSIDE
(11" BASEFRAME)



30° OUTSIDE
(5" BASEFRAME)



30° INSIDE
(11" BASEFRAME)

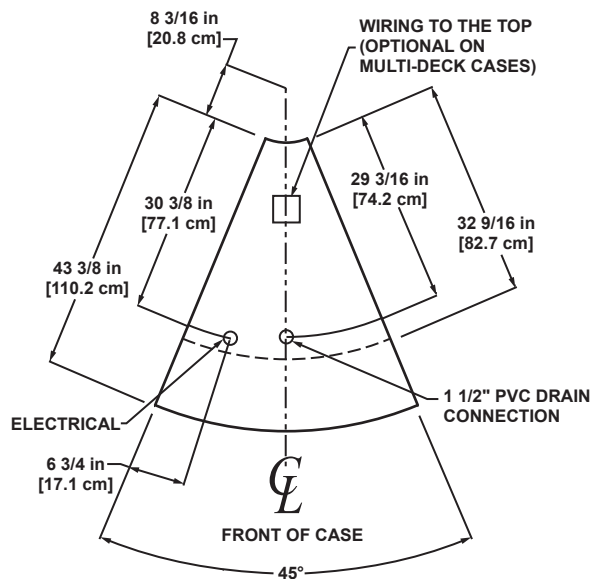


30° INSIDE
(5" BASEFRAME)

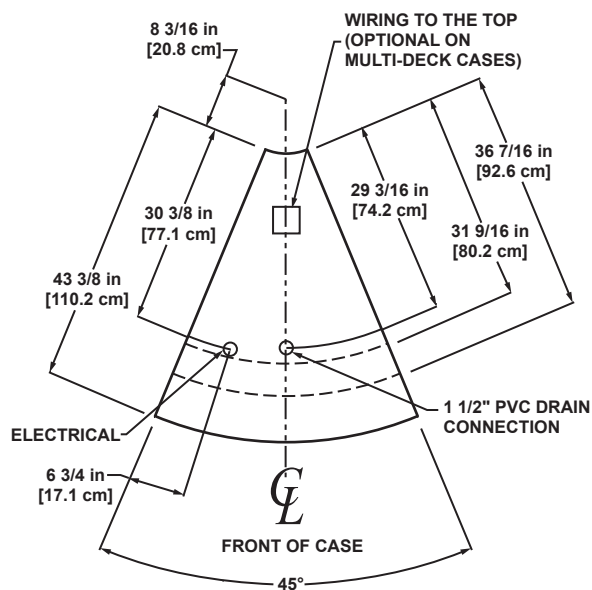
NOTE: Curved case cross-sections are the same as the standard model.



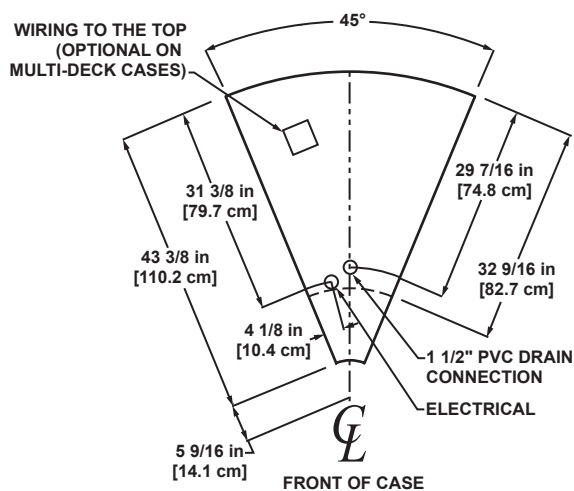
45° CURVED CASE



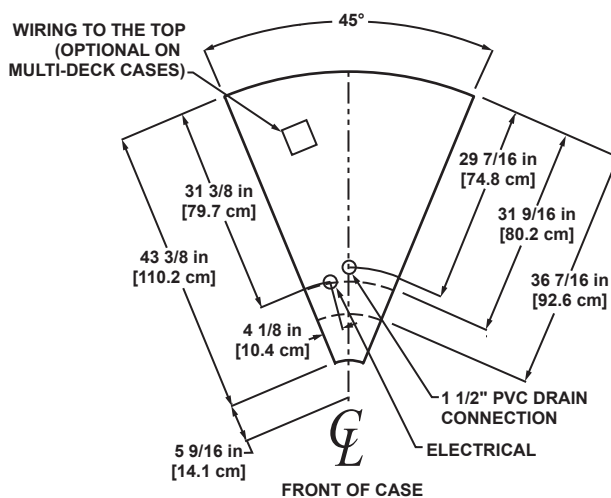
45° OUTSIDE
(11" BASEFRAME)



45° OUTSIDE
(5" BASEFRAME)



45° INSIDE
(11" BASEFRAME)

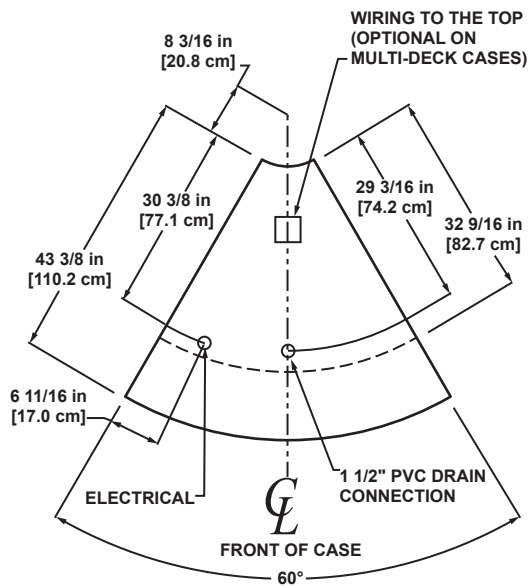


45° INSIDE
(5" BASEFRAME)

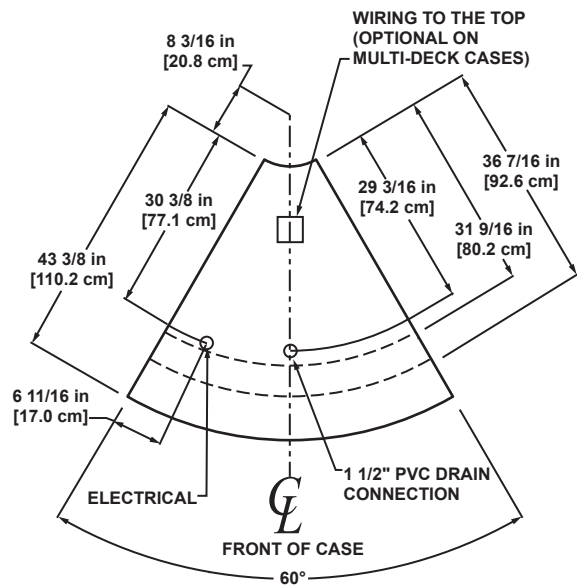
NOTE: Curved case cross-sections are the same as the standard model.



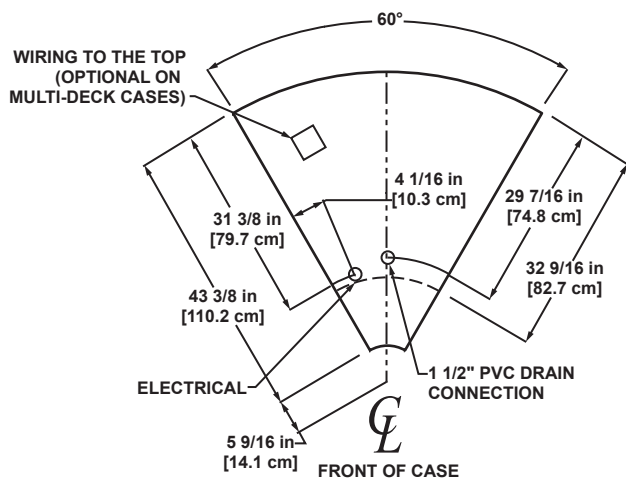
60° CURVED CASE



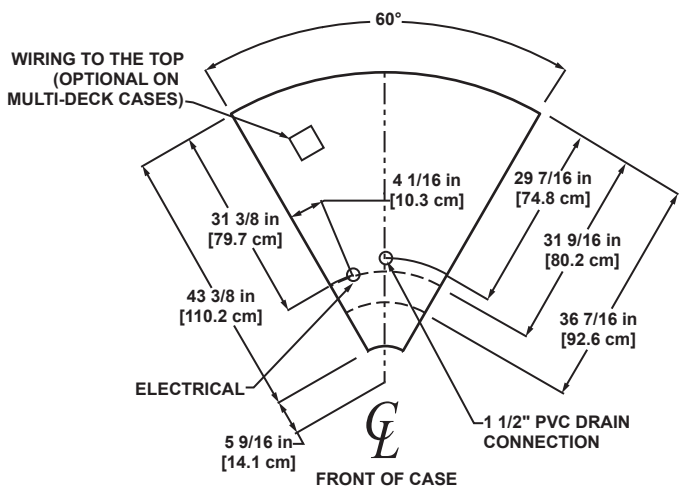
60° OUTSIDE
(11" BASEFRAME)



60° OUTSIDE
(5" BASEFRAME)



60° INSIDE
(11" BASEFRAME)

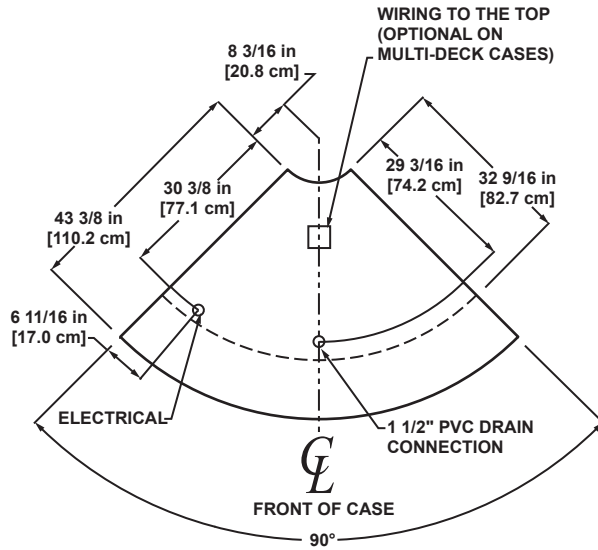


60° INSIDE
(5" BASEFRAME)

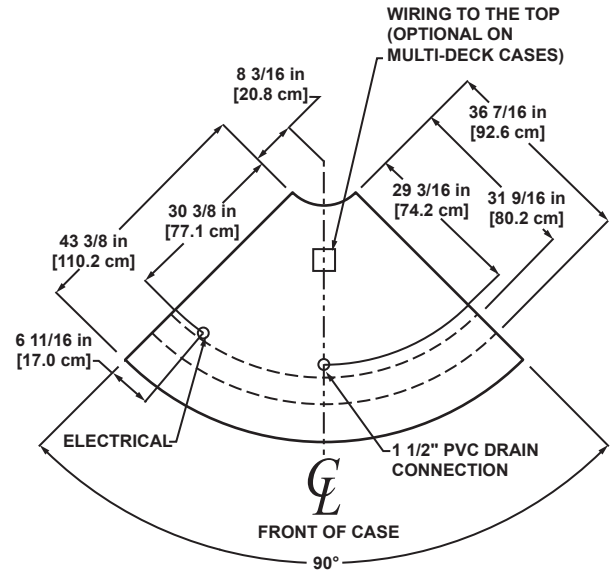
NOTE: Curved case cross-sections are the same as the standard model.



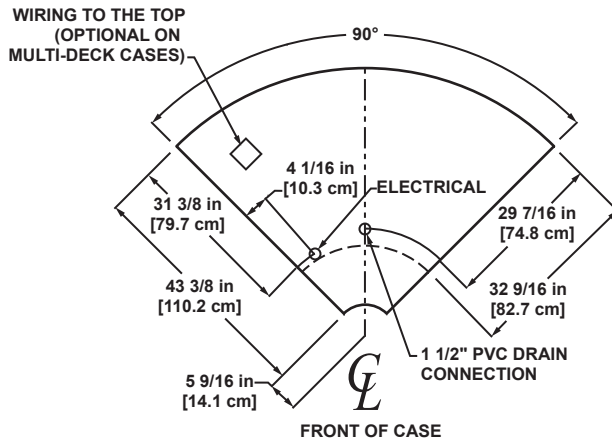
90° CURVED CASE



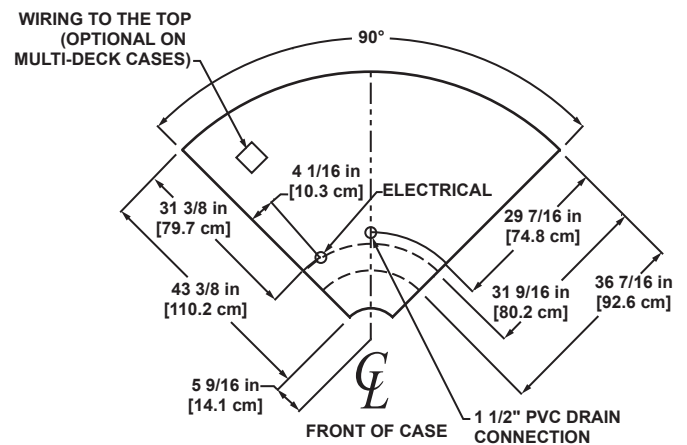
90° OUTSIDE
(11" BASEFRAME)



90° OUTSIDE
(5" BASEFRAME)



90° INSIDE
(11" BASEFRAME)



90° INSIDE
(5" BASEFRAME)

NOTE: Curved case cross-sections are the same as the standard model.





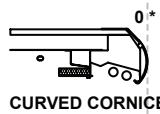
APPENDIX A: CORNICES & TOP SILLS

NOTES

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Technical information contained herein is subject to change without notice.*

CORNICES & TOP SILLS

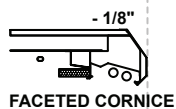
STANDARD CORNICES



CURVED CORNICE



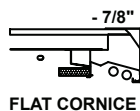
CURVED CORNICE
WITH NIGHT COVER



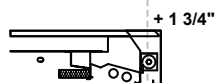
FACETED CORNICE



FACETED CORNICE
WITH NIGHT COVER



FLAT CORNICE

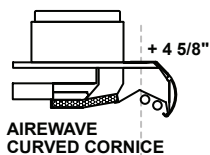


FLAT CORNICE WITH
WITH STANDARD NIGHT COVER

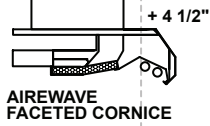
* = STANDARD CURVED CORNICE

SEE SPECIFIC CASE FOR TOP
CANOPY DIMENSION

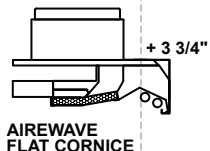
PREMIUM CORNICES



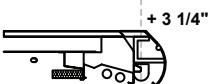
AIREWAVE
CURVED CORNICE



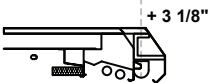
AIREWAVE
FACETED CORNICE



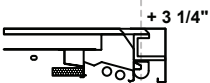
AIREWAVE
FLAT CORNICE



CURVED CORNICE WITH
MOTORIZED NIGHT COVER

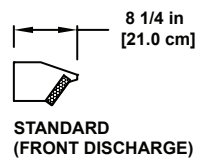


FACETED CORNICE WITH
MOTORIZED NIGHT COVER

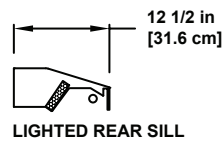


FLAT CORNICE WITH
MOTORIZED NIGHT COVER

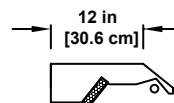
STANDARD TOP SILLS



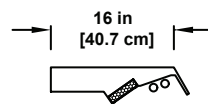
STANDARD
(FRONT DISCHARGE)



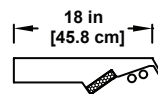
LIGHTED REAR SILL



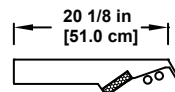
LIGHTED REAR SILL
(FLAT TOP)



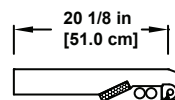
16" REAR SILL
(FRONT DISCHARGE)



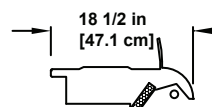
18" REAR SILL
(FRONT DISCHARGE)



20" REAR SILL
(FRONT DISCHARGE)



20" REAR SILL WITH NIGHT CURTAINS
(FRONT DISCHARGE)



PIZZA SERVICE REAR SILL
WITH DROP-IN PANS

APPENDIX B: FRONTS

NOTES

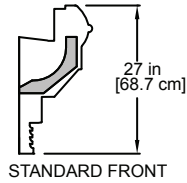
- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Technical information contained herein is subject to change without notice.*

FRONTS

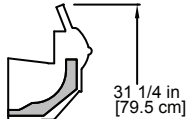
ONHM, OHM, ONHMH, OHMH, ONHP, OHP, OWHP, ONHPH, OHPH, OWHPH, ONUM, OUM, OWUM, ONM, OM, OWM, ONP, OP, OWP, OC.

(* = SUBJECT TO DESIGN EVALUATION)

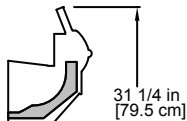
ORIGIN 2 FLAT FRONT PANELS, 11" BASEFRAME



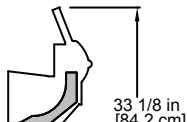
STANDARD FRONT



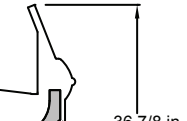
4" SOLID FRONT *



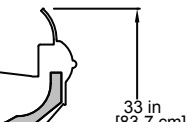
4" THERMOPANE FRONT *



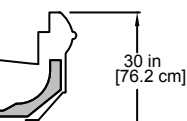
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *

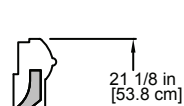


6" PLEXIGLAS FRONT *

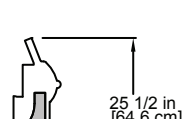


EXTENDED STANDARD FRONT

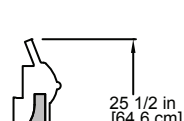
ORIGIN 2 FLAT FRONT PANELS, 5" BASEFRAME



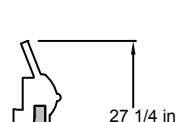
STANDARD FRONT



4" SOLID FRONT *



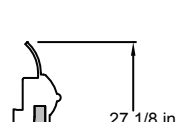
4" THERMOPANE FRONT *



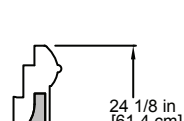
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *

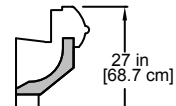


6" PLEXIGLAS FRONT *

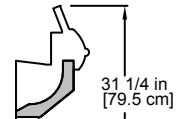


EXTENDED STANDARD FRONT

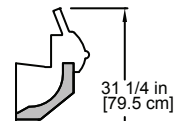
ORIGIN 2 CONTOUR FRONT PANELS, 11" BASEFRAME



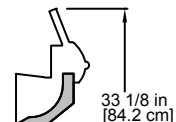
STANDARD FRONT



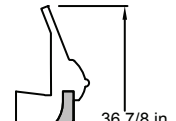
4" SOLID FRONT *



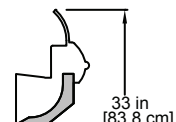
4" THERMOPANE FRONT *



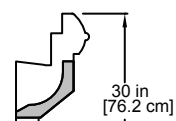
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *



6" PLEXIGLAS FRONT *

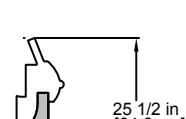


EXTENDED STANDARD FRONT

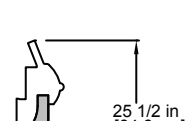
ORIGIN 2 CONTOUR FRONT PANELS, 5" BASEFRAME



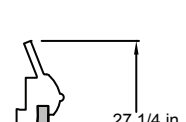
STANDARD FRONT



4" SOLID FRONT *



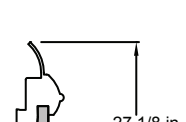
4" THERMOPANE FRONT *



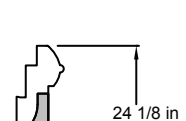
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *



6" PLEXIGLAS FRONT *



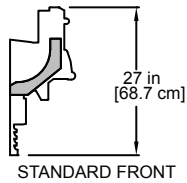
EXTENDED STANDARD FRONT

FRONTS

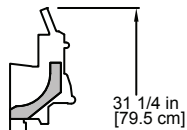
ONHM, OHM, ONHMH, OHMH, ONHP, OHP, OWHP, ONHPH, OHPH, OWHPH, ONUM, OUM, OWUM, ONM, OM, OWM, ONP, OP, OWP, OC.

(* = SUBJECT TO DESIGN EVALUATION)

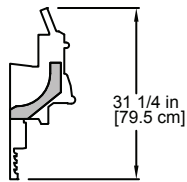
CLASSIC 2 POLYMER BUMPER, 11" BASEFRAME



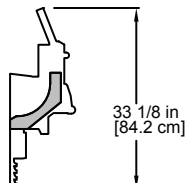
STANDARD FRONT



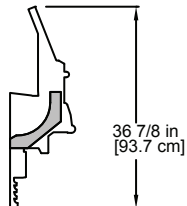
4" SOLID FRONT *



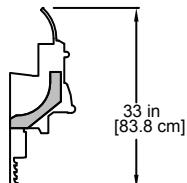
4" THERMOPANE FRONT *



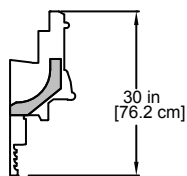
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *

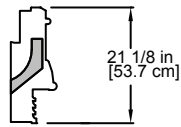


6" PLEXIGLAS FRONT *

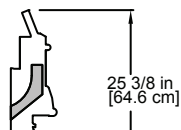


EXTENDED STANDARD FRONT

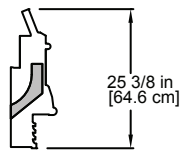
CLASSIC 2 POLYMER BUMPER, 5" BASEFRAME



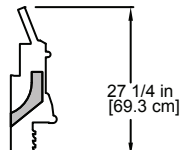
STANDARD FRONT



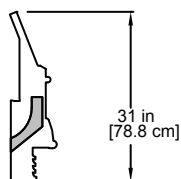
4" SOLID FRONT *



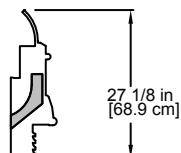
4" THERMOPANE FRONT *



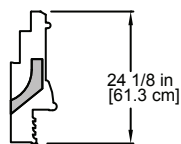
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *

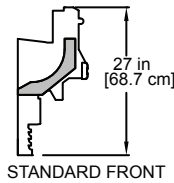


6" PLEXIGLAS FRONT *

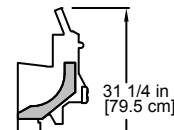


EXTENDED STANDARD FRONT

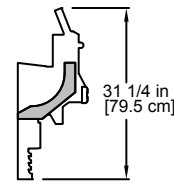
CLASSIC 2 METAL BUMPER, 11" BASEFRAME



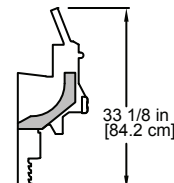
STANDARD FRONT



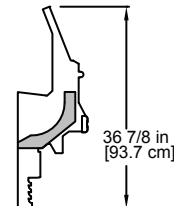
4" SOLID FRONT *



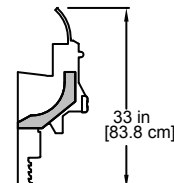
4" THERMOPANE FRONT *



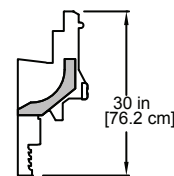
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *

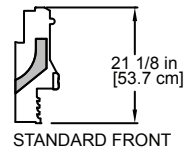


6" PLEXIGLAS FRONT *

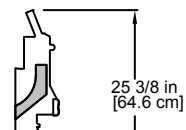


EXTENDED STANDARD FRONT

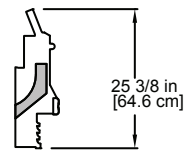
CLASSIC 2 METAL BUMPER, 5" BASEFRAME



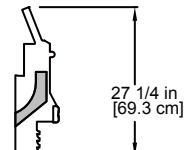
STANDARD FRONT



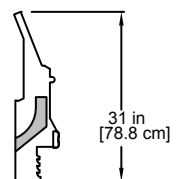
4" SOLID FRONT *



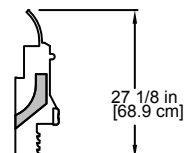
4" THERMOPANE FRONT *



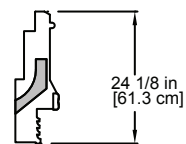
6" THERMOPANE FRONT *



10" THERMOPANE FRONT *



6" PLEXIGLAS FRONT *



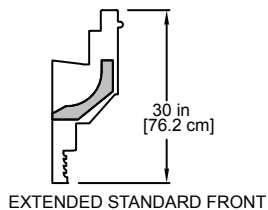
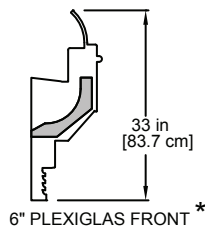
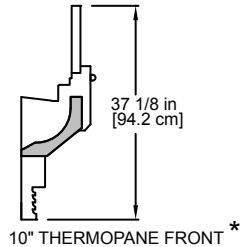
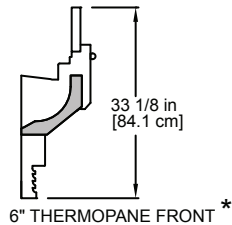
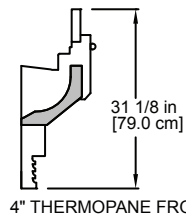
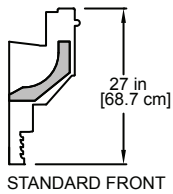
EXTENDED STANDARD FRONT

FRONTS

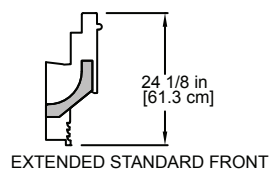
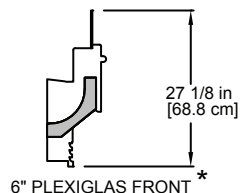
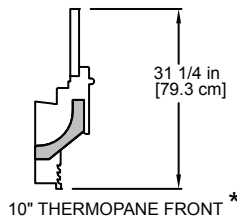
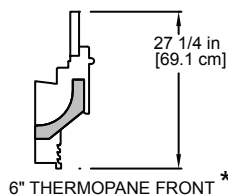
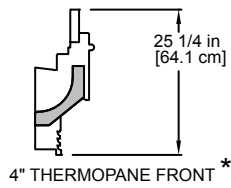
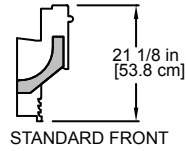
ONHM, OHM, ONHMH, OHMH, ONHP, OHP, OWHP, ONHPH, OHPH, OWHPH, ONUM, OUM, OWUM, ONM, OM, OWM, ONP, OP, OWP, OC.

(* = SUBJECT TO DESIGN EVALUATION)

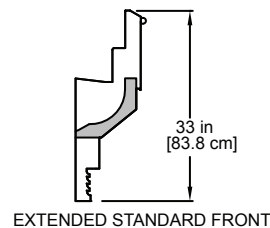
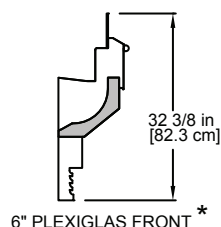
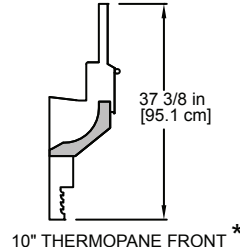
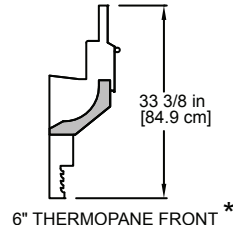
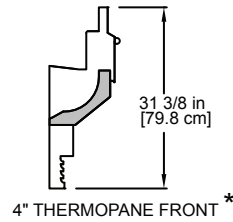
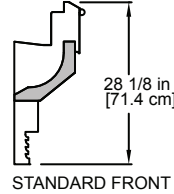
FLAT FRONT, 11" BASEFRAME



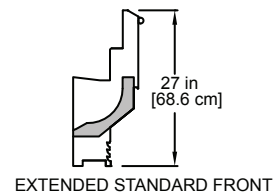
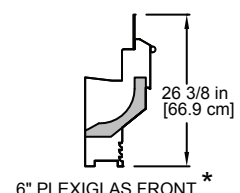
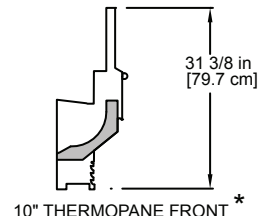
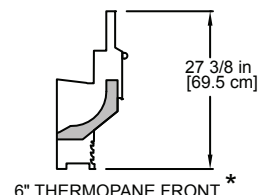
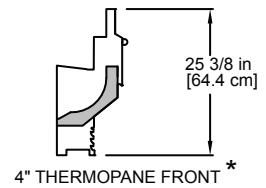
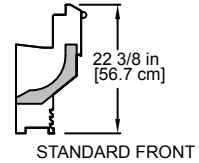
FLAT FRONT 5" BASEFRAME



FLAT FRONT 2, 11" BASEFRAME



FLAT FRONT 2, 5" BASEFRAME

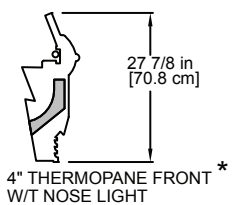
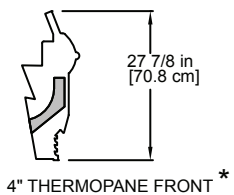
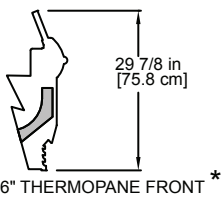
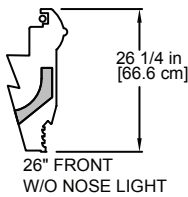
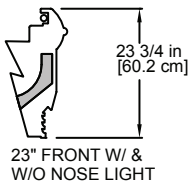
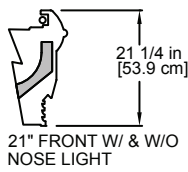
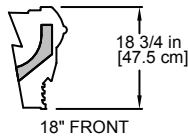


FRONTS

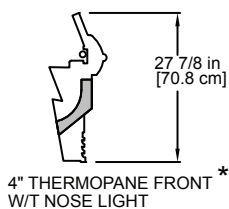
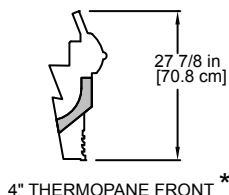
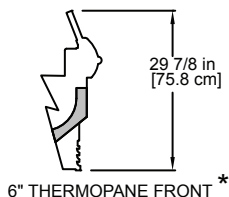
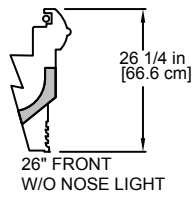
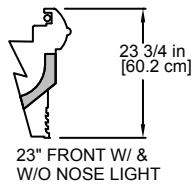
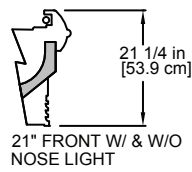
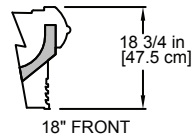
ON5DM, O5DM, ON5DMH, O5DMH, O5DR, O5DRH, ON5DMA, O5DMA, ONU, ONUA, OUD.

(* = SUBJECT TO DESIGN EVALUATION)

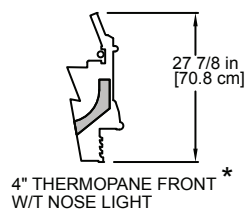
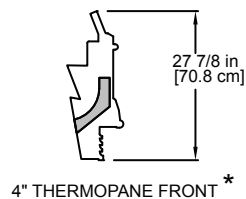
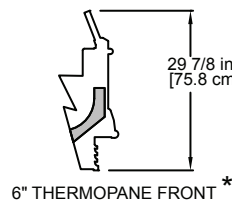
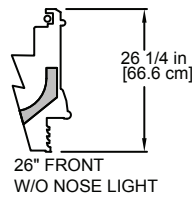
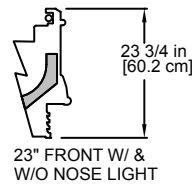
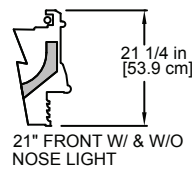
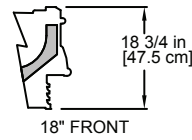
ORIGIN 2 DAIRY FRONT PANELS, 5" BASEFRAME



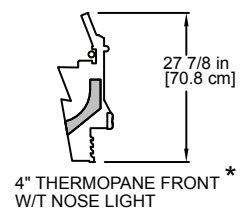
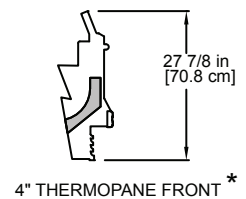
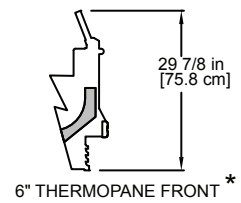
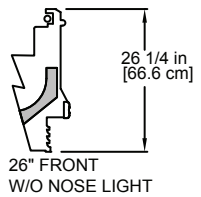
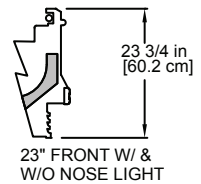
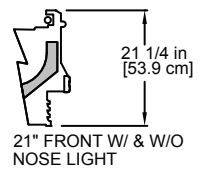
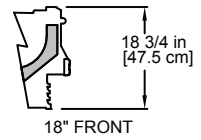
ORIGIN 2 CONTOUR FRONT PANELS, 5" BASEFRAME



CLASSIC 2 POLYMER BUMPER, 5" BASEFRAME



CLASSIC 2 METAL BUMPER, 5" BASEFRAME

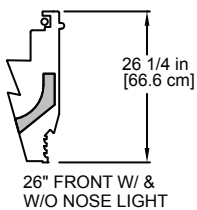
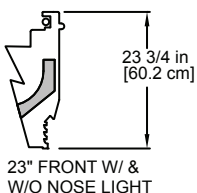
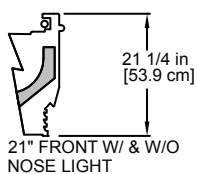
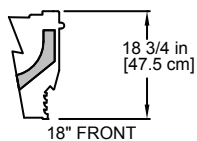


FRONTS

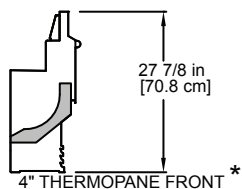
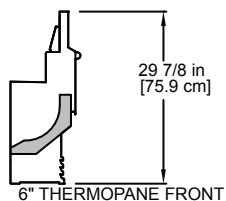
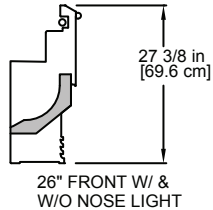
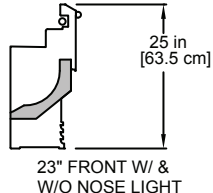
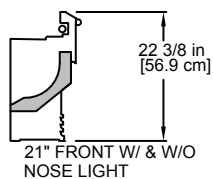
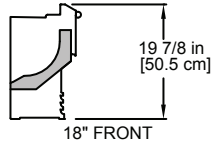
ON5DM, O5DM, ON5DMH, O5DMH, O5DR, O5DRH, ON5DMA, O5DMA, ONU, ONUA, OUD.

(* = SUBJECT TO DESIGN EVALUATION)

FLAT FRONT, 5" BASEFRAME



FLAT FRONT 2, 5" BASEFRAME



APPENDIX C: STANDARD FANS (SHADED POLE)

NOTES

- *Allow for an extra 1/8" per joint when lining up merchandisers.*
- *Technical information contained herein is subject to change without notice.*

STANDARD FANS (SHADED POLE)

Locate the case model for which you are looking in the list below, then match the corresponding letter to the appropriate column in the table.

Fans Per Case	A		B		C		D		E		F		G		H			
	Standard Fans		Standard Fans		Standard Fans		Standard Fans		Standard Fans		Standard Fans		Standard Fans		Upper Fans		Lower Fans	
	120 Volt		120 Volt		120 Volt		120 Volt		120 Volt		120 Volt		120 Volt		120 Volt		120 Volt	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
1	0.50	30	0.34	17	1.14	70	0.80	53	0.34	17	0.34	17	0.15	10.5	0.50	30	0.45	17
2	1.00	60	0.68	34	2.28	140	1.60	107	0.68	34	0.68	34	0.30	21	1.00	60	0.90	34
3	1.50	90	1.02	51	3.42	210	2.40	160	1.02	51	1.02	51	0.45	31.5	1.50	90	1.35	51
4	2.00	120	1.36	68	4.56	280	3.20	214	1.36	68	1.36	68	0.60	42	2.00	120	1.80	68
5	2.50	150	---	---	5.70	350	4.00	267	1.70	85	1.70	85	---	---	2.50	150	2.25	85
6	3.00	180	---	---	6.84	420	4.80	320	2.04	102	2.04	102	---	---	3.00	180	2.70	102
7	3.50	210	---	---	7.98	490	---	---	---	---	2.38	119	---	---	---	---	---	---
8	4.00	240	---	---	---	---	---	---	---	---	2.73	136	---	---	---	---	---	---

Single-Deck	Utility	Multi-Deck	End Caps	SD Islands	MD Islands
OC (A) OMZ (A) OMZD (B) OP (A) OWP (A) OWZ (B)	All Cases (A)	O2.75MZD (B) O4DM (A) O4DMS (A) O5DM (A) O5DMH (A) O5DR (D) O5DRH (D) O5Z (C) OHM (A) OHMH (A) OHP (A) OHPH (A) ON4DM (A) ON5DM (A) ON5DMH (A) ONHM (A) ONHMH (A) ONHP (A) ONHPPH (A) ONU (A) ORDR (H) OWHP (A) OWHPH (A)	All Cases (A)	OC (A) OIM/B/BB (E) OIP/B/BB (E) OMIP/B/BB (E) OMZ (A) ONIM/B (E) ONIZ (E) ONIZGG (E) ONZ (E) OP (A) OWEZ (E) OWIZ (E) OWP (A) OWZGG (E)	O2IM (A) O3IM/B/BB (A) O4ID/B/BB (A) ON3IM (A) O3IP/B (F) ON3IM (F) O3EIF (G)

APPENDIX D: CASE LIGHTING

CASE LIGHTING

Lighting Data

Light Length	Fluorescent Lighting (T8)		Clearvoyant LED Lighting			
			Standard Power (Cornice or Shelf)		High Power (Cornice)	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
0.5'	0.03	4	0.02	2.1	0.02	2.7
1'	0.09	11	0.03	3.0	0.05	5.4
2'	0.12	14	0.05	6.0	0.09	10.7
3'	0.18	22	0.07	8.3	0.12	14.9
4'	0.23	28	0.10	11.9	0.18	21.5
5'	0.28	34	0.12	14.3	0.22	26.3

Standard T8 Lighting (Typical per row)

Case Length	Lights Per Row	Light Length	Fluorescent Lighting											
			1 Row		2 Rows		3 Rows		4 Rows		5 Rows		6 Rows	
			120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	1	4'	0.23	28	0.47	56	0.70	84	0.93	112	1.17	140	1.40	168
6'	2	3'	0.37	44	0.73	88	1.10	132	1.47	176	1.83	220	2.20	264
8'	2	4'	0.47	56	0.93	112	1.40	168	1.87	224	2.33	280	2.80	336
12'	3	4'	0.70	84	1.40	168	2.10	252	2.80	336	3.50	420	4.20	504

Clearvoyant Hi-Power (Typical per row)

Case Length	Lights Per Row	Light Length	Clearvoyant LED (High Power)			
			1 Row		2 Rows	
			120 Volts		120 Volts	
			Amps	Watts	Amps	Watts
4'	1	4'	0.18	21.5	0.36	43.0
6'	2	3'	0.25	29.8	0.50	59.6
8'	2	4'	0.36	43.0	0.72	86.0
12'	3	4'	0.54	64.5	1.08	129.0

Clearvoyant Standard Power (Typical per row)

Case Length	Lights Per Row	Light Length	Clearvoyant LED (Standard Power)											
			1 Row		2 Rows		3 Rows		4 Rows		5 Rows		6 Rows	
			120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
4'	1	4'	0.10	11.9	0.20	23.8	0.30	35.7	0.40	47.6	0.50	59.5	0.60	71.4
6'	2	3'	0.14	16.6	0.28	33.2	0.42	49.8	0.55	66.4	0.69	83.0	0.83	99.6
8'	2	4'	0.20	23.8	0.40	47.6	0.60	71.4	0.80	95.2	1.00	119.0	1.20	142.8
12'	3	4'	0.30	35.7	0.60	71.4	0.90	107.1	1.20	142.8	1.50	178.5	1.80	214.2

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1925 Ruffin Mill Road, Colonial Heights, VA 23834
(800) 283-1109

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