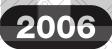
HIII PHOENIX

Merchandisers

Engineering

Reference

Manual





HIII PHOENIX

Welcome to the 2006 <u>Merchandisers Engineering Reference</u> <u>Manual</u>. This manual is designed to provide you with cross-sections, footprints and technical data for all of our current production models. This manual is divided into sections based on design considerations which put similar case models together (single deck merchandisers, multi-deck merchandisers, reach-in merchandisers, etc.). This makes it easy 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.

This entire manual is posted to our web site at *www.hillphoenix.com* in the Information Center. Any new cases that are released during the year or any revisions to technical information on our current cases will be posted to our web site. If you have questions about our display merchandisers or need more information please contact one of our Sales Representatives. The phone number and address for our Colonial Heights facility is listed on the back cover of this manual and further contact information is available on our web site.

Revisions From the 2005 Merchandisers Engineering Reference Manual Release 1/05

New Case Models Added

Single Deck	Merchandisers	Multi-Deck Is	land Merchandisers
ONP	Page 16	O2IM	Page 288
Utility Merch	andisers	Service Merc	handisers
02.75MZD	Page 64	OSMLZ	Page 320
O4UM-4'	Page 92	P2SGF	Page 374
ON5UM	Page 96	CUB Cases	Page 394, 396 & 398
O5UM-4'	Page 100		-
	-	Mobile Self-C	Contained Merchandisers
End Cap Mer	rchandisers	O3UMA-56	Page 424
ON4EM	Page 204		-
ON5EM	Page 208		

<u>Global</u>

ON3EP

Refrigeration line sizing changed on most single deck, utility and multi-deck merchandisers.

The wiring location for 4' utility merchandisers was updated.

Page 216

Streamlyne bumper option now standard on all reach-in door cases.

New Anthony door frames changed to cross-sections of most reach-in door cases.

Revisions

ONN	Page 168	Updated gondola dimensions on footprint.
ONNA	Page 170	Updated gondola dimensions on footprint.
ONU	Page 172	Updated gondola dimensions on footprint.
ONUA	Page 174	Updated gondola dimensions on footprint.
OSM	Page 312	Cross-section updated with 26" and 30" fronts.
OGM	Page 316	Cross-section updated with 26" and 30" fronts.
PDIF	Page 346	BTUH and evaporator temperature data updated.
PMNUM	Page 354	Refrigeration data was updated and cut-in, cut-out information was added.
PMFNUM	Page 356	Refrigeration data was updated and cut-in, cut-out information was added.
PMN2UM	Page 358	Refrigeration data was updated and cut-in, cut-out information was added.
PMFN2UM	1 Page 360	Refrigeration data was updated and cut-in, cut-out information was added.
PSG	Page 362	Refrigeration data was updated and cut-in, cut-out information was added.
PSGF	Page 368	Refrigeration data was updated and cut-in, cut-out information was added.





Table of ContentsMerchandisers by Design Application



Single Deck Merchandisers	1
Single Deck Produce Merchandiser (MPC)	2
Single Deck Deli/Cheese Merchandiser (OC)	4
Single Deck Deli/Meat/Seafood Merchandiser (OM)	6
Narrow Single Deck Frozen Meat Merchandiser (ONMZ)	8
Single Deck Frozen Meat Merchandiser (OMZ)	10
Single Deck Frozen Food/Ice Cream Merchandiser (OMZD)	12
Narrow Single Deck Produce Merchandiser (ONP)	16
Single Deck Produce Merchandiser (OP)	18
Single Deck Self-Contained Produce Merchandiser (OPA)	20
Wide Single Deck Produce Merchandiser (OWP)	22
Wide Single Deck Self-Contained Produce Merchandiser (OWPA)	24

Jtility Merchandisers	7
Narrow Multi-Deck Dome Deli Merchandiser (ONUMD)	8
Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (ONUM)	0
Narrow Multi-Deck Hot Foods Merchandiser (ONUH)	
Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (OUM)	6
Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (ON2UM)	0
Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (O2UM)	4
Wide Multi-Deck Produce/Dairy/Deli Merchandiser (OW2UM)4	
Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (ON2.5UM)	0
Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (O2.5UM)	4
Multi-Deck Self-Contained Produce/Dairy/Deli/Meat/Seafood Merchandiser (O2.5UMA)5	8
Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (O2.75UM)	0
Multi-Deck Frozen Food Merchandiser (O2.75MZD)	
Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (ON3UM)	
Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (O3UM)	0
Wide Multi-Deck Produce/Dairy/Deli Merchandiser (OW3UM)	
Multi-Deck Produce/Dairy/Deli Merchandiser (O3UD)	6
Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (ON3.5UM)	8
Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser (O3.5UM)	
Multi-Deck Produce/Dairy/Deli Merchandiser (O3.5UD)80	
Narrow Multi-Deck Produce/Dairy/Deli Merchandiser (ON4UM)88	
Multi-Deck Produce/Dairy/Deli Merchandiser (O4UM)92	
Narrow Multi-Deck Produce/Dairy/Deli Merchandiser (ON5UM)	
Multi-Deck Produce/Dairy/Deli Merchandiser (O5UM) 100	
Narrow Multi-Deck Produce/Dairy/Deli Merchandiser (ON6UM)	
Multi-Deck Produce/Dairy/Deli Merchandiser (O6UM)108	8

Multi-Deck Merchandisers	
Multi-Deck Deli Back Bar Merchandiser (BB)	
Narrow Multi-Deck Deli Merchandiser (ONN35U)	
Narrow Multi-Deck Deli Merchandiser (ONN5U)	



Multi-Deck Merchandisers (Continued)
Narrow Multi-Deck Produce/Dairy Merchandiser (ON5DM)
Narrow Multi-Deck Self-Contained Produce/Dairy Merchandiser (ON5DMA)
High Narrow Multi-Deck Produce/Dairy Merchandiser (ON5DMH)
Multi-Deck Produce/Dairy/Deli Merchandiser (O5DM) 128
Multi-Deck Self-Contained Produce/Dairy/Deli Merchandiser (O5DMA)
High Multi-Deck Produce/Dairy/Deli Merchandiser (O5DMH)
Multi-Deck Rear Load Dairy Merchandiser (O5DR)134
High Multi-Deck Rear Load Dairy Merchandiser (O5DRH)
Multi-Deck Deli/Meat Merchandiser (O5M)138
Multi-Deck Rear Load Deli/Meat Merchandiser (O5MR)140
Multi-Deck Frozen Food Merchandiser (O5Z)142
Narrow Multi-Deck Deli/Meat Merchandiser (ONHM)144
High Narrow Multi-Deck Deli/Meat Merchandiser (ONHMH)
Multi-Deck Meat Merchandiser (OHM)
High Multi-Deck Deli/Meat Merchandiser (OHMH) 152
Narrow Multi-Deck Produce Merchandiser (ONHP)156
High Narrow Multi-Deck Produce Merchandiser (ONHPH)
Multi-Deck Produce Merchandiser (OHP)160
High Multi-Deck Produce Merchandiser (OHPH)
Wide Multi-Deck Produce Merchandiser (OWHP) 164
High Wide Multi-Deck Produce Merchandiser (OWHPH)
Narrow Multi-Deck Dairy Merchandiser (ONN)168
Narrow Multi-Deck Self-Contained Dairy Merchandiser (ONNA)
Narrow Multi-Deck Produce/Dairy/Deli/Meat Merchandiser (ONU)
Narrow Multi-Deck Self-Contained Produce/Dairy/Deli/Meat Merchandiser (ONUA)
Roll-In Rear Load Dairy Merchandiser (ORDR)
End Cap Merchandisers
Narrow Single Deck Frozen Meat End Cap Merchandiser (ONEMZ)
Single Deck Deli/Meat End Cap Merchandiser (OEM)
Narrow Multi-Deck Deli/Meat End Cap Merchandiser (ON3EM)
Multi-Deck Deli/Meat End Cap Merchandiser (O3EM)
Narrow Multi-Deck Deli/Meat End Cap Merchandiser (ON3.5EM)
Multi-Deck Deli/Meat End Cap Merchandiser (03.5EM)
Narrow Multi-Deck Deli End Cap Merchandiser (ON4EM)
Narrow Multi-Deck Deli End Cap Merchandiser (ON5EM)
Single Deck Bulk Produce End Cap Merchandiser (OEP)
Narrow Multi-Deck Bulk Produce End Cap Merchandiser (ON3EP)
Multi-Deck Bulk Produce End Cap Merchandiser (O3EP)
Reach-In Door Merchandisers
Glass Door Reach-In Frozen Food/Ice Cream Merchandiser (KRZH)

Table of Contents Image: Contents Merchandisers by Design Application E × O E L L E N O E E Reach-In Door Merchandisers (Continued) .225 High Narrow Glass Door Reach-In Beverage Merchandiser (ONRBH) .230 Glass Door Reach-In Beverage Merchandiser (ORB) .232 Glass Door Reach-In Rear Load Beverage Merchandiser (ORBR) .234

 High Glass Door Reach-In Beverage Merchandiser (ORBH)
 .236

 Narrow Glass Door Reach-In Frozen Food/Ice Cream Merchandiser (ONRZ)
 .238

 High Narrow Glass Door Reach-In Frozen Food/Ice Cream Merchandiser (ONRZH)
 .240

 Glass Door Reach-In Frozen Food/Ice Cream Merchandiser (ORZ)
 .242

 High Glass Door Reach-In Frozen Food/Ice Cream Merchandiser (ORZ)
 .242

 High Glass Door Reach-In Frozen Food/Ice Cream Merchandiser (ORZH)
 .244

 Narrow Glass Door Reach-In Back-to-Back Frozen Food/Ice Cream Merchandiser (ONRIZ)
 .246

 High Narrow Glass Door Reach-In Back-to-Back Frozen Food/Ice Cream Merchandiser (ONRIZ)
 .248

S	Single Deck Island Merchandisers	1
	Narrow Island Deli/Meat Merchandiser (ONIM)	2
1	Narrow Island Self-Contained Deli/Meat Merchandiser (ONIMA)	6
	Narrow Island Self-Contained Deli/Meat Merchandiser (ONIMBA)	8
	Wide Island Deli/Meat Merchandiser (OIM) 260	0
	Wide Island Self-Contained Deli/Meat Merchandiser (OIMA)	•4
	Wide Island Self-Contained Deli/Meat Merchandiser (OIMBA)	6
	Wide Island Bulk Produce Merchandiser (OIP)	8
	Wide Island Self-Contained Bulk Produce Merchandiser (OIPA)	2
	Narrow Single Deck Frozen Food/Ice Cream Merchandiser (ONZ)	4
	Narrow Island Frozen Food/Ice Cream Merchandiser (ONIZ)	6
	Island Frozen Food Merchandiser (OIZ)	0
	Wide Island Frozen Food/Ice Cream Merchandiser (OWIZ)	2
l	Wide Island Frozen Food/Ice Cream Merchandiser (OWEZ)	4
Ν	Multi-Deck Island Merchandisers 287	7
	Wide Island Multi-Deck Deli/Meat Merchandiser (O2IM)	8
	Wide Island Multi-Deck Deli/Meat Merchandiser (O3IM) 290	0
	Wide Island Multi-Deck Produce Merchandiser (O3IP) 294	4
	Wide Island Multi-Deck Deli Merchandiser (O4ID)	8
S	Service Merchandisers	3
	American Style Curved Glass Service Deli Merchandiser (OSA)	4
	American Style Curved Glass Service Meat/Deli/Seafood Gravity Coil Merchandiser (OSAG)	8
	American Style Vertical Glass Service Deli Merchandiser (OSM)	2
	American Style Vertical Glass Service Meat/Deli/Seafood Gravity Coil Merchandiser (OGM)31	6
	American Style Flat Glass Service Frozen Food Merchandiser (OSMLZ)	0
	International Style Single Deck Deli/Meat/Seafood Merchandiser (OSIO)	2
	Wide International Style Single Deck Deli/Meat/Seafood Merchandiser (OWSIO)	4
	International Style Service Deli/Meat/Seafood Merchandiser (OSI)	6
	Wide International Style Service Deli/Meat/Seafood Merchandiser (OWSI)	8

Service Merchandisers (Continued)	603
International Style Service Hot Foods Merchandiser (OSIH)	332
International Style Self Service Hot Foods Merchandiser (OSIHO)	334
Multi-Deck Self Service Hot Foods Merchandiser (ON3W)	.336
International Style Flat Glass Service Deli/Meat/Seafood Merchandiser (OSIF)	338
International Style Flat Glass Service Deli/Meat/Seafood Merchandiser (O2SIF)	340
Flat Glass Service Deli Merchandiser (OLF)	342
Flat Glass Service Deli Gravity Coil Merchandiser (OLFG)	344
Full Service Flat Glass Deli Merchandiser (PDIF)	346
Multi-Deck Curved Glass Dome Deli/Meat/Seafood Merchandiser (PDNUM)	350
Multi-Deck Curved Glass Dome Deli/Hot Foods Merchandiser (PHNUM)	352
Multi-Deck Curved Glass Dome Deli/Meat/Seafood Merchandiser (PMNUM)	354
Multi-Deck Flat Glass Dome Deli/Meat/Seafood Merchandiser (PMFNUM)	356
Multi-Deck Curved Glass Dome Deli/Meat/Seafood Merchandiser (PMN2UM)	358
Multi-Deck Flat Glass Dome Deli/Meat/Seafood Merchandiser (PMFN2UM)	
Secondary Coolant Gravity Coil Meat Merchandiser (PSG)	
Secondary Coolant Flat Glass Gravity Coil Meat Merchandiser (PSGF)	
Secondary Coolant Flat Glass Gravity Coil Meat Merchandiser (P2SGF)	
Full Service Bakery Merchandiser (OB)	
Full Service Self-Contained Bakery Merchandiser (OBA)	
Full Service Dry Bakery Merchandiser (OBD)	
Self Service Bakery/Deli Merchandiser (OBOL)	
Self Service Bakery/Deli Merchandiser (OBO)	
Self Service Self-Contained Bakery/Deli Merchandiser (OBOA)	
Full Service Flat Glass Bakery Merchandiser (OBIF)	
Full Service Flat Glass Self-Contained Bakery Merchandiser (OBIFA)	
Full Service Flat Glass Dry Bakery Merchandiser (OBIFD)	
Single Deck Cub Case Merchandiser	
Single Deck Cub Case Merchandiser	
Single Deck Ice Cub Case Merchandiser	398
Mobile Self-Contained Merchandisers4	01
Single Deck Self-Contained Mobile Deli Merchandiser (MDCA)	
Single Deck Self-Contained Mobile Deli/Meat Merchandiser (MMCA)	
Single Deck Self-Contained Mobile Deli/Meat Merchandiser (MMRA)	
Single Deck Self-Contained Mobile Produce Merchandiser (MPCA)	
International Style Self-Contained Mobile Deli/Meat/Seafood Merchandiser (OSIOA)	

International Style Self-Contained Mobile Deli/Meat/Seafood Prep. Merchandiser (OSIOPA)412
International Style Self-Contained Mobile Sushi Prep. Merchandiser (OSIOA-P)
International Style Self-Contained Mobile Dual Temp Merchandiser (OSIOZA)416
Single Deck Self-Contained Mobile Boxed Produce Merchandiser (UPA)
Multi-Deck Self-Contained Mobile Produce/Dairy/Deli/Meat Merchandiser (O2.5UMA)420
Multi-Deck Self-Contained Mobile Produce/Dairy/Deli/Meat Merchandiser (O3UMA)422
Multi-Deck Self-Contained Mobile Produce/Dairy/Deli/Meat Merchandiser (O3UMA-56")
International Style Self-Contained Mobile Deli/Meat/Seafood Merchandiser (OSIA)426
International Style Self-Contained Mobile Deli/Meat/Seafood Merchandiser (O2SIA)428

Table of Contents

Merchandisers by Design Application

Curved Case Merchandisers	.431
Curved Case Electrical and Refrigeration Data	432
30° Inside & Outside Curved Case	436
45° Inside & Outside Curved Case	437
60° Inside & Outside Curved Case	438
90° Inside & Outside Curved Case	439
Index	.440

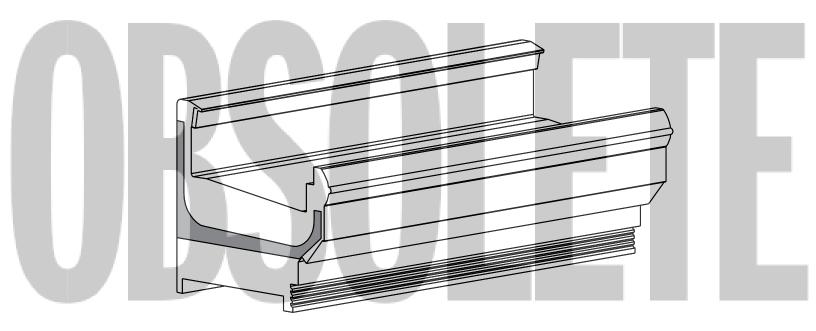








SINGLE DECK



Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Single Deck Produce Merchandiser

MPC - 8' & 12'

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per		ns per 120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
MPC	8'	3	1.35	51	0.45	33	0.58	70	3.85	800	4.44	1065
	12'	4	1.80	68	0.60	44	0.83	100	5.77	1200	6.67	1600

Lighting Data

Model	Bulb per Rov	Bulb	Light Row 120 Volts	Aaximum Lighting 20 Volts ps Watts				
MPC	8' 12'			_				
Guidelin	es & C	ontrol S	Settings					
Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air (FPM)		
MPC	617	22	6-8	30	42	163		
 ¹ BTUHs/ft listed ² Average dischar	-		ventional ratings may be st.	approximated by mu	Iltiplying listed	rating by 1.04.		

Defrost Controls

Г				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	MPC	3	6 - 8	40	49	60	47	3			

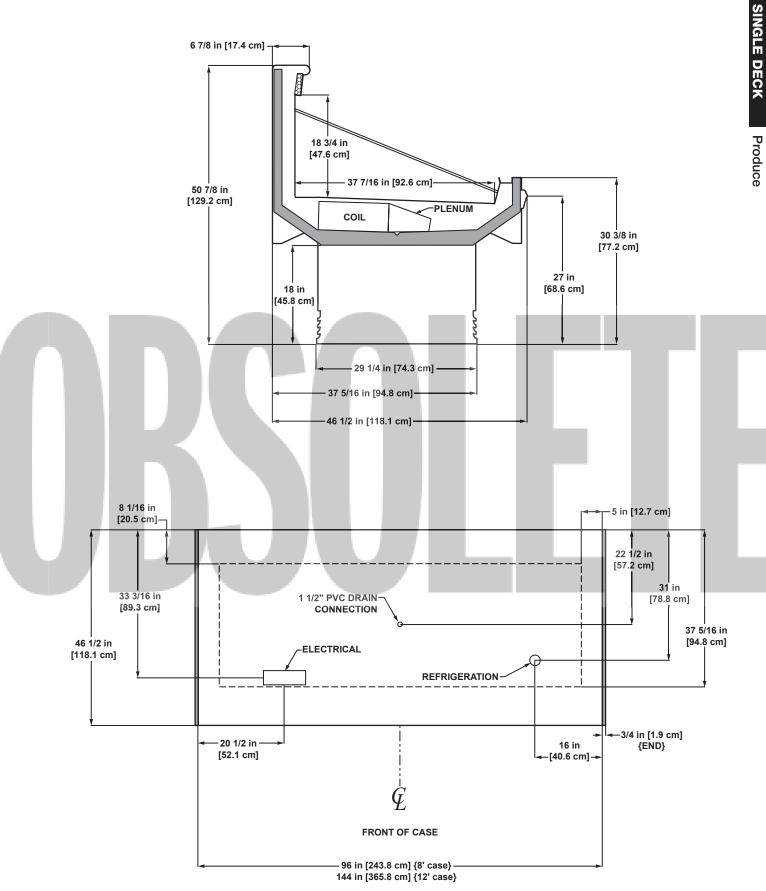
³ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm







Single Deck Deli/Cheese Merchandiser

OC - 4', 6', 8' & 12

Electrical Data

			Standar	d Fans	0	fficiency ans		ndensate iters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OC	4'	2	1.00	60	0.15	9.2	0.14	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20	24	2.88	600	3.33	798
	8'	2	1.00	60	0.15	9.2	0.25	30	3.85	800	4.44	1065
	12'	3	1.50	90	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

Mod	Front Sill Heights	BTUH/ft1	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
00	Standard	480 ²	Enh.	22	6-8	26	39	30 5
	All Others	415 ²	Enh.	22	6-8	26	3 5	30 5

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

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

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Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
0	0 0 10

 3
 6 am - 2 pm - 10 pm

 4
 12 - 6 am - 12 - 6 pm

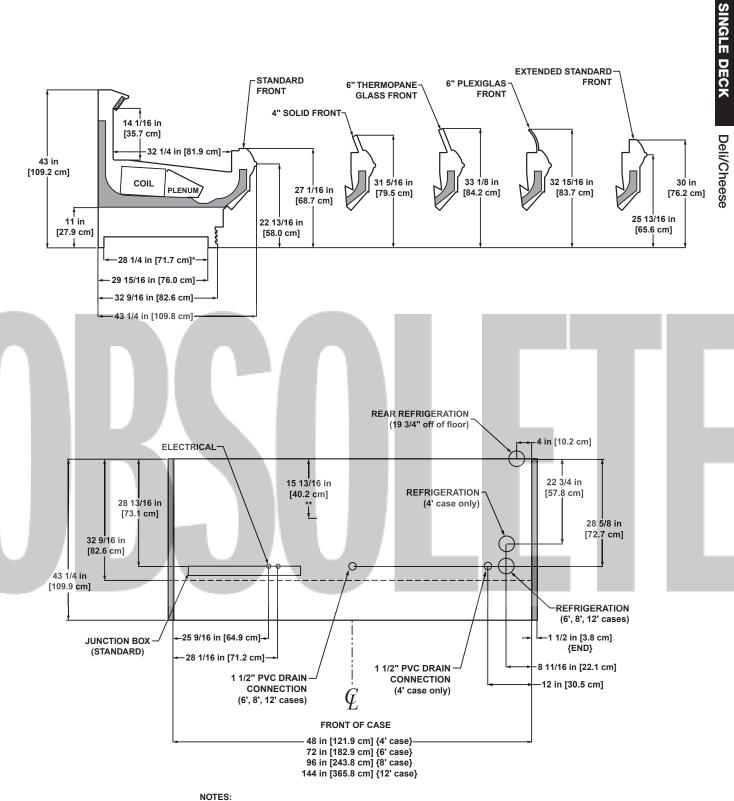
4 12 - 0 am - 12 - 0 pm











OC

* 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"



Single Deck Deli/Meat/Seafood Merchandiser OM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate aters		Defrost	Heaters	
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	2	1.00	60	0.15	9.2	0.25 ¹	30	3.85	800	4.44	1065
	12'	3	1.50	90	0.23	13.8	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum Iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OM	4'	1	4'	0.23	2 8	1.67	140
	6'	2	3'	0.37	44	1.83	220
	8'	2	4'	0.47	5 6	2.33	280
	12'	3	4'	0.70	84	3.50	420

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ОМ	Standard	480 ³	Enh.	22	6-8	26	39	305
	All Others	415 ³	Enh.	22	6-8	26	35	30 5

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

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

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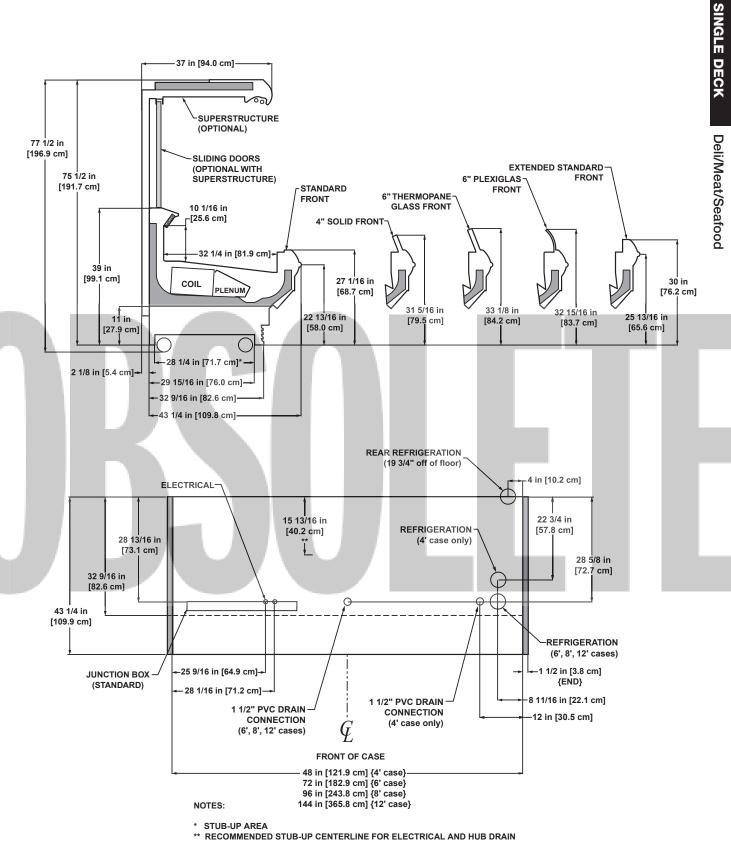
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm



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OM

RECOMMENDED STUD-OF CENTERLINE FOR ELECTRICAL AND HUB DR

• 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"



Hill PHOENIX



Electrical Data

			Standar	rd Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONMZ	4'	2	1.00	60	0.23	14	0.60	72	3.331	1200	3.841	1596
	6'	2	1.00	60	0.23	14	0.90	108	5.00 ¹	1800	5.76 ¹	2394
	8'	2	1.00	60	0.23	14	0.96	115	6.66 ¹	2400	7.69 ¹	3195
	12'	3	1.50	90	0.35	21	1.83	220	7.99 ¹	2880	9.24 ¹	3840

1 NOTE: 3 phase load. Figures given in maximum amps per phase.

Lighting Data

		Bulbs			al per Row		mum iting	
		per	Bulb	120	Volts	120	Volts	
Model		Row	Length	Amps	Watts	Amps	Watts	
ONMZ	4'	1	4'	0.23	2 8	0.23	28	
	6'	2	3'	0.37	4 4	0.37	44	
	8'	2	4'	0.47	56	0.47	56	
	12'	3	4'	0.70	84	0.70	84	

Guidelines & Control Settings

l	Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
	ONMZ	430 ³	0	3-5	12	25	220

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

 3 High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Run-Off Per Day Time (min)		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	ONMZ	4	13 - 15	45	47	5		20	60		

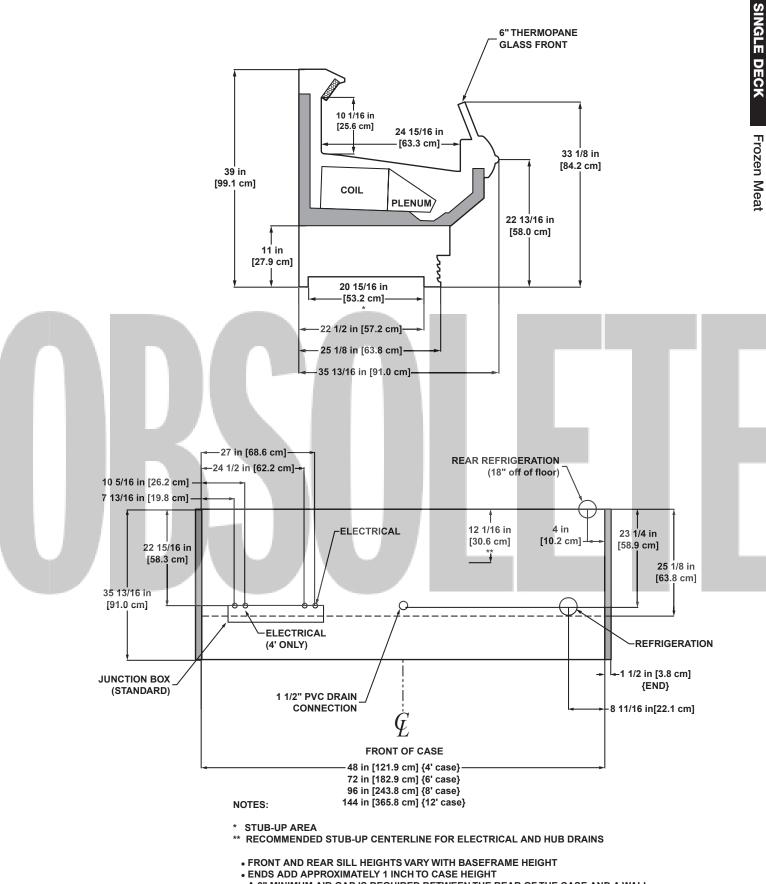
⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm







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

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



Single Deck Frozen Meat Merchandiser

OMZ - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	0	fficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OMZ	4'	2	1.00	60	0.23	14	0.60	72	3.331	1200	3.841	1596
	6'	2	1.00	60	0.23	14	0.90	108	5.00 ¹	1800	5.76 ¹	2394
	8'	2	1.00	60	0.23	14	0.96	115	6.66 ¹	2400	7.69 ¹	3195
	12'	3	1.50	90	0.35	21	1.83	220	7.99 ¹	2880	9.24 ¹	3840

1 NOTE: 3 phase load. Figures given in maximum amps per phase.

Lighting Data

		Bulbs	Bulb	Light	al per Row Volts	Ligh	mum iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OMZ	4'	1	4'	0.23	2 8	0.23	28
	6'	2	3'	0.37	44	0.37	44
	8'	2	4'	0.47	5 6	0.47	56
	12'	3	4'	0.70	84	0.70	84

Guidelines & Control Settings

Model	BTUH/ft ²		Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OMZ	550 ³	-22	3-5	-10	0	220

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	lel Defrosts Run-Off Per Day Time (min)		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OMZ	4	13 - 15	45	47	5		20	60		

c(UL)us

(NSF_®)

⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

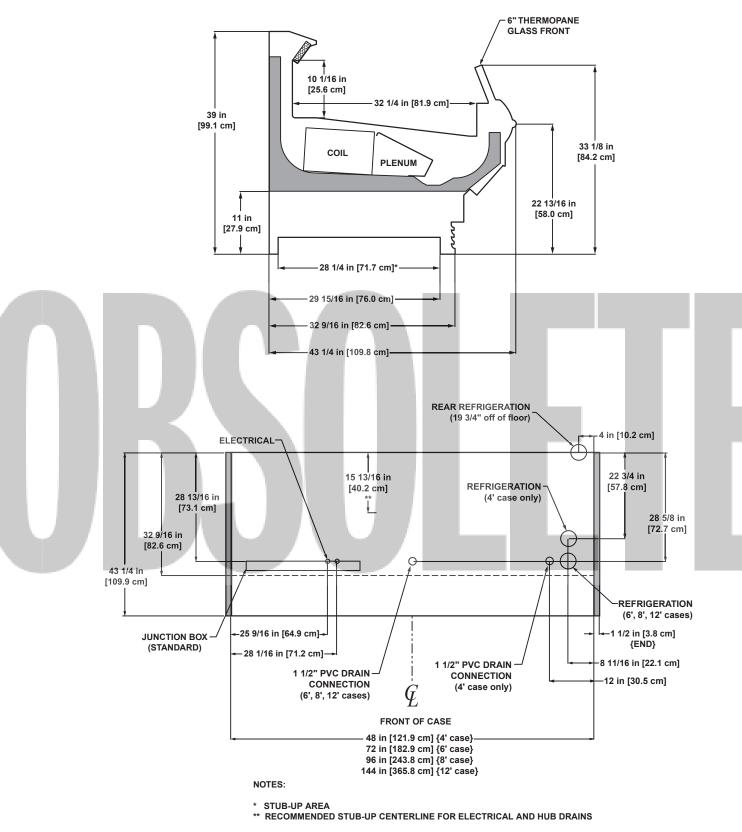
1 12 midnight	
2 12 am - 12 pm	
3 6 am - 2 pm - 10 pm	
4 12 - 6 am - 12 - 6 pm	



A		,
A	DUVEN COMPANY	



Frozen Meat



• 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"





Electrical Data

			Standar	d Fans	•	fficiency ans		ndensate aters	Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OMZD	4'	2	0.68	34	0.30	22	1.14	137	3.85	800	4.43	1064
	6'	2	0.68	34	0.30	22	1.28	154	11.54	2400	13.31	3196
	8'	3	1.02	51	0.45	33	1.45	174	15.38	3200	17.75	4260
	12'	4	1.36	68	0.60	44	2.59	311	23.08	4800	26.63	6390

Lighting Data

		Bulbs			al per Row	Maxi Ligh	mum Iting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OMZD	4'	1	4'	0.23	28	0.23	28
	6'	2	3'	0.37	44	0.37	44
	8'	2	4'	0.47	5 6	0.47	56
	12'	3	4'	0.70	84	0.70	84

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OMZD-F ³	456	-17	3-5	-8	2	240
OMZD-C ³	476	-27	3-5	-18	-8	240

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

³ F=frozen food, C=ice cream.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
OMZD	1	13 - 15	45	48	4		20	60		

(NSF) c(UL)us

⁴ NOTE: - - - not an option on this case model.

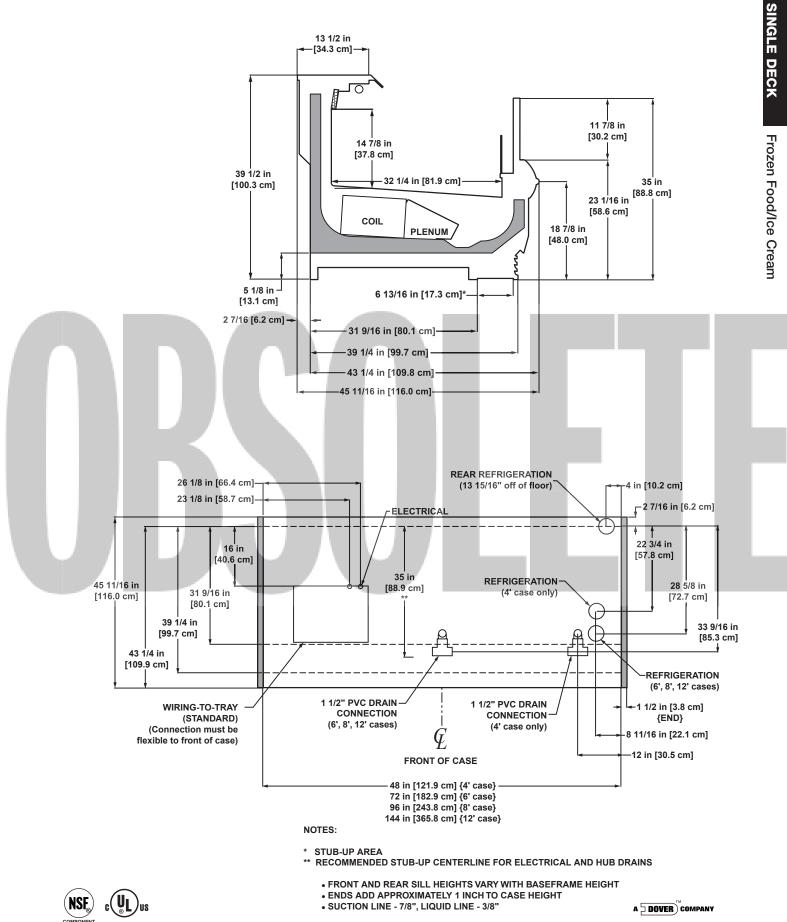
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour

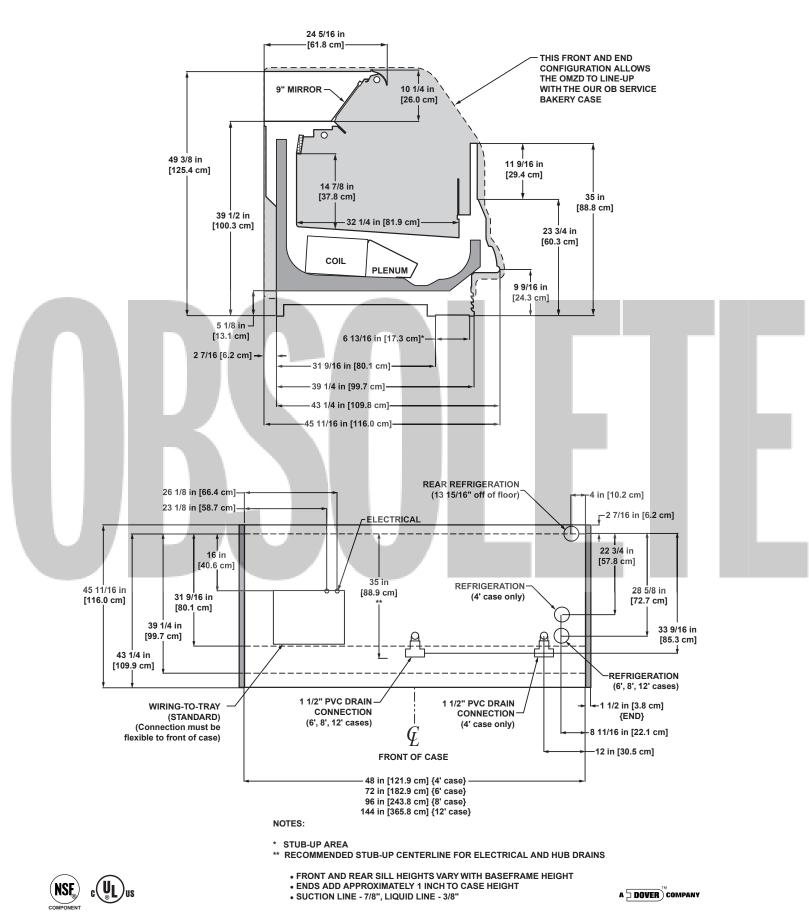








OMZD w/ Canopy & OB Front





Electrical Data

	Standa			rd Fans	•	High Efficiency Fans		ndensate iters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONP	4'	2	1.00	60	0.15	9.2	1		1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2			2.88	600	3.33	798
	8'	2	1.00	60	0.15	9.2			3.85	800	4.44	1065
	12'	3	1.50	90	0.23	13.8			5.77	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs per	Bulb	Light	al per t Row Volts	Ligh	mum nting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
ONP	4'	1	4'				
	6'	2	3'				
	8'	2	4'				
	12'	3	4'				
				A			

Guidelines & Control Settings

Model	Rear Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ONP - Bulk Produce	43"	401 ³	Enh.	26	6-8	30	45	NA ⁵

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

⁵ Not Applicable.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONP	2	6 - 8	40	49	60	47	26	45	40	45

Medium Temperature Defrost Schedule

No.	Per	Day	Hours

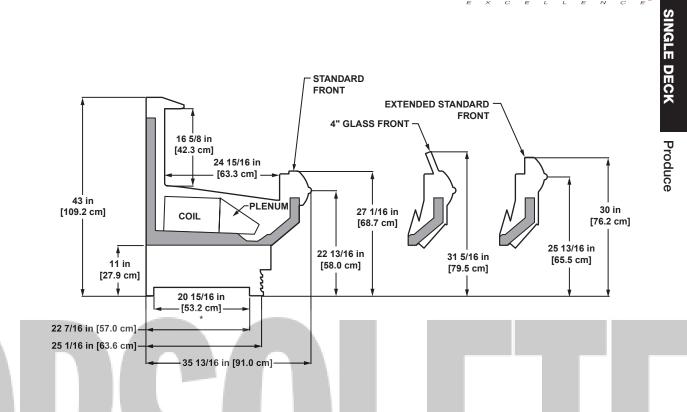
1 2

12 midnight 12 am - 12 pm 6 am - 2 pm - 10 pm 3

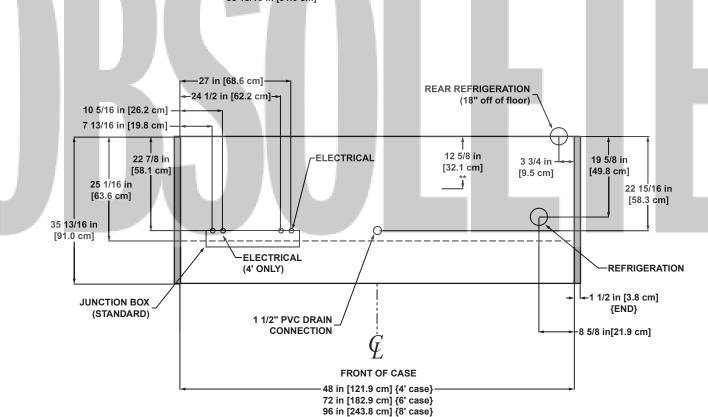
4 12 - 6 am - 12 - 6 pm







ONP



NOTES:

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

• FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT

144 in [365.8 cm] {12' case}

• 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"



5/06

Hill PHOENIX

Single Deck Produce Merchandiser

OP - 4', 6', 8' & 12'

Electrical Data

	Standard		Standard Fans High Efficiency				ndensate aters	Defrost Heaters				
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Mode		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OP	4'	2	1.00	60	0.15	9.2	0.14	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20	24	2.88	600	3.33	798
	8'	2	1.00	60	0.15	9.2	0.25	30	3.85	800	4.44	1065
	12'	3	1.50	90	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

		Bulbs			al per Row		mum Iting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OP	4'	1	4'	0.23	28	0.23	28
	6'	2	3'	0.37	44	0.37	44
	8'	2	4'	0.47	5 6	0.47	56
	12'	3	4'	0.70	84	0.70	84

Cuidalinaa	0	Control	Cottingo
Guidelines	CX	Control	Sellings

l	Model	Rear Sill Heights	BTUH/ft ¹	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
	OP Cut Breduce	39"	288 ²	Enh.	26	6-8	31	42	180
I	OP Cut Produce	43"	401 ²	Enh.	26	6-8	30	45	210
I	ОР	39"	230 ²	Enh.	29	6-8	36	44	180
ľ	Bulk Produce	43"	374 ²	Enh.	29	6-8	35	47	210

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

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

Medium Temperature Defrost Schedule

No.	Per	Day	Hours

1 2

12 midnight 12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4

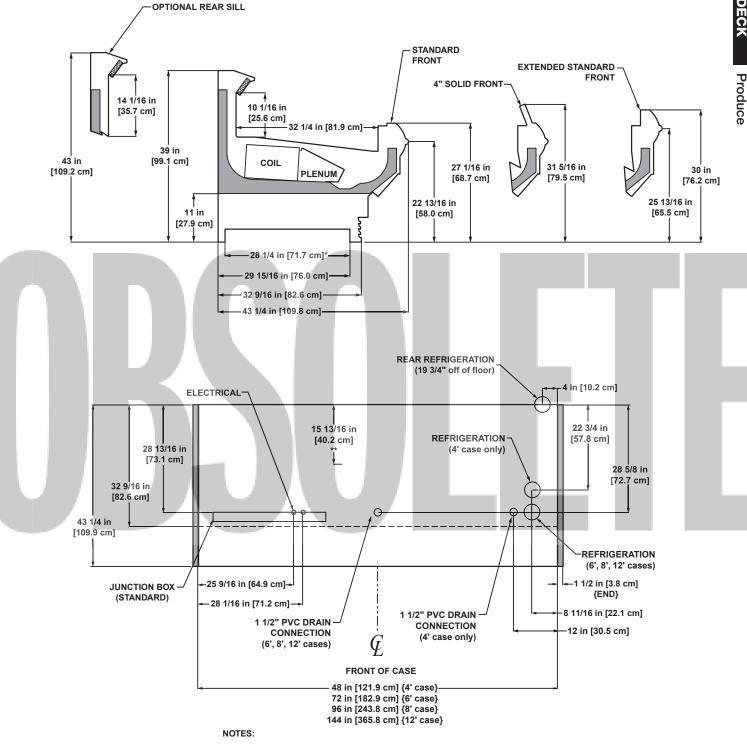




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SINGLE DECK

Hill PHOENIX



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"



OP

Single Deck Produce Self-Contained Merchandiser

OPA - 6', 8' & 12'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
OPA	6'	120	1	60	2 wire + ground	10.748	20
	8'	120	1	60	2 wire + ground	14.648	30
	12'	120	1	60	2 wire + ground	16.848	35

Electrical Data

			Standard Fans		Condenser Fan		Anti-Condensate Heaters		Defrost Heaters		Dra Hea	
		Fans per	120	Volts	120	Volts	120 \	Volts	120	Volts	120 \	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OPA	6'	2	1.00	60	0.82	49	0.20	24	5.00	600	4.17	500
	8'	2	1.00	60	0.82	49	0.25	30	6.67	800	4.17	500
	12'	3	1.50	90	0.82	49	0.38	46	10.00	1200	4.17	500

Guidelines & Control Settings

Model	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OPA-6'	19.9	6-8	30	45	210
OPA-8'	19.9	6-8	30	45	210
OPA-12'	19.9	6-8	30	45	210

Average discharge air velocity at peak of defrost.

Condensing Unit Data

ľ	Model	Volts	Phase	Frequency (Hz)	ΗР	RLA² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
ų	OPA -6'	120	1	60	1/4	5.4	34	R134A	
ł	OPA-8'	120	1	60	1/2	9.3	36	R134A	
	OPA-12'	120	1	60	1/2	11	51	R134A	

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Мо	odel	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
0	PA	2	40	47	60	47	4			

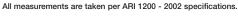
(NSF)

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
•	a a 4a

6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4





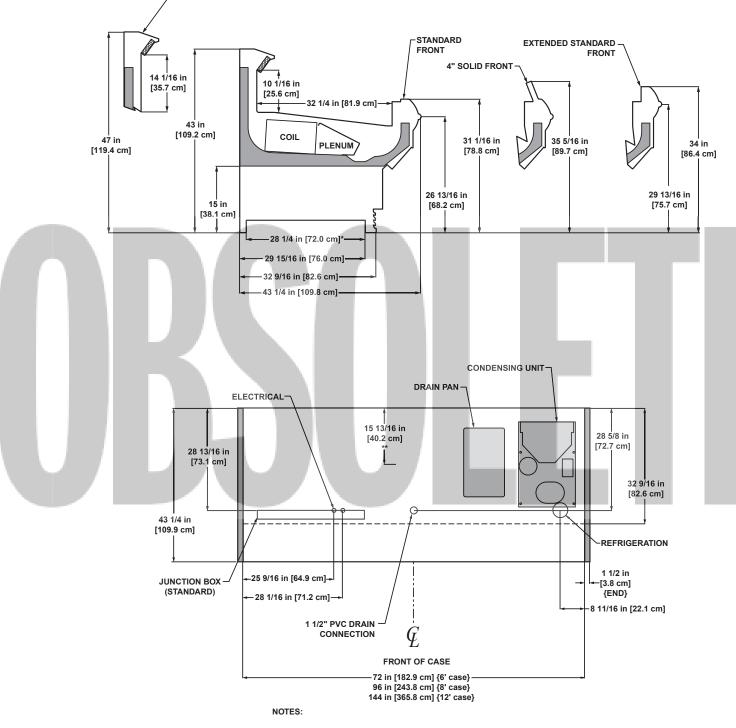
SINGLE DECK

Produce

OPA

-OPTIONAL REAR SILL





* STUB-UP AREA

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

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

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



Electrical Data

			Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWP	8'	2	1.00	60	0.15	9.2	0.25	30	3.85	800	4.44	1065
	12'	3	1.50	90	0.23	13.8	0.38	46	5.77	1200	6.67	1600

Lighting Data

		Bulbs			al per Row	Maximum Lighting		
Model		per Row	Bulb Length	120 Volts Amps Watts		120 Volts Amps Watts		
OWP	8'	2	4'	0.47	56	0.47	56	
	12'	3	4'	0.70	84	0.70	84	

	Cuid	lalinaa	0	Control	Settings
1	Guiu	lennes	α	Control	Settings

Model	Rear Sill Heights	BTUH/ft1	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
OWP	39"	377 ²	Enh.	26	6-8	31	42	180
Cut Produce	43"	525 ²	Enh.	26	6-8	30	45	210
OWP	39"	301 ²	Enh.	29	6-8	36	44	180
Bulk Produce	43"	490 ²	Enh.	29	6-8	35	47	210

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	OWP	2	6 - 8	40	49	60	47	26	45	40	45

Medium Temperature Defrost Schedule

|--|

1 12 midnight

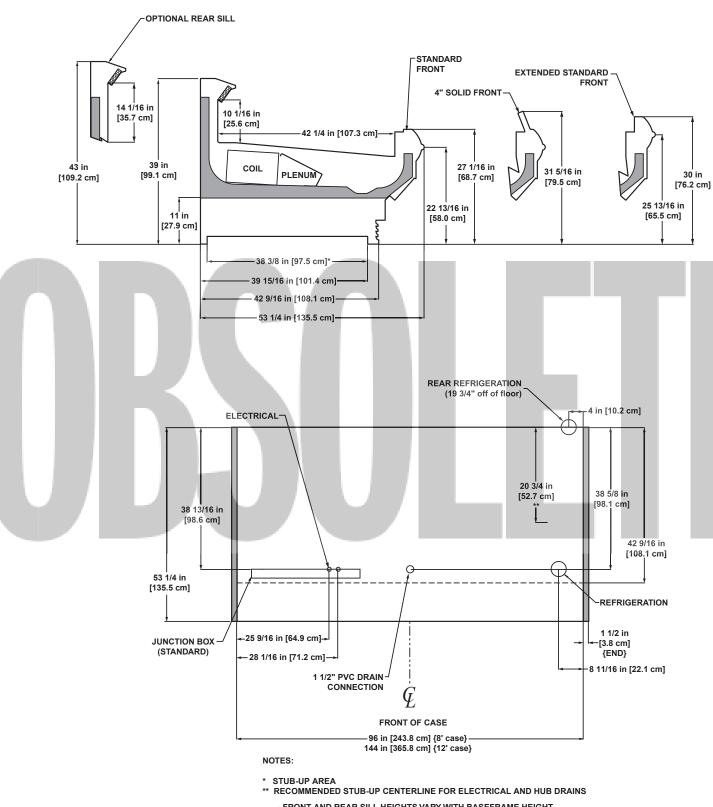
2 3

12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 4





Hill PHOENIX



OWP

- 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 5/8", LIQUID LINE 3/8"



System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
OWPA	8'	120	1	60	2 wire + ground	22.49	40

Electrical Data

				Standa	rd Fans		Condenser Fan		idensate ters		irost aters	Drain Heater	
I			Fans per	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
	OWPA	8'	2	1.00	60	0.82	49	0.25	30	6.67	800	4.17	500

Guidelines & Control Settings

	55	Suction Pressur Case Outlet (ps		at Set Point ulb (°F)	D	ischarge (°F)	Air	urn Air (°F)	Disc	charge Air Vel (FPM)	ocity1
OWPA-8'		19.9		6-8		30		45		210	

Average discharge air velocity at peak of defrost.

Condensing Unit Data

			-			1.540		
Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
OWPA-8'	120	1	60	1/2	12.9	66.3	R134A	

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

		Electri	c Defrost	Timed (Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
OWPA	2	40	47	60	47	4				

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⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

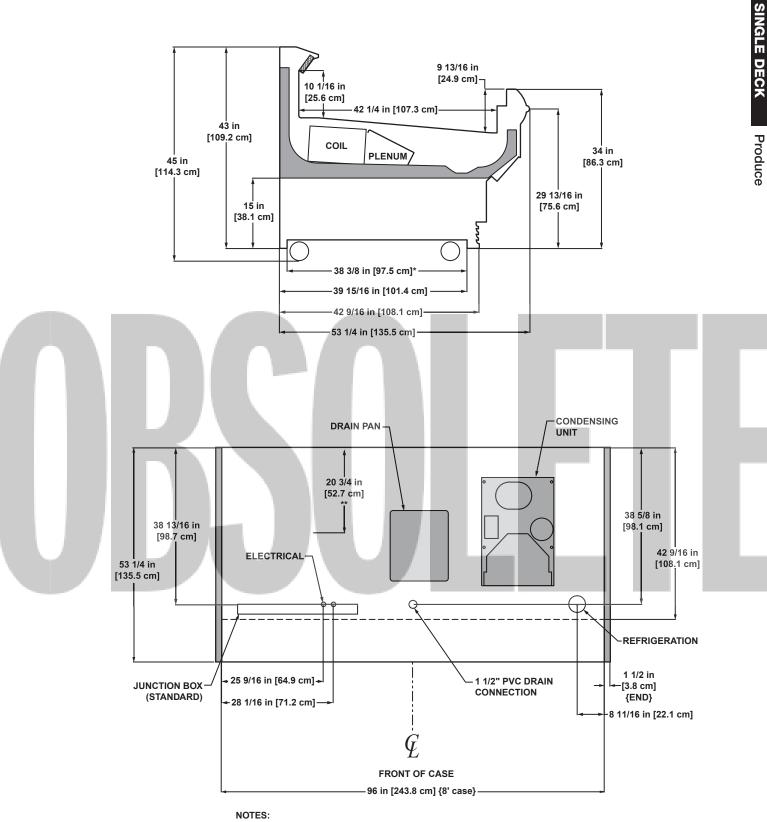
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 nm - 10 n

 3
 6 am - 2 pm - 10 pm

 4
 12 - 6 am - 12 - 6 pm







- * STUB-UP AREA

- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAIN
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT • A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL

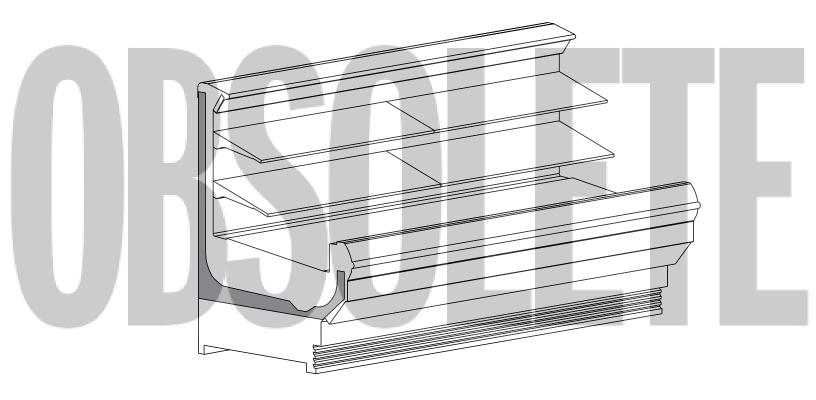




NSI



UTILITY



Notes:

- Cases comply with ANSI / NSF * Standard 7 unless otherwise specified. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Electrical Data

		Fans	s per	Amb Fa	ient¹ Ins		dard Ins	0	ficiency ns		ndensate iters		Defrost	Heaters	
		Ca	ise	120	Volts	120	Volts	120	Volts	120	Volts	208	Volts	240	Volts
Model	ĺ	Pri.	Amb.	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONUMD	8'	3	4	0.40	22	1.50	90	0.35	21	0.25	30	3.85	800	4.44	1065
	12'	4	6	0.60	33	2.00	120	0.47	28	0.39	47	5.77	1200	6.67	1600

¹ Ambient fans are standard equipment for this case model. The primary fans can either be standard or high efficiency.

Electrical Data (Continued)

Lighting Data

		ndary² Ins
	120	Volts
	Amps	Watts
8'	2.19	158
12'	2.19	158
	0	Fa 120 Amps 8' 2.19

² Secondary Fans are for the Bohn unit on the rear coil.

			Bulbs			al per Row	Maxi Ligh	mum nting	
			per	Bulb	120 \	Volts	120 Volts		
	Model			Length	Amps	Watts	Amps	Watts	
1	ONUMD	8'	2	4'	0.47	56	1.40	168	
1	ONUMD	8' 12'	2 3	4' 4'	0.47	56 84	1.40 2.10	168 252	

Guidelines & Control Settings

Model	BTUH/ft₃	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F		Return Air (°F)	Discharge Air Velocity (FPM)
ONUMD	1390 ⁴	Enh.	22	6-8	29	40	250

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
ONUMD	3	6 - 8	40	47	50	45	26	45	6		

⁶ NOTE: - - - not an option on this case model.

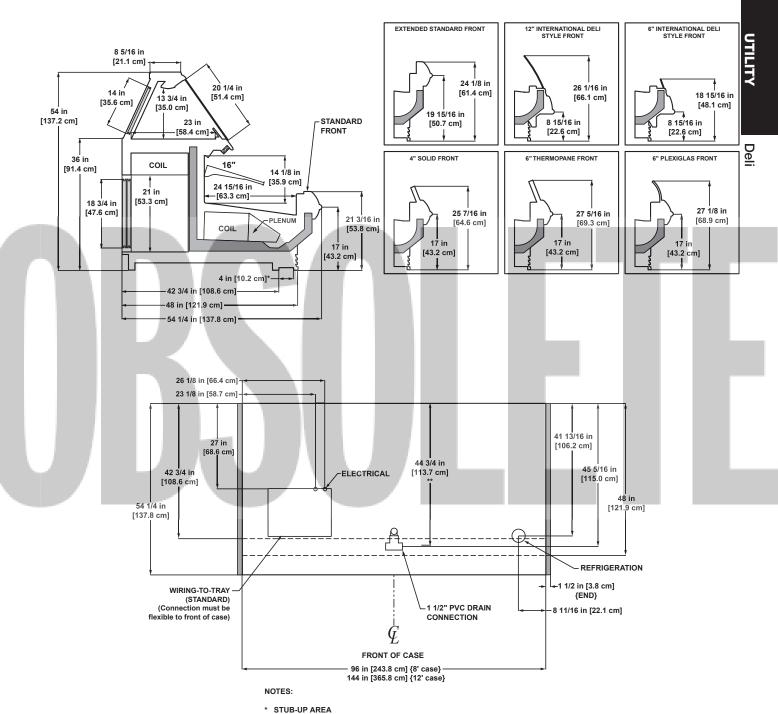
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.







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

FRONT AND REAR SILL HEIGHT VARY WITH BASEFRAME HEIGHT
 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"
 PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1 - 16"

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

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate ters¹		Defrost	Heaters	
Fans per		Fans per	120 Volts		120 Volts		120 Volts		208	Volts	240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONUM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts		mum nting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
ONUM	4'	1	4'	0.23	2 8	0.70	84
	6'	2	3'	0.37	44	1.10	132
	8'	2	4'	0.47	56	1.40	168
	12'	3	4'	0.70	84	2.10	252

Guidelines & Control Settings

	Model ²	вт	UH/ft ³	Coil Type	Eva	porator (°F)	perheat nt @ Bul			R	eturn Air (°F)	Dischai	ge Air \ (FPM)	/elocity⁵
I	ONUM		530 ⁴	Enh.		22	6-8	28	3		35		280	

² Model ONUM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan

⁵ Average discharge air velocity at peak of defrost.

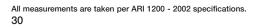
Defrost Controls

				c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
ONUM	3	6 - 8	40	47	45	45	26	45	45	45	

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 nm

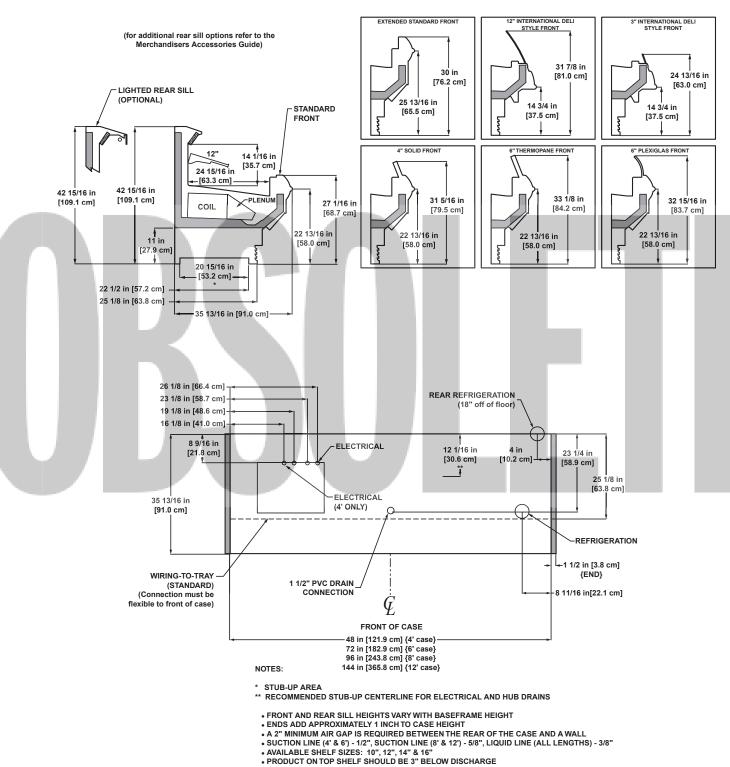
4 12 - 6 am - 12 - 6 pm







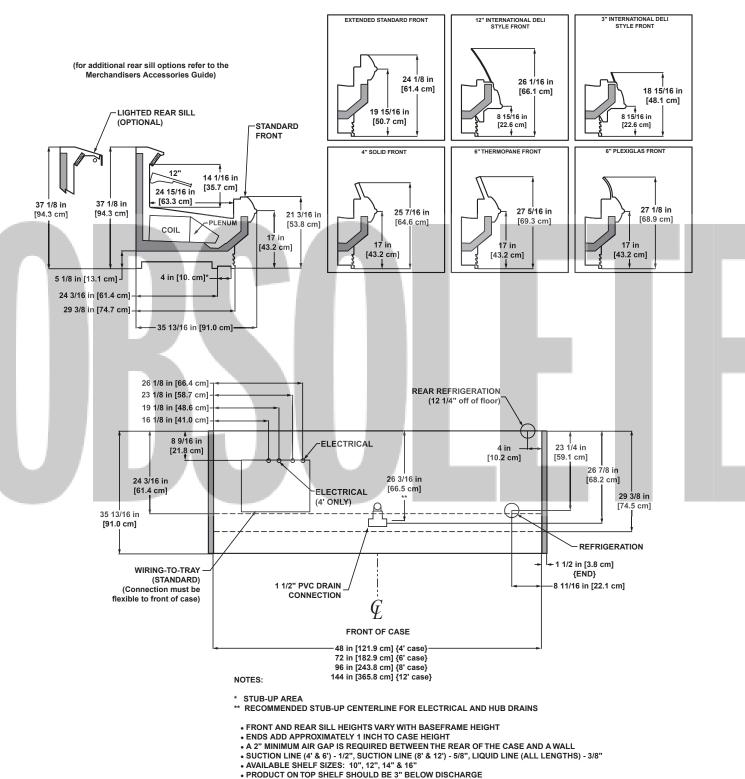
ONUM (11" BASEFRAME)



• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"

HIII PHOENIX

ONUM (5" BASEFRAME)



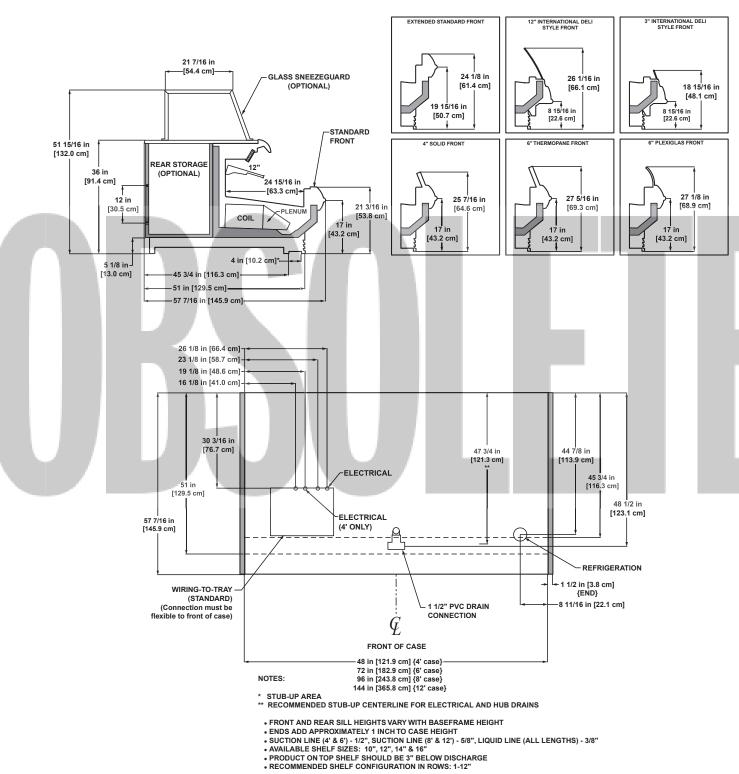
• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"



UTILITY

Produce/Dairy/Deli/Meat/Seafood

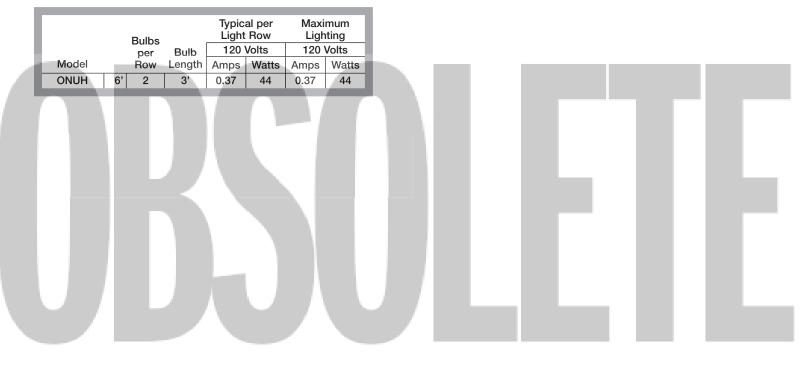
ONUM (PREPARED FOODS)



Electrical Data

			r Heat nps		r Deck Plate		r Deck Plate	Shelf Hot Plates		
	[120	Volts	208	Volts	120	Volts	120 Volts		
Model		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
ONUH	6'	18.0	2160	9.17	1100	9.17	1100	9.17	1100	

Lighting Data

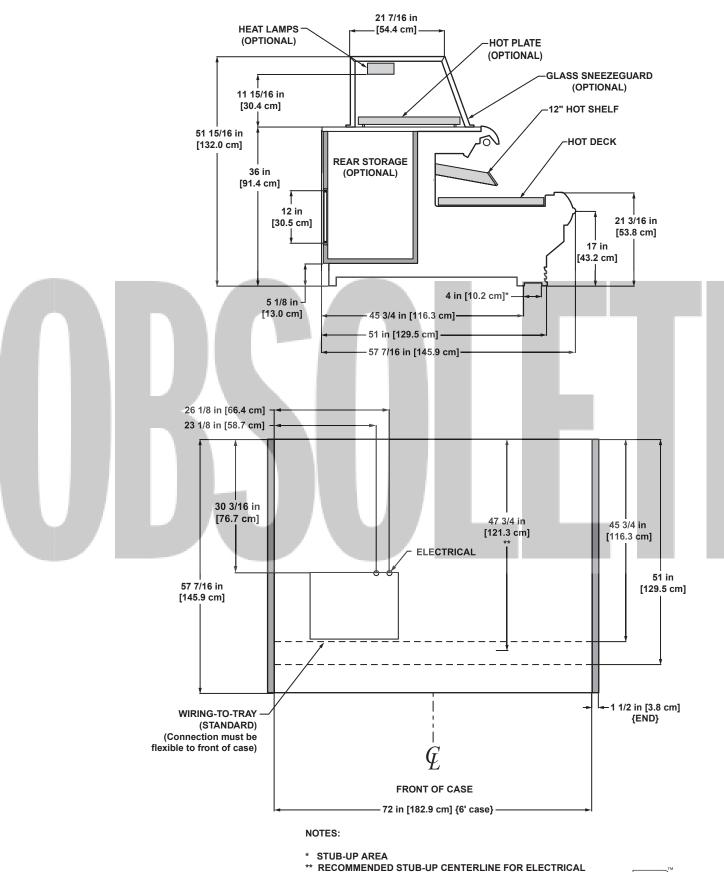






UTILITY

Hot Foods



A DOVER COMPANY

Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser

OUM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate ters¹		Defrost	Heaters	
Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OUM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	-	mum iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OUM	4'	1	4'	0.23	2 8	0.70	84
	6'	2	3'	0.37	44	1.10	132
	8'	2	4'	0.47	56	1.40	168
	12'	3	4'	0.70	84	2.10	252

Guidelines & Control Settings

Model ²	В	TUH/ft ³	Coil Type	porator (°F)	iperheat nt @ Bull		 Re	eturn Air (°F)	Discha	rge Air \ (FPM)	/elocity⁵
OUM		810 ⁴	Enh.	22	6-8	27		40		340	

² Model OUM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

Г				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	OUM	3	6 - 8	40	47	45	45	26	45	45	45	

Medium Temperature Defrost Schedule

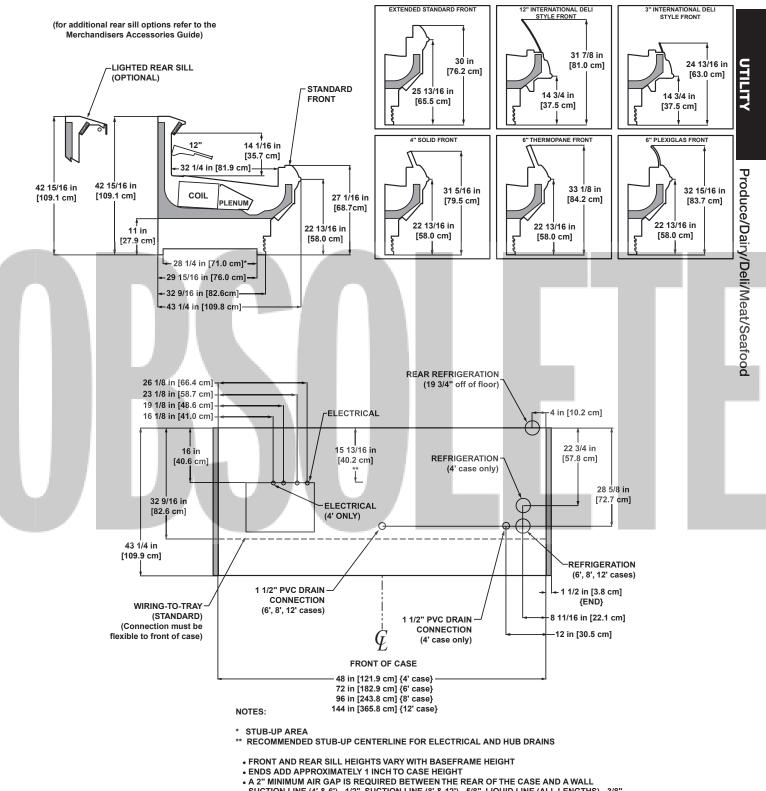
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications. $\mathbf{36}$



OUM (11" BASEFRAME)



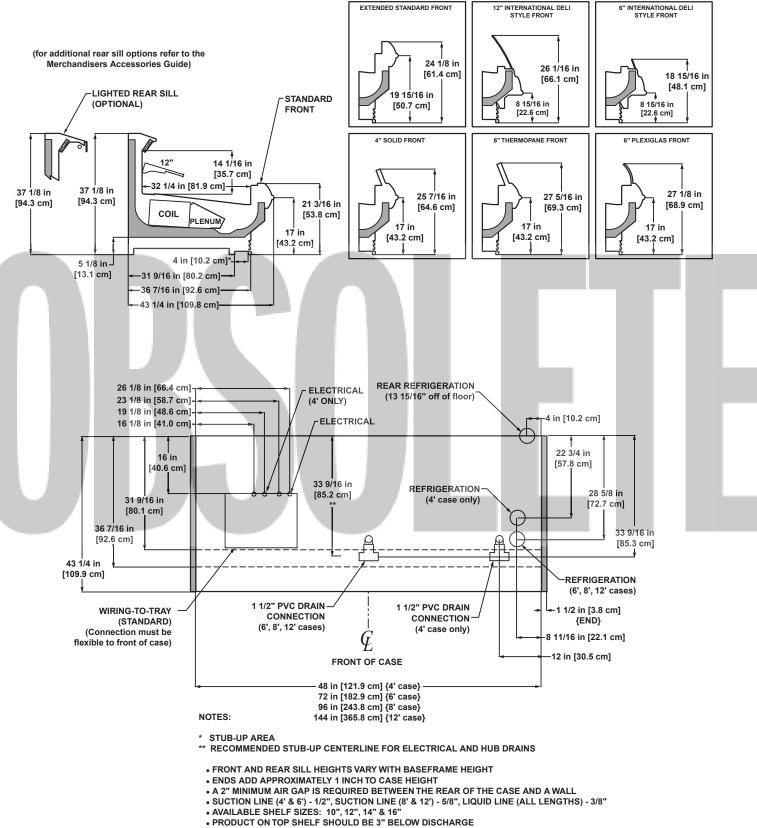


• SUCTION LINE (4' & 6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"

• AVAILABLE SHELF SIZES: 10", 12", 14" & 16"

• PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12

OUM (5" BASEFRAME)

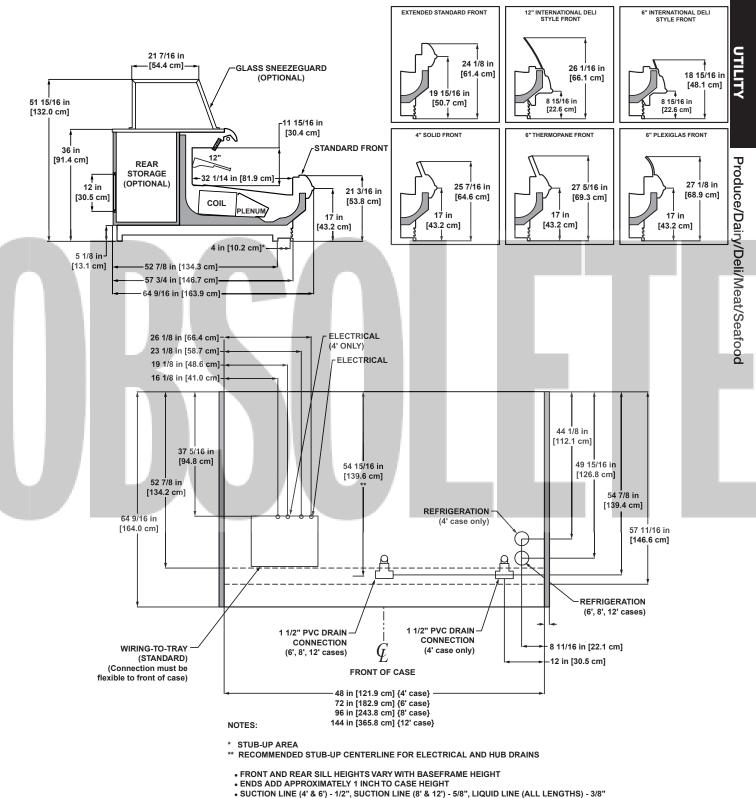


• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"

Hill PHOENIX

Hill PHOENIX

OUM (PREPARED FOODS)



AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
 PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"

Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser ON2UM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate ters¹		Defrost	Heaters	
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON2UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs			al per Row	Maximum Lighting						
		per	Bulb	120	Volts	120 Volts						
Model		Ŕow	Length	Amps	Watts	Amps	Watts					
ON2UM	4'	1	4'	0.23	2 8	0.70	84					
	6'	2	3'	0.37	44	1.10	132					
	8'	2	4'	0.47	56	1.40	168					
	12'	3	4'	0.70	84	2.10	252					

Guidelines & Control Settings

Model ² BTI	UH/ft³ Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
ON2UM 6	57 ⁴ Enh.	22	6-8	28	35	280

² Model ON2UM only available for meat application with a thermopane glass front or a curved plexiglas front,

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

l					c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
I	ON2UM	3	6 - 8	40	47	45	45	26	45	45	45	

Medium Temperature Defrost Schedule

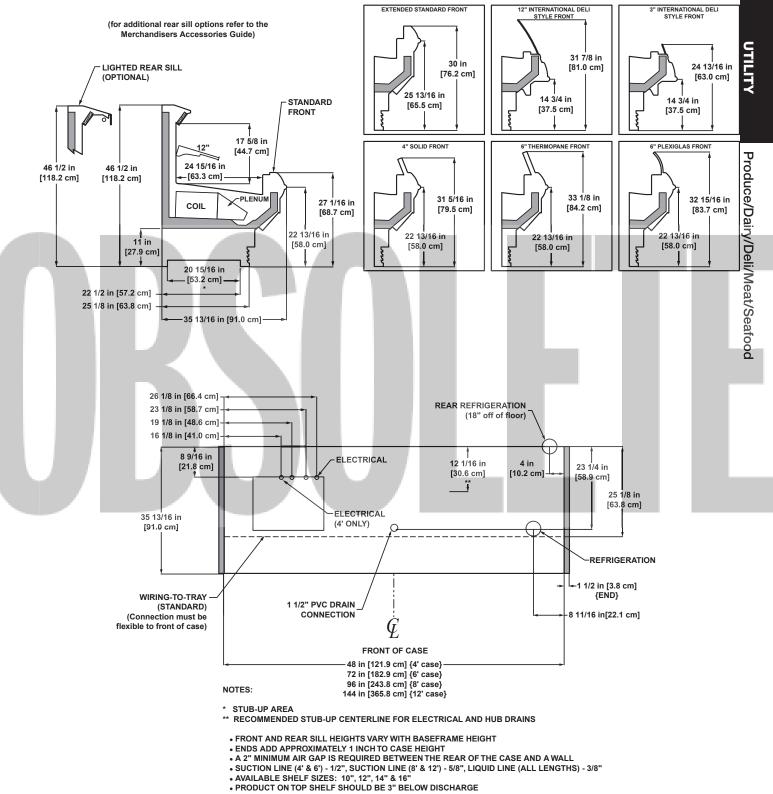
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.



ON2UM (11" BASEFRAME)



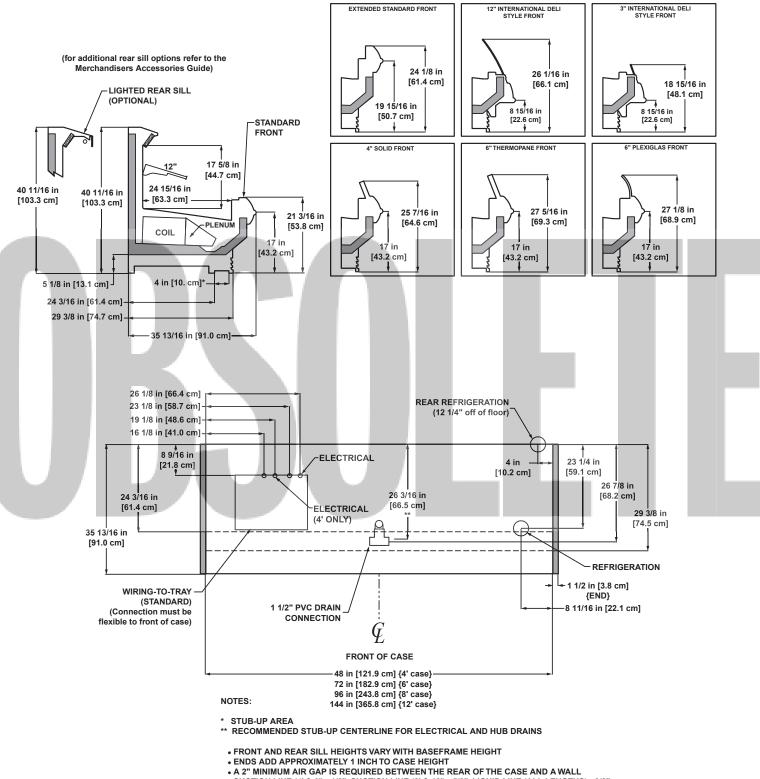


• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"



ON2UM (5" BASEFRAME)





• 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'





UTILITY

Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser 02UM - 4', 6', 8' & 12'

Electrical Data

				d Fans	•	High Efficiency Fans		ndensate iters		Defrost	Heaters	
	Fans per		120 Volts		120	Volts	120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O2UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

			Bulb	Light	al per Row Volts	Ligh	mum nting Volts	
Model		Row	Length	Amps	Watts	Amps	Watts	
O2UM	4'	1	4'	0.23	2 8	0.70	84	
	6'	2	3'	0.37	44	1.10	132	
	8'	2	4'	0.47	56	1.40	168	
	12'	3	4'	0.70	84	2.10	252	
				ALC: NO				

Guidelines & Control Settings

O2UM 1000 ⁴ Enh. 22 6-8 27 40	1	Model ²	BTUH/ft ³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
	1	O2UM	10004	Enh.	22	6-8	27	40	340

² Model O2UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electri	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	O2UM	3	6 - 8	40	47	45	45	26	45	45	45

(NSF_s)

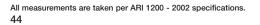
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Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm

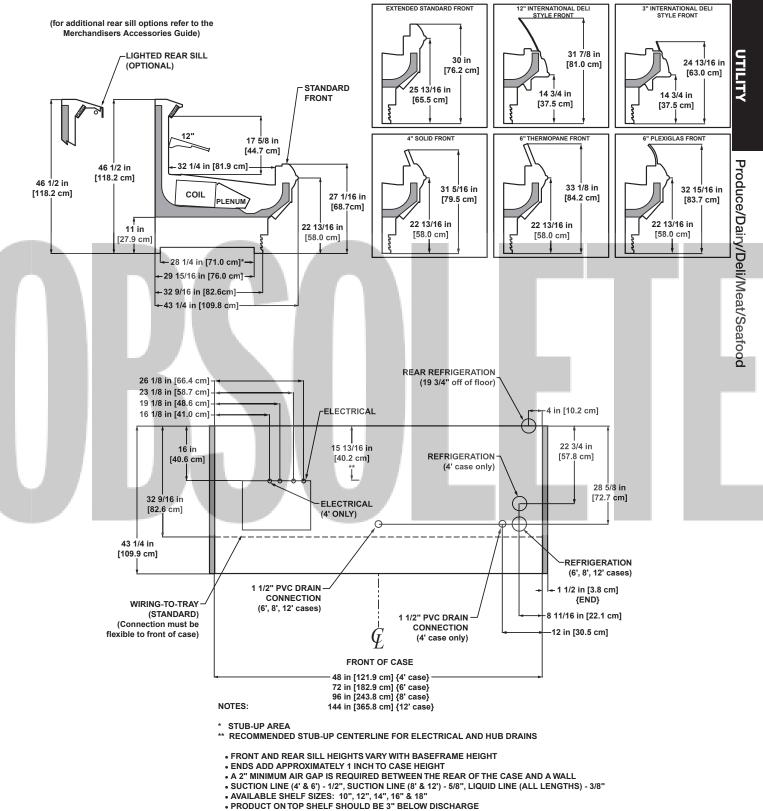
4 12 - 6 am - 12 - 6 pm





Hill PHOENIX

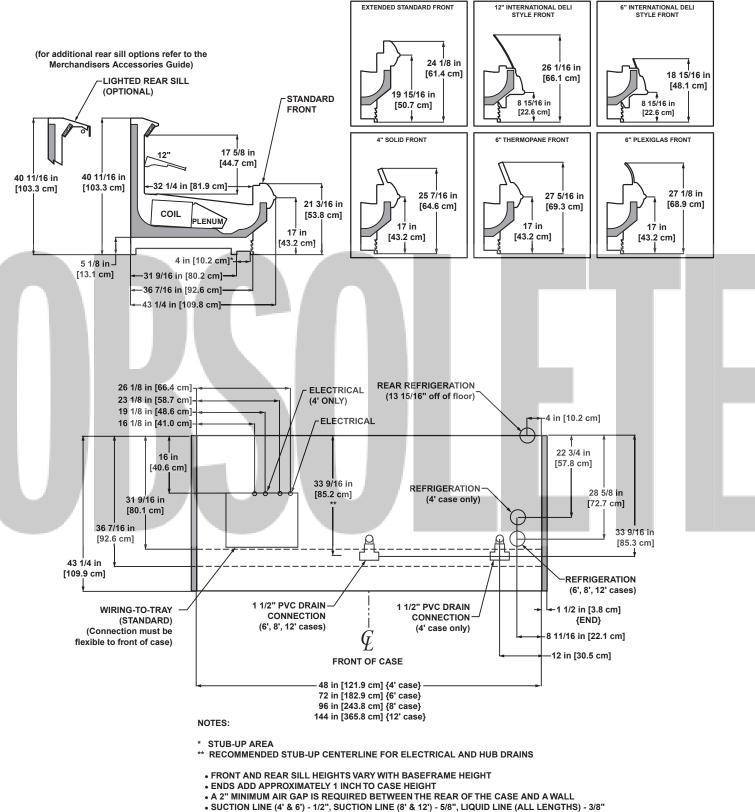
O2UM (11" BASEFRAME)



• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"



O2UM (5" BASEFRAME)



• AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"

• PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12"

A DOVER COMPANY

Hill PHOENIX







UTILITY

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OW2UM	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs			al per Row	Maximum Lighting		
Model		per Row	Bulb Length	120 ' Amps	Volts Watts	120 Amps	Volts Watts	
OW2UM	8'	2	4'	0.47	56	1.40	168	
	12'	3	4'	0.70	84	2.10	252	

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OW2UM	1236 ³	Enh.	22	6-8	27	40	340

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	OW2UM	3	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	10 maintaintat

12 midnight 12 am - 12 pm 2

3

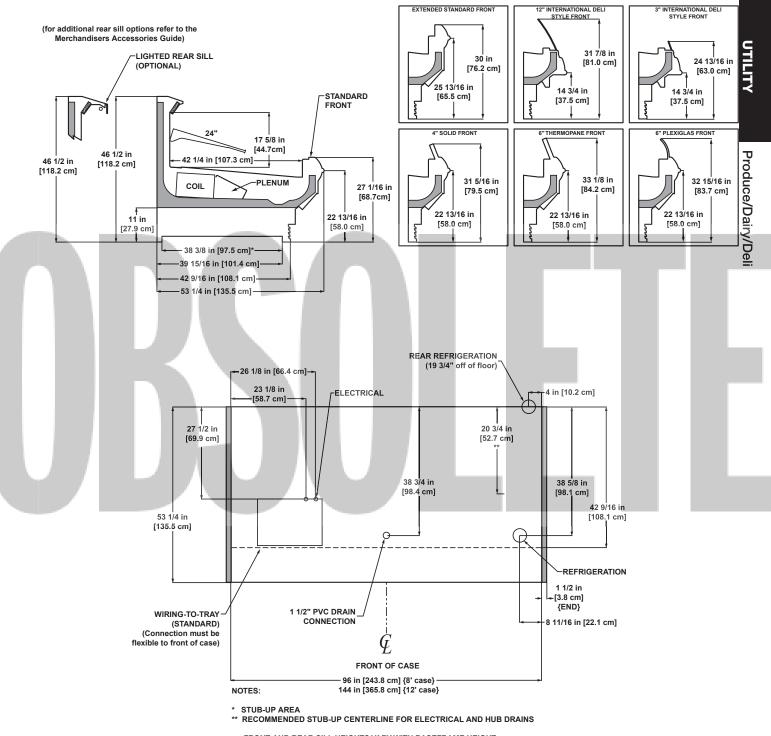
6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 4





All measurements are taken per ARI 1200 - 2002 specifications.





• 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 - 5/8", LIQUID LINE - 3/8"

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"

Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser ON2.5UM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts			
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
ON2.5UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532	
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798	
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065	
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600	

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

Lighting Data

		Bulbs		Light		Maximum Lighting		
		per	Bulb	120	Volts	120 Volts		
Model		Row	Length	Amps	Watts	Amps	Watts	
ON2.5UM	4'	1	4'	0.23	28	0.93	112	
	6'	2	3'	0.37	44	1.47	176	
	8'	2	4'	0.47	56	1.87	224	
	12'	3	4'	0.70	84	2.80	336	



Model ²	BTUH/ft³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
ON2.5UM	811 ⁴	Enh.	22	6-8	28	35	284

² Model ON2.5UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

 $^{5}\ensuremath{\,\text{Average}}$ discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
ON2.5UM	3	6 - 8	40	47	45	45	26	45	45	45

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Medium Temperature Defrost Schedule

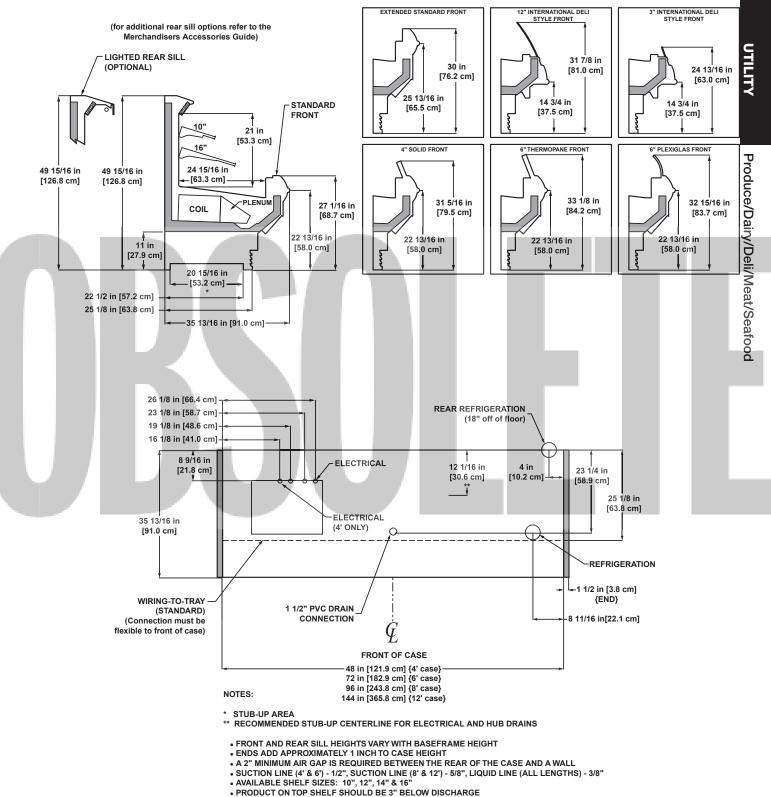
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.



ON2.5UM (11" BASEFRAME)



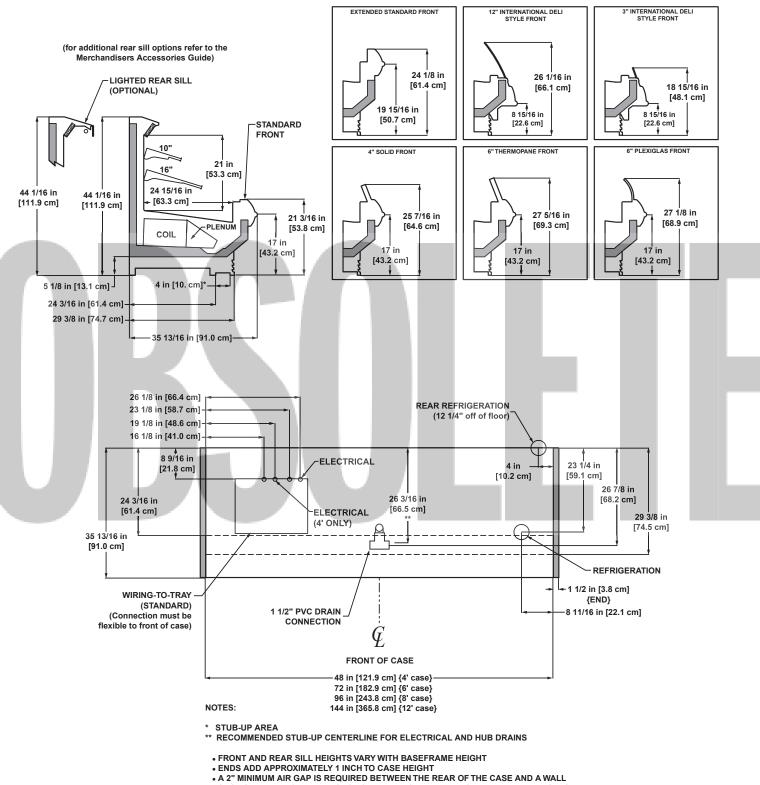


• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"



ON2.5UM (5" BASEFRAME)





• 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

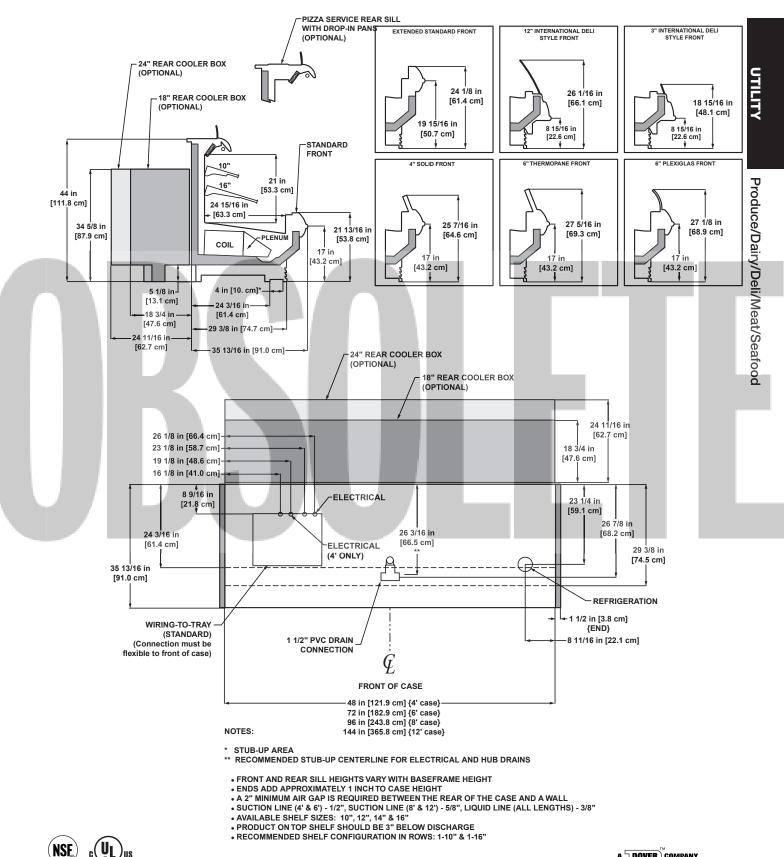
• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"

12/05





ON2.5UM REAR REFRIGERATED BOX



Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser O2.5UM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	•	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
Fans per		120 Volts		120	Volts	120 Volts		208 Volts		240 Volts			
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
O2.5UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532	
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798	
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065	
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600	

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

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum nting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
02.5UM	4'	1	4'	0.23	28	1.40	168
	6'	2	3'	0.37	44	2.20	264
	8'	2	4'	0.47	56	2.80	336
	12'	3	4'	0.70	84	4.20	504

Guidelines & Control Settings

Model ²	BTUH/ft ³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		e Air Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
02.5UM ⁶	10 20 4	Enh.	22	6-8	27	45	225
O2.5UM w/Plexi Dome	1380 ⁴	Enh.	22	6-8	32	46	305
	_						

² Model O2.5UM only available for meat application with a thermopane glass front or a curved plexiglas front,

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

 $^{5}\ensuremath{\,\text{Average}}$ discharge air velocity at peak of defrost.

⁶ For cases with rear refrigerated storage boxes add 110 BTUH/ft

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Mo		Defrosts Per Day			Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)		
02.5	5UM	3	6 - 8	40	47	45	45	26	45	45	45	

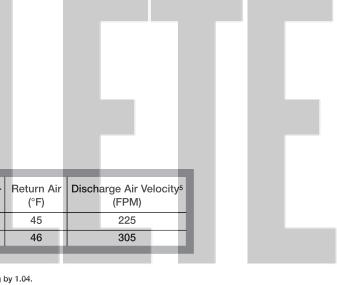
Medium Temperature Defrost Schedule

No. Per Day	Hours

- 1 12 midnight 2
 - 12 am 12 pm 6 am 2 pm 10 pm

³ 4 12 - 6 am - 12 - 6 pm



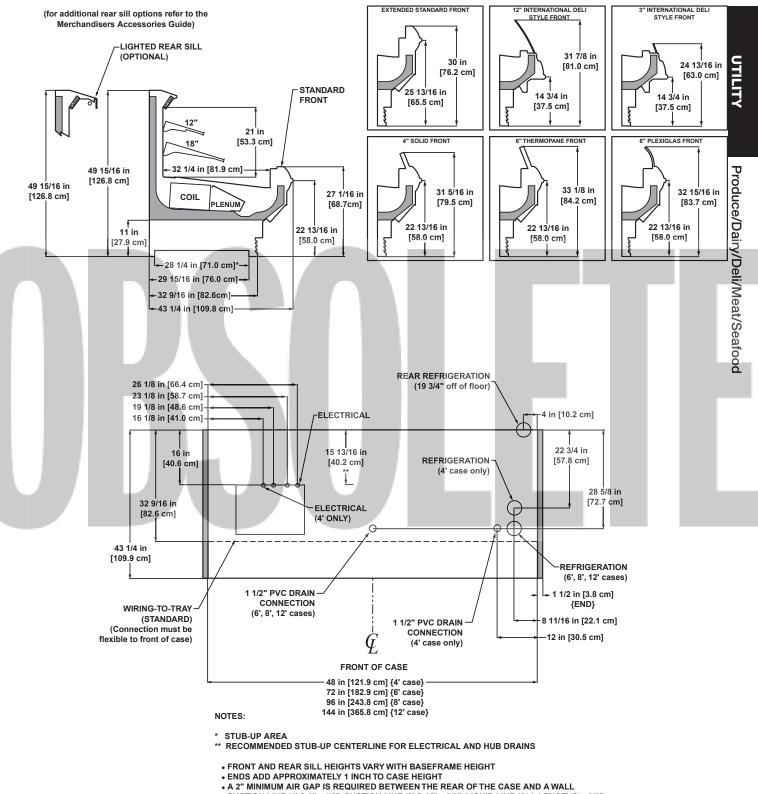




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O2.5UM (11" BASEFRAME)

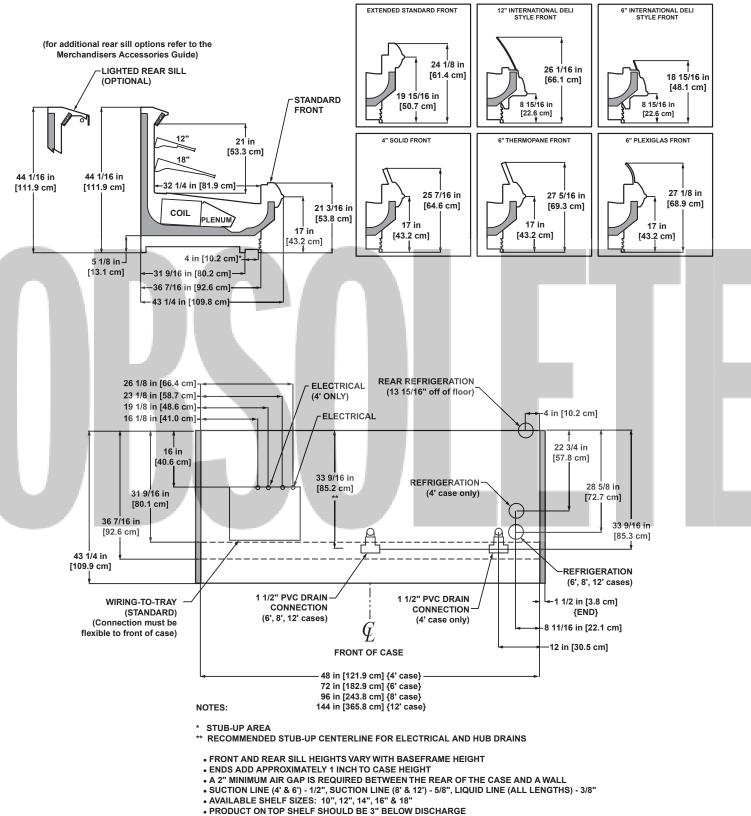


AVAILABLE SHELF SIZES: 10", 12", SUCTION LINE (8' & 12") - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"
 AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
 PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"



O2.5UM (5" BASEFRAME)



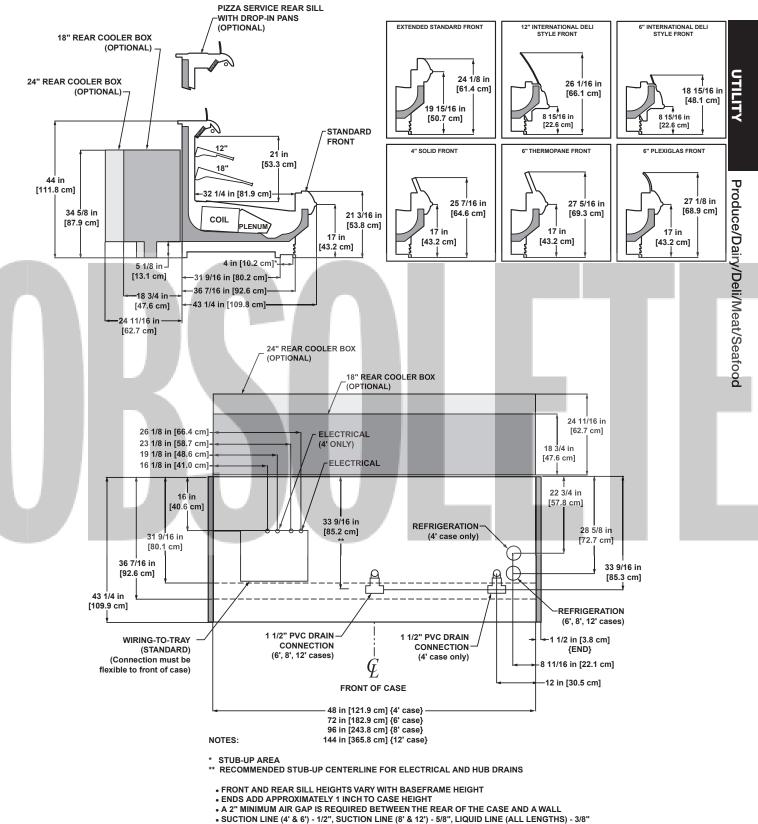
RECOMMENDED SHELF SHOULD BE 3" BELOW DISCHARGE
 RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"



Hill PHOENIX



O2.5UM REAR REFRIGERATED BOX



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"



Multi-Deck Self-Contained Produce/Dairy/Deli/Meat/Seafood Merchandiser **O2.5UMA - 8'**

System Requirements

Model	Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
O2.5UMA-8'	208	1	60	3 wire + ground	13.560	30

Electrical Data

		Standar	d Fans		enser an	Anti-Condensate Heaters			mum nting	Defrost Heaters			
	Fans per	120 \	120 Volts		208 Volts		120 Volts		120 Volts		208 Volts		Volts
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
02.5UMA-8'	3	1.50	90	0.85	85	0.25 ¹	30	1.41	169	3.85	800	4.44	1065

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

Guidelines & Control Settings

I		24 hr Energy	Suction Pressure @	Superheat Set Point	Discharge Air	Return Air	Discharge Air Velocity⁵
I	Model ⁴	Usage (kWh)	Case Outlet (psig)	@ Bulb (°F)	(°F)	(°F)	(FPM)
I	02.5UMA-8'		40	6-8	29	43	225

⁴ Model O2.5UMA only available for meat application with a thermopane glass front or a curved plexiglas front,

⁵ Average discharge air velocity at peak of defrost.

Condensing Unit Data

				Frequency		RLA ²	LRA ³		lbs of
ų	Model	Volts	Phase	(Hz)	HP	(amps)	(amps)	Refrig.	Refrig.
	02.5UMA-8'	208	- 1	60	1	10.4	48.2	R22	5.25

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

				c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O2.5UMA-8'	3	6 - 8	40	47	45	45	6			

NSF

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
-------------	-------

1 12 midnight

2	12 am	- 12 p	m

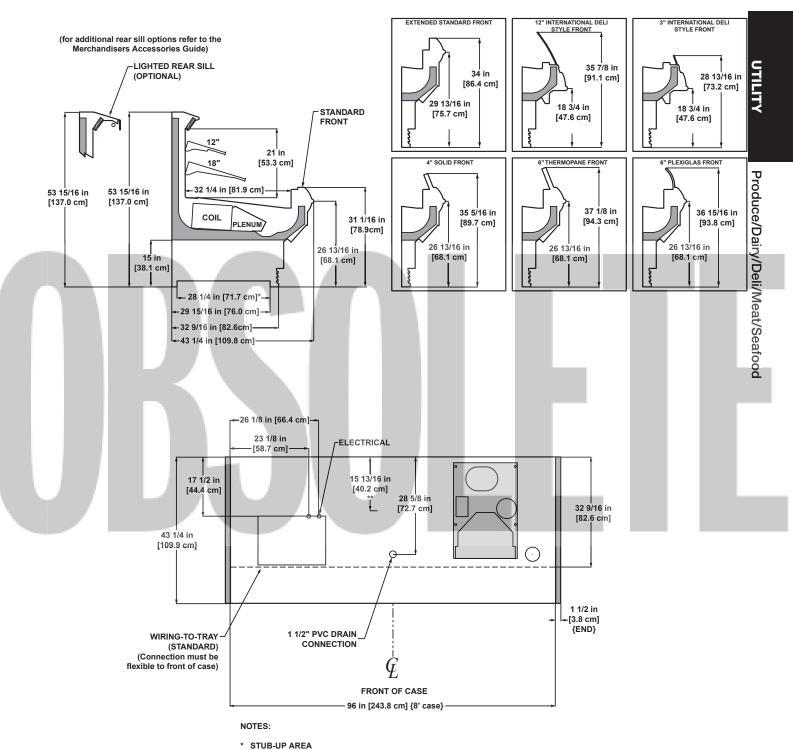
3 6 am - 2 pm - 10 pm 4

12 - 6 am - 12 - 6 pm









** 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"



Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser O2.75UM - 4', 6', 8' & 12'

Electrical Data

	High Efficiency Standard Fans Fans			ndensate aters		Defrost	Heaters					
	Fans per		120 \	120 Volts 120 Volts		120 Volts		208 Volts		240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O2.75UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

							1	
				Туріс	al per	Maximum		
		Bulbs		Light	Row	Ligh	ting	
		per	Bulb	120	Volts	120	Volts	
Model		Row	Length	Amps	Watts	Amps	Watts	
02.75UM	4'	1	4'	0.23	28	0.93	112	
	6'	2	3'	0.37	44	1.47	176	
	8'	2	4'	0.47	56	1.87	224	
	12'	3	4'	0.70	84	2.80	336	



l				Evaporator				Discharge Air Velocity⁵
	Model ²	BTUH/ft ³	Туре	(°F)	Point @ Bulb (°F)	(°F)	(°F)	(FPM)
l	02.75UM	1025 ⁴	Enh.	22	6-8	27	45	225

² Model O2.75UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

Г				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
(02.75UM	3	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight

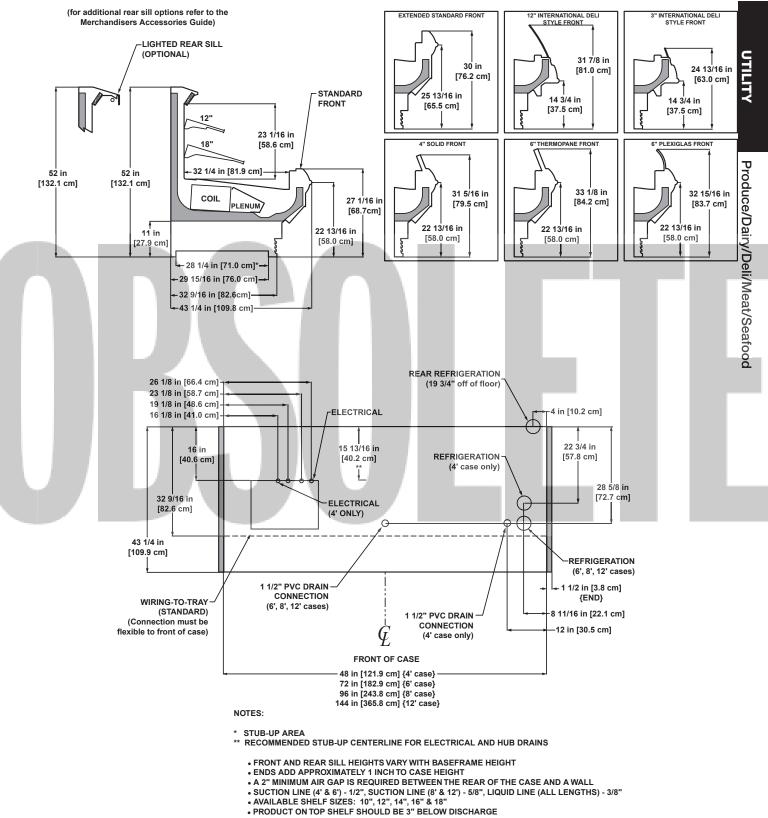
- 12 am 12 pm 6 am 2 pm 10 pm 2
- 3 4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.





O2.75UM (11" BASEFRAME)

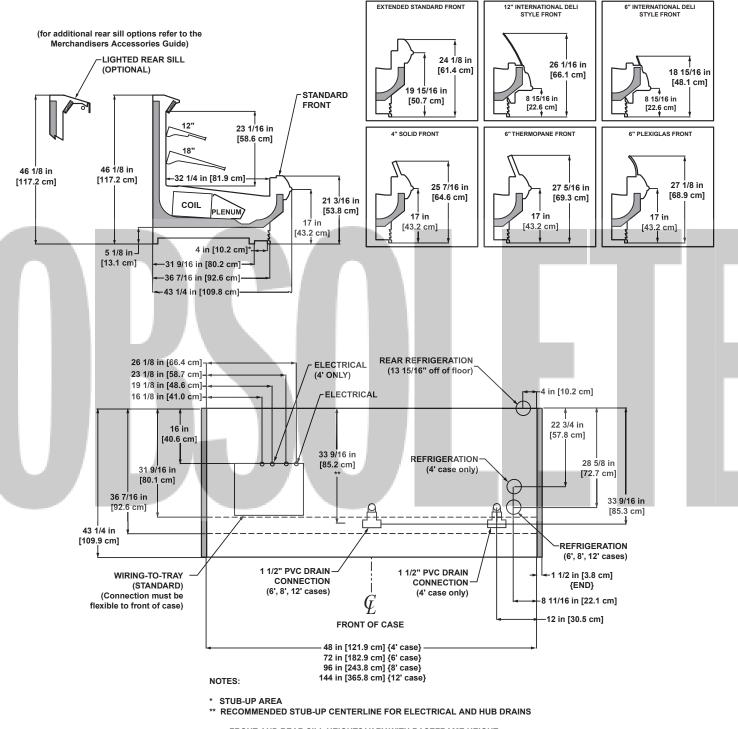


• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"



O2.75UM (5" BASEFRAME)





FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT
 ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• ENDS ADD APPROXIMATELY TINCH TO CASE HEIGHT • A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL

• 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" & 18"

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"



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63

UTILITY

Electrical Data

			Standard Fans		0	High Efficiency Anti-Condensa Fans Heaters			Defrost Heaters			
		Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240	Volts
Model		Case	Amps Watts		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
02.75MZD	8'	3	1.02	51	0.45	33	1.45	174	15.38	3200	17.75	4260

Lighting Data

per Bulb Row Bulb Length 120 Volts 120 Volts Amps Watts Amps Watts O2.75MZD 8' 1 4' 0.47 56 O2.75MZD 8' 1 4' 0.47 56 Guidelines & Control Settings Model BTUH/ft1 Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity ² (FPM)		Bulbs		Typica Light	Row	Maxin Light	ing		<u> </u>				
O2.75MZD 8' 1 4' 0.47 56 Guidelines & Control Settings Evaporator Superheat Set Discharge Air Return Air Discharge Air Velocity2	Model		Bulb	1									
Evaporator Superheat Set Discharge Air Return Air Discharge Air Velocity ²			-										
Evaporator Superheat Set Discharge Air Return Air Discharge Air Velocity ²													
Evaporator Superheat Set Discharge Air Return Air Discharge Air Velocity ²			1.000										
Evaporator Superheat Set Discharge Air Return Air Discharge Air Velocity ²													
			K										
	auidelines	s & Cor	ntrol	Setti	ings								
	auidelines	s & Cor				eat Set	Discharge Ai	r Return Air	Discharge /	Air Velocity ²			
02.75MZD-F ³ 1005 -22 3-5 -8 11 340			Evapo	orator	Superhe						1		
	Model	BTUH/ft ¹ 1005	Evapo (°F	prator F) 2	Superhe Point @ B 3-5	Bulb (°F) 5	(°F) -8	. (°F) 11	(FF 34	PM)			

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
02.75MZD	4	13 - 15	45	65	4		20	60			

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⁴ NOTE: - - - not an option on this case model.

Defrost Schedule

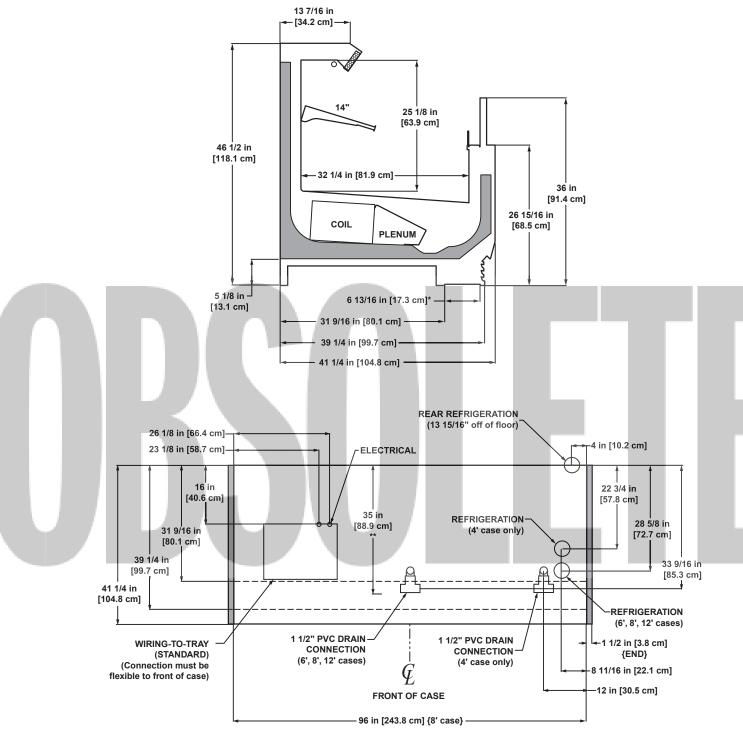
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm





UTILITY

Frozen Food



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"
- AVAILABLE SHELF SIZES: 14"
- PRODUCT ON TOP SHELF SHOULD BE 4" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-14"



Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser ON3UM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	0	fficiency ans		ndensate aters		Defrost	Heaters	
	Fans per Model Case		120 Volts		120	Volts	120	Volts	208	Volts	240 Volts	
Model			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON3UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs			al per Row		mum nting
		per	Bulb	120 \	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
ON3UM	4'	1	4'	0.23	28	0.93	112
	6'	2	3'	0.37	44	1.47	176
	8'	2	4'	0.47	56	1.87	224
	12'	3	4'	0.70	84	2.80	336

Guidelines & Control Settings

Model ²	BTUH/ft³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
ON3UM	8244	Enh.	22	6-8	28	35	230

² Model ON3UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
N	/lodel	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
0	N3UM	3	6 - 8	40	47	45	45	26	45	45	45	

Medium Temperature Defrost Schedule

No. Per Day	lours
-------------	-------

1 12 midnight

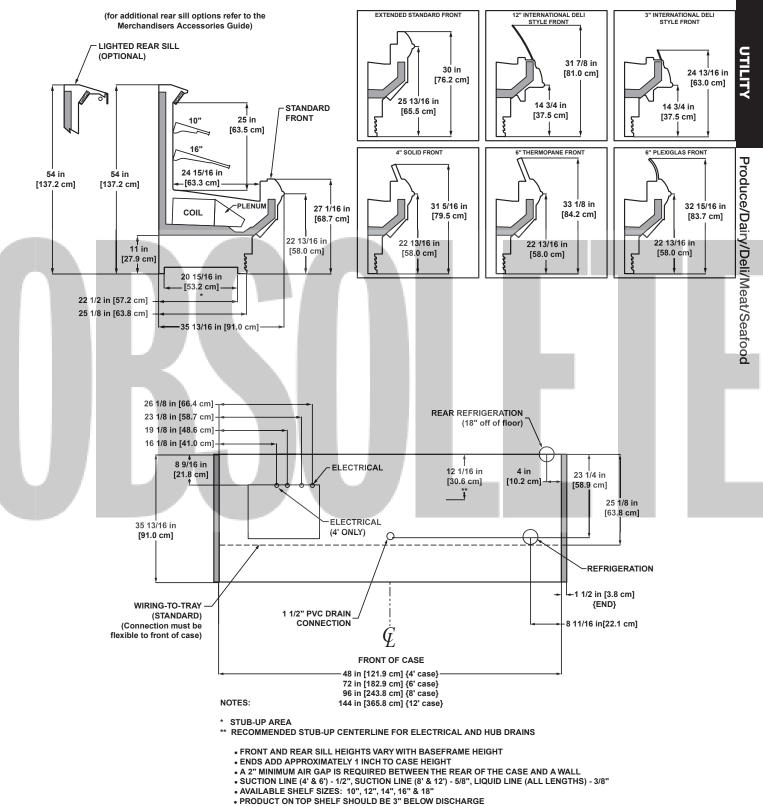
- 2 12 am 12 pm 3 6 am - 2 pm - 10 pm
- 4 12 6 am 12 6 pm





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ON3UM (11" BASEFRAME)

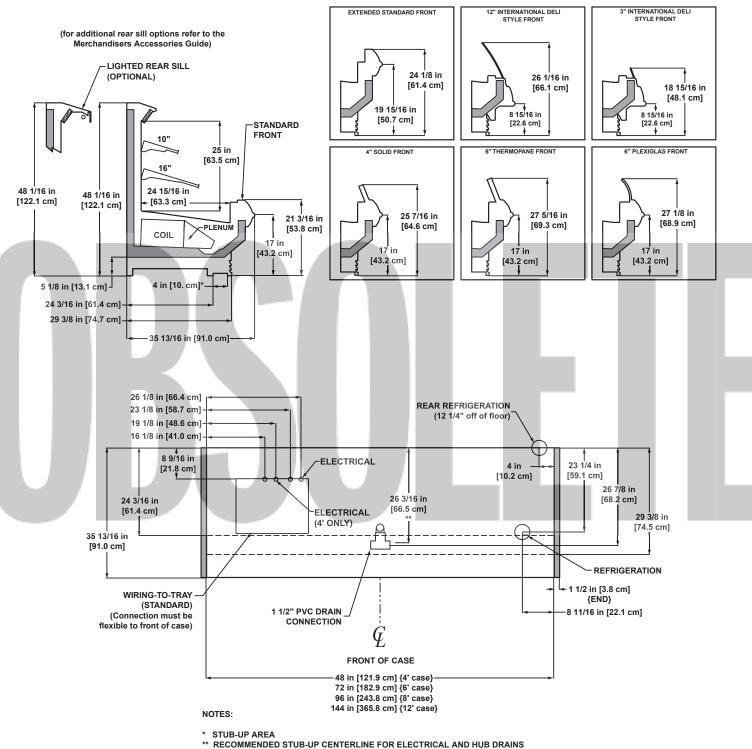


RECOMMENDED SHELF SHOULD BE 3" BELOW DISCHARGE
 RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"

Hill PHOENIX

ON3UM (5" BASEFRAME)





• 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" & 18"
 PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10" & 1-16"







69

UTILITY

Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser O3UM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	•	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per		120 Volts		120	Volts	120	120 Volts		Volts	240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
O3UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532	
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798	
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065	
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600	

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

Lighting Data

					1.1			1
						al per Row		imum nting
		Bulbs						-
		per		Bulb	120	Volts	120	Volts
Model		Row	L	ength	Amps	Watts	Amps	Watts
O3UM	4'	1		4'	0.23	28	0.93	112
	6'	2		3'	0.37	44	1.47	176
	8'	2	1	4'	0.47	56	1.87	224
	12'	3		4'	0.70	84	2.80	336



l	Model ²	BTUH/ft ³		Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
	O3UM	10304	Enh.	22	6-8	27	45	225

² Model O3UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Mod		Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O3U	JM	3	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm



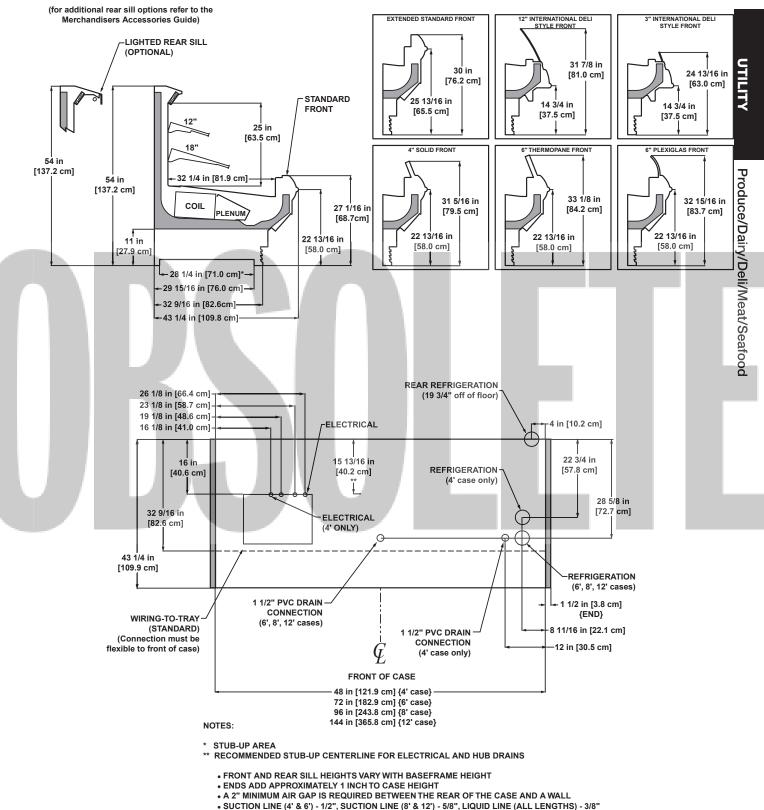




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O3UM (11" BASEFRAME)



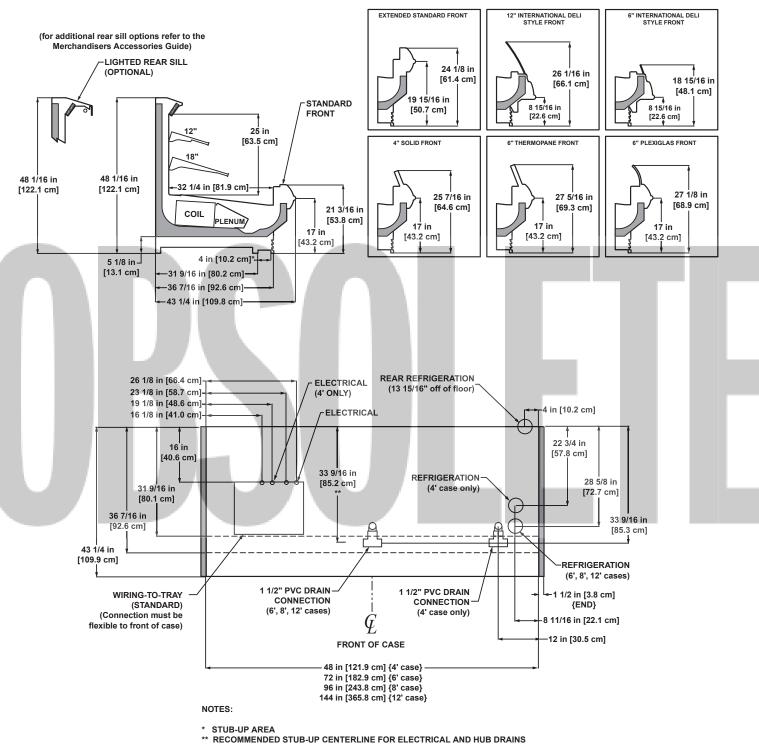
• AVAILABLE SHELF SIZES: 10", 12", 500 HON LINE (8" & 1

AVAILADLE 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"



O3UM (5" BASEFRAME)



• 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 • A 2 MINIMUM AIK GAF IS REQUIRED BEIVEEN 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" & 18" • PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12" & 1-18"

Hill PHOENIX





UTILITY

Electrical Data

			Standar	d Fans	•	ficiency Ins		ndensate iters	Defrost Heaters				
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
OW3UM	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065	
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600	

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

Lighting Data

		Bulbs		Typic: Light	al per Row		mum iting	
		per	Bulb	120		120 Volts		
Model		Row	Length	Amps	Watts	Amps	Watts	
OW3UM	8'	2	4'	0.47	56	1.87	224	
	12'	3	4'	0.70	84	2.80	336	

Guidelines & Control Settings

	Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
l	OW3UM	1349 ³	Enh.	22	6-8	27	45	225

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

I				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l			Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	OW3UM	3	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day Hour

12 midnight 12 am - 12 pm 1

2

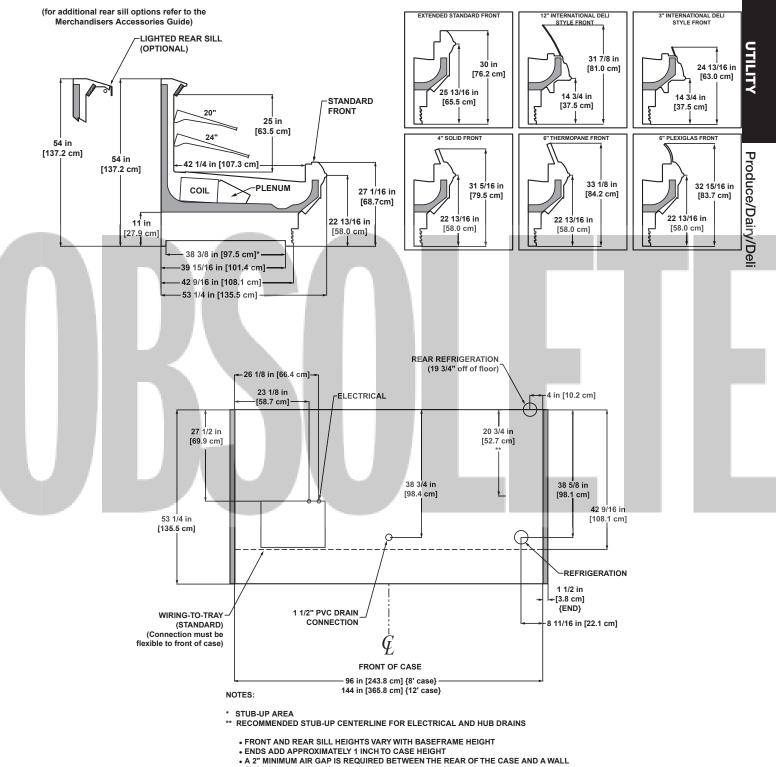
6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4











- SUCTION LINE (8' & 12') 5/8", LIQUID LINE (ALL LENGTHS) 3/8"
 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"



Electrical Data

			Standar	rd Fans	0	fficiency ans		ndensate aters		Defrost	Heaters	
Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3UD	4'	2	1.00	60	0.15	9.2	0.14	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum ting Volts
Model		Row	Length	Amps	Watts	Amps	
O3UD	4'	1	4'	0.23	28	0.70	84
	6'	2	3'	0.37	4 4	1.10	132
	8'	2	4'	0.47	56	1.40	168
	12'	3	4'	0.70	84	2.10	252
				Γ			
Guide	line	s & (Contro	ol Set	ttings	5	

l	Model	Front Sill Heights	BTUH/ft ¹	Coil ² Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	charge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
U	O3UD	Std. Dairy	1030	Enh.	22	6-8	30	45	2 25

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

	Electric Defr				c Defrost	st Timed Off Defrost			s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
I	O3UD	3	6 - 8	40	47	45	45	26	45	45	45	

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Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 nm - 10 nm

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm



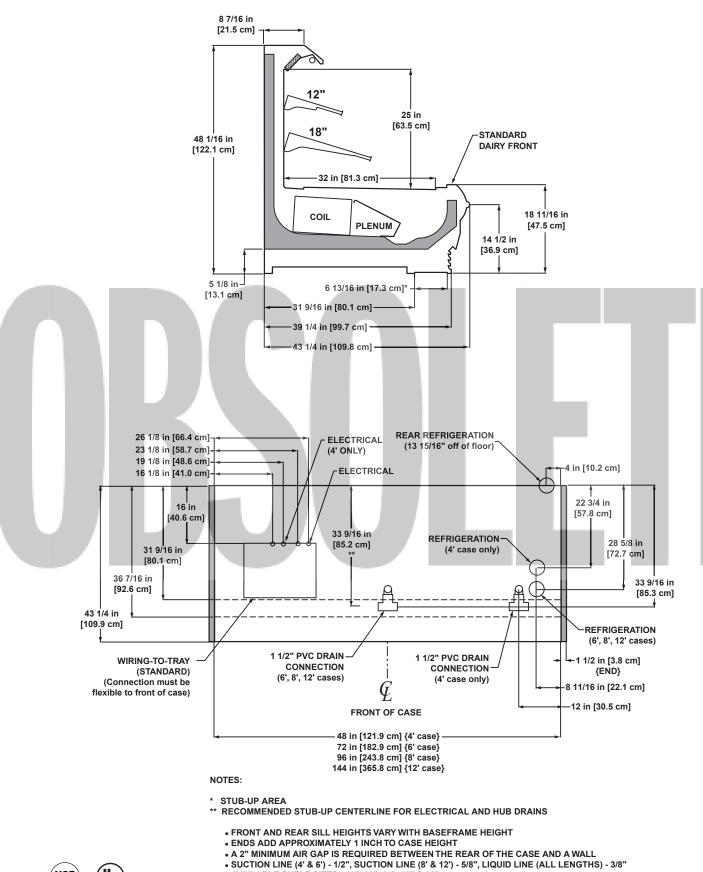
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HIII PHOENIX



UTILITY

Produce/Dairy/Del



- 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"

Narrow Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser ON3.5UM - 4', 6', 8' & 12'

Electrical Data

	Fans per		Standar	d Fans	•	ficiency ans		ndensate aters	Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON3.5UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

									And in case of the local division of the loc
		Bulbe	Bulbs			al per Row	Maximum Lighting		
		per		Bulb	120	Volts	120	Volts	
Model		Row	j	ength	Amps	Watts	Amps	Watts	
ON3.5UM	4'	1		4'	0.23	28	1.67	140	
	6'	2		3'	0.37	44	1.83	220	
	8'	2		4'	0.47	56	2.33	280	
	12'	3	1	4'	0.70	84	3.50	420	

Guidelines & Control Settings

ſ	Model ²	BTUH/ft³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
E	ON3.5UM	10194	Enh.	22	6-8	28	35	204

² Model ON3.5UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

 $^{5}\ensuremath{\,\text{Average}}$ discharge air velocity at peak of defrost.

Defrost Controls

				c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ON3.5UN	3	6 - 8	40	47	45	45	26	45	45	45

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Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight

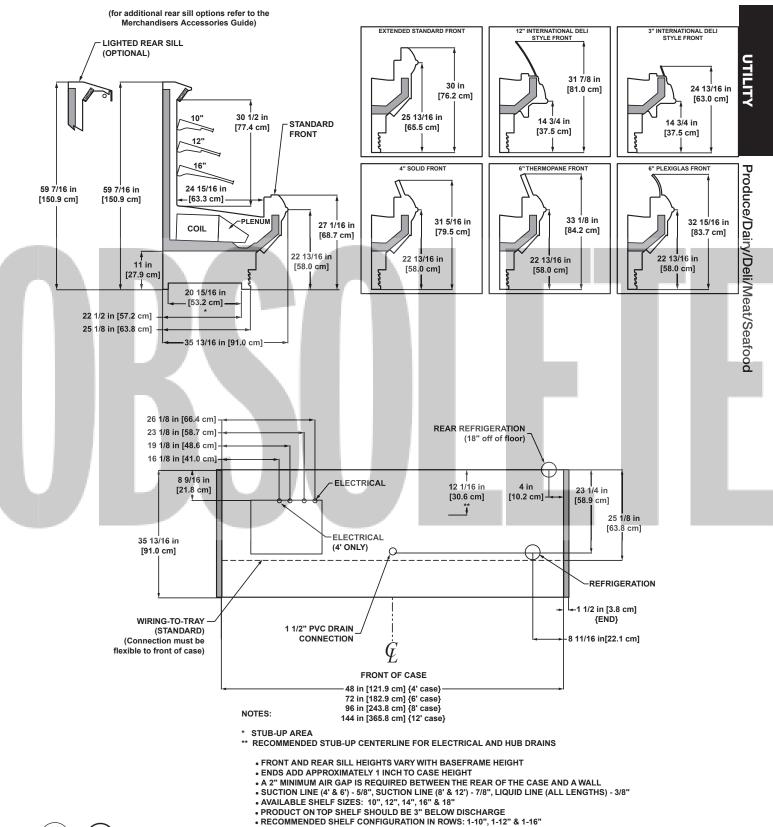
12 am - 12 pm 2 3

6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm





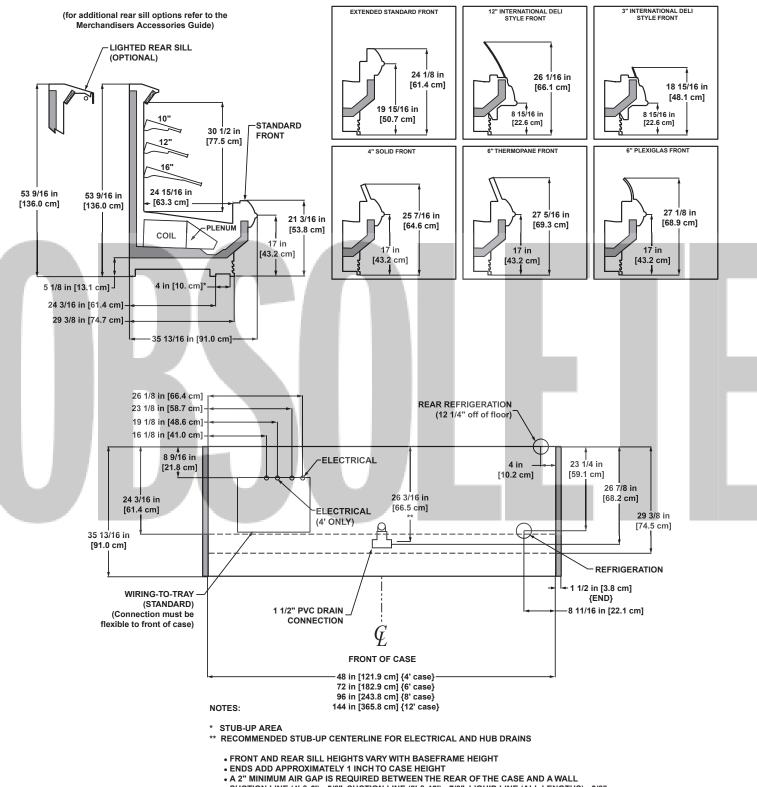
ON3.5UM (11" BASEFRAME)





ON3.5UM (5" BASEFRAME)





• 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" BELOW DISCHARGE

• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"





UTILITY

Multi-Deck Produce/Dairy/Deli/Meat/Seafood Merchandiser O3.5UM - 4', 6', 8' & 12'

Electrical Data

	Fans per		Standar	d Fans	•	ficiency ans		ndensate aters	Defrost Heaters			
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3.5UM	4'	2	1.00	60	0.39	23.4	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.39	23.4	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.59	35.1	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.78	46.8	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs per		Bulb		al per Row Volts	Maximum Lighting 120 Volts	
Model		Row	Ì	ength	Amps	Watts	Amps	Watts
03.5UM	4'	1		4'	0.23	28	1.67	140
	6'	2		3'	0.37	44	1.83	220
	8'	2		4'	0.47	56	2.33	280
	12'	3	1	4'	0.70	84	3.50	420

Guidelines & Control Settings

Model ² B	TUH/ft³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
O3.5UM	13004	Enh.	22	6-8	30	45	300

² Model O3.5UM only available for meat application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

ľ					c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	03.5UM	3	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No.	Per	Day	Hours
-----	-----	-----	-------

1 12 midnight

2 12 am - 12 pm 3

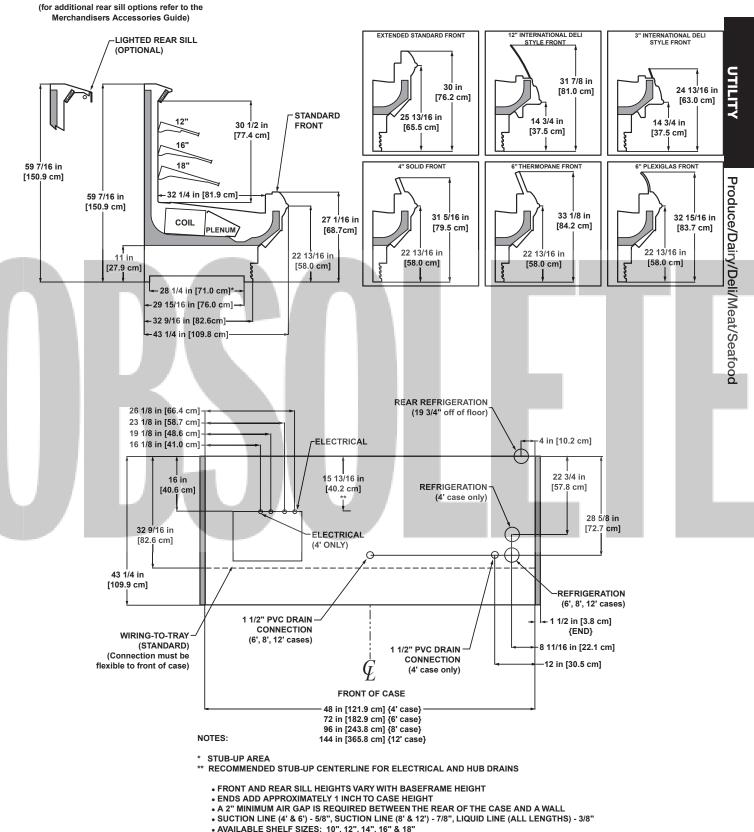
6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm







O3.5UM (11" BASEFRAME)



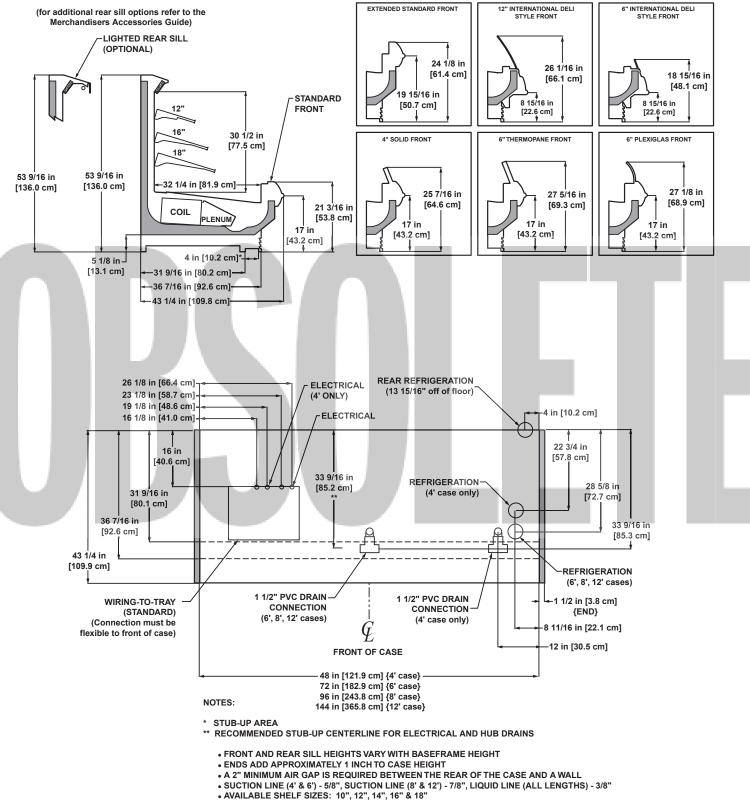
AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
 PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE

- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"



O3.5UM (5" BASEFRAME)





- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"





UTILITY

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
03.5UD	4'	2	1.00	60	0.15	9.2	0.14	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38	46	5.77	1200	6.67	1600

Lighting Data

and the second se								
		Bulbs			al per Row		mum nting	
		per	Bulb	120	Volts	120	Volts	
Model		Row	Length	Amps	Watts	Amps	Watts	
03.5UD	4'	1	4'	0.23	28	0.93	112	
	6'	2	3'	0.37	44	1.47	176	
	8'	2	4'	0.47	56	1.87	224	
	12'	3	4'	0,70	84	2.80	336	

Guidelines & Control Settings

l	Model	Front Sill Heights	BTUH/ft ¹	Coil² Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
	O3.5UD	Std. Dairy	1300	Enh.	22	6-8	30	4 <mark>5</mark>	300

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

	r			c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
03.5UD	3	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day Hours

1 12 midnight

- 2 12 am 12 pm 2 6 am - 2 pm - 10 p
- 3 6 am 2 pm 10 pm 4 12 - 6 am - 12 - 6 pm

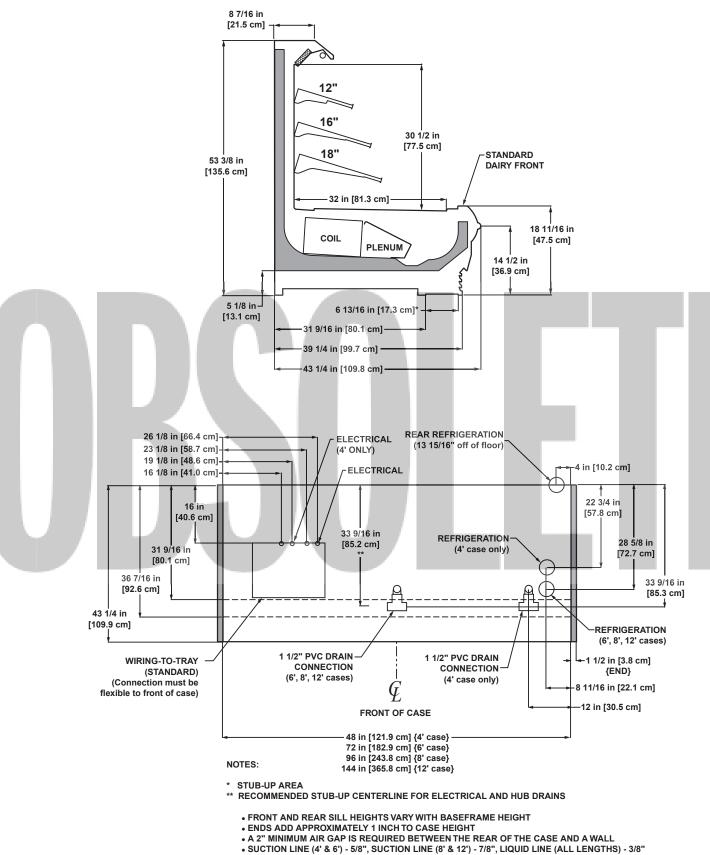


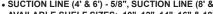




UTILITY

Produce/Dairy/Del





- 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"



Narrow Multi-Deck Produce/Dairy/Deli Merchandiser ON4UM - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON4UM	4'	2	1.00	60	0.15	9.2	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.15	9.2	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.23	13.8	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.31	18.4	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

	E					al per Row Volts	Maximum Lighting 120 Volts		
Model		per Row	L	.ength	Amps	Watts	Amps	Watts	
ON4UM	4'	1		4'	0.23	28	1.67	140	
	6'	2	Γ	3'	0.37	44	1.83	220	
	8'	2		4'	0.47	56	2.33	280	
	12'	3		4'	0.70	84	3.50	420	

Guidelines & Control Settings

Model ² BTUH/		Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
ON4UM 1135	[‡] Enh.	22	6-8	31	33	203

² Model ON4UM only available for deli application with a thermopane glass front or a curved plexiglas front,

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

 $^{5}\ensuremath{\,\text{Average}}$ discharge air velocity at peak of defrost.

Defrost Controls

I				Electri	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	ON4UM	4	6 - 8	40	47	45	45	26	45	45	45	

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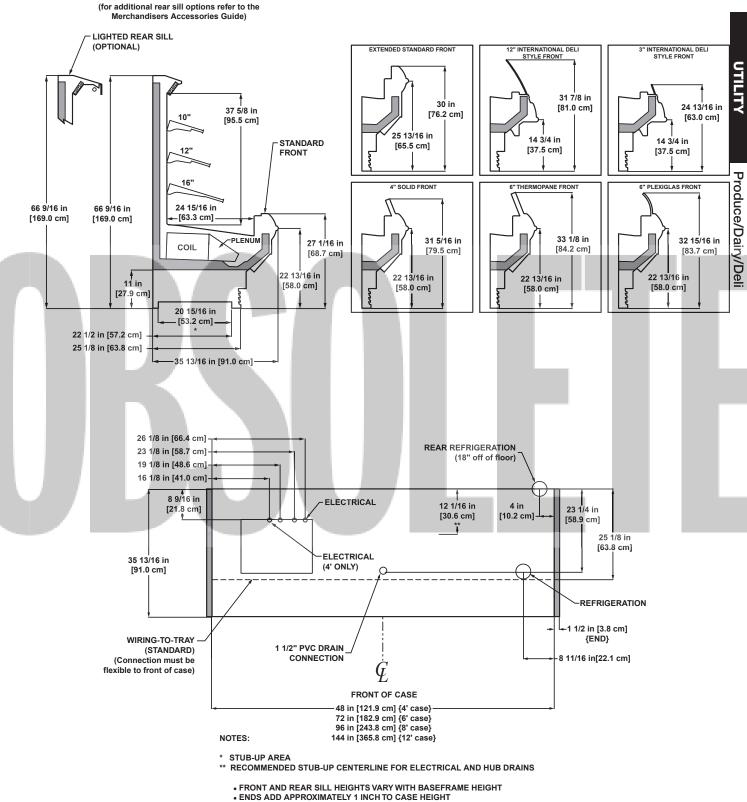
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm



ON4UM (11" BASEFRAME)



• 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" BELOW DISCHARGE

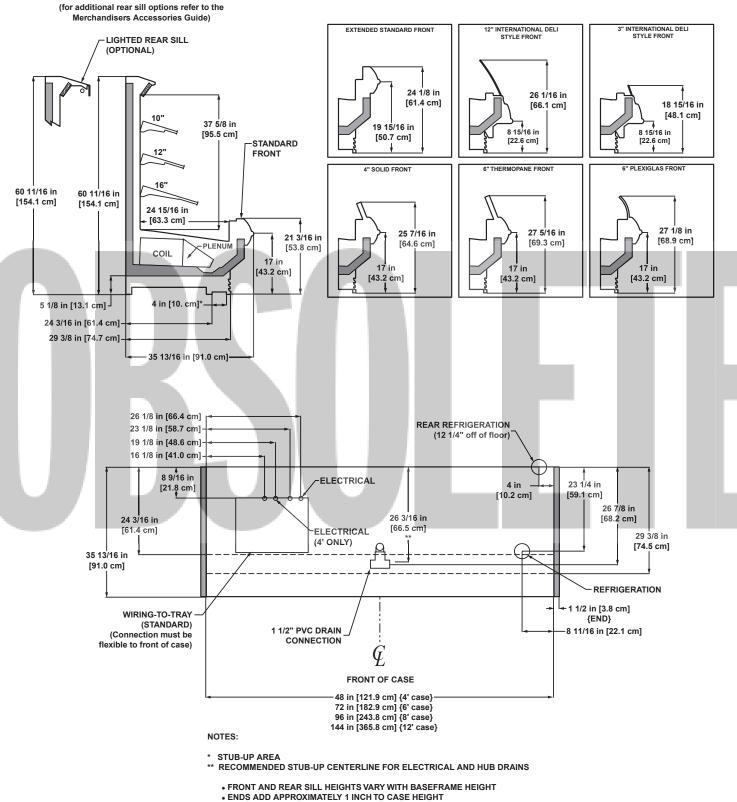
• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"

Hill PHOENIX



ON4UM (5" BASEFRAME)





- 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" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12" & 1-16"



Electrical Data

			Standar	d Fans	0	fficiency ans		ndensate iters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O4UM	4′	2	1.00	60	0.39	23.4	0.14 ¹	17	1.92	400	2.22	532
	6′	2	1.00	60	0.39	23.4	0.20 ¹	24	2.88	600	3.33	798
	8′	3	1.50	90	0.59	35.1	0.25 ¹	30	3.85	800	4.44	1065
	12′	4	2.00	120	0.78	46.8	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs			al per Row		mum nting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
O4UM	4	¥ 1	4′	0.23	28	1.67	140
	6	oʻ 2	3′	0.37	44	1.83	220
	8	3′ 2	4′	0.47	56	2.33	280
	12	2′ 3	4'	0.70	84	3.50	420

Guidelines & Control Settings

l	Model ²	BTUH/ft ³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
I	O4UM	1460 ⁴	Enh.	22	6-8	30	43	300

² Model O4UM only available for deli application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
	O4UM	4	6 - 8	40	47	45	45	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day	Hours
4	10 molelectedet

1	iz mianight
2	12 am 12 nm

12 am - 12 pm 6 am - 2 pm - 10 pm 3

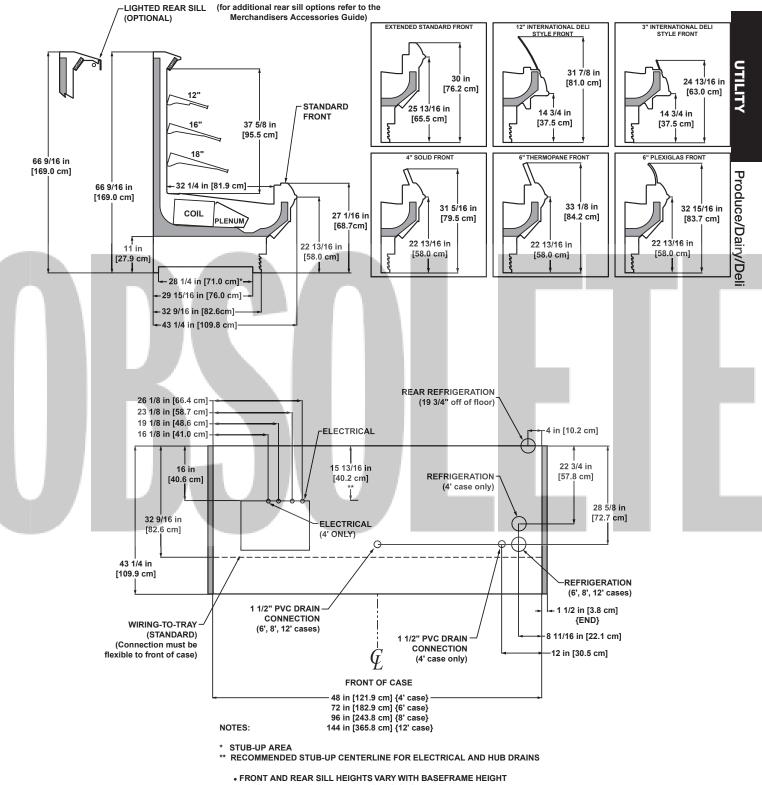
12 - 6 am - 12 - 6 pm 4





O4UM (11" BASEFRAME)

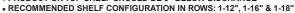




• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL • SUCTION LINE (4' & 6') - 5/8", SUCTION LINE (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

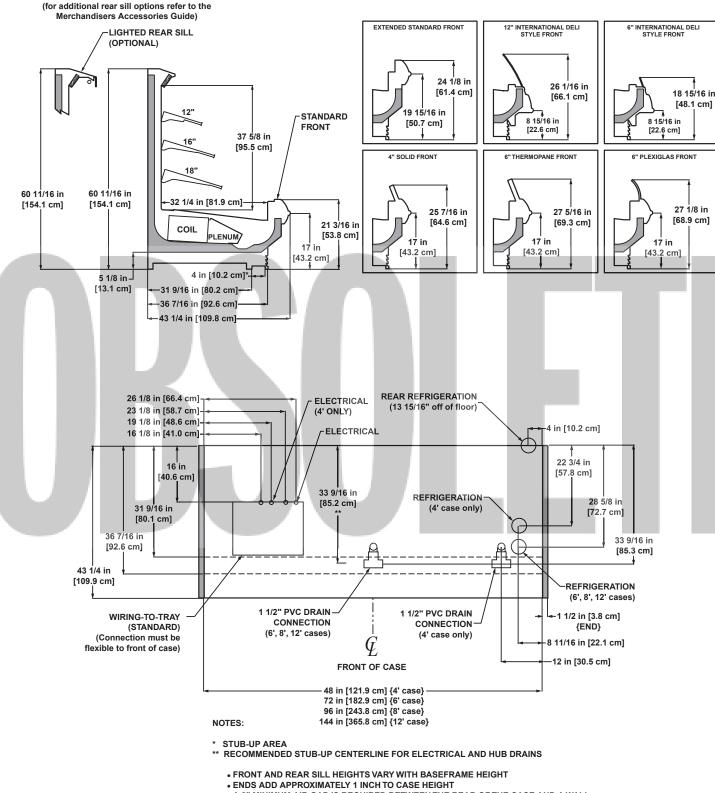






O4UM (5" BASEFRAME)





- 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" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-16" & 1-18"





Electrical Data

				d Fans	0	ficiency Ins		ndensate aters		Defrost	Heaters	
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON5UM	4′	2	1.00	60	0.39	23.4	0.14 ¹	17	1.92	400	2.22	532
	6′	2	1.00	60	0.39	23.4	0.20 ¹	24	2.88	600	3.33	798
	8′	3	1.50	90	0.59	35.1	0.25 ¹	30	3.85	800	4.44	1065
	12′	4	2.00	120	0.78	46.8	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs per	Bulb	Typic Light 120	mum nting Volts		
Model		Ŕow	Length	Amps	Watts	Amps	Watts
ON5UM	4′	1	4′	0.23	28	1.38	166
	6′	2	3′	0.37	44	2.20	264
	8′	2	4′	0.47	56	2.80	336
	12′	3	4'	0.70	84	4.20	504

Guidelines & Control Settings

Model ²	BTUH/ft³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
ON5UM	1205 ⁴	Enh.	22	6-8	31	43	240

² Model ON5UM only available for deli application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
l	ON5UM	4	6 - 8	40	47	45	47	26	45	45	45

Defrost Schedule

No.	Per	Day	Hours

12 midnight 12 am - 12 pm 6 am - 2 pm - 10 pm 1 2

3

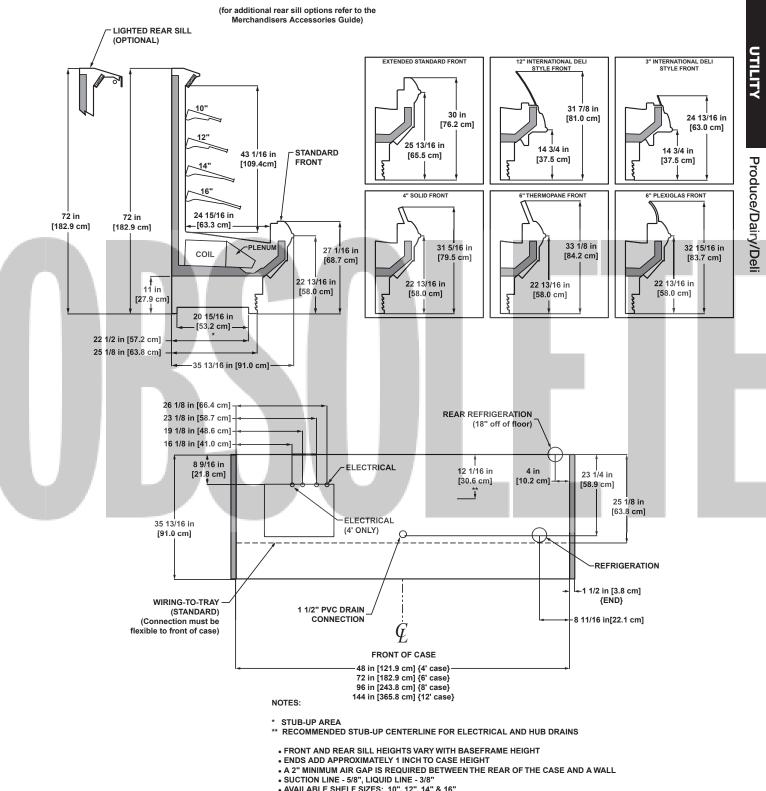
12 - 6 am - 12 - 6 pm 4



A	2	DOVER	COMPANY

ON5UM (11" BASEFRAME)





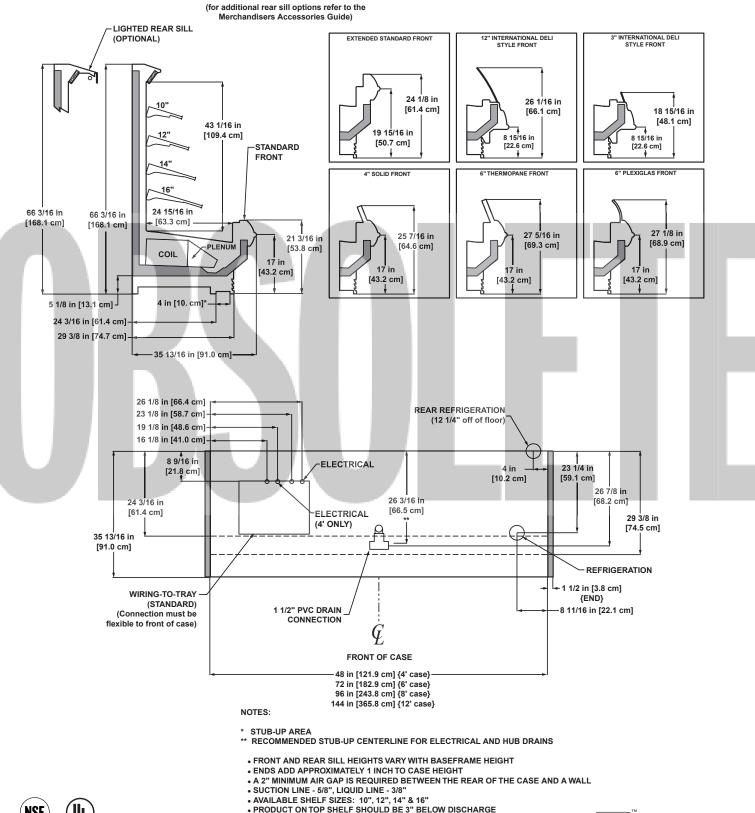
• AVAILABLE SHELF SIZES: 10", 12", 14" & 16"

PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
 RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-10", 1-12", 1-14" & 1-16"



ON5UM (5" BASEFRAME)







-16" A DOVER COMPANY



Electrical Data

			Standar	d Fans	•	fficiency ans		ndensate aters	Defrost Heaters			
	Fans per		120 Volts		120	Volts	120	120 Volts		Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5UM	4'	2	1.00	60	0.39	23.4	0.14 ¹	17	1.92	400	2.22	532
	6'	2	1.00	60	0.39	23.4	0.20 ¹	24	2.88	600	3.33	798
	8'	3	1.50	90	0.59	35.1	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.78	46.8	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs per	Bulb		al per Row Volts	Maximum Lighting 120 Volts		
Model		Row	Length	Amps	Watts	Amps	Watts	
O5UM	4'	1	4'	0.23	28	1.38	166	
	6'	2	3'	0.37	44	2.20	264	
	8'	2	4'	0.47	56	2.80	336	
	12'	3	4'	0.70	84	4.20	504	

Guidelines & Control Settings

Model ²	BTUH/ft ³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
O5UM	1490 ⁴	Enh.	22	6-8	30	42	300

² Model O5UM only available for deli application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
Mo		Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
051	UM	4	6 - 8	40	47	6		26	45	45	45

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

- No. Per Day Hours
 - 12 midnight 1 2

12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4

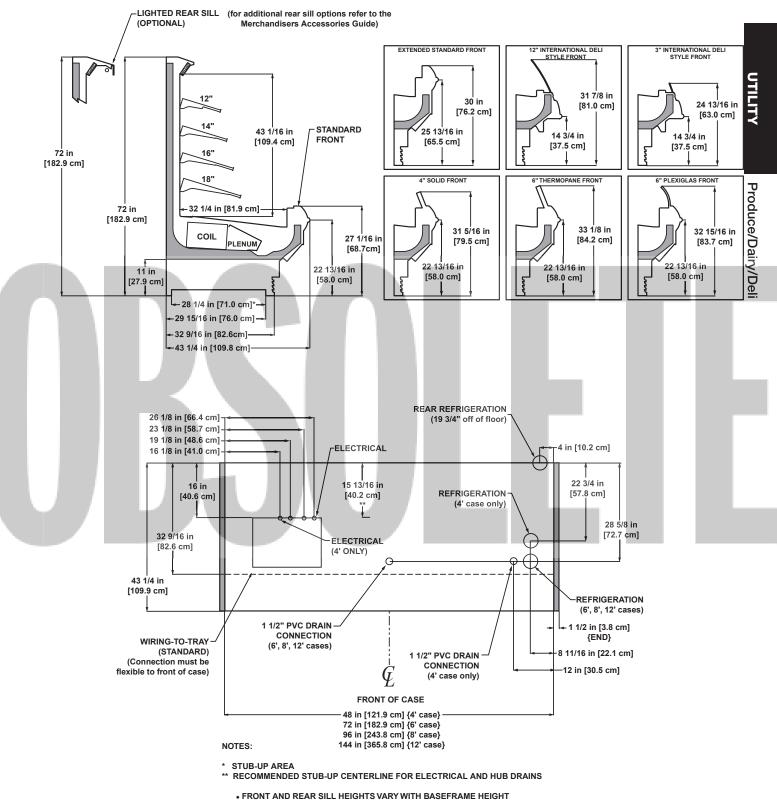




A DOVER) C	OMPANY

O5UM (11" BASEFRAME)





• 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 (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"

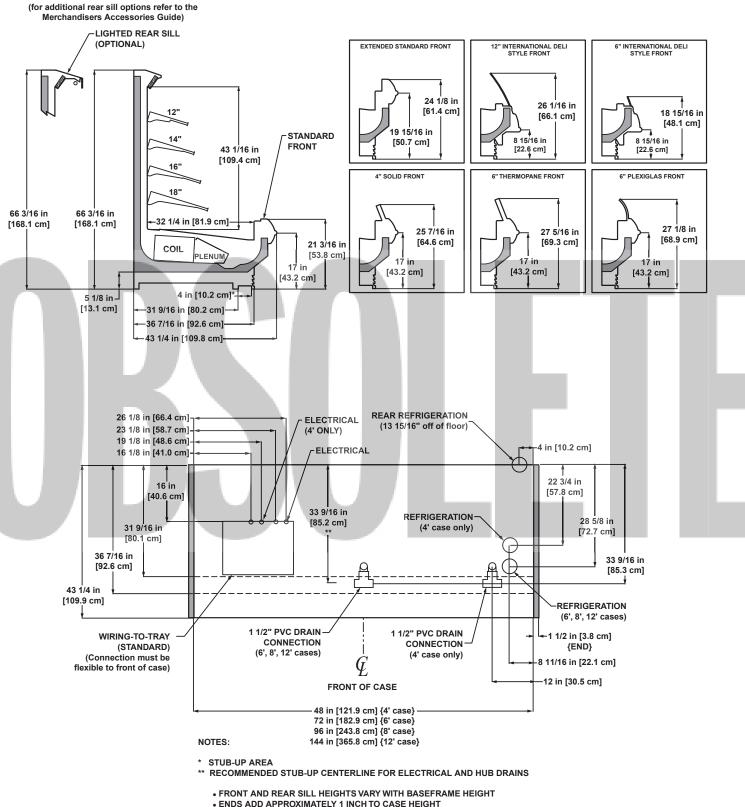
• AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"

- PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"





O5UM (5" BASEFRAME)



- 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" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"



Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON6UM	8'	3	1.50	90	0.70	42	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.93	56	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs			al per Row	Maximum Lighting		
Model		per Row	Bulb Length	120 ' Amps	Volts Watts	120 Amps	Volts Watts	
ON6UM	8'	2	4'	0.47	56	3.27	392	
	12'	3	4'	0.70	84	4.90	588	

Guidelines & Control Settings

I			Coil	Evaporator			rge Air Return A	ir Discharge Air \	/elocity⁵
I	Model ²	BTUH/ft ³	Туре	(°F)	Point @ Bulk	o (°F) (°I	F) (°F)	(FPM)	
I	ON6UM	10924	Enh.	22	6-8	2	8 40	300	

² Model ON6UM only available for deli application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
r	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
0	DN6UM	4	6 - 8	35	48	6		26	45		

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

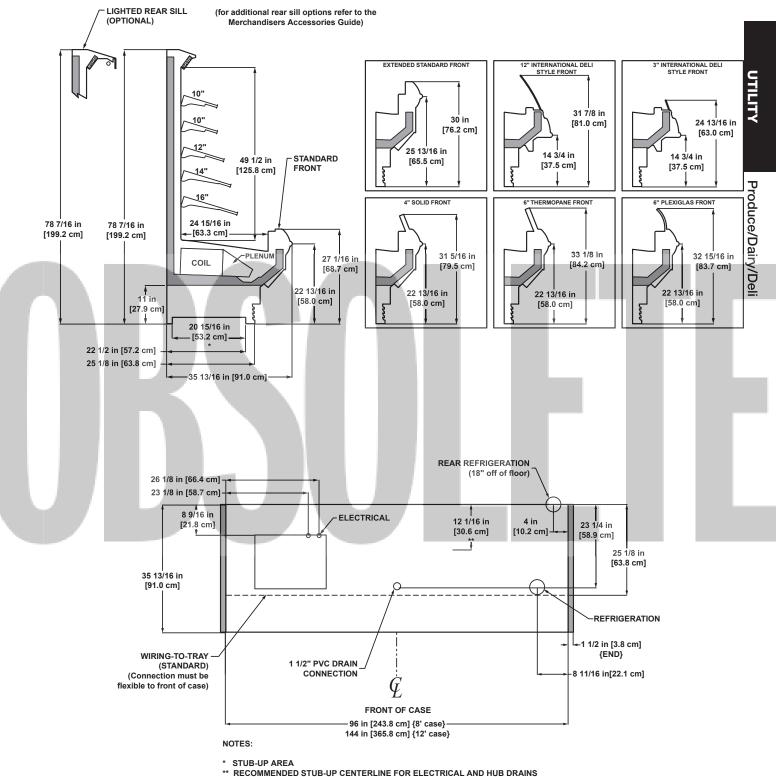
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm



ON6UM (11" BASEFRAME)



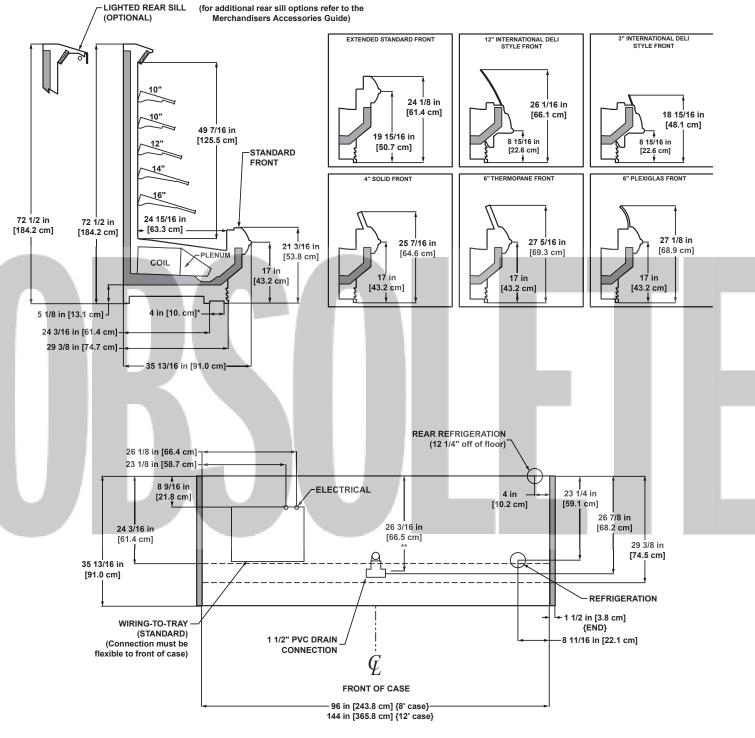


• FRONT AND REAR SILL HEIGHTS VARY WITH BASEFRAME HEIGHT

- 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"
 AVAILABLE SHELF SIZES: 10", 12", 14" & 16"
 PRODUCT ON TOP SHELF SHOULD BE 3" BELOW DISCHARGE
- RECOMMENDED SHELF CONFIGURATION IN ROWS: 2-10", 1-12", 1-14" & 1-16"

ON6UM (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 - 7/8", LIQUID LINE - 1/2"

• AVAILABLE SHELF SIZES: 10", 12", 14" & 16"



Electrical Data

			Standar	d Fans	•	ficiency ans	Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O6UM	6'	2	1.00	60	0.31	18.4	0.201	24	2.88	600	3.33	798
	8'	3	1.50	90	0.46	27.6	0.25 ¹	30	3.85	800	4.44	1065
	12'	4	2.00	120	0.61	36.8	0.38 ¹	46	5.77	1200	6.67	1600

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

Lighting Data

		Bulbs			al per Row	Maximum Lighting 120 Volts		
		per	Bulb	120	Volts			
Model		Row	Length	Amps	Watts	Amps	Watts	
O6UM	6'	2	3'	0.37	44	2.57	308	
	8'	2	4'	0.47	56	3.27	392	
	12'	3	4'	0.70	84	4.90	588	

Guidelines & Control Settings

l	Model ²	BTUH/ft³	Coil Type	Evaporator (°F)	Superheat Point @ Bul		Return Air (°F)	Discharge Air Velocity⁵ (FPM)
l	O6UM	1405 ⁴	Enh.	22	6-8	29	41	300

² Model O6UM only available for deli application with a thermopane glass front or a curved plexiglas front.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electric	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	O6UM	4	6 - 8	35	48	6		26	45		

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4

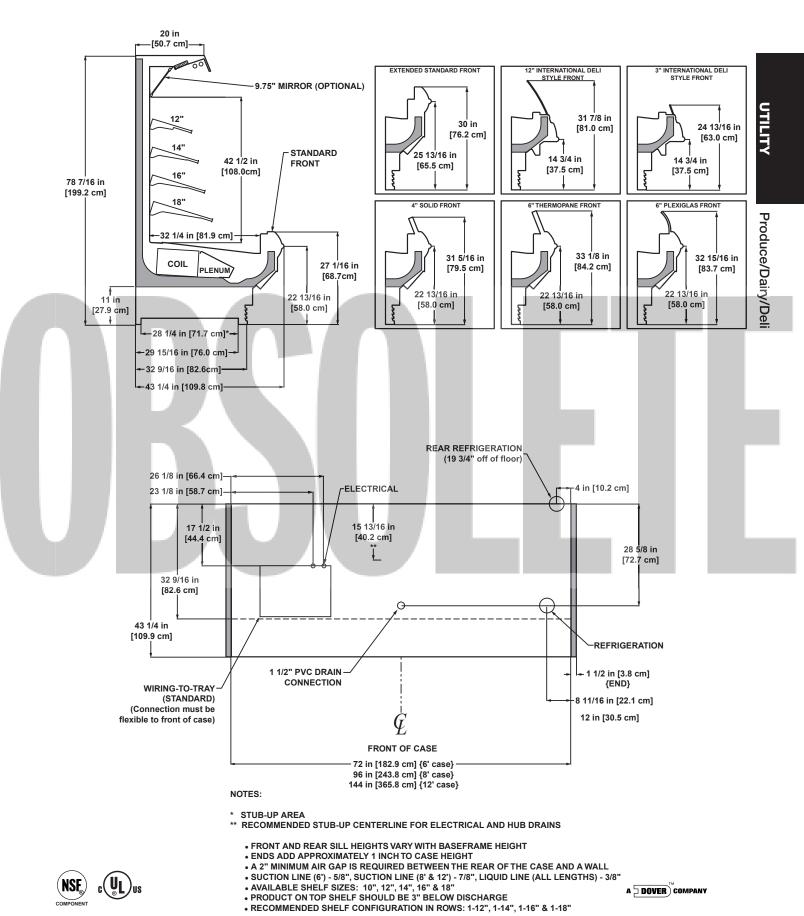




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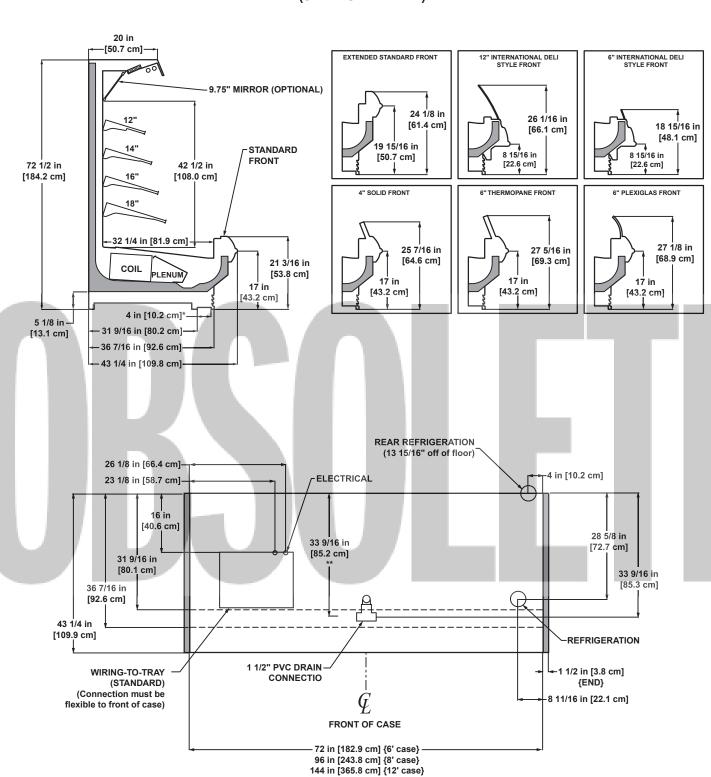
O6UM (11" BASEFRAME)

Hill PHOENIX



5/06

O6UM (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

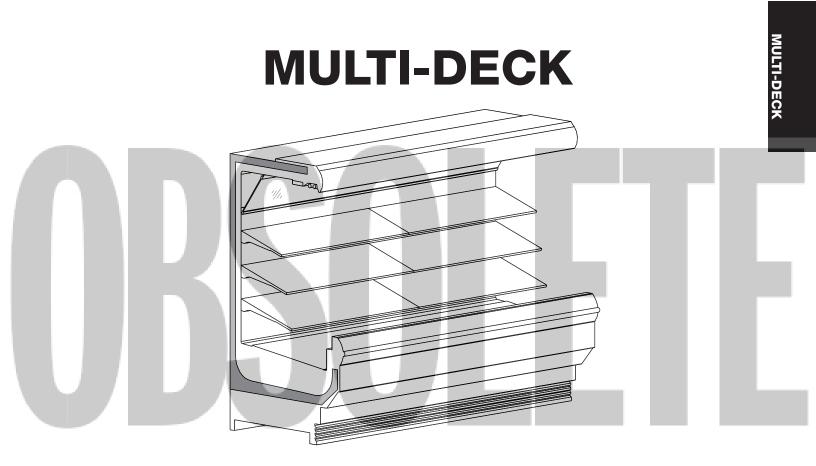
• RECOMMENDED SHELF CONFIGURATION IN ROWS: 1-12", 1-14", 1-16" & 1-18"

Hill PHOENIX









Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Electrical Data

			Standa	rd Fans	High Ef Fa	ficiency Ins	Auxilia (Opti		Anti-Cor Hea			Defrost	Heaters	
		Fans per	120	Volts	120	Volts	120	Volts	120 \	/olts	208	Volts	240 \	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
BB	6'	4	1.36	68	0.60	44	1.60	92	1		2.88	600	3.33	798
	8'	5	1.70	85	0.75	55	1.60	92			3.85	800	4.44	1065

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model Bulb 120 Volts 120 Volts Model Row Length Amps Watts Amps Watts BB 6' 2 3' 0.37 44 2.20 264 8' 2 4' 0.47 56 2.80 336 uideline: & Control (FP) Bulb (F) Discharge Air (FP) Discharge Air (FP) Discharge Air (FP) Model BTUH/ft ² Evaporator (FP) Bulb (F) Discharge Air (FP) Discharge Air (FP) Discharge Air (FP) BB 1290 17 6-8 32 45 325	Model per Row Bulb Length 120 Volts 120 Volts BB 6' 2 3' 0.37 44 2.20 264 BB 6' 2 3' 0.47 56 2.80 336 uidelines & Control Settings			Bulbs			al per Maximum Row Lighting								
BB 6' 2 3' 0.37 44 2.20 264 8' 2 4' 0.47 56 2.80 336	BB 6' 2 3' 0.37 44 2.20 264 B' 2 4' 0.47 56 2.80 336 uideline's & Control Settings Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Discharge Air Velocity³ BB 1290 17 6-8 32 45 325				Bulb	120 V	/olts 1	120 Volts						_	
8' 2 4' 0.47 56 2.80 336 uideline's & Control Settings Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	8' 2 4' 0.47 56 2.80 336 auidelines & Control Settings Model BTUH/ft ² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity ^a (FPM) BB 1290 17 6-8 32 45 325	Model		Row	Length	Amps	Watts Am	nps Watts							
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	Juidelines & Control SettingsModelBTUH/ft2Evaporator (°F)Superheat Set Point (°F)Discharge Air (°F)Discharge Air Velocity3 (°F)BB1290176-83245325	BB	6'	2	3'	0.37	44 2.2	20 264							
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325		8'	2	4'	0.47	56 2.8	80 336							
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325	_		-	_			_							
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325														
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325														
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325														
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325														
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325														
Model BTUH/ft² Evaporator (°F) Superheat Set Point @ Bulb (°F) Discharge Air (°F) Return Air (°F) Discharge Air Velocity³ (°F)	ModelBTUH/ft²Evaporator (°F)Superheat Set Point @ Bulb (°F)Discharge Air (°F)Return Air (°F)Discharge Air Velocity³ (FPM)BB1290176-83245325														
Model BTUH/ft² (°F) (°F) (°F) (FPM)	Model BTUH/ft² (°F) (°F) (°F) (°F) (°F) BB 1290 17 6-8 32 45 325	uidalin			at rol	Cotti									
Model BTUH/ft² (°F) (°F) (°F) (FPM)	Model BTUH/ft² (°F) (°F) (°F) (°F) (°F) BB 1290 17 6-8 32 45 325	uidelin	es 8	& Co	ntrol	Settii	ngs								
Model BTUH/ft² (°F) (°F) (°F) (FPM)	Model BTUH/ft² (°F) (°F) (°F) (°F) (°F) BB 1290 17 6-8 32 45 325	uidelin	es (& Co	ntrol	Settii	ngs								
	BB 1290 17 6-8 32 45 325	uidelin	es a	& Co	1	-		t Set Point	Discharge Air	Return Air	Discharge	Air Velocity			
BB 1290 17 6-8 32 45 325		-		r	Ev	aporator	Superheat				-	-			
		-		r	Ev	aporator	Superheat				-	-			
	UHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.	Model		BTUH/1	t ² Ev	aporator (°F)	Superheat @ Bu	ılb (°F)	(°F)	(°F)	(FI	PM)	1		
	UHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.	Model		BTUH/1	t ² Ev	aporator (°F)	Superheat @ Bu	ılb (°F)	(°F)	(°F)	(FI	PM)	1		
1 He/ft listed are far parallel exercises. Conventional ratings may be expressimated by multiplying listed rating by 1.04	onsitt insted are for paraller operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.	Model		BTUH/1	t ² Ev	aporator (°F)	Superheat @ Bu	ılb (°F)	(°F)	(°F)	(FI	PM)	1		

Defrost Controls

l				Electric	c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	BB	4	6 - 8	30	47 ⁴	45	47 ⁴			45	45

 $^{\rm 4}$ Termination Temperature measured at the honeycomb.

Medium Temperature Defrost Schedule

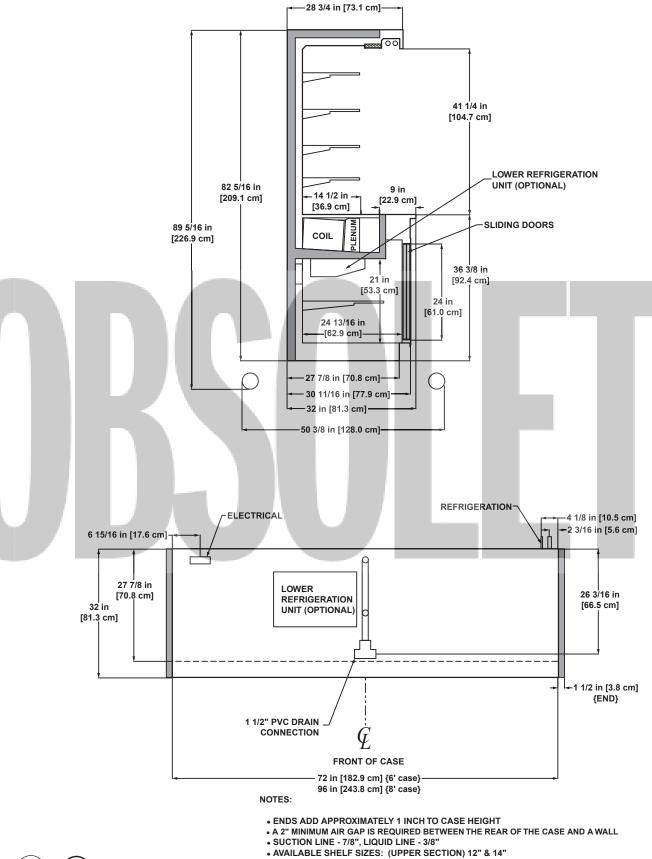
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm









BB

MULTI-DECK

Del

(LOWER SECTION) 22"





Narrow Multi-Deck Deli Merchandiser

ONN35U - 4', 6', 8' & 12'

Electrical Data

			Standar	rd Fans	•	fficiency ans		ndensate aters		Defrost	Heaters	
			120 \	120 Volts		Volts	120 Volts		208 Volts		240	Volts
Model		Fans per Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONN35U	4'	3	1.02	51	0.45	33	1		1.92	400	2.22	532
	6'	4	1.36	68	0.60	44			2.88	600	3.33	798
	8'	4	1.36	68	0.60	44			3.85	800	4.44	1065
	12'	6	2.04	102	0.90	66			5.77	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs per	Bulb	Typical per Light RowMaximum Lighting120 Volts120 Volts			
Model		Row	Length	Amps	Watts	Amps	Watts
ONN35U	4'	1	4'	0.23	28	0.93	112
	6'	2	3'	0.37	44	1.47	176
	8'	2	4'	0.47	56	1.87	224
	12'	3	4'	0.70	84	2.80	336

Guidelines & Control Settings

	Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
1	ONN35U	700	22	6-8	35	45	275

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.
³ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electri	c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONN35U	4	6 - 8	35	47	45	47	26	45		

(NSF_®)

c(UL)us

Medium Temperature Defrost Schedule

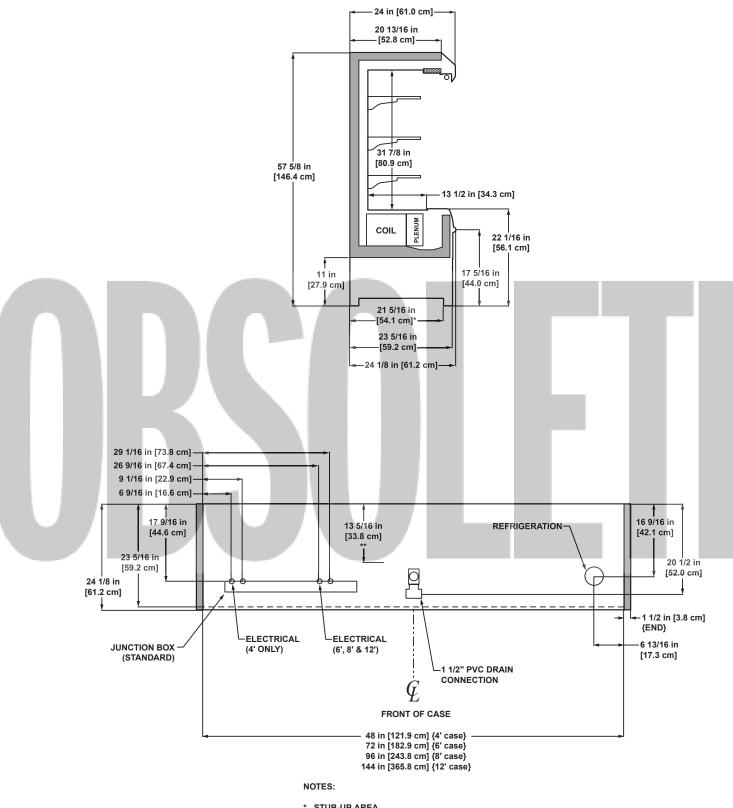
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

2	12 ani - 12 pin
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm







- * STUB-UP AREA ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
 - ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
 - SUCTION LINE 7/8", LIQUID LINE 3/8"
 AVAILABLE SHELF SIZES: 10" & 12"

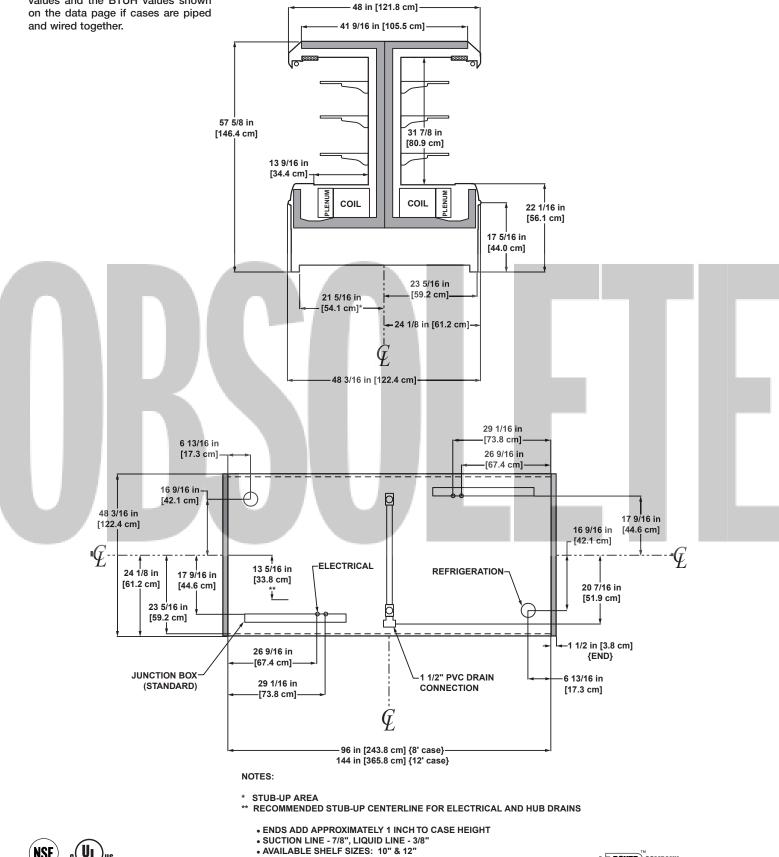


MULTI-DECK

Del

ONN35U BACK-TO-BACK CONFIGURATION

Note: For cases in a back-to-back configuration double the electrical values and the BTUH values shown on the data page if cases are piped and wired together





Multi-Deck Utility Deli Merchandiser ONN5U - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per		120 \	120 Volts		Volts	120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONN5U	4'	2	1.00	60	0.39	23.4	1		1.92	400	2.22	532
	6'	2	1.00	60	0.39	23.4			2.88	600	3.33	798
	8'	3	1.50	90	0.59	35.1			3.85	800	4.44	1065
	12'	4	2.00	120	0.78	46.8			5.77	1200	6.67	1600

¹ NOTE: - - not an option on this case model.

Lighting Data

1			Bulbs per	Bulb	Light	al per Row Volts	Maxim Lighti 120 Vo	ng							
	Model		Row	Length	Amps	Watts	Amps	Watts	1 1						
	ONN5U	4'	1	4'	0.23	2 8	1.40	168							
		6'	2	3'	0.37	44	2.20	264							
		8'	2	4'	0.47	56	2.80	336							
		12'	3	4'	0.70	84	4.20	504					_		
	Guide	el	BTUH/	Eva	aporator (°F)	Super Point @	heat Set Bulb (°F)	(arge Air °F)	(°F)	Discharge A	M)			1
	ONN5	5U	990	-	20	(6-8	;	33	44	24	5			

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

I				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	ONN5U	4	6 - 8	35	47	45	47				

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Medium Temperature Defrost Schedule

No. Per Day	Hours

1 12 midnight 2

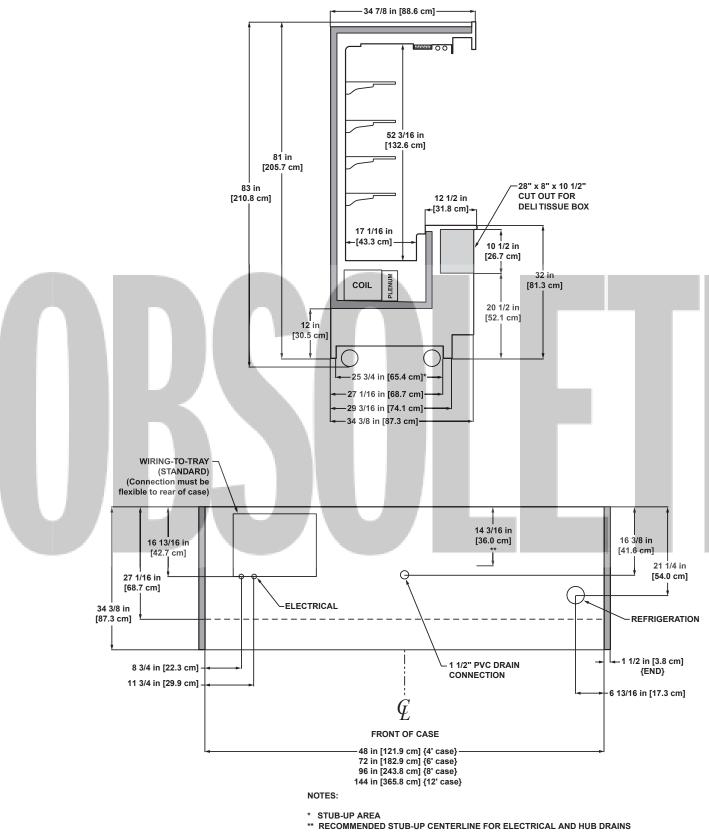
12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4





MULTI-DECK

Del





- . ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- SUCTION LINE 7/8", LIQUID LINE 3/8" AVAILABLE SHELF SIZES: 10", 12" & 14"

Narrow Multi-Deck Produce/Dairy Merchandiser

ON5DM - 4, 6', 8' & 12'

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
Fans per		per 120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model Case		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
ON5DM	4'	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum nting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
ON5DM	4'	1	4'	0.23	28	2.10	252
	6'	2	3'	0.37	44	3 .30	396
	8'	2	4'	0.47	56	4.20	504
	12'	3	4'	0.70	84	6.30	756

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ON5DM	Std. Dairy	1811 ³	Enh.	22	6-8	32	47	215
Dairy Cut Produce	2.5" Ext.	1766 ³	Enh.	22	6-8	31	44	215
	5" Ext.	1739 ³	Enh.	22	6-8	31	40	215
	7.5" Ext.	1681 ³	Enh.	22	6-8	31	40	215
ON5DM	Std. Dairy	1670 ³	Enh.	29	6-8	37	53	2 15
Beverage Bulk Produce	2.5" Ext.	1628 ³	Enh.	29	6-8	36	52	215
	5" Ext.	1576 ³	Enh.	29	6-8	36	52	215
	7.5" Ext.	1550 ³	Enh.	29	6-8	36	52	215

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ON5DM	4	6 - 8	32	47	42	47	26	45	42	45

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Medium Temperature Defrost Schedule

No. Per Day	Hours
	10 mide

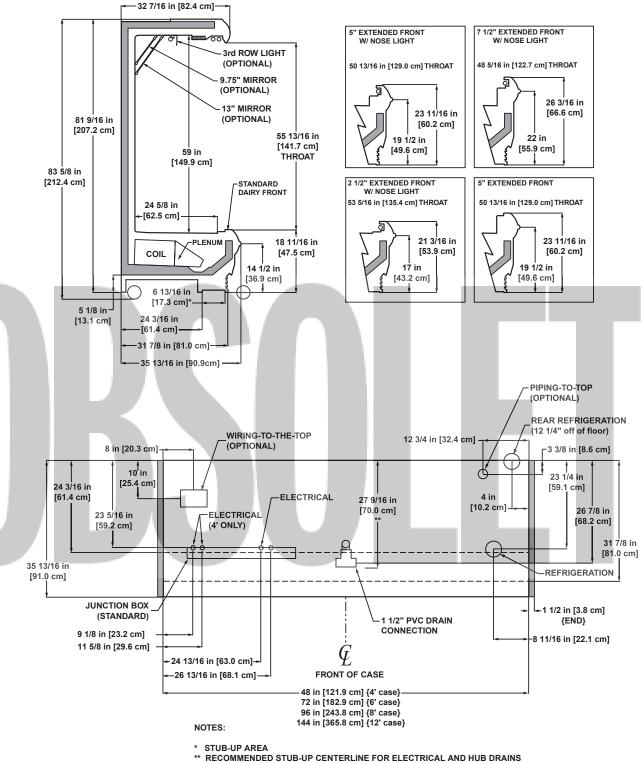
- 2
- 12 midnight 12 am 12 pm 6 am 2 pm 10 pm 12 6 am 12 6 pm 3
- 4











- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS 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)



Produce/Dairy

Narrow Multi-Deck Self-Contained Produce/Dairy Merchandiser

ON5DMA - 6' & 8'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
ON5DMA	6'	208	1	60	3 wire + ground	25.412	45
	8'	208	1	60	3 wire + ground	25.534	45

Electrical Data

						denser Drain ^F an Pump			Evap. Pan Heater		Maximum Lights	
		Fans per	120	Volts	208	Volts	120	Volts	208	/olts	120 \	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON5DMA	6'	3	1.50	90	1.10	114	1.10	66	7.21	1500	4.70	564
	8'	4	2.00	120	1.10	114	1.10	66	7.21	1500	4.70	564

Guidelines & Control Settings

Model	 Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
ON5DMA-6'	52	6-8	31	44	215
ON5DMA-8'	52	6-8	31	44	215

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

	Model	Volts	Phase	Frequency (Hz)	нр	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
I	ON5DMA-6'	208	1	60	1 3/4	10.9	56	R 404A	
1	ON5DMA-8'	208	-1	60	2 1/4	12.4	61	R404A	

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

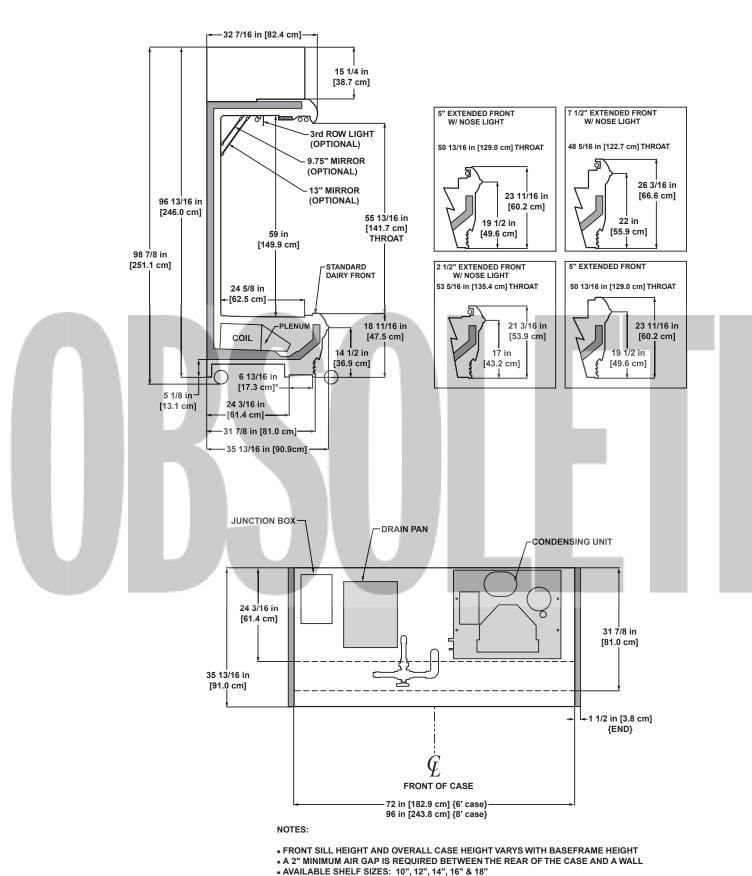
			Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ON5DMA	4	6 - 8	4		42	47				

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm





(TOP SHELF MUST BE 16" OR SHORTER. RECOMMENDED CONFIGURATION IS 16"

SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF)

MULTI-DECK

Produce/Dairy

Electrical Data

				d Fans	•	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters		
	Fans per		120 \	/olts	olts 120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON5DMH	4'	2	1.00	60	0.47	28	¹		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs			al per Row	Maximum Lighting		
		per	Bulb	120	Volts	120	Volts	
Model		Row	Length	Amps	Watts	Amps	Watts	
ON5DMH	4'	1	4'	0.23	28	2.10	252	
	6'	2	3'	0.37	44	3.30	396	
	8'	2	4'	0.47	56	4.20	504	
	12'	3	4'	0.70	84	6.30	756	

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ON5DMH	Std. Dairy	1840 ³	Enh.	22	6-8	33	48	215
Dairy Cut Produce	2.5" Ext.	1795 ³	Enh.	22	6-8	33	45	215
	5" Ext.	1779 ³	Enh.	22	6-8	32	41	215
	7.5" Ext.	1700 ³	Enh.	22	6-8	32	41	215
ON5DMH	Std. Dairy	1700 ³	Enh.	29	6-8	37	54	215
Beverage Bulk Produce	2.5" Ext.	1640 ³	Enh.	29	6-8	37	53	215
	5" Ext.	1608 ³	Enh.	29	6-8	36	52	215
	7.5" Ext.	1595 ³	Enh.	29	6-8	36	52	215

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

l					c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	ON5DMH	4	6 - 8	32	47	42	47	26	45	42	45	

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Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

6 am - 2 pm - 10 pm 3 4

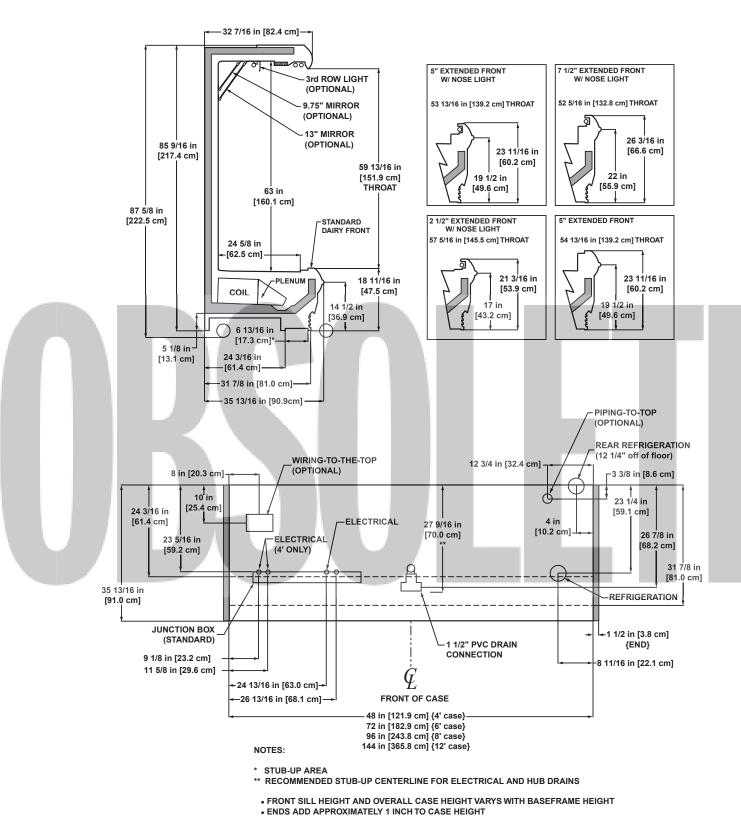
12 - 6 am - 12 - 6 pm











• WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT

SHELF AND 3 OR 4 18" SHELVES BELOW TOP SHELF)

• 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"



Multi-Deck Produce/Dairy/Deli Merchandiser

O5DM - 4', 6', 8' & 12'

Electrical Data

	Eano por			rd Fan	High Ef	ns	Anti-Cor Hea	ters	-	Defrost I		(- II -
	Fans per		120 \	/olts	120 Volts 120 Volts		208 \	/olts	240	voits		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5DM	4'	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	2	1.00	60	0.47	28			2.88	600	3.33	798
	8'	3	1.50	90	0.70	42			3.85	800	4.44	1065
	12'	4	2.00	120	0.93	56			5.77	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs	Bulb	Light	al per Row Volts	Ligh	mum iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
O5DM	4'	1	4'	0.23	28	2.10	252
	6'	2	3'	0.37	44	3 .30	396
	8'	2	4'	0.47	56	4.20	504
	12'	3	4'	0.70	84	6.30	756

Guidelines & Control Settings

	Front Sill		Coil	Evaporator	Superheat Set	Discharge Air	Retu rn Air	Discharge Air Velocity₄
Model	Heights	BTUH/ft ²	Туре	(°F)	Point @ Bulb (°F)	(°F)	(°F)	(FPM)
O5DM	2.5" Ext.	1570 ³	Enh.	22	6-8	30	44	270
Deli w/ Shelf Lights	5" Ext.	1530 ³	Enh.	22	6-8	30	44	270
	7.5" Ext.	1500 ³	Enh.	22	6-8	30	44	270
O5DM	Std. Dairy	1470 ³	Enh.	26	6-8	34	47	270
Dairy Cut Produce	2.5" Ext.	1431 ³	Enh.	26	6-8	34	47	270
w/ Shelf Lights	5" Ext.	1401 ³	Enh.	26	6-8	34	47	270
	7.5" Ext.	1370 ³	Enh.	26	6-8	34	47	270
O5DM	Std. Dairy	1490 ³	Enh.	29	6-8	36	52	270
Beverage Bulk Produce	2.5" Ext.	1450 ³	Enh.	29	6-8	36	52	270
w/o Shelf Lights	5" Ext.	1420 ³	Enh.	29	6-8	36	52	270
	7.5" Ext.	1390 ³	Enh.	29	6-8	36	52	270

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)			Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	O5DM	4	6 - 8	32	47	42	47	26	45	42	45

(NSF_®)

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Medium Temperature Defrost Schedule

No. Per Day	Hours
-	استماست

1	12 midnight
2	12 am - 12 pm

6 am - 2 pm - 10 pm 3 4

12 - 6 am - 12 - 6 pm

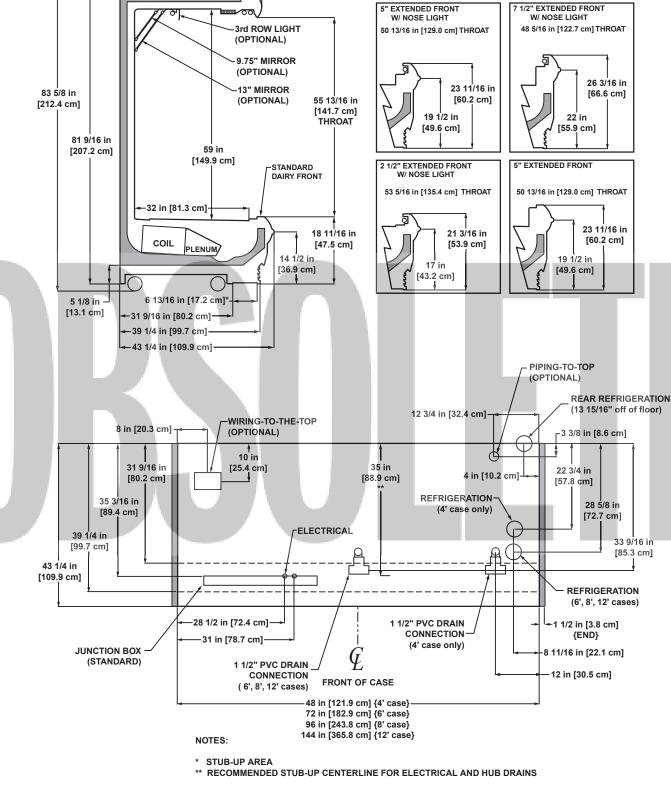






-39 11/16 in [100.7 cm]





• FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS 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"



Multi-Deck Self-Contained Produce/Dairy/Deli Merchandiser

O5DMA - 4', 6' & 8'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
O5DMA	4'	208	1	60	3 wire + ground	22.096	35
	6'	208	1	60	3 wire + ground	23.034	40
	8'	208	1	60	3 wire + ground	23.934	45

Electrical Data

				Standard Fans		Condenser Fan		Drain Pump		Evap. Pan Heater		Maximum Lights	
I		Fans per 120 Volts		208	208 Volts		120 Volts		Volts	120 Volts			
	Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
	O5DMA	4'	2	1.00	60	0.85	88	1.10	66	7.21	1500	3.18	382
ł		6'	2	1.00	60	1.10	114	1.10	66	7.21	1500	4.59	551
Í		8'	3	1.50	90	2.60	270	1.10	66	7.21	1500	4.59	551

Guidelines & Control Settings

Model	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
05DMA-4'	52	6-8	30	44	250
O5DMA-6'	52	6-8	30	44	250
05 DMA-8 '	52	6-8	30	44	250

Average discharge air velocity at peak of defrost.

Condensing Unit Data

I	Model	Volts	Phase	Frequency (Hz)	НР	RLA² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
1	O5DMA-4'	208	1	60	1	9.6	51	R404A	4.5
	O5DMA-6'	208	1	60	1 3/4	10.9	56	R404A	
	O5DMA-8'	208	1	60	2	12.4	61	R404A	

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Model Defrosts Per Day		Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O5DMA	4	4		42	47				

⁴ NOTE: - - - not an option on this case model.

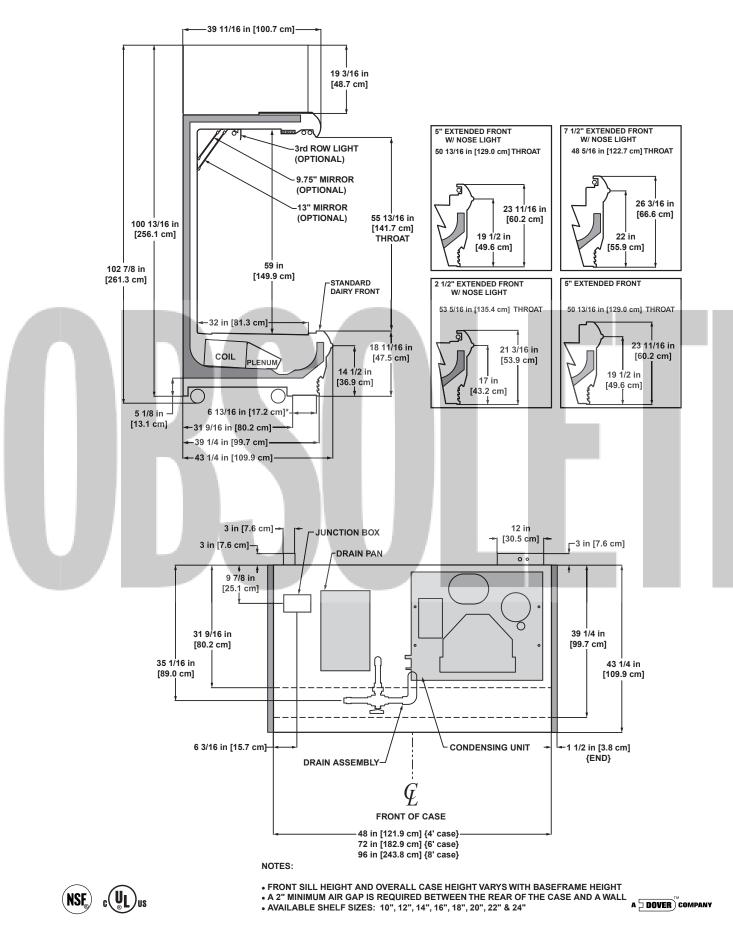
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm









MULTI-DECK

High Multi-Deck Produce/Dairy/Deli Merchandiser

O5DMH - 4', 6', 8' & 12'

Electrical Data

			Standa	rd Fan	0	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters		
	Fans per		120 \	/olts	120 \	Volts	120	Volts	208 \	/olts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5DMH	4'	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs	Bulb	Light	al per Row Volts	Ligh	mum iting Volts
Model	odel		Length	Amps	Watts	Amps	Watts
O5DMH	4'	1	4'	0.23	28	2.10	252
	6'	2	3'	0.37	44	3.30	396
	8'	2	4'	0.47	56	4.20	504
	12'	3	4'	0.70	84	6.30	756

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity⁴ (FPM)
O5DMH	2.5" Ext.	1620 ³	Enh.	22	6-8	31	43	250
Deli w/ Shelf Lights	5" Ext.	1570 ³	Enh.	22	6-8	31	43	250
	7.5" Ext.	1540 ³	Enh.	22	6-8	31	43	250
O5DMH	Std. Dairy	1555 ³	Enh.	26	6-8	35	47	265
Dairy Cut Produce	2.5" Ext.	1500 ³	Enh.	26	6-8	35	47	265
w/ Shelf Lights	5" Ext.	1470 ³	Enh.	26	6-8	35	47	265
	7.5" Ext.	1440 ³	Enh.	26	6-8	35	47	265
O5DMH	Std. Dairy	1495 ³	Enh.	29	6-8	37	52	270
Beverage Bulk Produce	2.5" Ext.	1455 ³	Enh.	29	6-8	36	53	270
w/o Shelf Lights	5" Ext.	1426 ³	Enh.	29	6-8	36	52	270
	7.5" Ext.	1397 ³	Enh.	29	6-8	36	52	270

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O5DMH	4	6 - 8	32	47	42	47	26	45	42	45

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Medium Temperature Defrost Schedule

No. Per Day I	Ho
---------------	----

Per Day	Hours
1	12 midnight

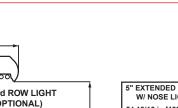
12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 2



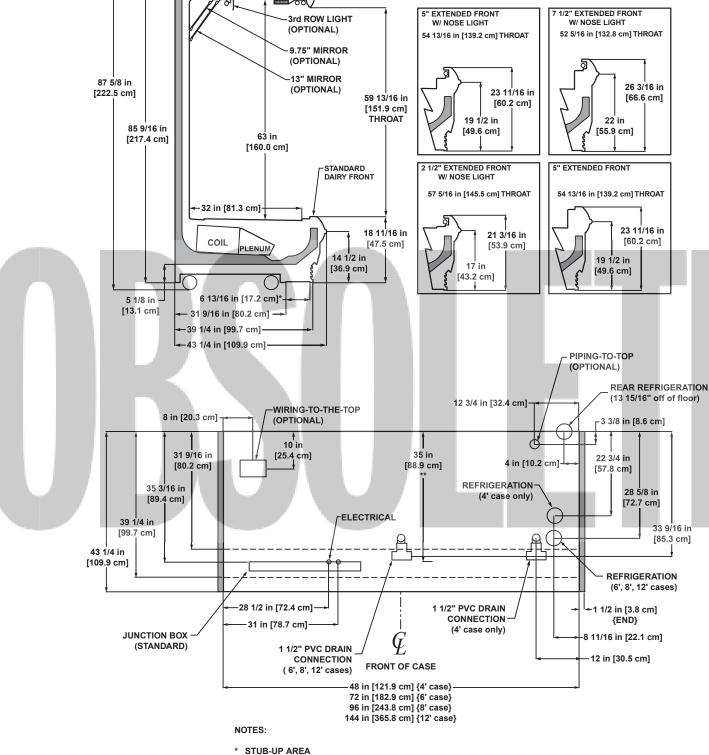








39 11/16 in [100.7 cm]·



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

• FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS 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"



5/06

MULTI-DECK

Produce/Dairy/Deli

O5DR - 8' & 12'

Electrical Data

			Standa	rd Fan	High Ef Fa	ficiency ns		ndensate iters	I	Defrost I	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208 \	/olts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5DR	8'	4	3.20	213	1.44	142	1		3.85	800	4.44	1065
	12'	5	4.00	267	1.80	178			5.78	1200	6.67	1600

¹ NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs		Light	al per Row	Ligh	mum iting
Model		per Row	Bulb Length	Amps	Volts Watts	Amps	Volts Watts
O5DR	8'	2	4'	0.47	56	4.20	504
	12'	3	4'	0.70	84	6.30	756

Guidelines & Control Settings

Model	Front Sill Model Heights B1		Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity₄ (FPM)
O5DR	Std. Dairy	1502 ³	Enh.	22	6-8	32	47	275
Dairy	2.5" Ext.	1502 ³	Enh.	22	6-8	32	46	275
	5" Ext.	1453 ³	Enh.	22	6-8	32	42	275
	7.5" Ext.	1425 ³	Enh.	22	6-8	32	42	275
O5DR	2.5" Ext.	1422 ³	Enh.	26	6-8	35	48	2 75
Dairy	5" Ext.	13 89 ³	Enh.	26	6-8	35	47	275

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

				c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe Termination (min) Temp. (°F)		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
O5DR	4	6 - 8	32	47	45	47	26	45	42	45	

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Medium Temperature Defrost Schedule

1 12 midnight

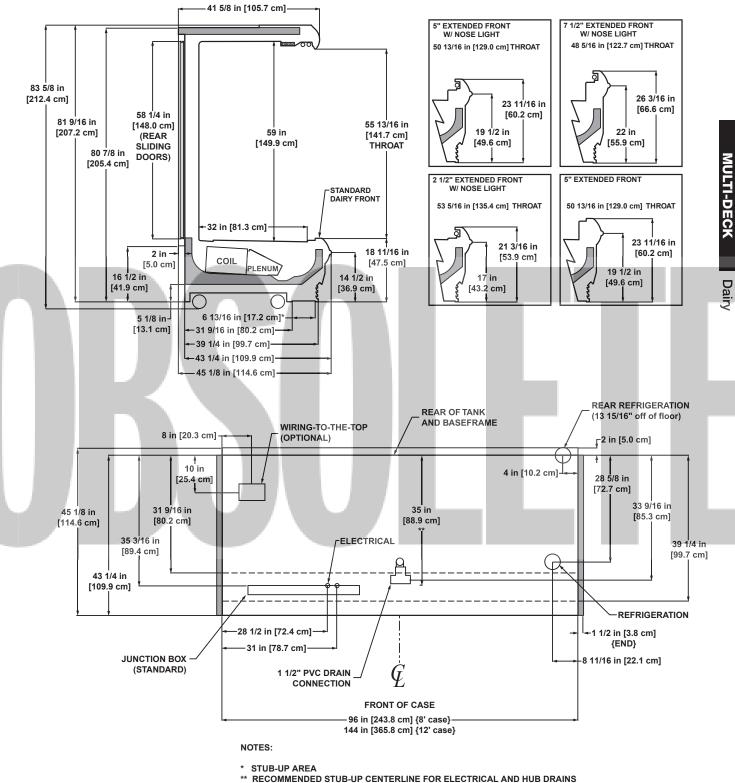
2 12 am - 12 pm 3 6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm









- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT • WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- COOLER OPENING SHOULD BE 82" X CASE LENGTH
- SUCTION LINE 7/8", LIQUID LINE 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"



O5DRH - 8' & 12'

Electrical Data

			Standa	rd Fan	High Efi Fa	,		ndensate iters	Defrost Heaters				
		Fans per	120 \	Volts 120		Volts	120	Volts	208 \	/olts	240	Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
O5DRH	8'	4	3.20	213	1.44	142	1		3.85	800	4.44	1065	
	12'	5	4.00	267	1.80	178			5.78	1200	6.67	1600	

¹ NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs			al per Row		mum iting			
		per	Bulb	120	Volts	120 Volts				
Model		Row	Length	Amps	Watts	Amps	Watts			
O5DRH	8'	2	4'	0.47	56	4.20	504			
	12'	3	4'	0.70	84	6.30	756			

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat S Point @ Bulb	ischarge Air (°F)	Return Air (°F)	Discharge Air Velocity⁴ (FPM)
O5DRH	Std. Dairy	1543 ³	Enh.	22	6-8	32	47	275
Dairy	2.5" Ext.	1543 ³	Enh.	22	6-8	32	46	275
	5" Ext.	1493 ³	Enh.	22	6-8	32	42	275
	7.5" Ext.	1464 ³	Enh.	22	6-8	32	42	275
O5DRH	2.5" Ext.	1461 ³	Enh.	26	6-8	35	48	275
Dairy	5" Ext.	1427 ³	Enh.	26	6-8	35	47	275

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Run-Off Per Day Time (min)		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
O5DRH	4	6 - 8	32	47	45	47	26	45	42	45	

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

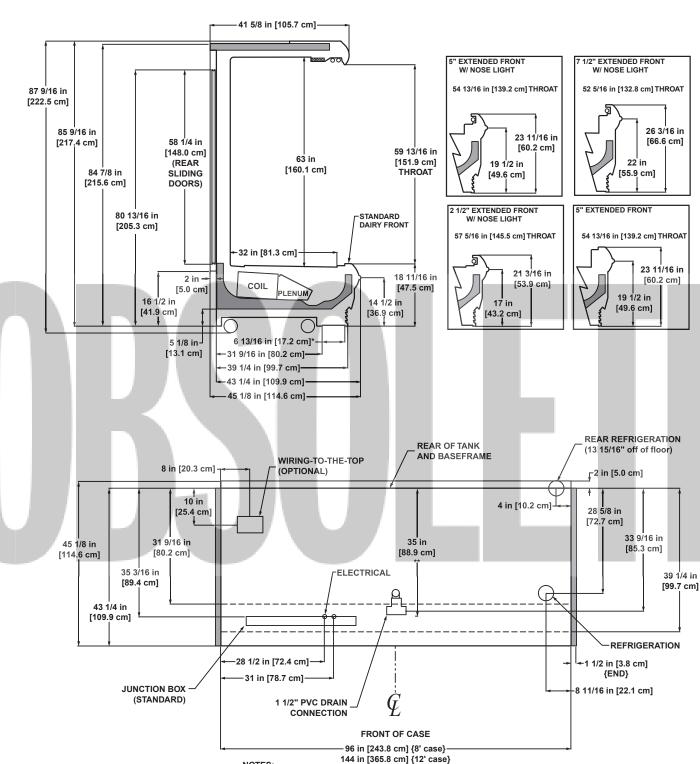
4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.









NOTES:

* STUB-UP AREA

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

• FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS WITH BASEFRAME HEIGHT

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT

COOLER OPENING SHOULD BE 86" X CASE LENGTH

• SUCTION LINE - 7/8", LIQUID LINE - 3/8" • AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20", 22" & 24"

O5M - 4', 6', 8' & 12'

Electrical Data

			High Eff Fa		Anti-Cor Hea	ndensate ters	I	Defrost	Heaters	
		Fans per	120 \	Volts	120	Volts	208 \	/olts	240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5M	4'	2	0.47	28	1		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

¹ NOTE: - - - not an option on this case model.

Lighting Data

1			Bulbs		Light	al per Row	Ligh	mum iting							
			per	Bulb		Volts		Volts							
	Model		Row	Length	Amps	Watts	Amps	Watts							
	05 M	4'	1	4'	0.23	28	1.15	138							
		6'	2	3'	0.37	44	1.85	222							
		8'	2	4'	0.47	56	2.35	282							
		12'	3	4'	0.70	84	3.50	420							
	Guidel	ine	s & (Contro	ol Set	ttings	5								
			_				-		_		-	I	_		

I	Model	Application	Front Sill Height	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
1	O5M	Fresh Meat	Thermopane	1760	Enh.	17	6-8	26	38	225

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

$^{3}\ensuremath{\,\text{Average}}$ discharge air velocity at peak of defrost.

Defrost Controls

I					Electric Defrost		Timed Off Defrost		s Defrost	Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	O5M	6	6 - 8	40	47	45	45	26	45	45	45

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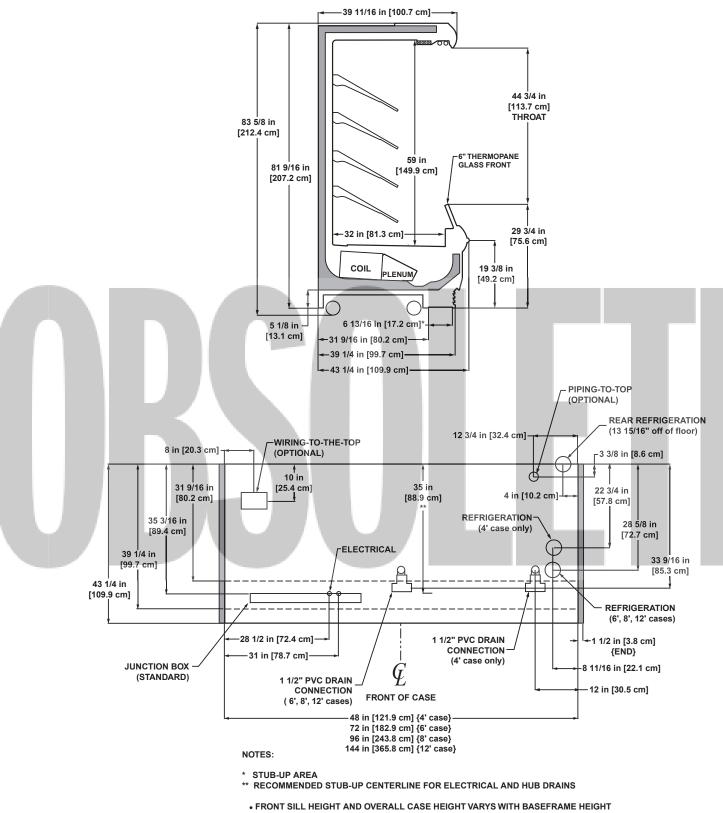






MULTI-DECK

Deli/Meat



- 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
- BACK PANELS ADD APPROXIMATELY 1" TO THE REAR OF THE CASE
- SUCTION LINE (4' & 6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 18" & 20" ARTICULATED ONLY (4 ROWS RECOMMENDED)



O5MR - 8' & 12'

Electrical Data

Γ				High Eff Fa		Anti-Cor Hea		Defrost Heaters				
			Fans per	120 \	/olts	120	Volts	208 \	/olts	240	Volts	
N	Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
(O5MR	8'	4	1.44	142	1		3.85	800	4.44	1065	
		12'	5	1.80	178			5.78	1200	6.67	1600	

¹ NOTE: - - - not an option on this case model.

Lighting Data

ĺ			Bulbs per	Bulb	Light	al per : Row Volts	Ligh	mum iting Volts
	Model		Row	Length	Amps	Watts	Amps	Watts
	O5MR	8'	2	4'	0.47	56	2.35	282
		12'	3	4'	0.70	84	3.50	420
ł			-					
					$ \land $			

Guidelines & Control Settings

L	Model	Application	Front Sill Height	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
E	O5MR	Fresh Meat	Thermopane	1 6 67	Enh.	17	6-8	31	40	275

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

I				Electri	c Defrost	Timed Off Defrost Hot Gas De			s Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	O5MR	6	6 - 8	40	47	45	45	26	45	45	45	

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Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3	6 am - 2	pm - 10 pm

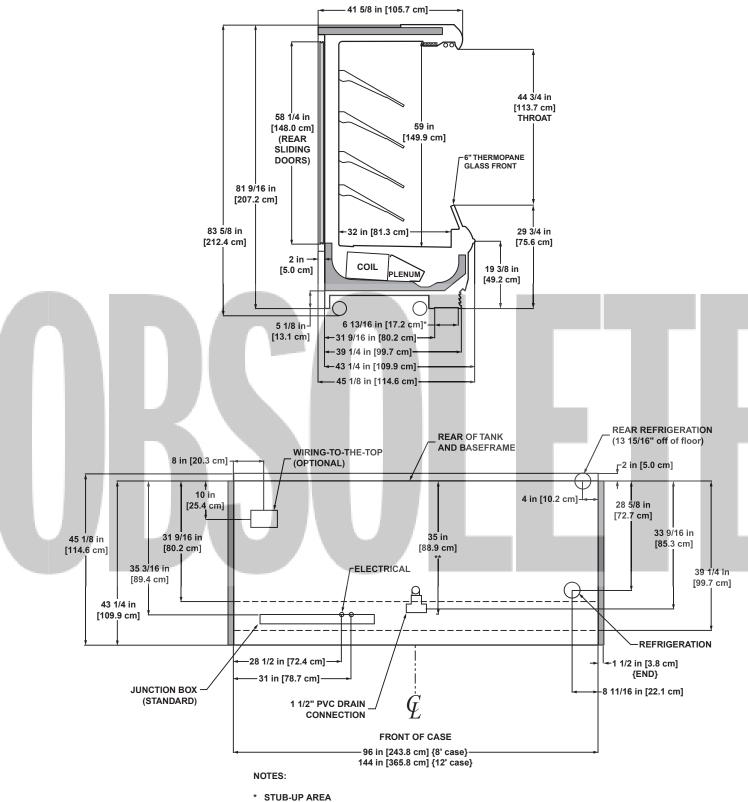
4 12 - 6 am - 12 - 6 pm





MULTI-DECK

Deli/Meat



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

• FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS WITH BASEFRAME HEIGHT

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT

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

AVAILABLE SHELF SIZES: 18" & 20" ARTICULATED ONLY (4 ROWS RECOMMENDED)



Multi-Deck Frozen Food Merchandiser

O5Z - 6', 8' & 12'

Electrical Data

						Standar	d Fans	0	ficiency Ins		ndensate iters		Defrost	Heaters	
		F	ans p	er Case	e [120 \	/olts	120	Volts	120	Volts	208 \	Volts	240	Volts
Model		Pri. ¹	Sec.	Amb.	Total	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5Z	6'	4	2	2	8	4.56	280	2.04	187	2.25 ²	270	9.99 ³	3600	11.53 ³	4794
	8'	5	3	2	10	5.70	352	2.55	233	3.10 ²	344	13.32 ³	4800	15.37 ³	6390
	12'	7	4	3	14	7.98	490	3.57	327	4.68 ²	562	20.00 ³	7200	23.06 ³	9585

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.

Lighting Data

	- 10			Turio	- L	Marri	
		Bulbs			al per Row		mum nting
		per	Bulb	120 '	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
05Z	6'	2	3'	0.37	44	1.10	132
	8'	2	4'	0.47	56	1.40	168
	12'	3	4'	0.70	84	2.10	252
			100				

Air Defrost Option

		Defrost	Heaters
		120	Volts
Model		Amps	Watts
O5Z	6'	4	
	8'	6.69	803
	12'	9.20	1104

NOTE: --- not an option on this case model.

Guidelines & Control Settings

I			Evaporator	Superheat Set	Discharge Air	Return Air	Discharg	je Air Veloo	city ⁶ (FPM)
	Model	BTUH/ft⁵	(°F)	Point @ Bulb (°F)	(°F)	(°F)	Pri.	Sec.	Amb.
l	O5Z	1840	-17	3-5	-5	0	650	425	275

⁵ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04. ⁶ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric Defrost		Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
	O5Z	3	13 - 15	34	50			24	60	50	50

Low Temperature Defrost Schedule

No. Per Day Hours 1 10 pm

1 10 pm 2 6 am - 10 pm**

** Or immediately after store closing hour

All measurements are taken per ARI 1200 - 2002 specifications.

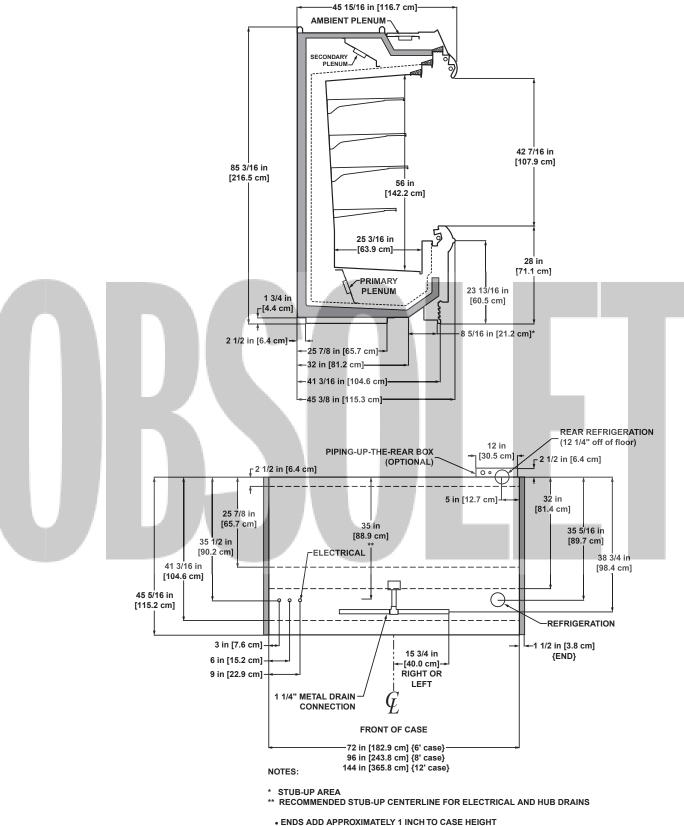






MULTI-DECK

Frozen Food



- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINE 1 1/8", LIQUID LINE 5/8"
- AVAILABLE SHELF SIZES: 18" & 22"
- (RECOMMENDED CONFIGURATION IS 3 22" SHELVES ON TOP AND 1 - 18" SHELF ON THE BOTTOM)





5/06

Electrical Data

Fans per			Standar	d Fans	•	fficiency ans		ndensate ters¹		Defrost	Heaters	
		120 Volts		120 Volts		120	Volts	208	Volts	240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONHM	4'	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs per	Bulb	Typical per Light RowMaximum Lighting120 Volts120 Volts				
Model		Row	Length	Amps	Watts	Amps	Watts	
ONHM	4'	1	4'	0.23	28	1.63	196	
	6'	2	3'	0.37	44	2.57	308	
	8'	2	4'	0.47	56	3.27	392	
	12'	3	4'	0.70	84	4.90	588	

Guidelines & Control Settings

1	Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity₄ (FPM)
	ONHM	Standard	1440 ³	Enh.	22	6-8	30	41	340
ų		All Others	1340 ³	Enh.	22	6-8	30	41	340

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

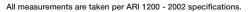
Defrost Controls

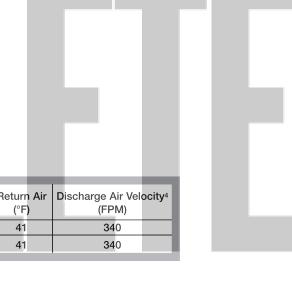
				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
l	ONHM	4	6 - 8	35	47	45	47	26	45	45	45

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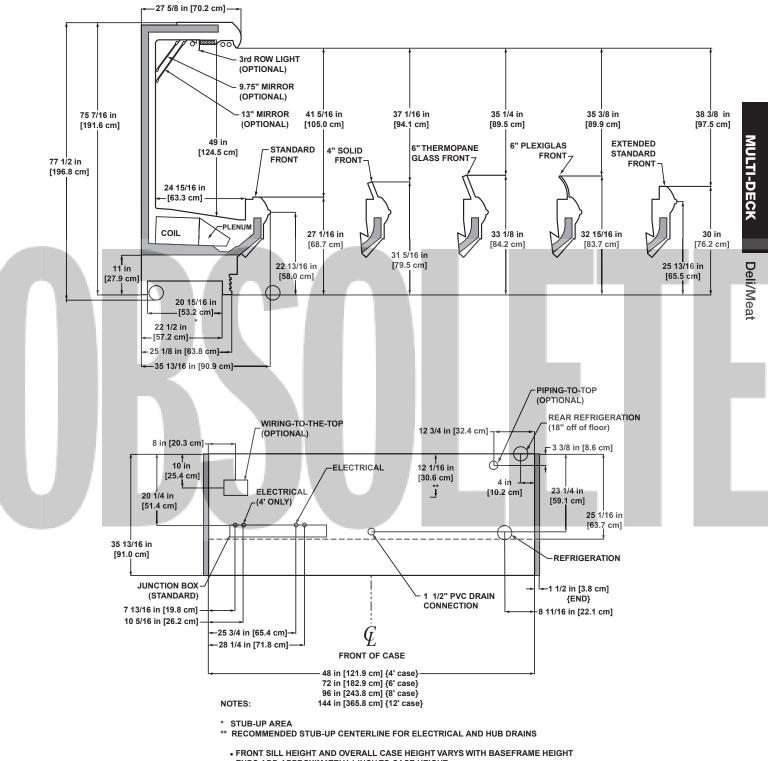
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm









• 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"



Electrical Data

	Fans per		Standar	d Fans	•	fficiency ans		ndensate ters¹		Defrost	Heaters	
			120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONHMH	4'	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs per	Bulb		al per Row Volts	Ligh	mum iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
ONHMH	4'	1	4'	0.23	28	1.87	224
	6'	2	3'	0.37	44	2.93	352
	8'	2	4'	0.47	56	3.73	448
	12'	3	4'	0.70	84	5.60	672

Guidelines & Control Settings

	Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity₄ (FPM)
	ONHMH	Standard	1440 ³	Enh.	22	6-8	30	41	340
l		All Others	13 40 ³	Enh.	22	6-8	29	40	340

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

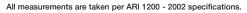
				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
l			Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
I	ONHMH	4	6 - 8	35	47	45	47	26	45	45	45

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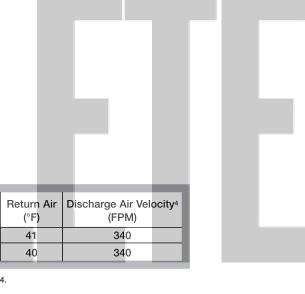
Medium Temperature Defrost Schedule

	No.	Per	Day	Hours
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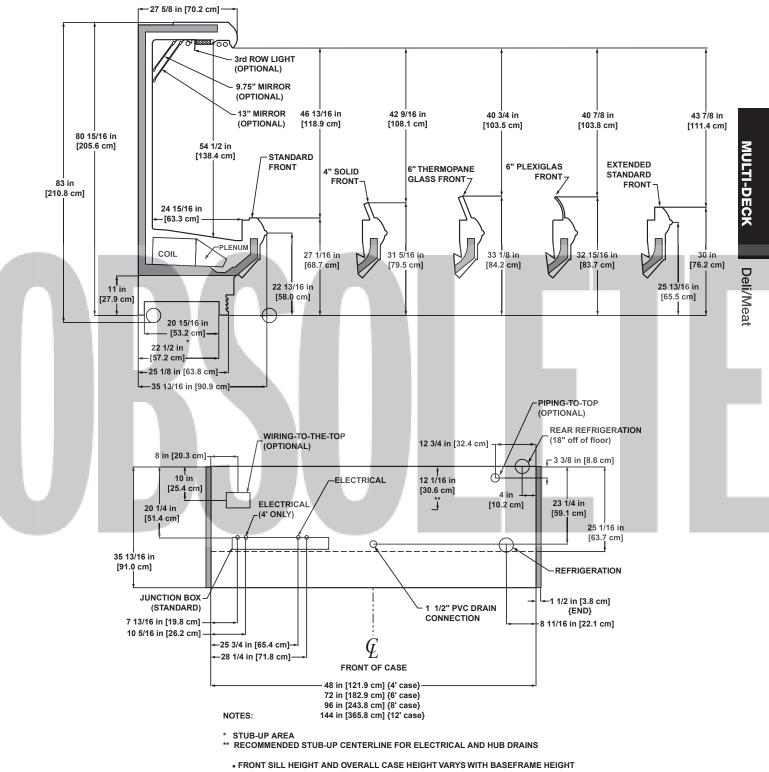
- 12 midnight 1 2 12 am - 12 pm
- 6 am 2 pm 10 pm 12 6 am 12 6 pm 3 4











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"



Multi-Deck Deli/Meat Merchandiser

OHM - 6', 8' & 12'

Electrical Data

			Standar	rd Fans	•	fficiency ans	Anti-Con Hea			Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120 \	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHM	6'	2	1.00	60	0.39	23.4	1		2.88	600	3.33	798
	8'	3	1.50	90	0.59	35.1			3.85	800	4.44	1065
	12'	4	2.00	120	0.78	46.8			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs			al per Row	Maxi Ligh	mum nting
Model		per Row	Bulb Length	120 ' Amps	Volts Watts	120 Amps	Volts Watts
OHM	6'	2	3'	0.37	44	2.57	308
	8'	2	4'	0.47	56	3.27	392
	12'	3	4'	0.70	84	4.90	588

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ОНМ	Standard	1385 ³	Enh.	22	6-8	28	38	350
	All Others	1341 ³	Enh.	22	6-8	28	37	350

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	ОНМ	4	6 - 8	35	47	45	47	26	45	45	45

Medium Temperature Defrost Schedule

Per Day	Hours
1	12 midnight
2	12 am - 12 pm
2	6 am - 2 nm - 10 nm

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm

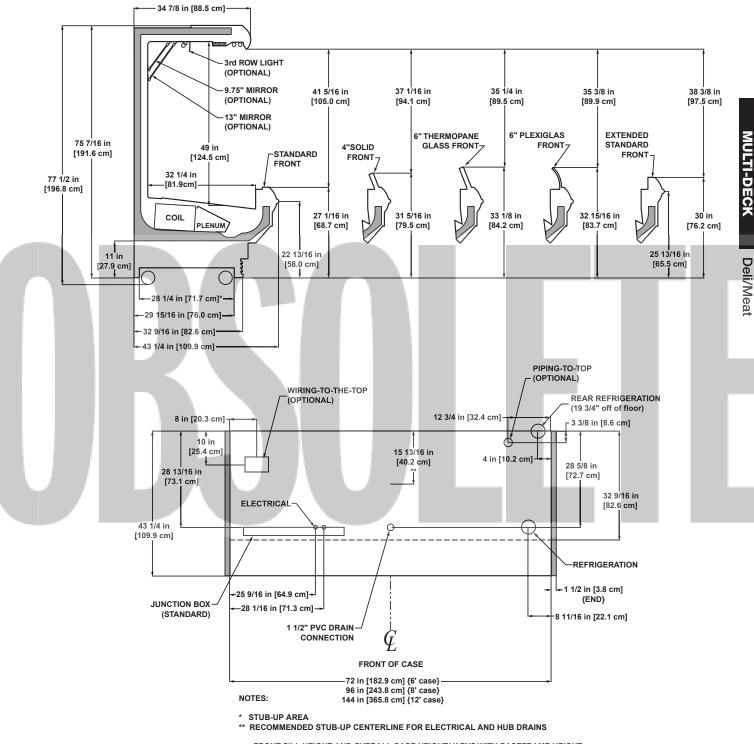
All measurements are taken per ARI 1200 - 2002 specifications.



No.



OHM (11" BASEFRAME)



• FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS 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 (6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"

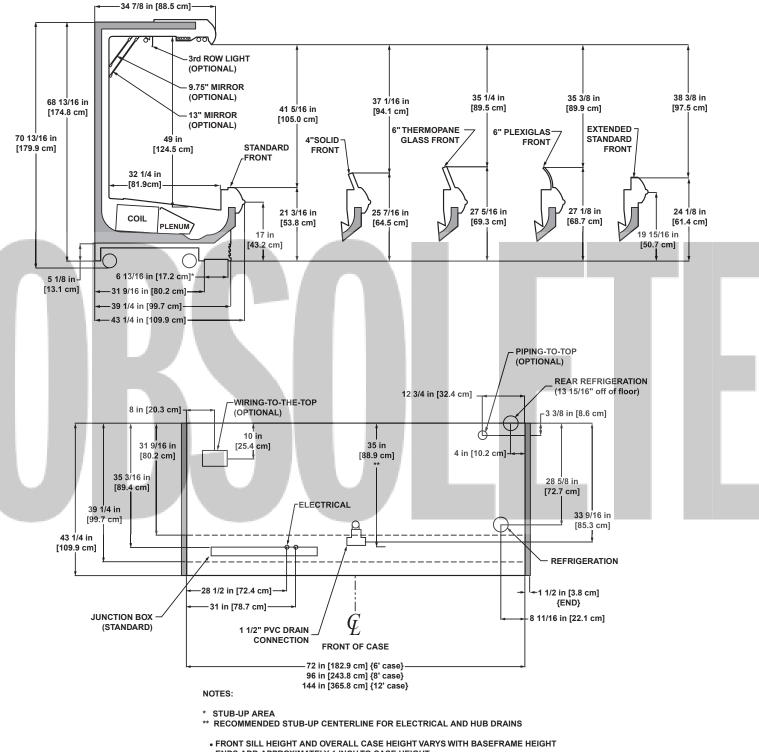
• AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"



5/06

HIII PHOENIX

OHM (5" BASEFRAME)



• 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 (6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8" • AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20





OHMH- 6', 8' & 12'

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Con Hea		Defrost Heaters			
		Fans per	120 Volts		120	Volts	120 Volts		208	Volts	240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHMH	6'	3	1.50	90	0.70	42	1		2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs		Light	al per Row	Maximum Lighting		
	per	Bulb	120	Volts	120 Volts			
Model		Row	Length	Amps	Watt s	Amps	Watts	
OHMH	6'	2	3'	0.37	44	2.93	352	
	8'	2	4'	0.47	56	3.73	448	
	12'	3	4'	0.70	84	5.60	672	

Guidelines & Control Settings

Model	Front Sill Heights	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OHMH	Standard	1434 ³	Enh.	22	6-8	29	41	330
	All Others	1340 ³	Enh.	22	6-8	29	3 8	330

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

I				Electri	c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	ОНМН	4	6 - 8	35	47	45	47	26	45	45	45

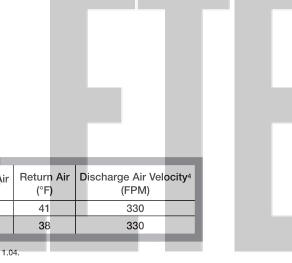
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
2	6 am - 2 pm - 10 pm

 3
 6 am - 2 pm - 10 pm

 4
 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.



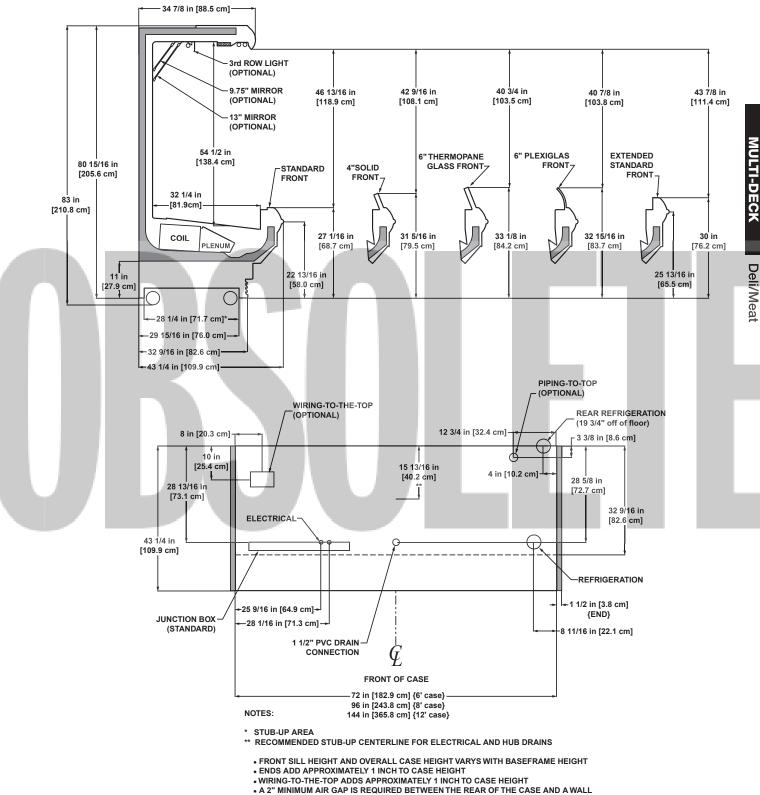




HIII PHOENIX



OHMH (11" BASEFRAME)

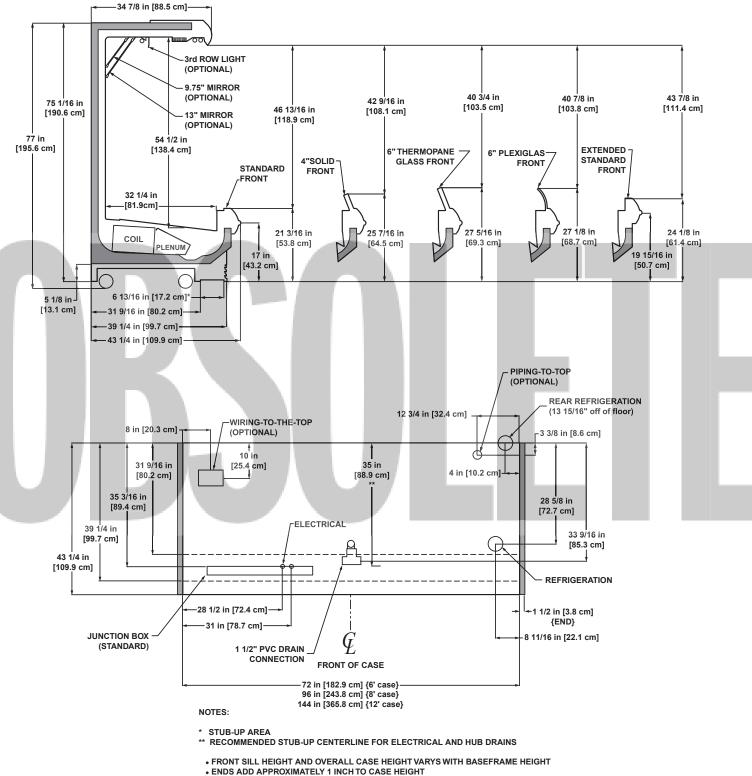


- A 2" MINIMUM AIR GAP IS REQUIRED BEIWEEN THE REAR OF THE CASE AND A WALL
 SUCTION LINE (6') 5/8", SUCTION LINE (8' & 12') 7/8", LIQUID LINE (ALL LENGTHS) 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20"



HIII PHOENIX

OHMH (5" BASEFRAME)



• 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 (6') - 5/8", SUCTION LINE (8' & 12') - 7/8", LIQUID LINE (ALL LENGTHS) - 3/8"
 AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18" & 20





ONHP - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters ¹		Defrost Heaters			
	Fans per		120 Volts		120	Volts	120 Volts		208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONHP	4'	2	1.00	60	0.47	28	¹		1.92	400	2.22	532
	6'	2	1.00	60	0.47	28			2.88	600	3.33	798
	8'	3	1.50	90	0.70	42			3.85	800	4.44	1065
	12'	4	2.00	120	0.93	56			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs		Typical per Maximum Light Row Lighting				
		per	Bulb	120	Volts	120	Volts	
Model		Row	Length	Amps	Watt s	Amps	Watts	
ONHP	4'	1	4'	0.23	28	1.63	196	
	6'	2	3'	0.37	44	2.57	308	
	8'	2	4'	0.47	56	3.27	392	
	12'	3	4'	0.70	84	4.90	588	

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ONHP Cut Produce	1310 ³	Enh.	26	6-8	32	45	350
ONHP Bulk Produce	930 ³	Enh.	29	6-8	36	48	250

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	ONHP	3	6 - 8	35	47	45	47	 ⁵		45	45

(NSF_®/

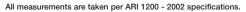
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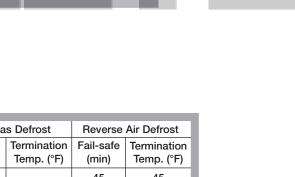
⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm

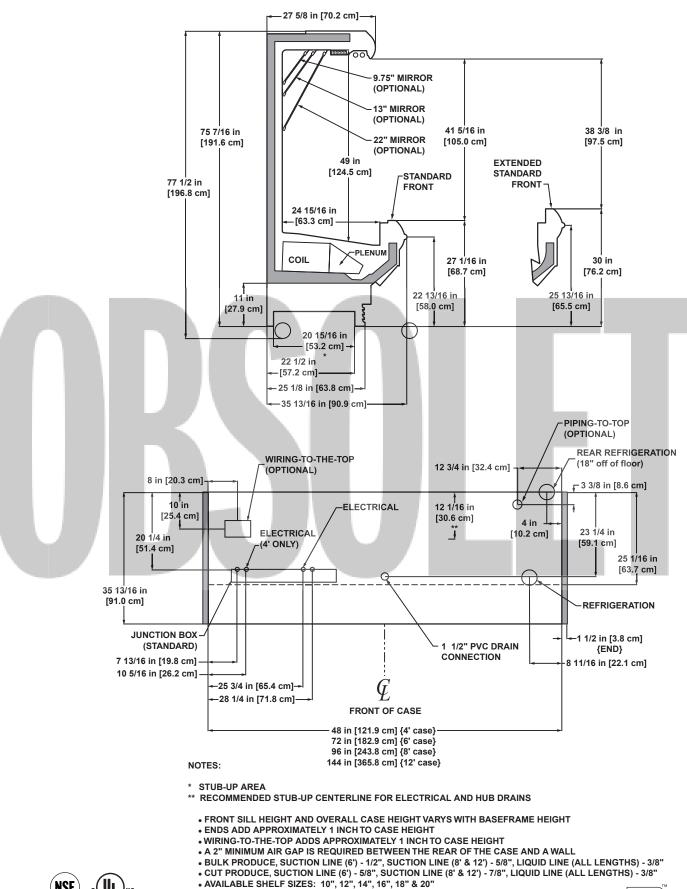




HIII PHOENIX

5/06







Produce

Electrical Data

			Standar	d Fans	•	fficiency ans		ndensate ters¹		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONHPH	4'	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798
	8'	4	2.00	120	0.93	56			3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70			5.77	1200	6.67	1600

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs		Light	al per Row	Ligh	mum iting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
ONHPH	4'	1	4'	0.23	28	1.87	224
	6'	2	3'	0.37	44	2.93	352
	8'	2	4'	0.47	56	3.73	448
	12'	3	4'	0.70	84	5.60	672

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ONHPH Cut Produce	1330 ³	Enh.	26	6-8	34	46	330
ONHPH Bulk Produce	945 ³	Enh.	29	6-8	37	47	230

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

Г				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
		Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
	Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
	ONHPH	3	6 - 8	35	47	45	47	 ⁵		45	45

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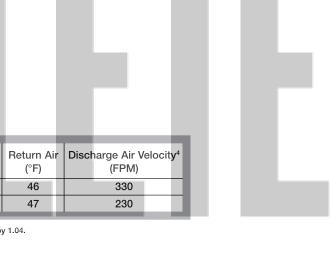
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⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.

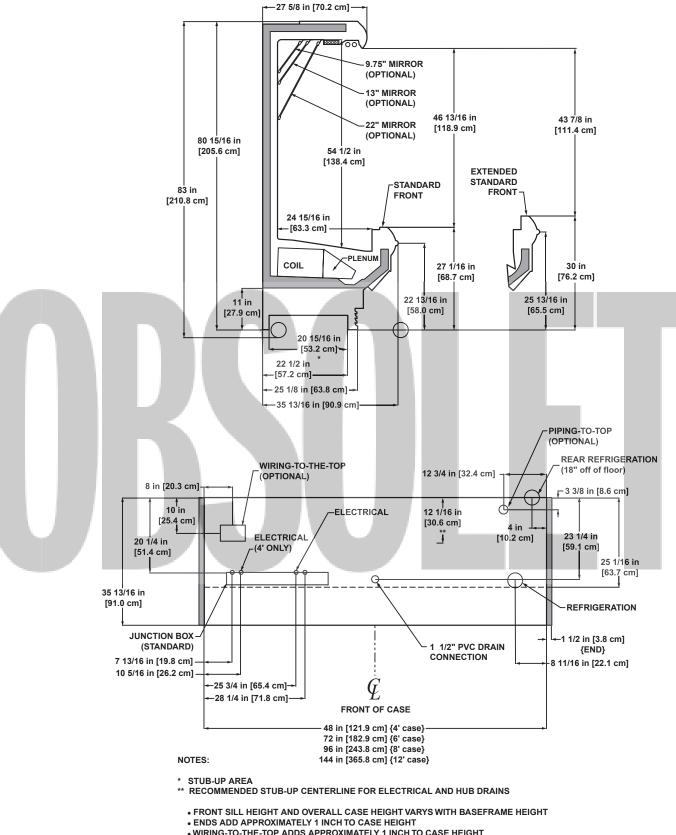






MULTI-DECH

Produce



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

- A 2 MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL BULK PRODUCE, SUCTION LINE (6') 1/2", SUCTION LINE (8' & 12') 5/8", LIQUID LINE (ALL LENGTHS) 3/8" CUT PRODUCE, 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" & 20"



Multi-Deck Produce Merchandiser

OHP - 6', 8' & 12'

Electrical Data

			Standar	d Fans	0	fficiency ans	Anti-Con Hea			Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120 \	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHP	6'	2	1.00	60	0.47	28	0.40 ¹	48	2.88	600	3.33	798
	8'	3	1.50	90	0.70	42	0.58 ¹	70	3.85	800	4.44	1065
	12'	4	2.00	120	0.93	56	0.83 ¹	100	5.77	1200	6.67	1600

¹ Anti-condensate heater data for reduced (cut produce) temperature option only.

Lighting Data

		Bulbs			al per Row		mum iting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OHP	6'	2	3'	0.37	44	2.57	308
	8'	2	4'	0.47	56	3.27	392
	12'	3	4'	0.70	84	4.90	588

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OHP Cut Produce	1215 ³	Enh.	26	6-8	31	45	350
OHP Bulk Produce	855 ³	Enh.	29	6-8	36	48	250

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OHP	3	6 - 8	35	47	45	47	26	45	30	45

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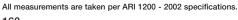
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Medium Temperature Defrost Schedule

No.	Per	Day	Ho

Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

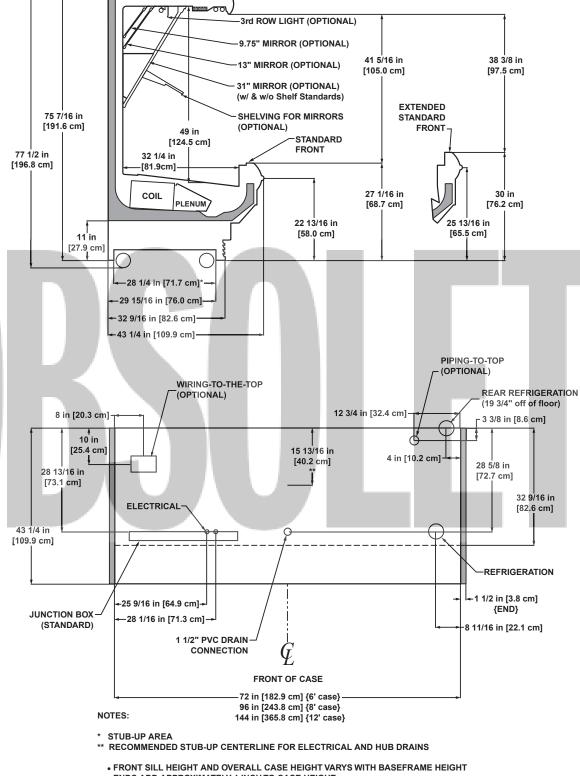
3 4 12 - 6 am - 12 - 6 pm







Hill PHOENIX



OHP

34 7/8 in [88.5 cm]-

- 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
- BULK PRODUCE, SUCTION LINE (6') 1/2", SUCTION LINE (8' & 12') 5/8", LIQUID LINE (ALL LENGTHS) 3/8" • CUT PRODUCE, 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" & 20"



Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHPH	6'	3	1.50	90	0.70	42	0.40 ¹	48	2.88	600	3.33	798
	8'	4	2.00	120	0.93	56	0.58 ¹	70	3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70	0.83 ¹	100	5.77	1200	6.67	1600

¹ Anti-condensate heater data for reduced (cut produce) temperature option only.

Lighting Data

		Bulbs			al per Row		mum nting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OHPH	6'	2	3'	0.37	44	2.93	352
	8'	2	4'	0.47	56	3.73	448
	12'	3	4'	0.70	84	5.60	672

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OHPH Cut Produce	1460 ³	Enh.	26	6-8	30	45	330
	1215 ³	Enh.	29	6-8	31	45	230

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	OHPH	3	6 - 8	35	47	45	47	26	45	50	45

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c(UL)us

Medium Temperature Defrost Schedule

No. Per Day	Hours	

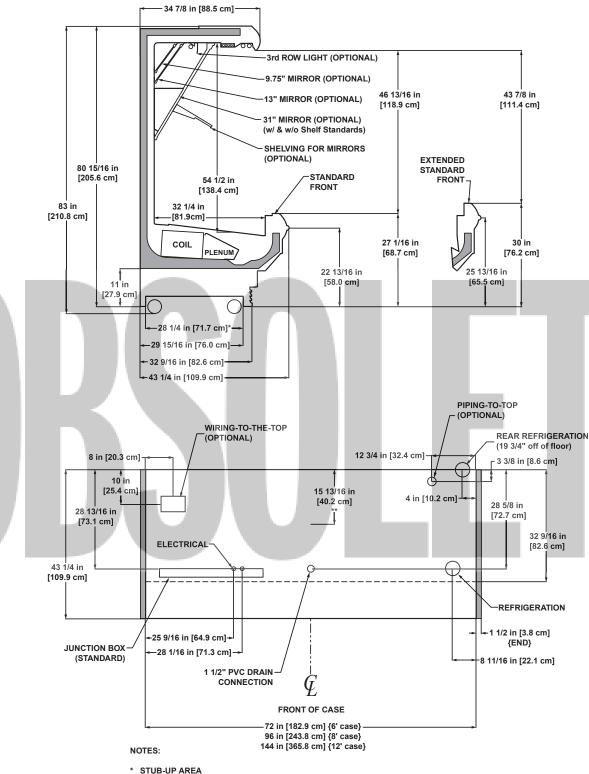
1	12 midnight
•	10 10

2 3

12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 4







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

FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS 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

• BULK PRODUCE, SUCTION LINE (6') - 1/2", SUCTION LINE (8' & 12') - 5/8", LIQUID LINE (ALL LENGTHS) - 3/8"

• CUT PRODUCE, 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" & 20"



MULTI-DECI

Produce

Electrical Data

			Standard Fans		•	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
OWHP	8'	3	1.50	90	0.70	42	0.58 ¹	70	3.85	800	4.44	1065	
	12'	4	2.00	120	0.93	56	0.83 ¹	100	5.77	1200	6.67	1600	

¹ Anti-condensate heater data for reduced (cut produce) temperature option only.

Lighting Data

		Bulbs			al per Row		mum nting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OWHP	8'	2	4'	0.47	56	3.27	392
	12'	3	4'	0.70	84	4.90	588

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OWHP Cut Produce	159 2 ³	Enh.	26	6-8	31	45	350
OWHP Bulk Produce	1120 ³	Enh.	29	6-8	36	48	250

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

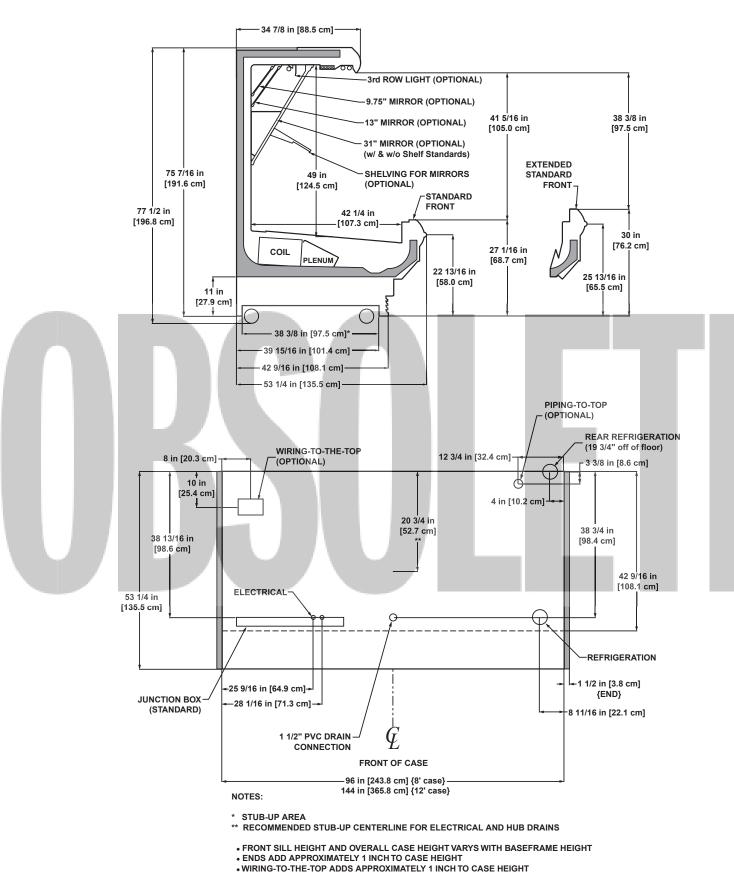
Г				Electri	c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	OWHP	3	6 - 8	35	47	45	47	26	45	50	45

(NSF) c(UL)us

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm





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

BULK PRODUCE, SUCTION LINE - 5/8", LIQUID LINE - 3/8"
 CUT PRODUCE, SUCTION LINE - 7/8", LIQUID LINE - 3/8"

• AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20" & 22"

Produce

Electrical Data

			Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWHPH	8'	4	2.00	120	0.93	56	0.58 ¹	70	3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70	0.83 ¹	100	5.77	1200	6.67	1600

¹ Anti-condensate heater data for reduced (cut produce) temperature option only.

Lighting Data

		Bulbs		Typic Light	al per Row		mum nting
Model		per Row	Bulb Length	120 ' Amps	Volts Watts	120 Amps	Volts Watts
OWHPH	8'	2	4'	0.47	56	3.73	448
	12'	3	4'	0.70	84	5.60	672

Guidelines & Control Settings

Model	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
OWHPH Cut Produce	191 3 ³	Enh.	26	6-8	30	45	330
OWHPH Bulk Produce	1592 ³	Enh.	29	6-8	31	45	230

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

				c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Mode	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
OWHP	4 3	6 - 8	35	47	45	47	26	45	50	45

(NSF_®

c(UL)us

Medium Temperature Defrost Schedule

No. Per Day	Hours
-	10 maintaintat

1	12 mianight
2	12 am - 12 nm

2 12 am - 12 pm 3 6 am - 2 pm - 10 pm

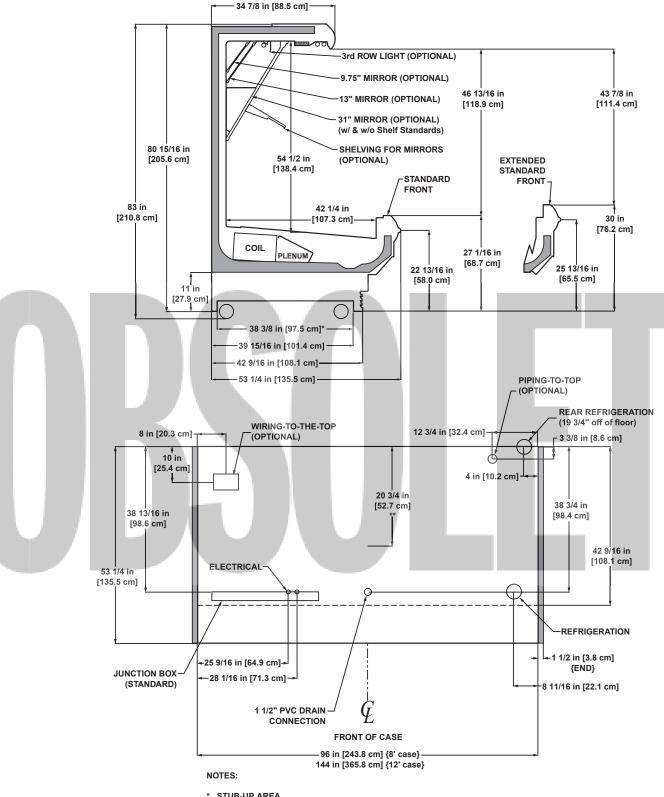
4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.









- STUB-UP AREA
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS 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
- BULK PRODUCE, SUCTION LINE 5/8", LIQUID LINE 3/8"
- CUT PRODUCE, SUCTION LINE 7/8", LIQUID LINE 3/8"
- AVAILABLE SHELF SIZES: 10", 12", 14", 16", 18", 20" & 22"



5/06

ONN - 47"

Electrical Data

			Standa	rd Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONN	47"	3	1.02	51	0.45	33	1		1.92	400	2.22	532

¹ NOTE: - - - not an option on this case model.

Lighting Data

ł			Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum iting Volts
	Model		Row	Length	Amps	Watts	Amp s	Watts
	ONN	47"	1	3'	0.19	23	0.19	23
				_				
			. /					

Guidelines & Control Settings

l	Model	BTUH/cs ²		Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
l	ONN	4220	Enh.	22	6-8	31	43	275

² BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.
³ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONN	4-6	35	47	40	47	25	45		

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pn

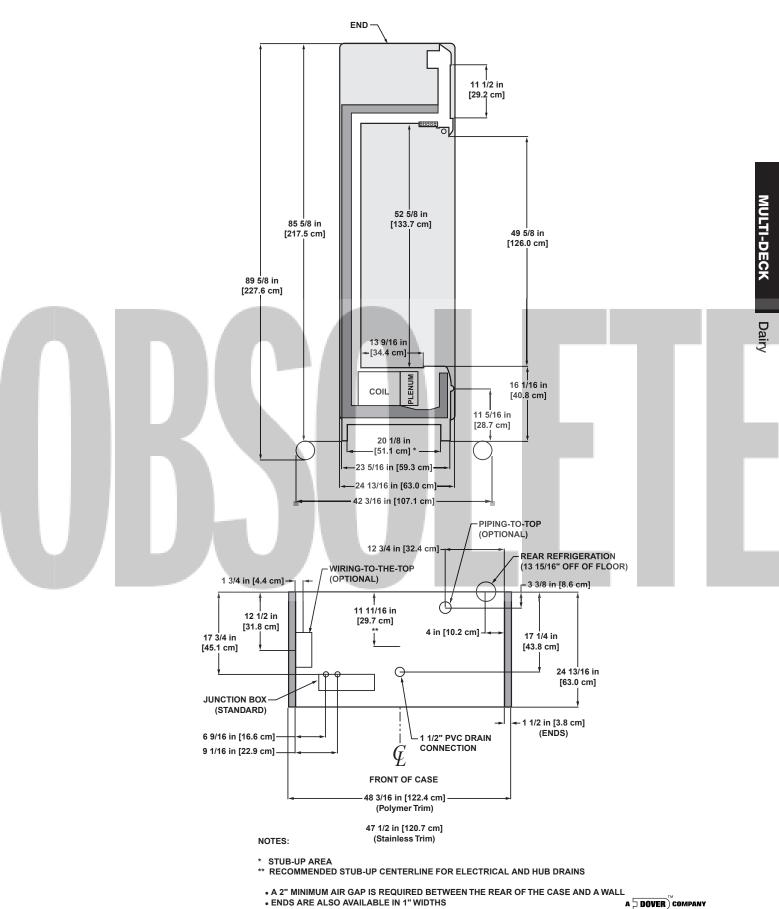
3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm



HIII PHOENIX



ONN



ENDS ARE ALSO AVAILABLE IN 1" WIDTHS
 SUCTION LINE 7/8", LIQUID LINE - 3/8", LIQUID LINE PIPED-TO-TOP - 5/8"

AVAILABLE SHELF SIZES: 12"

ONNA

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
ONNA	47"	120	1	60	2 wire + ground	23.63	45

Electrical Data

l				Standa	rd Fans		lenser an		rain Imp	Evap Hea		Maxi Lig	
I	Fans per 120 Volts		120	Volts 120 V		Volts	lts 120 Volts		120 Volts				
I	Model Case		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
J	ONNA	47"	3	1.02	51	0.85	88	0.9	54	8.34	1000	0.57	68

Guidelines & Control Settings

	0,	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
ONNA-47"	37.2	19.9	6-8	35	43	275

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

										i.
ų	Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.	L
ł	ONNA-47"	120	1	60	1/2	12.9	66.3	R134A	2	

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

I		_	Electric Defrost		Timed Off Defrost		Hot Ga	as Defrost	Reverse Air Defrost	
	Model Defrosts Per Day		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	ONNA	4			40	47				

Medium Temperature Defrost Schedule

No. Per Day	Hours	

1 12 midnight 2 12 am - 12 pm

2	12 ani - 12 pin
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm

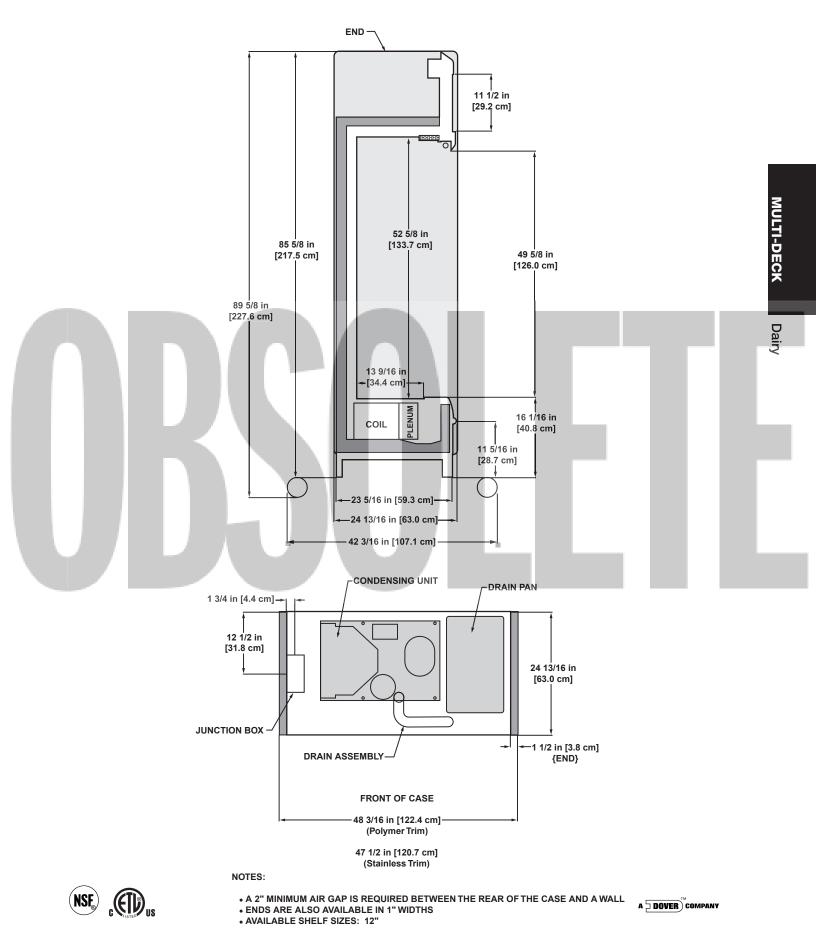
All measurements are taken per ARI 1200 - 2002 specifications.



A DOVER) CO	MPANY







Narrow Multi-Deck Produce/Dairy/Deli/Meat Merchandiser

ONU- 4'/47" & 6'

Electrical Data

			Standa	rd Fans	High Efficiency Fans		Anti-Cor Hea		Defrost Heaters			
		Fans per	120	Volts	120	Volts	120 \	Volts	208	Volts	240	√olts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONU	4'/47"	2	1.00	60	0.47	28	1		1.92	400	2.22	532
	6'	3	1.50	90	0.70	42			2.88	600	3.33	798

¹ NOTE: - - - not an option on this case model.

Lighting Data

ſ			Bulbs			al per : Row		mum nting	
			per	Bulb	120	Volts	120	Volts	
	Model		Row	Length	Amps	Watts	Amps	Watts	
	ONU	4'/47"	1	4'	0.23	28	1.87	2 24	
		6'	2	3'	0.37	44	2.93	3 52	

Guidelines & Control Settings

l	Model ²	BTUH/ft ³		Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁵ (FPM)
	ONU	1450 ⁴	17	6-8	30	40	310

² Model ONU only available for meat application with the 7 1/2"extended front w/ nose lights and no shelf lights.

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

ľ				Electri	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	ONU	4	6 - 8	35	47	45 ⁶	47 ⁶	25	45		

⁶ Timed Off Defrost not recommended for Fresh Meat application.

Medium Temperature Defrost Schedule

|--|

- 1 12 midnight
- 2 12 am 12 pm
- 3
 6 am 2 pm 10 pm

 4
 12 6 am 12 6 pm







	TM
۸þ	DOVER COMPANY



- AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"
- SUCTION LINE 7/8", LIQUID LINE 3/8", LIQUID LINE PIPED-TO-TOP 5/8"

- FRONT SILL HEIGHT AND OVERALL CASE HEIGHT VARYS WITH BASEFRAME HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

(Stainless Trim)

ONU

48 3/8 in

[122.9 cm]

THROAT

18 11/16 in

[47.5 cm]

WIRING-TO-THE-TOP

(OPTIONAL)

ELECTRICAL

(4' ONLY)

-24 13/16 in [63.0 cm]-26 13/16 in [68.1 cm] **5" EXTENDED FRONT** W/ NOSE LIGHT

43 3/8 in [110.2 cm] THROAT

19 1/2 in

[49.6 cm]

2 1/2" EXTENDED FRONT

W/ NOSE LIGHT

2

12 3/4 in [32.4 cm]

27 9/16 in

[70.1 cm]

-1 1/2" PVC DRAIN

CONNECTION

ELECTRICAL

Ľ

FRONT OF CASE 48 in [121.9 cm] {4' case} 72 in [182.9 cm] {6' case} 48 3/16 in [122.4 cm]{Gondola Case} (Polymer Trim) 47 1/2 in [120.7 cm]{Gondola Case}

45 7/8 in [116.6 cm] THROAT

17 in

[43.2 cm]

23 11/16 in

[60.2 cm]

21 3/16 in

[53.9 cm]

11 1/2 in [29.2 cm]

STANDARD

DAIRY FRONT

14 1/2 in

[36.9 cm]

3rd ROW LIGHT (OPTIONAL)

33 1/16 in [83.9 cm]

52 in

[132.0 cm]

PLENUM

24 5/8 in

[62.5 cm]

COIL

6 13/16 in [17.3 cm]³

24 3/16 in [61.4 cm] ·31 7/8 in [81.0 cm]· 35 13/16 in [90.9 cm]

8 in [20.3 cm]-

23 5/16 in

[59.2 cm]

JUNCTION BOX

9 1/8 in [23.2 cm]

11 5/8 in [29.6 cm]

(STANDARD)

NOTES:

* STUB-UP AREA

24 3/16 in

[61.4 cm]

35 13/16 in

[91.0 cm]

10¹in [25.4 cm]

88 9/16 in

[224.9 cm]

86 1/2 in

[219.8 cm]

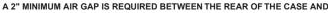
5 1/8 in

[13.1 cm]

- WIRING-TO-THE-TOP ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT

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

- WIRING-TO-THE-TOP ADDS APPROXIMATELT I INTER TO CASE INTO A VAL A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WAL DOVER



Hill PHOENIX

26 3/16 in

[66.6 cm]

23 11/16 in

[60.2 cm]

7 1/2" EXTENDED FRONT

W/ NOSE LIGHT

40 7/8 in [103.8 cm] THROAT

22 in

[55.9 cm]

43 3/8 in [110.2 cm] THROAT

19 1/2 in

[49.6 cm]

REAR REFRIGERATION . (12 1/4" off of floor)

26 7/8 in

[68.2 cm]

31 7/8 in

[81.0 cm]

5" EXTENDED FRONT

PIPING-TO-TOP (OPTIONAL)

Ц

4 in

[10.2 cm]

圮

_ 3 3/8 in [8.6 cm]

23 1/4 in

[59.1 cm]

-REFRIGERATION

←1 1/2 in [3.8 cm]

{END}

8 11/16 in [22.1 cm]

Narrow Multi-Deck Self-Contained Produce/Dairy/Deli/Meat Merchandiser

ONUA - 4'/47" & 6'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
ONUA	4'/47"	208	1	60	3 wire + ground	16.220	30
	6'	208	1	60	3 wire + ground	22.000	40

Electrical Data

			Standa	rd Fans		denser an		rain Imp	Evap Hea		Maxi Lig	mum hts
		Fans per	120	Volts	208	Volts	120	Volts	208 \	Volts	120	/olts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONUA	4'/47"	2	1.00	60	2.60	130	0.90	108	7.21	1500	1.87	224
	6'	3	1.50	90	1.10	114	0.90	108	7.21	1500	2.93	352

Guidelines & Control Settings

Model1	24 hr Energy Usage (kWh)		Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
ONUA-4'/47"	43.9	33	6-8	27.5	39	310
ONUA-6'	59.3	33	6-8	27.5	39	310

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.

Condensing Unit Data

	Model	Volts	Phase	Frequency (Hz)	нр	RLA ³ (amps)	LRA⁴ (amps)	Refrig.	lbs of Refrig.	h
ų	ONUA-4'/47"	208	1	60	1	7.0	34.2	R22	5.9	
	ONUA-6'	208	1	60	1 1/2	10.4	48.2	R22	6.75	

³ RLA - Running Load Amps.

⁴ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONUA	4	5		40	45				

⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm 4

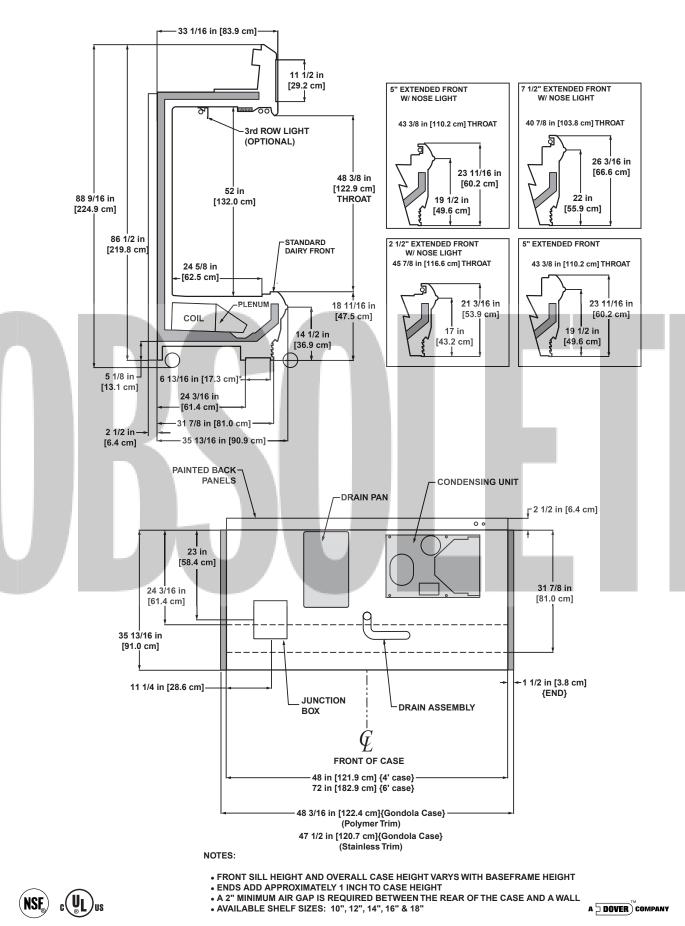
12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.









MULTI-DECK



Electrical Data

		Fans	sper	Upj Standar		Lov Standar		Upper Efficien	r High cy Fans	Lower Efficien	r High cy Fans	Anti-Con Hea	
		Case		120 Volts 120 Volts		Volts	120 Volts		120 Volts		120 Volts		
Model	-	Upper	Lower	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ORDR	8'	3	4	1.50	90	1.80	68	0.90	60	0.60	44	0.58	70
	12'	4	6	2.00	120	2.70	102	1.20	80	0.90	66	0.83	100

Electrical Data (Continued)

			Defrost	Heaters		
		208	Volts	240 '	Volts	
Model		Amps	Amps Watts		Watts	
ORDR	8'	3.85	800	4.44	1066	
	12'	5.77	1200	6.67	1600	e.

Lighting Data

		Bulbs			al per Row		mum Iting
Model		per Row	Bulb Length		Volts		Volts
Model		now	Lengui	Amps	Watts	Amps	Watts
ORDR	8'	2	4'	0.47	56	4.17	500
	12'	3	4'	0.70	84	6.33	760

Guidelines & Control Settings

	Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ² (FPM)
н	ORDR ³	739	17	6-8	28	44	310

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

³ 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^oF.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Dav	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ORDR	4	6 - 8	30	47	30	47	26	45	4	
0.1211		•••								

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours	

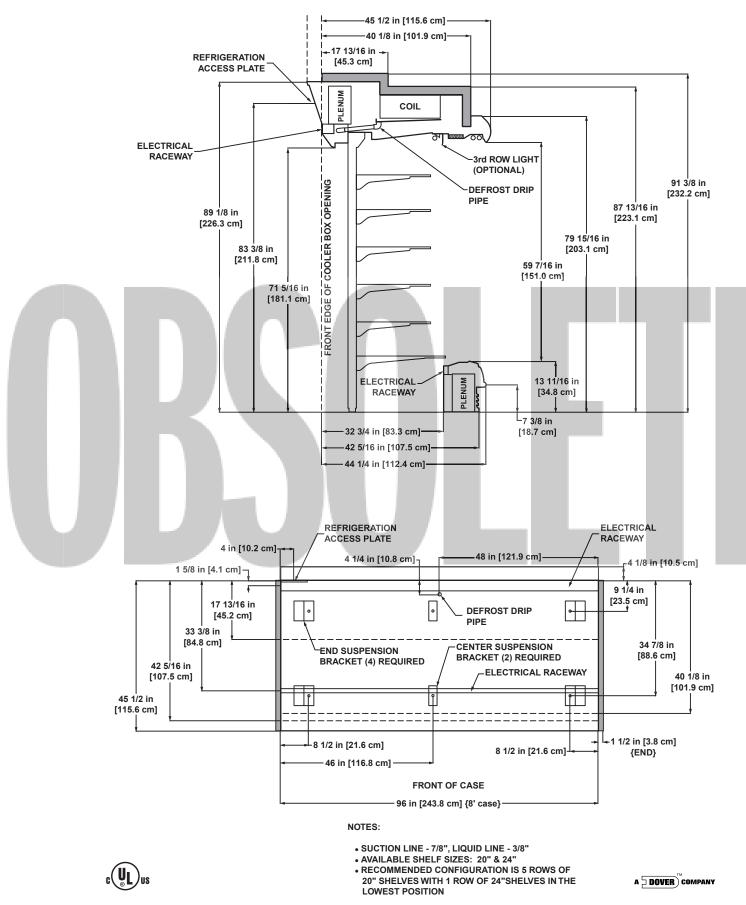
- 12 midnight 1 2
- 12 am 12 pm 6 am 2 pm 10 pm 12 6 am 12 6 pm 3
- 4

All measurements are taken per ARI 1200 - 2002 specifications.





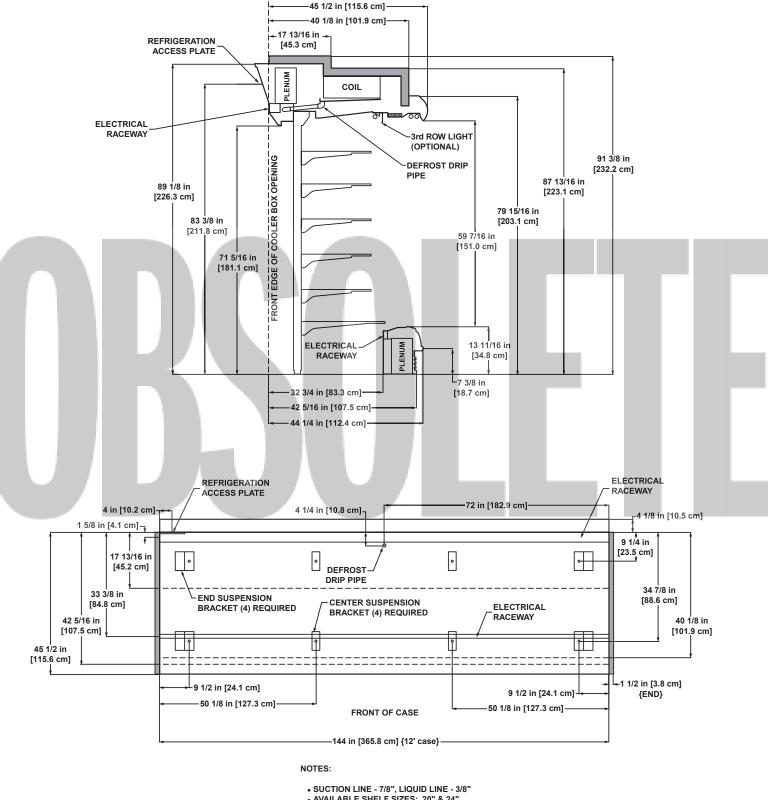




Dairy

5/06



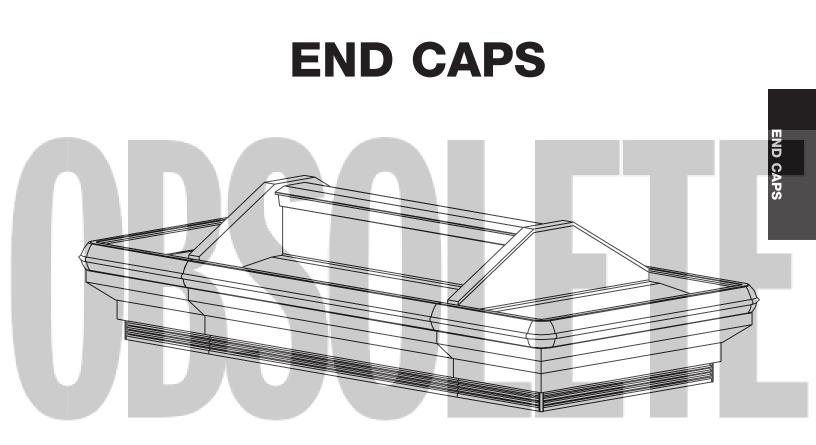


• AVAILABLE SHELF SIZES: 20" & 24"

• RECOMMENDED CONFIGURATION IS 5 ROWS OF

20" SHELVES WITH 1 ROW OF 24"SHELVES IN THE LOWEST POSITION





Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

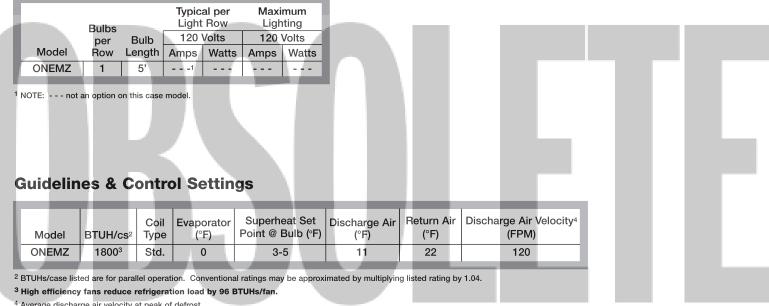
* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Narrow Single-Deck Frozen Meat End Cap Merchandiser **ONEMZ**

Electrical Data

		Standard Fans		0	High Efficiency Fans 120 Volts		Anti-Condensate Heaters 120 Volts		Defrost Heaters				
	Fans per	120 \	120 Volts						208 Volts		Volts		
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		
ONEMZ	2	1.00	60	0.23	14	0.35	42	2.88	600	3.33	798		

Lighting Data



⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONEMZ	2	13-15	45	47			20	60		

c(UL)

Medium Temperature Defrost Schedule

No. Per Day	Hours

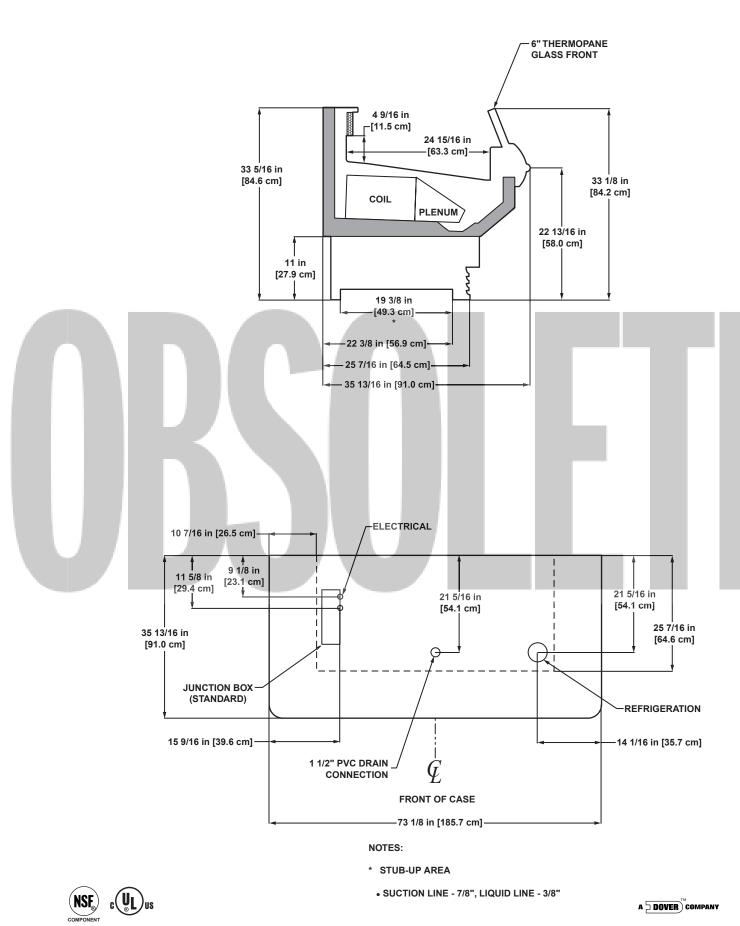
1	12 midnight
2	12 am - 12 pm
•	0 0

6 am - 2 pm - 10 pm 3 4 12 - 6 am - 12 - 6 pm



Hill PHOENIX





5/06

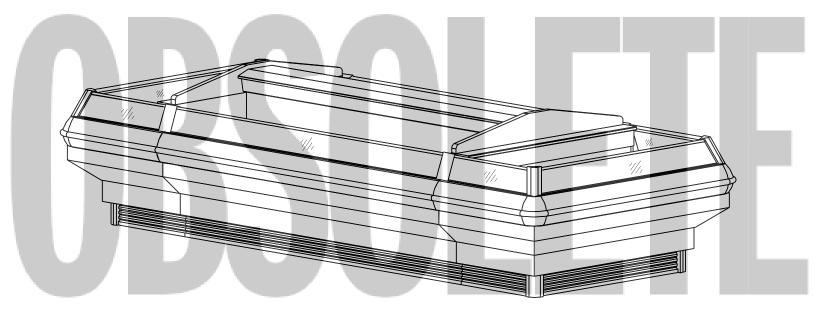
END CAPS

HIII PHOENIX

ONEMZ

3D Model

The ONEMZs shown below are unitized with two ONMZ-8'cases with standard rear sills, and thermopane glass fronts.

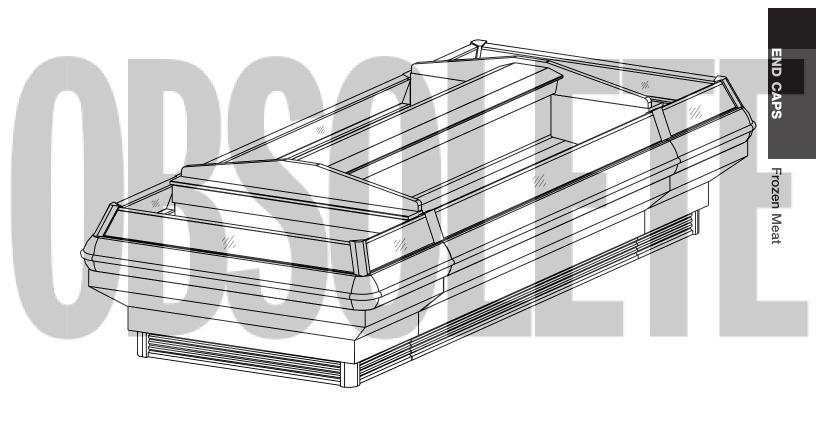






ONEMZ 3D Model

The ONEMZs shown below are unitized with two ONMZ-8'cases with standard rear sills, and thermopane glass fronts.





Electrical Data

		Standard Fans		0	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters				
	Fans per	120 Volts		120 Volts		120 Volts		208	Volts	240 Volts			
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		
OEM	2	1.00	60	0.15	9.2	0.35	42	2.88	600	3.33	798		

Lighting Data

	Bulbs			al per Row	Maximum Lighting		
Model	per Row	Bulb Length	120 Marchart	Volts Watts	120 Amps	Volts Watt s	
OEM	2	3'	1				

¹ NOTE: - - - not an option on this case model.

Guidelines & Control Settings

l	Model	BTUH/cs ²		Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
L	OEM	2918 ³	Enh.	22	6-8	29	37	232

² BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OEM	2	6-8	40	49	70	47	26	45		

Medium Temperature Defrost Schedule

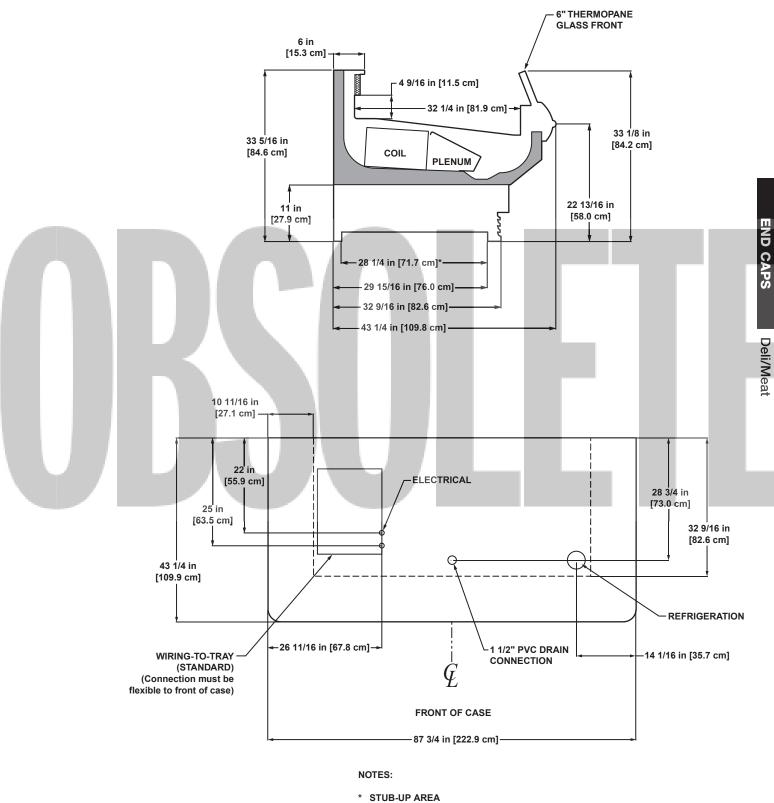
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm











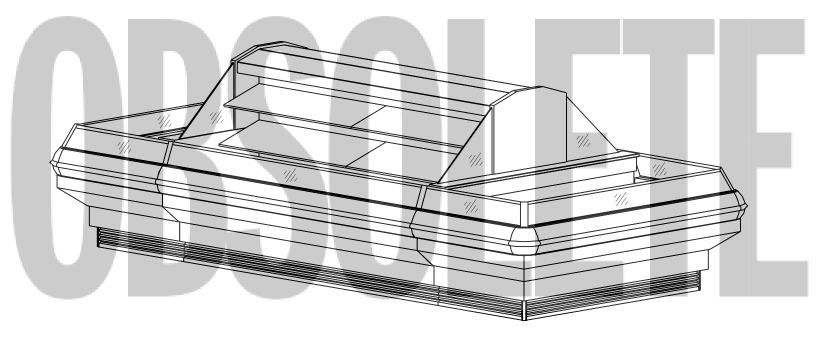
5/06

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



OEM 3D Model

The OEMs shown below are unitized with two O3UM-8'cases with lighted rear sills and thermopane glass fronts.

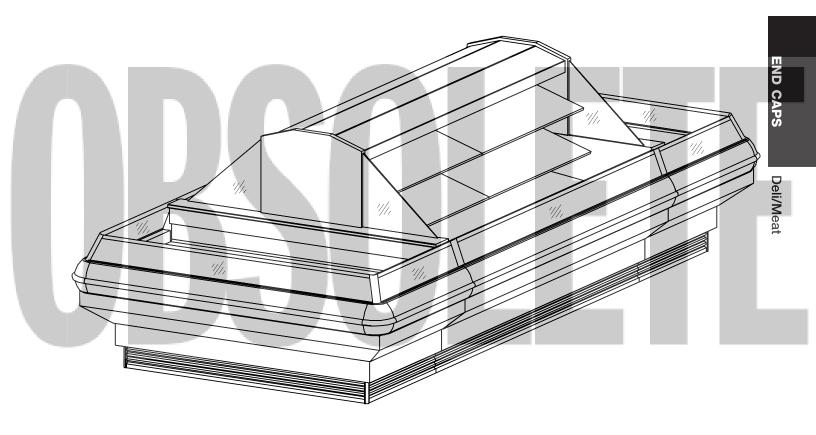






OEM 3D Model

The OEMs shown below are unitized with two O3UM-8'cases with lighted rear sills and thermopane glass fronts.





5/06

Narrow Multi-Deck Deli/Meat End Cap Merchandiser ON3EM

Electrical Data

		Standard Fans		0	High Efficiency Fans 120 Volts		Anti-Condensate Heaters 120 Volts		Defrost Heaters				
	Fans per	120 \	120 Volts						Volts	240 Volts			
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		
ON3EM	2	1.00	60	0.23	14	1.89	227	2.31	480	2.66	640		

Lighting Data

	Bulbs		Typical per Light Row	Maxim Lightir									
	per	Bulb	120 Volts	120 Vo	lts								
Model	Row	Length	Amps Watt	s Amps \	Vatt s								
ON3EM	1	5'	0.28 34	1.13	136							-	
_			_										
		o e e ta											
uidelin	ies &	Contr	ol Settin	ıgs									
uidelin	nes &	Contr	ol Settin					_					P
-	-	Coil	Evaporator	Superhea		Discharge Air	Return Air	Dischar	-	/elocity ³			۲
uidelin _{Model}	BTUH/c	Coil	Evaporator			Discharge Air (°F)	Return Air (°F)		ge Air \ (FPM)	/elocity ³			۲
-	-	S1 Coil	Evaporator	Superhea					-	/elocity ³	ľ		
Model ON3EM	BTUH/c 6000 ²	s ¹ Coil Type Enh.	Evaporator (°F) 22	Superhea Point @ Bu 6-8	ılb (°F)	(°F) 33	(°F) 45		(FPM)	/elocity ³			
Model ON3EM TUHs/case list	BTUH/c 6000 ² ted are for p	S ¹ Coil Type Enh.	Evaporator (°F) 22	Superhea Point @ Bu 6-8 al ratings may b	ılb (°F)	(°F)	(°F) 45		(FPM)	/elocity ³			
Model ON3EM TUHs/case list	BTUH/c 6000 ² ted are for p y fans redu	Coil S ¹ Type Enh. arallel opera	Evaporator (°F) 22 tion. Convention tion load by 96	Superhea Point @ Bu 6-8 al ratings may b	ılb (°F)	(°F) 33	(°F) 45		(FPM)	/elocity ³			

Defrost Controls

				c Defrost	Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ON3EM	4	6 - 8	40	47	45	45	4			

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

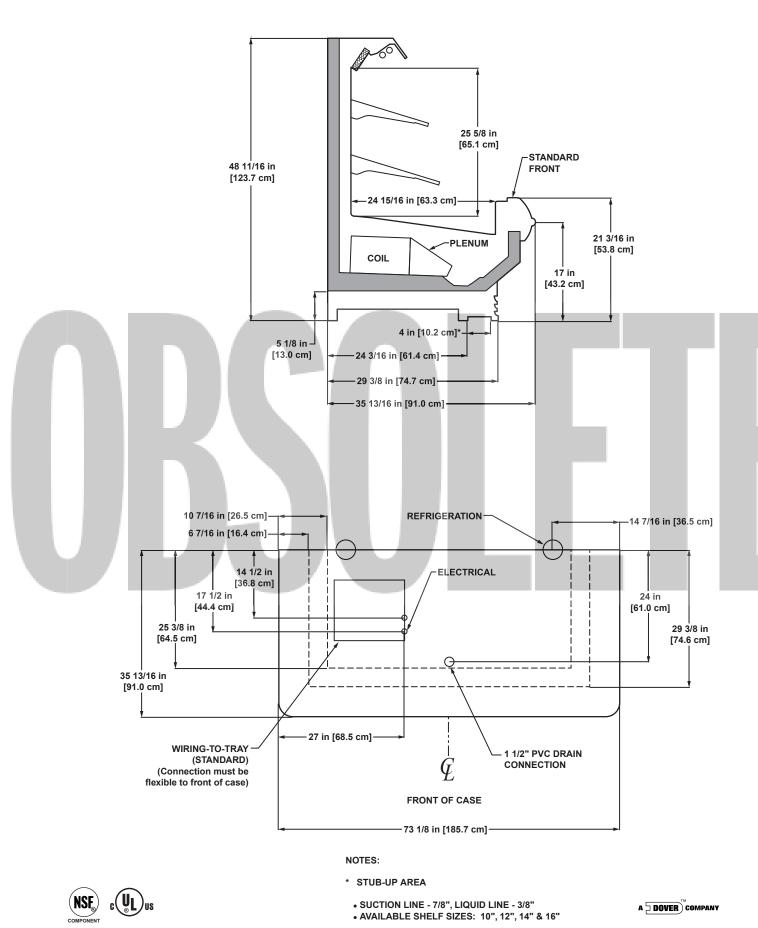
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 nm - 10 nn

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.





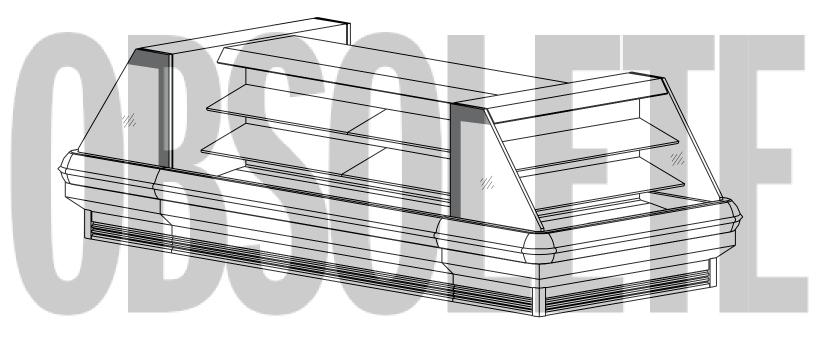


END CAPS



ON3EM 3D Model

The ON3EMs shown below are unitized with two ON3UM-8'cases with lighted rear sills, standard fronts, and 14" & 16" shelves.

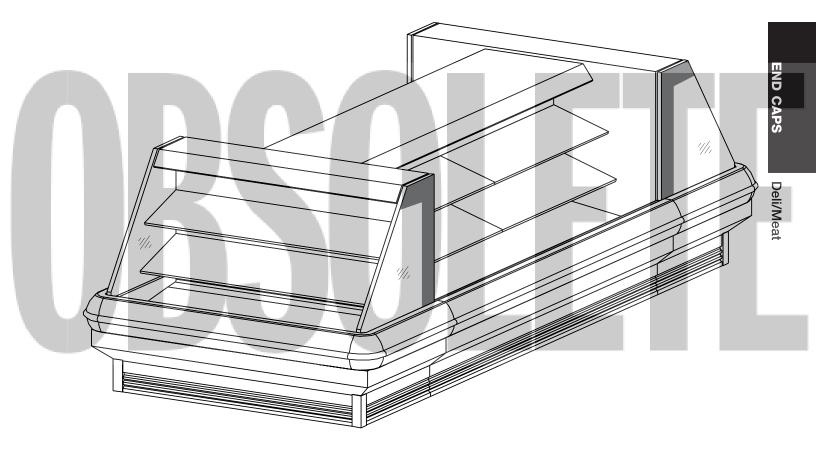






ON3EM 3D Model

The ON3EMs shown below are unitized with two ON3UM-8'cases with lighted rear sills, standard fronts, and 14" & 16" shelves.





Electrical Data

		Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3EM	2	1.00	60	0.23	14	1.89	227	2.31	480	2.66	640

Lighting Data

	Bulbs			al per Row	Maxi Ligh	
Model	per Row	Bulb Length	120 Amps	Volts Watts	120 Amps	Volts Watt s
O3EM	2	3'	0.37	44	1.47	176

Guidelines & Control Settings

l	Model	BTUH/cs ¹	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
l	O3EM	6900 ²	Enh.	22	6-8	33	45	275

¹ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

I				Electri	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	O3EM	4	6 - 8	40	47	45	45	4			

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm

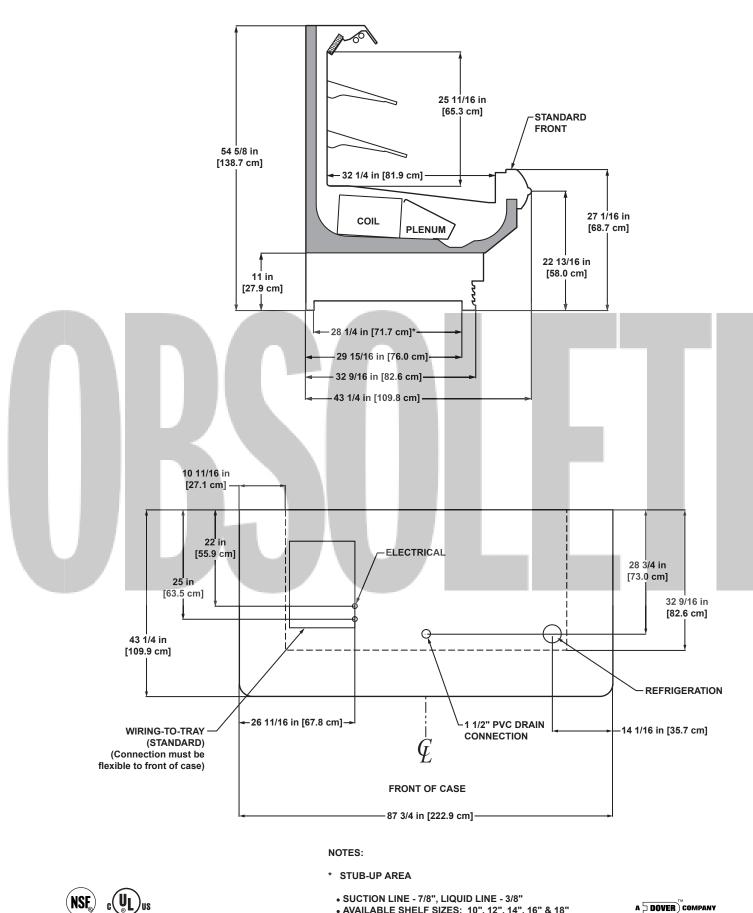
All measurements are taken per ARI 1200 - 2002 specifications.





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• AVAILABLE SHELF SIZES: 10", 12", 14", 16" & 18"

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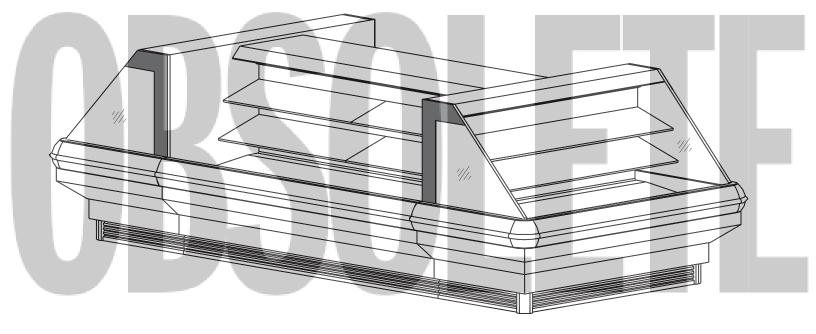
CAPS Deli/Meat

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O3EM 3D Model

The O3EMs shown below are unitized with two O3UM-8'cases with lighted rear sills, standard fronts, and 14" & 16" shelves.

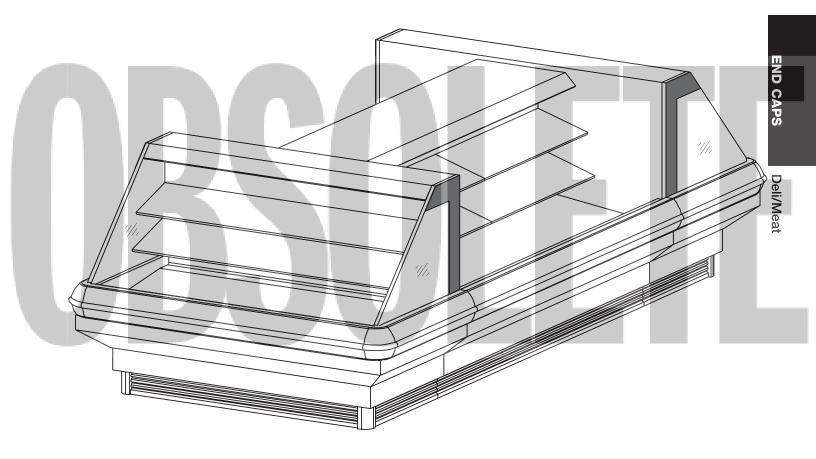






O3EM 3D Model

The O3EMs shown below are unitized with two O3UM-8'cases with lighted rear sills, standard fronts, and 14" & 16" shelves.





Electrical Data

		Standar	Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per	120 \	120 Volts		120 Volts		120 Volts		208 Volts		Volts	
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
ON3.5EM	2	1.00	60	0.23	14	1.89	227	2.31	480	2.66	640	

Lighting Data

	Bulbs			al per Row	Maximum Lighting		
Model	per Row	Bulb Length	120 Amps	Volts Watts	120 Amps	Volts Watt s	
ON3.5EM	1	5'	0.28	34	1.42	170	

Guidelines & Control Settings

l	Model	BTUH/cs ¹	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
I	ON3.5EM	7100 ²	Enh.	22	6-8	33	45	275

¹ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)								
ON3.5EM	4	6 - 8	40	47	45	45	4					

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

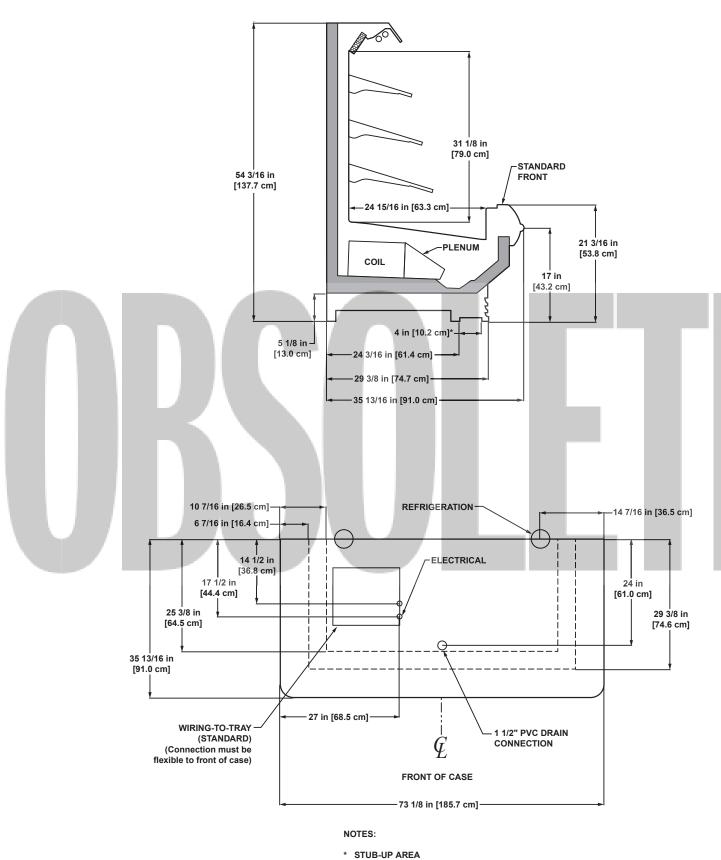
3 4 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm





All measurements are taken per CRMA specifications.







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

• AVAILABLE SHELF SIZES: 10", 12", 14" & 16"

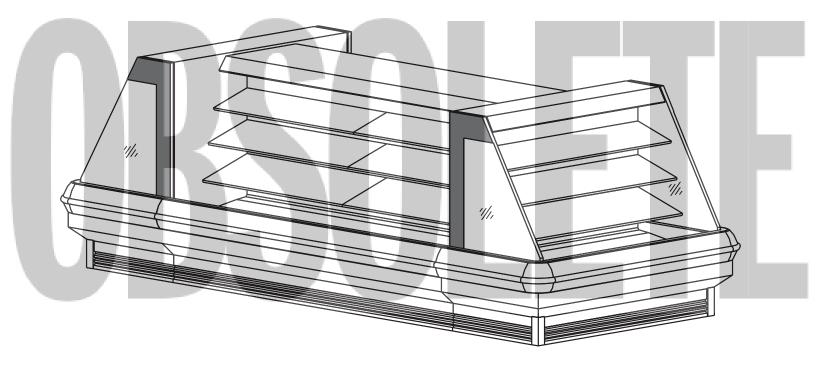
END

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Deli/Meat

ON3.5EM 3D Model

The ON3.5EMs shown below are unitized with two ON3.5UM-8' cases with lighted rear sills, standard fronts, and 12, 14" & 16" shelves.

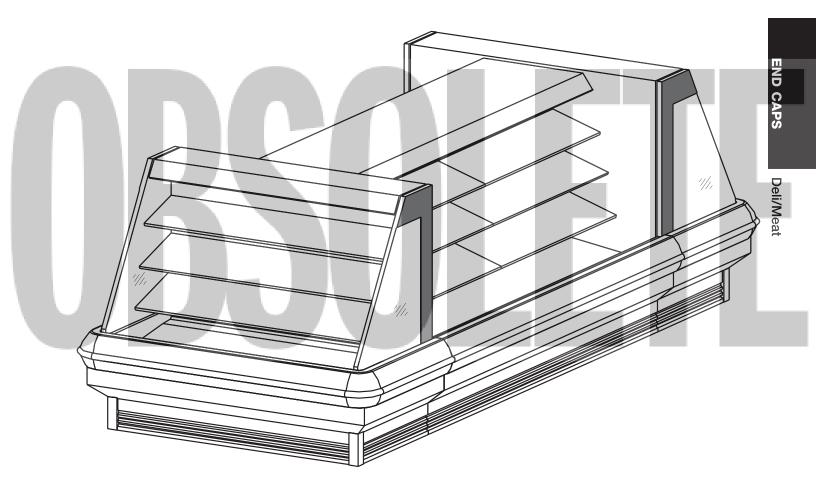






ON3.5EM 3D Model

The ON3.5EMs shown below are unitized with two ON3.5UM-8' cases with lighted rear sills, standard fronts, and 12, 14" & 16" shelves.





Electrical Data

		Standard Fans		0	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters				
	Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts		
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		
O3.5EM	2	1.00	60	0.39	23.4	1.89	227	2.31	480	2.66	640		

Lighting Data

Bulbs per Bulb	120	Volts	100	
Model Row Lengt	, <u> </u>	Watts	Amps	Volts Watts
O3.5EM 2 3'	0.37	44	1.83	220

Guidelines & Control Settings	(Guid	lelines	&	Control	Settings
--	---	------	---------	---	---------	----------

		Coil	Evaporator	Superheat Set	Discharge Air	Return Air	Discharge Air Velocity ³
Mode	BTUH/cs1	Туре	(°F)	Point @ Bulb (°F)	(°F)	(°F)	(FPM)
03.5EN	И 8709 ²	Enh.	22	6-8	33	45	275

¹ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
O3.5EM	4	6 - 8	40	47	45	45	4			

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
2	6 am - 2 pm - 10 pm

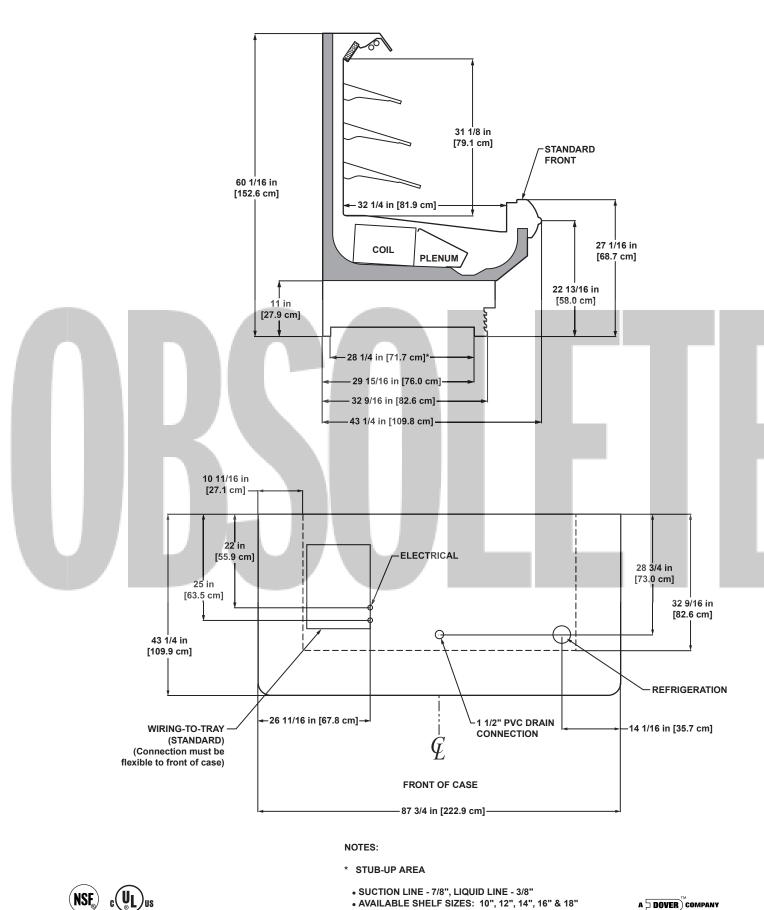
3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.









5/06

Deli/Meat

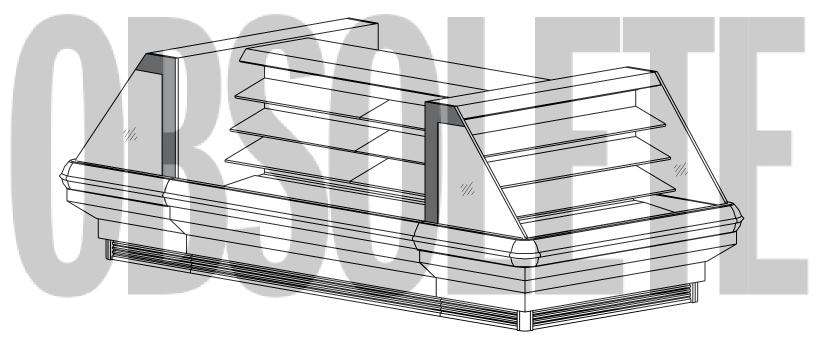
END

CAPS



O3.5EM 3D Model

The O3.5EMs shown below are unitized with two O3.5UM-8'cases with lighted rear sills, standard fronts, and 12", 14" & 16" shelves.

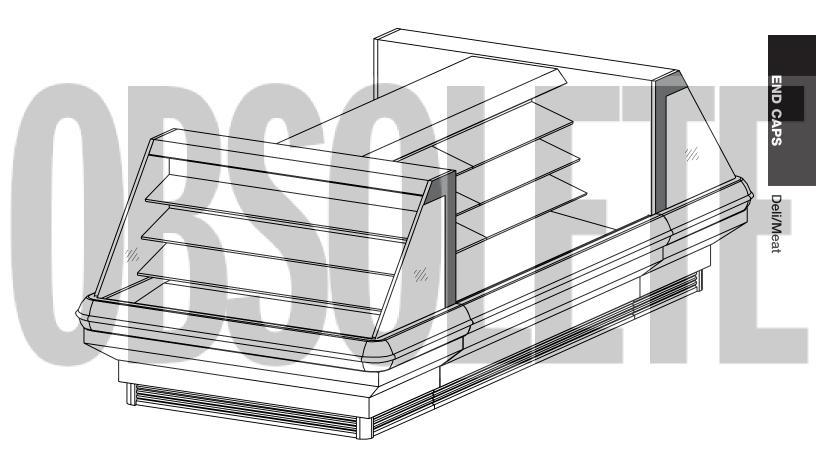






O3.5EM 3D Model

The O3.5EMs shown below are unitized with two O3.5UM-8'cases with lighted rear sills, standard fronts, and 12", 14" & 16" shelves.



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Electrical Data

		Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON4EM	2	1.00	60	0.23	14	0.99	119	2.31	480	2.66	640

Lighting Data

Model ON4EM	Row L	5'	Typical per Light Row 120 Volts Amps Wat 0.28 34	Lig 120 ts Amps 1.42	timum hting Volts Watts 170								
Model	BTUH/cs	Coil Type	Evaporato (°F)		neat Set Bulb (°F)	Discha (°l		Return Air (°F)	Discha	rge Air \ (FPM)	/elocity ³		
ON4EM	6430 ²	Enh.	22	6	-8	3	0	40		280			

¹ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

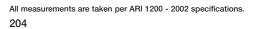
Г				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
L	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
(ON4EM	6	6 - 8	40	47	45	47	4				

⁴ NOTE: - - - not an option on this case model.

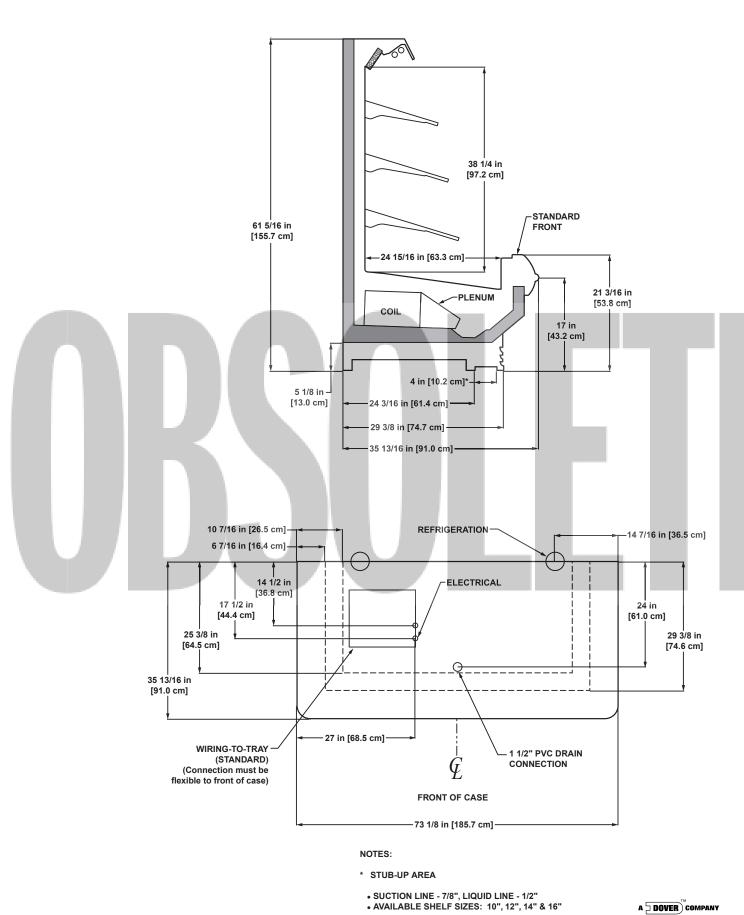
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm







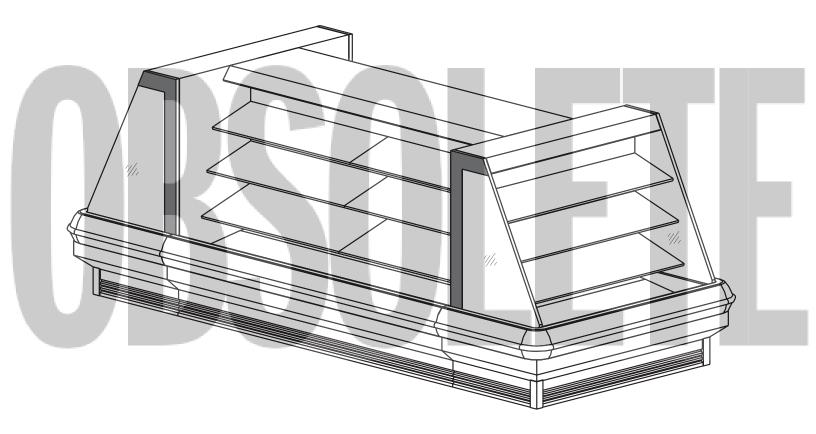
CAPS Deli

END



ON4EM 3D MODEL

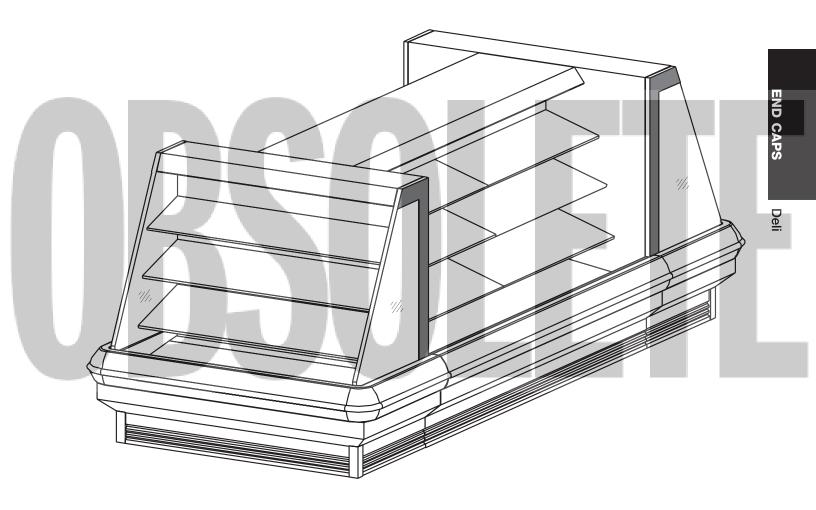
The ON4EMs shown below are unitized with two ON4UM-8' cases with lighted rear sills, standard fronts, and 14", 16" & 18" shelves.





ON4EM 3D MODEL

The ON4EMs shown below are unitized with two ON4UM-8' cases with lighted rear sills, standard fronts, and 14", 16" & 18" shelves.



Electrical Data

		Standar	d Fans	0	High Efficiency Fans		ndensate iters	Defrost Heaters			
	Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model	Case	Amps	Amps Watts		Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON5EM	2	1.00	1.00 60		14	1.89	227	2.31	480	2.66	640

Lighting Data

	Bulbs			al per Row	Maximum Lighting		
Model	per Row	Bulb Length	120 Amps	Volts Watts	120 Amps	Volts Watts	
ON5EM	1	5'	0.28	34	1.42	170	

Guide	lines	&	Control	Settings
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	Model	BTUH/cs ¹	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
l	ON5EM	6770 ²	Enh.	22	6-8	30	40	300

¹ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
l	Model	Model Defrosts Run-Off Per Day Time (min)		Fail-safe (min)	Termination Temp. (°F)						
	ON5EM	6	6 - 8	40	47	45	47	4			

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours

12 midnight 1 2

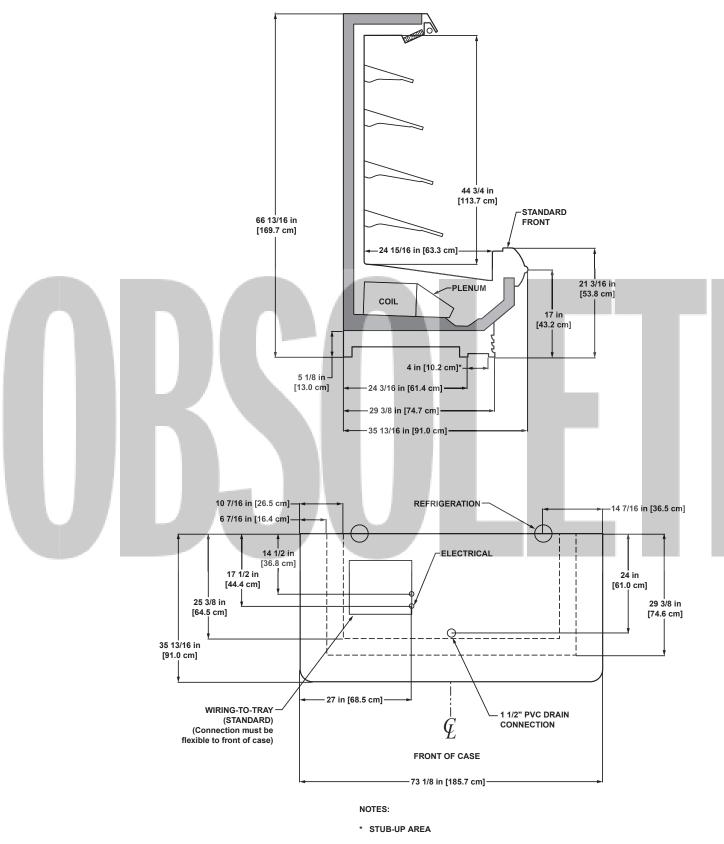
12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3 4





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• SUCTION LINE - 7/8", LIQUID LINE - 1/2" • AVAILABLE SHELF SIZES: 10", 12", 14" & 16"

END

CAPS

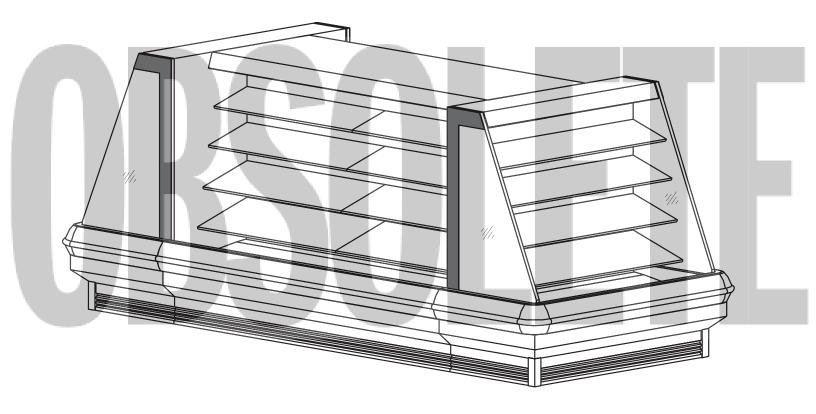
Deli



ON5EM

3D Model

The ON5EMs shown below are unitized with two ON5UM-8' cases with lighted rear sills, standard fronts, and 12, 14" & 16" shelves.

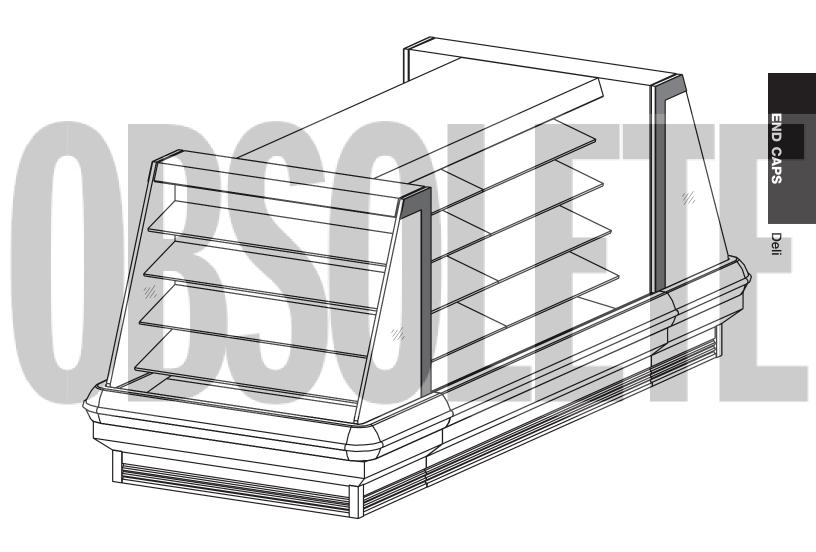






ON5EM 3D Model

The ON5EMs shown below are unitized with two ON5UM-8' cases with lighted rear sills, standard fronts, and 12, 14" & 16" shelves.





Electrical Data

		Standar	d Fans	0	High Efficiency Fans		ndensate iters	Defrost Heaters			
	Fans per	120 \	120 Volts Amps Watts Amps Matts Amps Maths Amps Maths Amps Maths Amps Maths Amps Amps		120 Volts		120 Volts		208 Volts		Volts
Model	Case	Amps			Watts	Amps	Watts	Amps	Watts	Amps	Watts
OEP	2	1.00			14	1		2.88	600	3.33	798

¹ NOTE: - - - not an option on this case model.

Lighting Data

ĺ	Model	Bulbs per Row	Bulb Length A	Typica Light I 120 V Amps	Row Li	aximum ighting 20 Volts is Watts						
	oep Guideline	 es &	Contro	ol Se	ttings							i
. J.												
	Model		BTUH/cs ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discha	rge Air Velocity₄ (FPM)		
	Model OEP Bulk Pr		BTUH/cs ² 2244 ³		Evaporator (°F) 29			Return Air (°F) 47	Discha			

Defrost Controls

ľ		F			c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
	Model Defrosts Run-Off Per Day Time (min)		Fail-safe (min)	Termination Temp. (°F)							
	OEP	2	6 - 8	40	49	60	47	26	45		

Medium Temperature Defrost Schedule No. Per Day Hours

. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
2	6 am - 2 pm - 10 pr

 3
 6 am - 2 pm - 10 pm

 4
 12 - 6 am - 12 - 6 pm





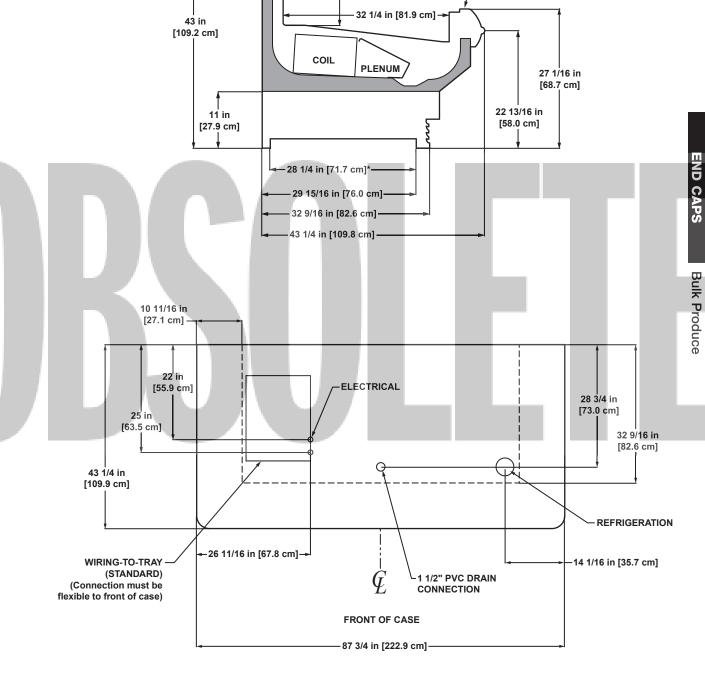




NOTES:

* STUB-UP AREA

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



18 1/8 in

[46.0 cm]



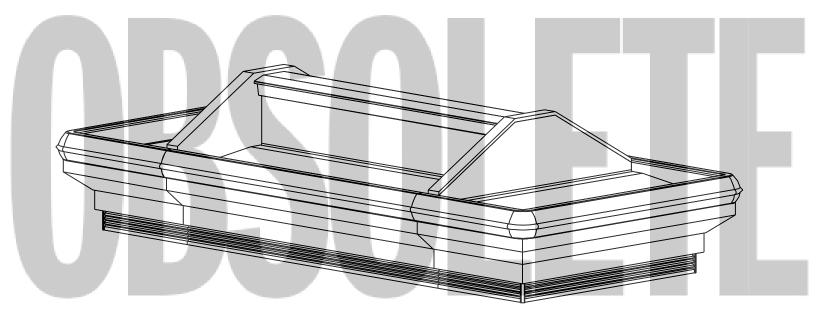
STANDARD

FRONT



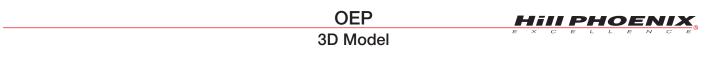
OEP 3D Model

The OEPs shown below are unitized with two OP-8'cases with 43" rear sills and standard fronts.

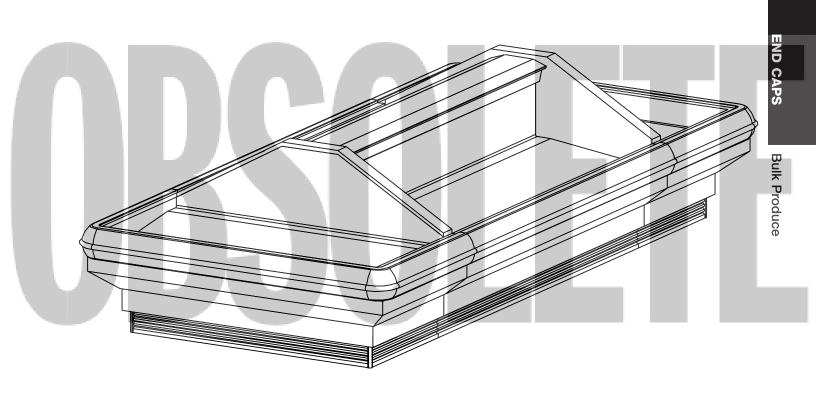




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The OEPs shown below are unitized with two OP-8'cases with 43" rear sills and standard fronts.





Narrow Multi-Deck Bulk Produce End Cap Merchandiser **ON3EP**

Electrical Data

		Standar	d Fans	•	High Efficiency Fans		ndensate iters	Defrost Heaters			
	Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model	Case	Amps	Amps Watts		Watts	Amps	Watts	Amps	Watts	Amps	Watts
ON3EP	2	1.00	1. · · ·		9.2	1		2.31	480	2.66	640

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model ON3EP Guideline	Bulbs per Row	Bulb Length		Row L olts 12 Watts Amp					ľ
Model		BTUH/cs ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)	
ON3EP Bulk	Produce	4260 ³	Enh.	29	6-8	NA	46	NA ⁵	
² BTUHs/case liste ³ High efficiency ⁴ Average discharg ⁵ Not Applicable	fans redu	uce refrigera	tion load		may be approximated by n.	multiplying listed ra	ting by 1.04.		

Defrost Controls

				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)							
ON3EP	2	6 - 8	40	49	60	47	26	45			

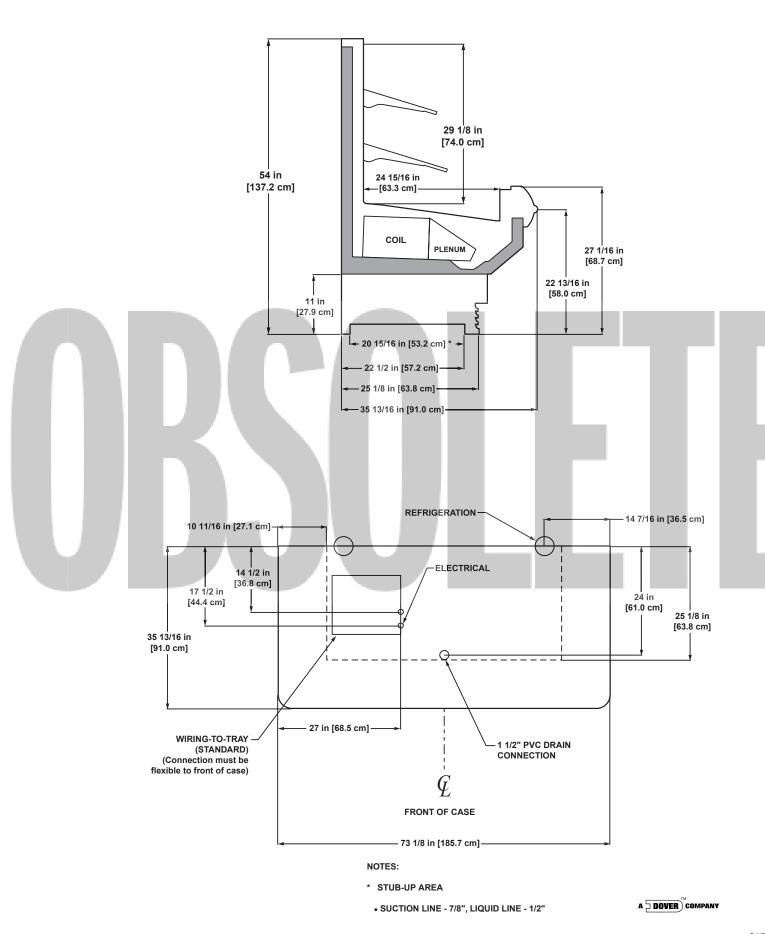
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm









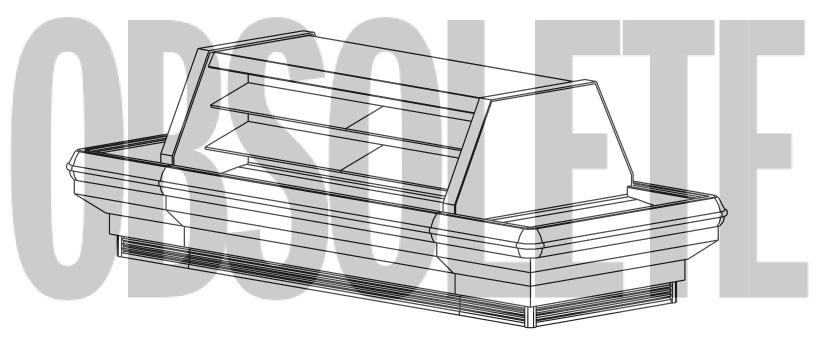
END CAPS



ON3EP

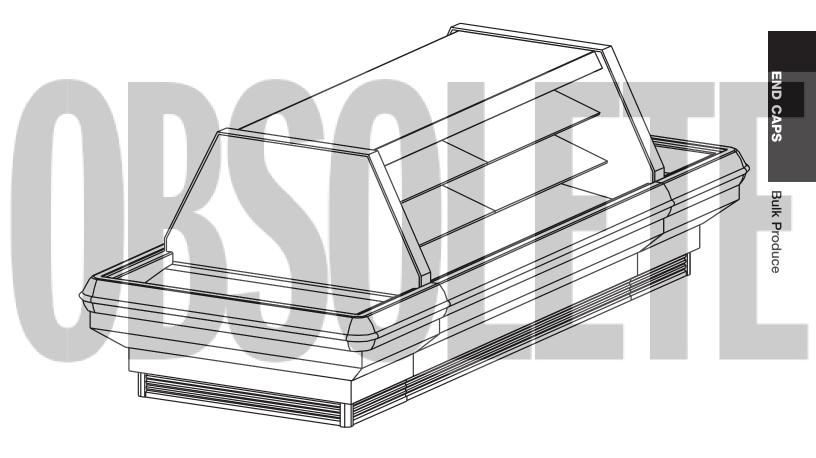
3D Model

The ON3EPs shown below are unitized with two ON3UM-8' cases with 16" lighted rear sills, standard fronts, and 14" & 16" shelves.





The ON3EPs shown below are unitized with two ON3UM-8' cases with 16" lighted rear sills, standard fronts, and 14" & 16" shelves.



Electrical Data

		Standar	d Fans	•	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
O3EP	2	1.00	60	0.15	9.2	1		2.88	600	3.33	798	

¹ NOTE: - - - not an option on this case model.

Lighting Data

Model 03EP Guidelin	Bulbs per Row	Bulb Length		Row Li olts 12 Watts Amp						
Mode		BTUH/cs ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity₄ (FPM)	1	
O3EP Bulk P	roduce	2917 ³	Enh.	29	6-8	NA	47	NA ⁵		
² BTUHs/case liste ³ High efficiency ⁴ Average discharg	fans red	uce refrigerat	tion load l		may be approximated by n.	multiplying listed ra	ting by 1.04.			

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O3EP	2	6 - 8	40	49	60	47	26	45		

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pn

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm

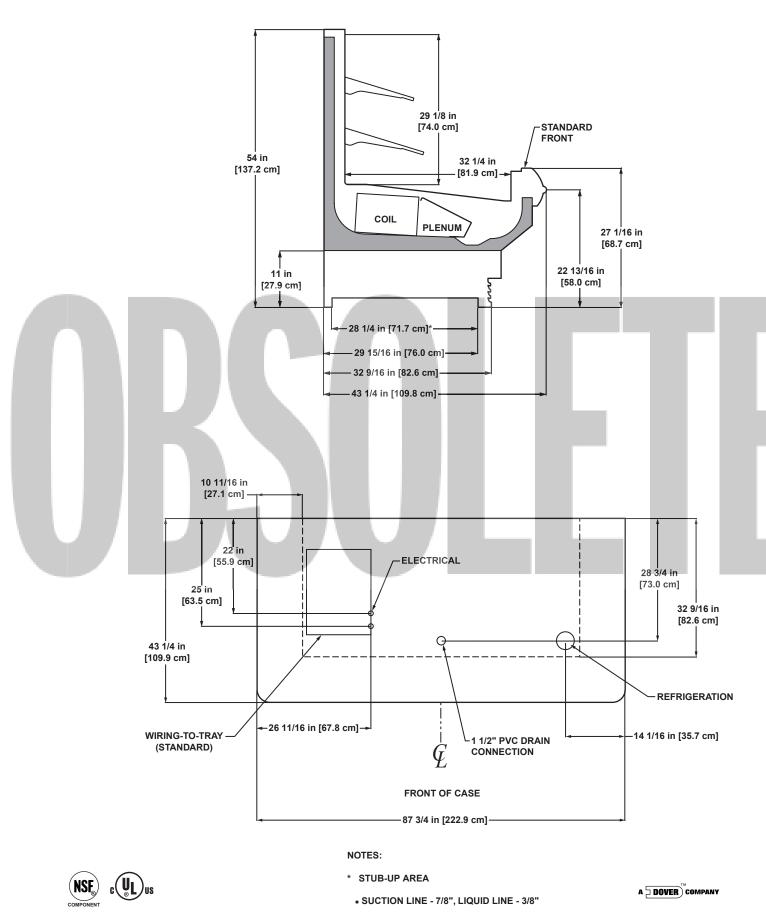






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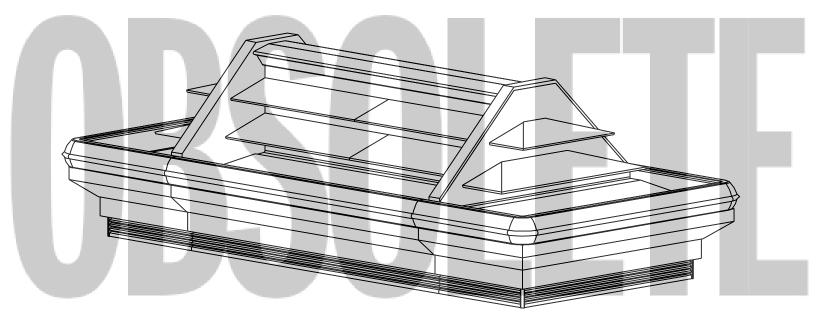
221

END CAPS

Bulk Produce



The O3EPs shown below are unitized with two O3UM-8'cases with standard rear sills, standard fronts, and 14" & 16" shelves.



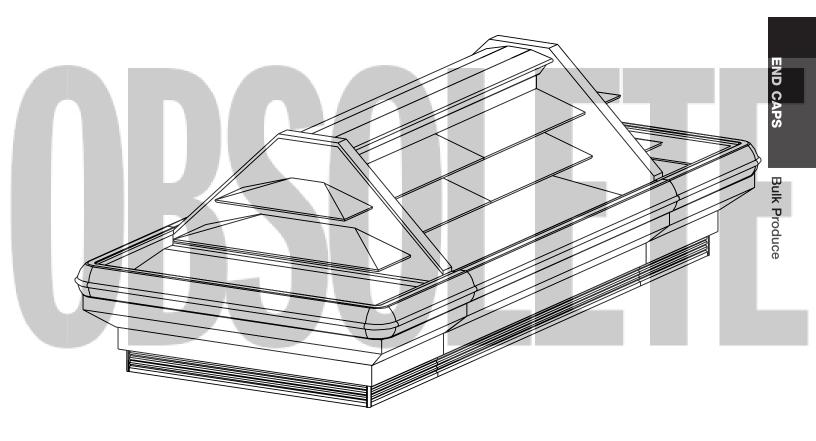


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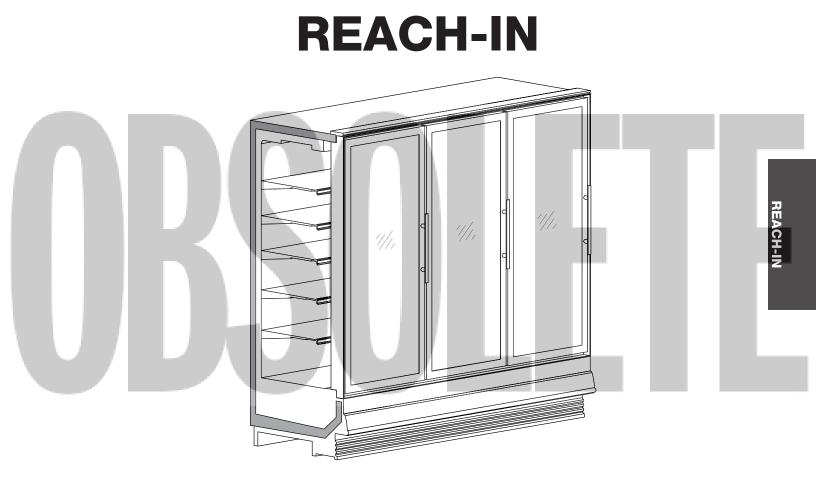
O3EP 3D Model

The O3EPs shown below are unitized with two O3UM-8'cases with standard rear sills, standard fronts, and 14" & 16" shelves.









Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Glass Door Reach-in Frozen Food/Ice Cream Merchandiser

KRZH - 2, 3, 4 & 5-door reach in freezer

Electrical Data

			Standar	d Fans		ndensate iters	Drain Pan Heaters			
	Fans per			/olts	120	120 Volts		Volts	240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
KRZH	2-door	2	2.20	167	6.06	727	0.86	179	0.99	238
	3-door	3	3.30	250	8.48	1018	0.86	179	0.99	238
	4-door	4	4.40	333	10.82	1298	0.86	179	0.99	238
	5-door	5	5.50	417	12.88	1545	0.86	179	0.99	238

Lighting Data

2-doo 3-doo 4-doo 5-doo

Model KRZH

Defrost Heater Data

	Ligh	mum iting Volts			208		Heaters ¹ Defrost 240	Volts	208 '		Heaters Defrost 240	Volts
	Amps	Watts	Model		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
or	1.88	226	KRZH	2-door	1.92	40 0	2 .22	5 33	5.77	1200	6.66	1 5 93
oor	2.50	300		3-door	1.92	40 0	2 .22	5 33	7.69	1600	8.88	21 28
oor	3. 13	376		4-door	1.92	40 0	2.22	5 33	12.02	2500	13.87	3355
oor	3 .75	450		5-door	2.40	50 0	2 .78	6 66	15.39	3200	17.75	4260

¹Note: Hot gas defrost requires electric assist heaters.

Guidelines & Control Settings

Model	BTUH/door ³	Evaporator (°F)	Superheat Set @ Bulb (°F	0	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
KRZH - F ²	1850	-12	3-5	-8	-3	420
KRZH - C ²	2200	-22	3-5	-12	-7	420

² F = Frozen food, C = Ice cream.

³ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

ľ				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	KRZH	1	13 - 15	60	73 ⁵	⁶		24	73 ⁷		

⁵ 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.

⁶ NOTE: - - - not an option on this case model.

⁷ The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

Low Temperature Defrost Schedule

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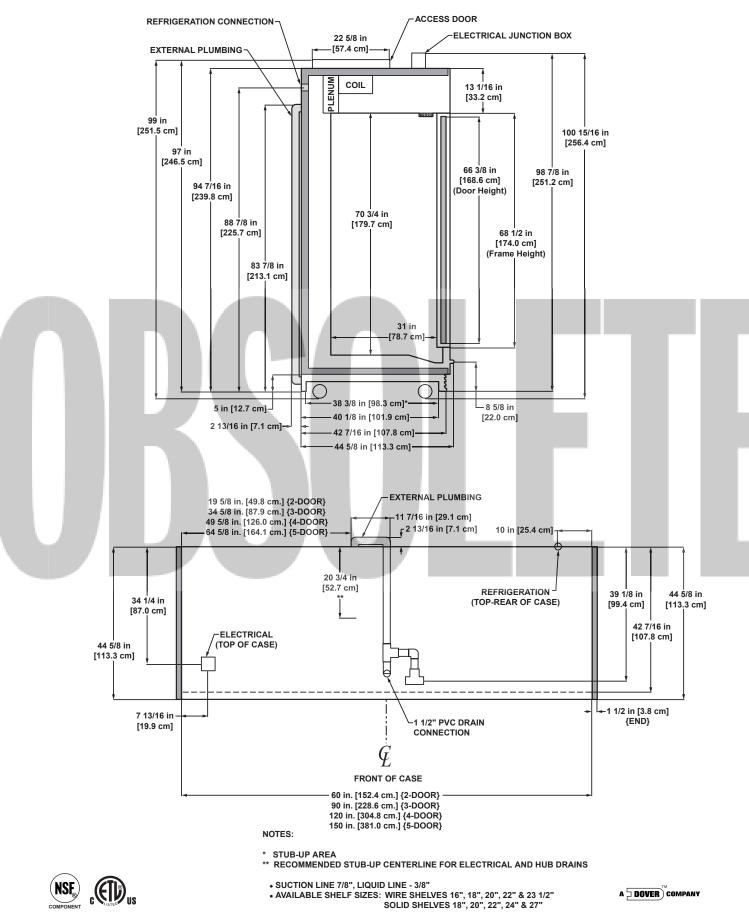
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour









Frozen Food/Ice Cream

Narrow Glass Door Reach-in Beverage Merchandiser

ONRB - 2, 3, 4 & 5-door

Electrical Data

			Standar	d Fans	High Efficiency Fans			ndensate aters	Defrost Heaters							
	Fans per		Fans pe		Fans per		120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts				
ONRB	2-door	2	1.00	60	0.31	18.4	1.01	121	4.39	914	5.06	1215				
	3-door	3	1.50	90	0.46	27.6	1.49	179	4.96	1032	5.71	1370				
	4-door	4	2.00	120	0.61	36.8	1.96	235	6.51	1355	7.55	1813				
	5-door	5	2.50	150	0.77	46.0	2.40	288	7.96	1655	9.17	2201				

Lighting Data

			al per Row Volts	Maximum Lighting 120 Volts			
Model		Amps	Watts	Amps	Watts		
ONRB	2-door	NA ¹	NA	1.50	180		
	3-door	NA	NA	1.90	228		
	4-door	NA	NA	2.40	288		
	5-door	NA	NA	2.90	348		

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ³	Coil Type		Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Disc	harge Air Velocit (FPM)	ty⁵
ONRB ² - Deli/Dairy	83 0 4	Enh.	32	6-8	36	38		460	
ONRB ² - Beverage	80 0 4	Enh.	34	6-8	38	40		460	

² All data listed is for an ONRB configured with 20" shelves.

³ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
l	ONRB	46	6 - 8	30	47	30	40	24	47	7		

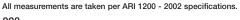
⁶ If timed off defrost is utilized. If electric or hot gas defrost is utilized case only requires 1 defrost per day.
⁷ NOTE: - - - not an option on this case model.

NOTE. --- not an option on this case mode

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	40 0 40 0

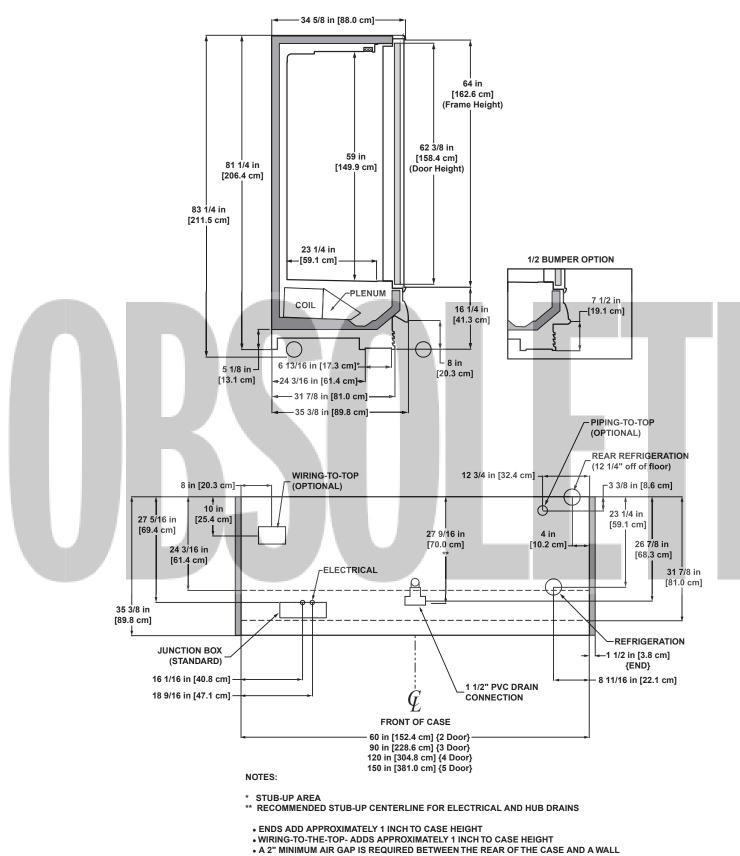
4 12 - 6 am - 12 - 6 pm





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- 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)

• SUCTION LINE (ALL LENGTHS) 1/2"

Beverage

Electrical Data

			Standar	d Fans	High Efficiency Fans			ndensate aters	Defrost Heaters			
		Fans per	120 \	120 Volts		Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONRBH	2-door	2	1.00	60	0.31	18.4	1.06	127	4.39	914	5.06	1215
	3-door	3	1.50	90	0.46	27.6	1.55	186	4.96	1032	5.71	1370
	4-door	4	2.00	120	0.61	36.8	2.07	248	6.51	1355	7.55	1813
	5-door	5	2.50	150	0.77	46.0	2.54	305	7.96	1655	9.17	2201

Lighting Data

			al per Row		imum nting							
	[120	Volts	120	Volts							
Model		Amps	Watts	Amps	Watts							
ONRBH	2-door	NA ¹	NA	1.50	180							
	3-door	NA	NA	1.90	228							
	4-door	NA	NA	2.40	288							
	5-door	NA	NA	2.90	348							
Not applicable				2.30	340							
lot applicable	e.		Ζ	Setti	ngs	Superheat Sat		Poturo Air	Diac	abarga Air Vala	oitus	
ot applicable	e. nes 8	k Cor	Ζ	Setti	Ζ	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Disc	charge Air Veloo (FPM)	city₅	
Not applicable	e. I nes 8 del	k Cor	ntrol	Setti	ngs Evaporator		U U		Disc	-	city⁵	

² All data listed is for an ONRBH configured with 20" shelves.

³ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

ľ				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	ONRBH	4 ⁶	6 - 8	30	47	30	40	24	47	7		

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⁶ If timed off defrost is utilized. If electric or hot gas defrost is utilized case only requires 1 defrost per day.

⁷ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

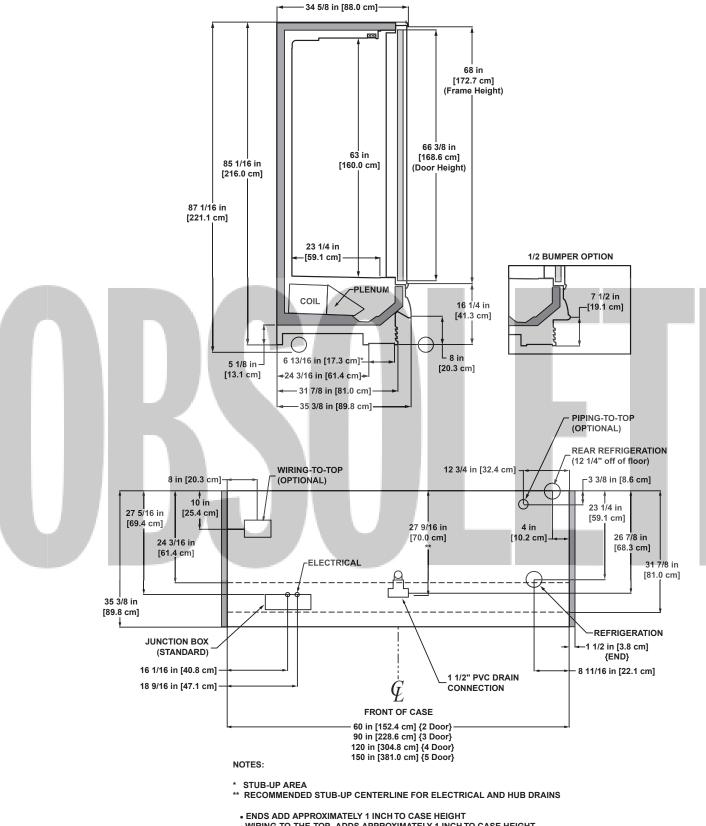
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	10 6 10 6

4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.







- 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 (ALL LENGTHS) 1/2"
- LIQUID 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"
 SOLID SHELVES 18", 20" & 22"



(TOP SHELF MUST BE 20" OR SHORTER. RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF)

5/06

ORB - 2, 3, 4, 5 & 6-door

Electrical Data

		Fans	Standar	d Fans	0	ficiency ans		ndensate aters		Defrost	Heaters	
		per	120 Volts		120	Volts	120 Volts		208 Volts		240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ORB	2-door	2	1.00	60	0.31	18.4	1.01	121	4.39	914	5.06	1215
	3-door	3	1.50	90	0.46	27.6	1.49	179	4.96	1032	5.71	1370
	4-door	4	2.00	120	0.61	36.8	1.96	235	6.51	1355	7.55	1813
	5-door	5	2.50	150	0.77	46.0	2.40	288	7.96	1655	9.17	2201
	6-door	6	3.00	180	0.92	55.2	2.92	350	9.40	1955	10.79	2589

Lighting Data

			al per Row Volts	Lig	imum hting Volts									
Model		Amps	Watts	Amps	Watts									
ORB	2-door	NA ¹	NA	1.50	180									
	3-door	NA	NA	1.90	228									
	4-door	NA	NA	2.40	288									
	5-door	NA	NA	2.90	348									
	6-door	NA	NA	3.40	408									
¹ Not applicat		k Cor	trol	Setti	ngs							Į		
Mo	odel	BTUH	/door ²	Coil Type	Evaporator (°F)	Superhe Point @ E		arge Air °F)	Return Ai (°F)	r Disc	harge Air Ve (FPM)	locity₄		
ORB -	Deli/Dairy	- 83	30 ³	Enh.	32	6-	8	36	38		380			
ORB -	Beverage	80)0 ³	Enh.	34	6-	3	38	40		380			

² BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ORB	4 ⁵	6 - 8	30	47	30	40	24	47	⁶	

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⁵ If timed off defrost is utilized. If electric or hot gas defrost is utilized case only requires 1 defrost per day.

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm







(TOP SHELF MUST BE 24" OR SHORTER WHEN USING 27" SHELVES. RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF)

- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"
 SOLID SHELVES 18", 20", 22", 24" & 27"

1 1/2" PVC DRAIN

CONNECTION

1 1/2 in

[3.8 cm] {END}

-8 11/16 in [22.1 cm]

- LIQUID LINE (ALL LENGTHS) 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) 1/2"
- SUCTION LINE (ALL LENGTHS) 1/2"
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS • ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT

G

FRONT OF CASE 60 in [152.4 cm] {2 Door} 90 in [228.6 cm] {3 Door} 120 in [304.8 cm] {4 Door} 150 in [381.0 cm] {5 Door}

180 in [457.2 cm] {6 Door}

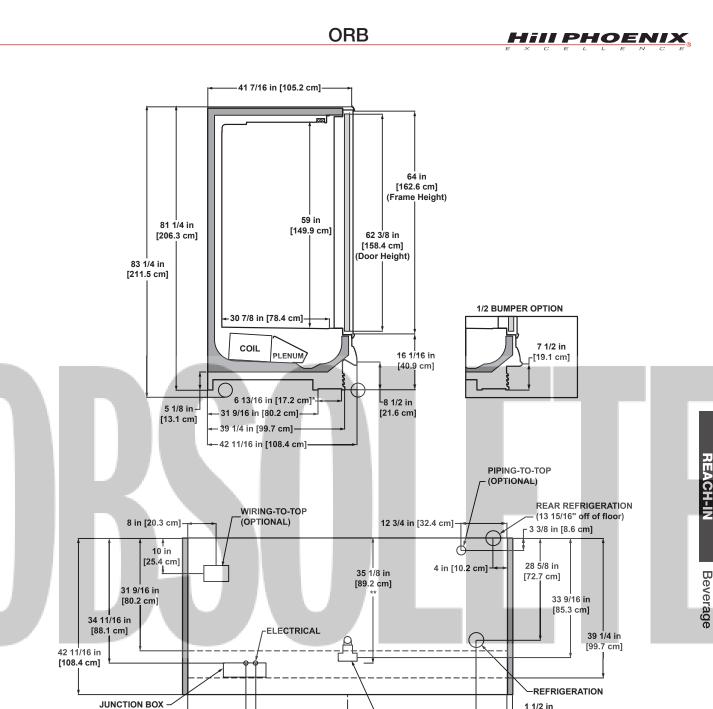
NOTES:

STUB-UP AREA

(STANDARD)

16 1/16 in [40.8 cm]

18 9/16 in [47.1 cm]



Electrical Data

		Standard Fan			High Ef Fa		Anti-Cor Hea	idensate ters	Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208 \	/olts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ORBR	8'	4	2.00	120	0.93	56	1.54	185	3.85	800	4.44	1065
	12'	5	2.50	150	1.17	70	1.79	215	5.78	1200	6.67	1600

Lighting Data

		Typica Light			mum nting		
		120	Volts	120 Volts			
Model	Model		Watts	Amps	Watts		
ORBR	8'	NA ¹	NA	1.90	228		
	12'	NA	NA	2.40	288		
100 million (1990)							

¹ Not applicable.

Guidelines & Control Settings

ORBR ² 1150 ⁴ Enh. 34 6-8 38 40 380		Model	BTUH/door ³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity⁵ (FPM)
	C	ORBR ²	115 0 ⁴	Enh.	34	6-8	38	40	380

² ORBR-8' has 3 doors, ORBR-12' has 4 doors.

³ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ORBR	46	6 - 8	30	47	30	40	24	47	7	

⁶ If timed off defrost is utilized. If electric or hot gas defrost is utilized case only requires 1 defrost per day. ⁷ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

4 12 - 6 am - 12 - 6 pm





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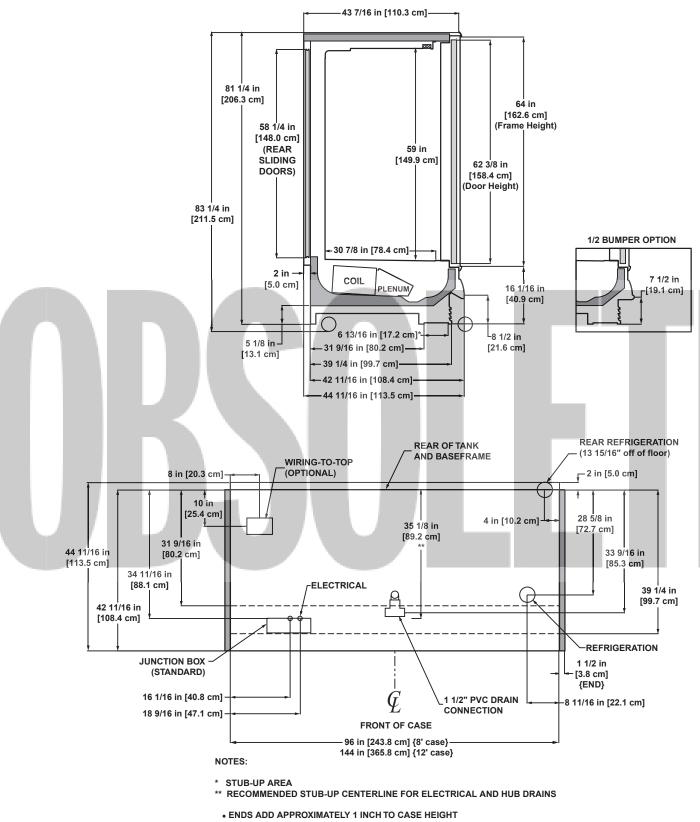


Beverage

RECOMMENDED CONFIGURATION IS 1 - 24" SHELF AND 4 - 27" SHELVES BELOW TOP SHELF)

- 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.

- LIQUID LINE (ALL LENGTHS) 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) 1/2"
- SUCTION LINE (ALL LENGTHS) 1/2"
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT



ORBR

High Glass Door Reach-in Beverage Merchandiser

ORBH - 2, 3, 4, 5, 6-door, 8' & 12'

Electrical Data

			Standar		Fa	High Efficiency Fans		ndensate aters	Defrost Heaters 208 Volts 240 Volts			
		Fans per	120 \	120 Volts		120 Volts		120 Volts		208 VOIts		VOITS
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ORBH	2-door	2	1.00	60	0.31	18.4	1.06	127	4.39	914	5.06	1215
	3-door	3	1.50	90	0.46	27.6	1.55	186	4.96	1032	5.71	1370
	4-door	4	2.00	120	0.61	36.8	2.07	248	6.51	1355	7.55	1813
	5-door	5	2.50	150	0.77	46.0	2.54	305	7.96	1655	9.17	2201
	6-door	6	3.00	180	0.92	55.2	3.07	368	9.40	1955	10.79	2589
	8'	3	1.50	90	0.70	42	1.61	193	3.85	800	4.44	1065
	12'	4	2.00	120	0.93	56	2.23	268	5.78	1200	6.67	1600

Lighting Data

			al per Row	Maximum Lighting		
		120	Volts	120	Volts	
Model		Amps	Watts	Amps	Watts	
ORBH	2-door	NA ¹	NA	1.50	180	
	3-door	NA	NA	1.90	228	
	4-door	NA	NA	2.40	288	
	5-door	NA	NA	2.90	348	
	6-door	NA	NA	3.40	408	
	8'	NA	NA	1.90	228	
	12'	NA	NA	2.40	288	

¹ Not applicable.

Guidelines & Control Settings

l	Model ²	BTUH/door ³	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity⁵ (FPM)
l	ORBH-2, 3, 4, 5 & 6dr - Deli/Dairy	8304	Enh.	32	6-8	36	38	280
	ORBH-2, 3, 4, 5 & 6dr - Beverage	800 ⁴	Enh.	34	6-8	38	40	280
	ORBH-8' & 12' Deli/Dairy	930 ⁴	Enh.	32	6-8	36	38	280
	ORBH-8' & 12'- Beverage	900 ⁴	Enh.	34	6-8	38	40	280

² ORBH-8' has 3 doors, ORBH-12' has 4 doors.

³ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ORBH	46	6 - 8	30	47	30	40	24	47	 ⁷	

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⁶ If timed off defrost is utilized. If electric or hot gas defrost is utilized case only requires 1 defrost per day.

⁷ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

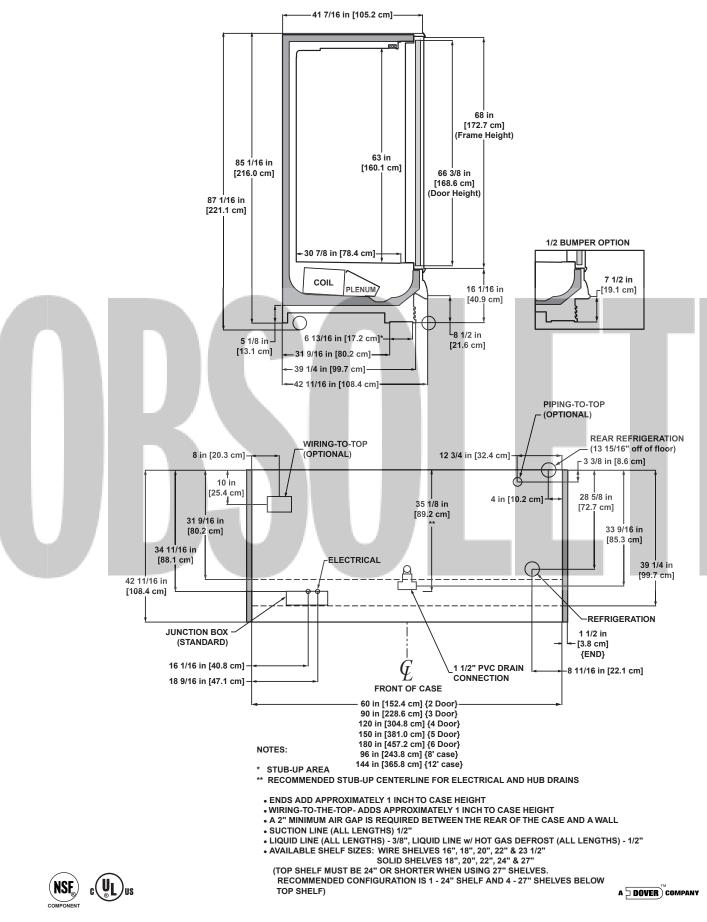
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

		· · · ·	
4	12 - 6	am - 12	- 6 pm









Narrow Glass Door Reach-in Frozen Food/Ice Cream Merchandiser ONRZ - 2, 3, 4, 5 & 6-door

Electrical Data

		Fans	Standard Fans			ficiency ans		ndensate iters		ndensate s (ELIM)1	Defrost Heaters			
		per 120 Volts		Volts 120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONRZ	2-door	2	1.00	60	0.31	18.4	3.41	409	1.75	210	7.61 ²	2742	8.77 ²	3645
	3-door	3	1.50	90	0.46	27.6	4.88	586	2.59	311	8.59 ²	3096	9.89 ²	4110
	4-door	4	2.00	120	0.61	36.8	6.34	761	3.38	406	11.28 ²	4065	13.08 ²	5439
	5-door	5	2.50	150	0.77	46.0	7.82	938	4.24	509	13.78 ²	4965	15.88 ²	6603
	6-door	6	3.00	180	0.92	55.2	9.31	1117	5.09	611	16.28 ²	5865	18.68 ²	7767

¹ Anti-Condensate heater load for cases with Eliminator Doors.

² Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data

ł			Light	al per Row Volts	Ligh	mum iting Volts		
	Model		Amps	Watts	Amps	Watts	Ν.	
	ONRZ	2-door	NA ³	NA	1.50	180		
I		3-door	NA	NA	1.90	228		
L		4-door	NA	NA	2.40	288		
		5-door	NA	NA	2.90	348		
		6-door	NA	NA	3.40	408		

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁶	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁸ (FPM)
ONRZ - F ⁴	1345 ⁷	Enh.	-11	3-5	-3	0	460
ONRZ - C ⁴	1405 ⁷	Enh.	-17	3-5	-8	-5	460
ONRZ - F ELIM⁵	1191 ⁷	Enh.	-11	3-5	-3	0	460
ONRZ - C ELIM ⁵	1229 ⁷	Enh.	-17	3-5	-8	-5	460

 4 F = Frozen food, C = Ice cream.

 $^{\rm 5}$ Data given for cases with Eliminator Doors.

⁶ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁷ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁸ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	ONRZ	1	13 - 15	46	73 ⁹	 ¹⁰		24	7311		

⁹ 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.

¹⁰ NOTE: - - - not an option on this case model.

¹¹ The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour

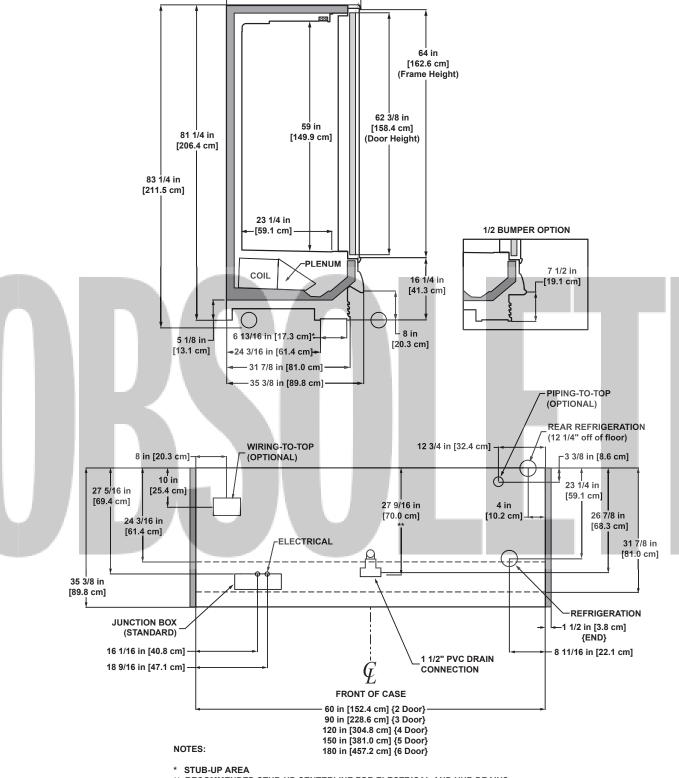






AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20" & 22" SOLID SHELVES 18", 20" & 22" (TOP SHELF MUST BE 20" OR SHORTER. RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF)

- LIQUID LINE (ALL LENGTHS) 3/8", LIQUID LINE w/ HOT GAS DEFROST (ALL LENGTHS) 1/2"
- SUCTION LINE (2DR & 3DR) 5/8", SUCTION LINE (4DR, 5DR & 6DR) 7/8"
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 1 INCH TO CASE HEIGHT
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS



Frozen Food/Ice Cream

34 5/8 in [88.0 cm]-



High Narrow Glass Door Reach-in Frozen Food/Ice Cream Merchandiser ONRZH - 2, 3, 4, 5 & 6-door

Electrical Data

		Fans -	Standard Fans		•	ficiency Ins		ndensate iters		ndensate s (ELIM) ¹	Defrost Heaters			
		per	120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONRZH	2-door	2	1.00	60	0.31	18.4	3.44	413	1.78	214	7.61 ²	2742	8.77 ²	3645
	3-door	3	1.50	90	0.46	27.6	5.00	600	2.62	314	8.59 ²	3096	9.89 ²	4110
	4-door	4	2.00	120	0.61	36.8	6.42	770	3.45	414	11.28 ²	4065	13.08 ²	5439
	5-door	5	2.50	150	0.77	46.0	7.95	954	4.33	520	13.78 ²	4965	15.88 ²	6603
	6-door	6	3.00	180	0.92	55.2	9.49	1139	5.17	620	16.28 ²	5865	18.68 ²	7767

¹ Anti-Condensate heater load for cases with Eliminator Doors.

 2 Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data

		Light	al per Row Volts	Maximum Lighting 120 Volts		
Model		Amps	Watts	Amps	Watts	
ONRZH	2-door	NA ³	NA	1.50	180	
	3-door	NA	NA	1.90	228	
	4-door	NA	NA	2.40	288	
	5-door	NA	NA	2.90	348	
	6-door	NA	NA	3.40	408	

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door⁵	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁸ (FPM)
ONRZH - F ⁴	1345 ⁷	Enh.	-11	3-5	-3	0	405
ONRZH - C ⁴	1405 ⁷	Enh.	-17	3-5	-8	-5	405
ONRZH - F ELIM ⁵	1191 ⁷	Enh.	-11	3-5	-3	0	405
ONRZH - C ELIM ⁵	1229 ⁷	Enh.	-17	3-5	-8	-5	405

 4 F = Frozen food, C = Ice cream.

 $^{\rm 5}$ Data given for cases with Eliminator Doors.

⁶ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁷ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁸ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	odel Defrosts Run-Off Per Day Time (min)		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONRZH	1	13 - 15	46	73 ⁹	¹⁰		24	7311		

⁹ 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.

¹⁰ NOTE: - - - not an option on this case model.

¹¹ The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

Low Temperature Defrost Schedule

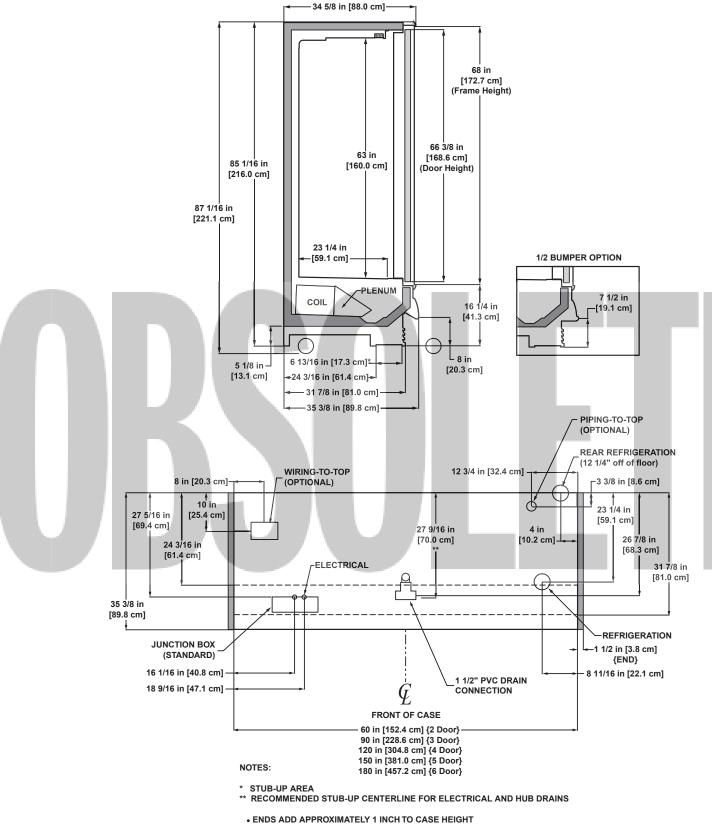
No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour









- 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 (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)

Glass Door Reach-in Frozen Food/Ice Cream Merchandiser

ORZ - 2, 3, 4, 5 & 6-door

Electrical Data

		Fans r	Standar	d Fans	0	ficiency ans		ndensate aters		ndensate (ELIM) ¹		Defrost	Heaters	
		per	120 \	/olts	120	Volts	120	Volts	120	Volts	208 \	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ORZ	2-door	2	1.00	60	0.31	18.4	3.41	409	1.75	210	7.61 ²	2742	8.77 ²	3645
	3-door	3	1.50	90	0.46	27.6	4.88	586	2.59	311	8.59 ²	3096	9.89 ²	4110
	4-door	4	2.00	120	0.61	36.8	6.34	761	3.38	406	11.28 ²	4065	13.08 ²	5439
	5-door	5	2.50	150	0.77	46.0	7.82	938	4.24	509	13.78 ²	4965	15.88 ²	6603
	6-door	6	3.00	180	0.92	55.2	9.31	1117	5.09	611	16.28 ²	5865	18.68 ²	7767

¹ Anti-Condensate heater load for cases with Eliminator Doors.

² Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data

			al per Row	Maximum Lighting			
		120	Volts	120	Volts		
Model		Amps	Watts	Amps	Watts		
ORZ	2-door	NA ³	NA	1.50	180		
	3-door	NA	NA	1.90	228		
	4-door	NA	NA	2.40	288		
	5-door	NA	NA	2.90	348		
	6-door	NA	NA	3.40	408		

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁶	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁸ (FPM)
ORZ - F ⁴	1345 ⁷	Enh.	-11	3-5	-3	0	380
ORZ - C ⁴	1405 ⁷	Enh.	-17	3-5	-8	-5	380
ORZ - F ELIM	⁵ 1191 ⁷	Enh.	-11	3-5	-3	0	380
ORZ - C ELIN	1 ⁵ 1229 ⁷	Enh.	-17	3-5	-8	-5	380

 4 F = Frozen food, C = Ice cream.

⁵ Data given for cases with Eliminator Doors.

⁶ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁷ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁸ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost		
	Model	Defrosts Per Dav	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
E	ORZ	1	13 - 15	46	73 ⁹	¹⁰		24	73 ¹¹		

⁹ 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. ¹⁰ NOTE: - - - not an option on this case model.

¹¹ The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

Low Temperature Defrost Schedule

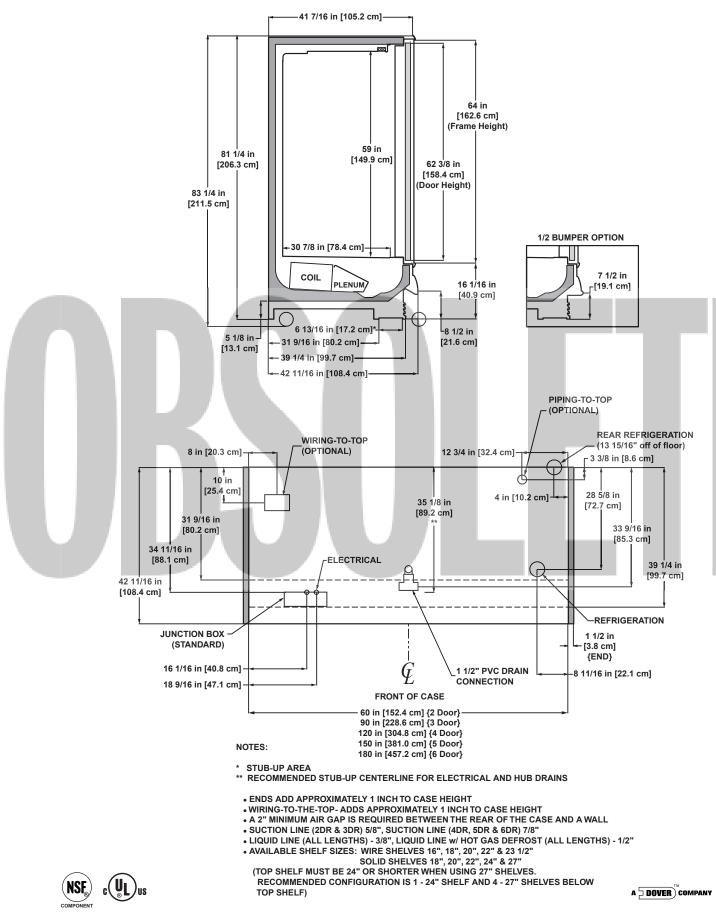
No. Per Day	Hours
-------------	-------

1 10 pm 2 6 am - 10 pm**

** Or immediately after store closing hour







CH-IN Frozen Food/Ice Cream

High Glass Door Reach-in Frozen Food/Ice Cream Merchandiser

ORZH - 2, 3, 4, 5 & 6-door

Electrical Data

		Fans	Standar	d Fans	•	ficiency Ins		ndensate iters		ndensate s (ELIM)1		Defrost	Heaters	
		per	120 \	/olts	120	Volts	120	Volts	120	Volts	208 \	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ORZH	2-door	2	1.00	60	0.31	18.4	3.44	413	1.78	214	7.61 ²	2742	8.77 ²	3645
	3-door	3	1.50	90	0.46	27.6	5.00	600	2.62	314	8.59 ²	3096	9.89 ²	4110
	4-door	4	2.00	120	0.61	36.8	6.42	770	3.45	414	11.28 ²	4065	13.08 ²	5439
	5-door	5	2.50	150	0.77	46.0	7.95	954	4.33	520	13.78 ²	4965	15.88 ²	6603
	6-door	6	3.00	180	0.92	55.2	9.49	1139	5.17	620	16.28 ²	5865	18.68 ²	7767

¹ Anti-Condensate heater load for cases with Eliminator Doors.

² Note: 3 phase load. Figure given is maximum amps per phase.

Lighting Data

		Typic: Light	al per Row	Maximum Lighting			
		120	Volts	120	Volts		
Model		Amps	Watts	Amps	Watts		
ORZH	2-door	NA ³	NA	1.50	180		
	3-door	NA	NA	1.90	228		
	4-door	NA	NA	2.40	288		
	5-door	NA	NA	2.90	348		
	6-door	NA	NA	3.40	408		

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁶	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁸ (FPM)
ORZH - F ⁴	1345 ⁷	Enh.	-11	3-5	-3	0	405
ORZH - C ⁴	1405 ⁷	Enh.	-17	3-5	-8	-5	405
ORZH - F ELIM⁵	1191 ⁷	Enh.	-11	3-5	-3	0	405
ORZH - C ELIM ⁵	1229 ⁷	Enh.	-17	3-5	-8	-5	405

 4 F = Frozen food, C = Ice cream.

 $^{\rm 5}$ Data given for cases with Eliminator Doors.

⁶ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁷ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁸ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ORZH	1	13 - 15	46	73 ⁹	¹⁰		24	73 ¹¹		

⁹ 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.

¹⁰ NOTE: - - - not an option on this case model.

¹¹ The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

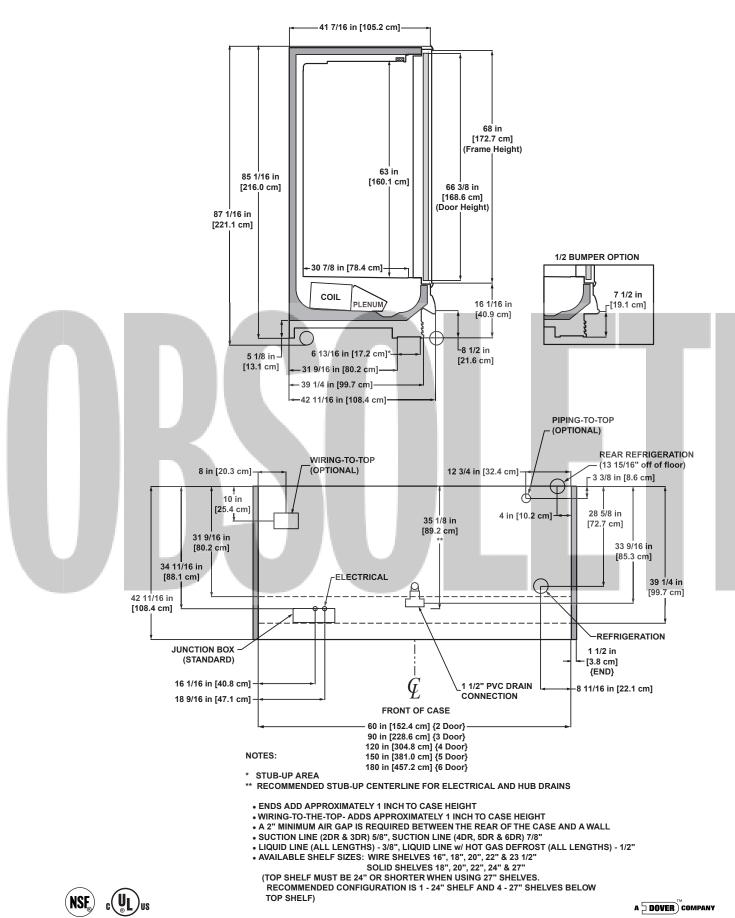
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour







Frozen Food/Ice Cream

Narrow Glass Door Reach-in Back-to-Back Frozen Food/Ice Cream Merchandiser

ONRIZ - 2, 3, 4 & 5-door

Electrical Data

		Doors	Fana	Standar	d Fans	0	ficiency ans		ndensate iters		ndensate (ELIM) ¹		Defrost	Heaters	
		per	per	120 \	/olts	120	Volts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Ċase	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONRIZ	2-dr	4	4	2.00	120	0.61	36.8	6.82	818	3.50	420	15.22 ²	5484	17.54 ²	7290
	3-dr	6	6	3.00	180	0.92	55.2	9.76	1171	5.18	622	17.18 ²	6192	1978 ²	8220
	4-dr	8	8	4.00	240	1.22	73.6	12.68	1522	6.76	811	22.56 ²	8130	26.16 ²	10878
	5-dr	10	10	5.00	300	1.53	92.0	15.64	1877	8.48	1018	27.56 ²	9930	31.76 ²	13206

¹ Anti-Condensate heater load for cases with Eliminator Doors.

 $^2\,\mathrm{Note:}\,$ 3 phase load. Figure given is maximum amps per phase.

Lighting Data

		Light	al per Row Volts	Maximum Lighting 120 Volts		
Model		Amps	Watts	Amps	Watts	
ONRIZ	2-door	NA ³	NA	3.00	360	
	3-door	NA	NA	3.80	456	
	4-door	NA	NA	4.80	576	
	5-door	NA	NA	5.80	696	

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁶	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁸ (FPM)
ONRIZ - F ⁴	116 2 7	Enh.	-11	3-5	-3	0	460
ONRIZ - C ⁴	1234 ⁷	Enh.	-17	3-5	-8	-5	460
ONRIZ - F ELIM ⁵	1062 ⁷	Enh.	-11	3-5	-3	0	460
ONRIZ - C ELIM ⁵	1079 ⁷	Enh.	-17	3-5	-8	-5	460

⁴ F = Frozen food, C = Ice cream.

⁵ Data given for cases with Eliminator Doors.

⁶ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁷ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁸ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONRIZ	1	13 - 15	46	73 ⁹	¹⁰		24	7311		

⁹ 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.

¹⁰ NOTE: - - - not an option on this case model.

11 The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

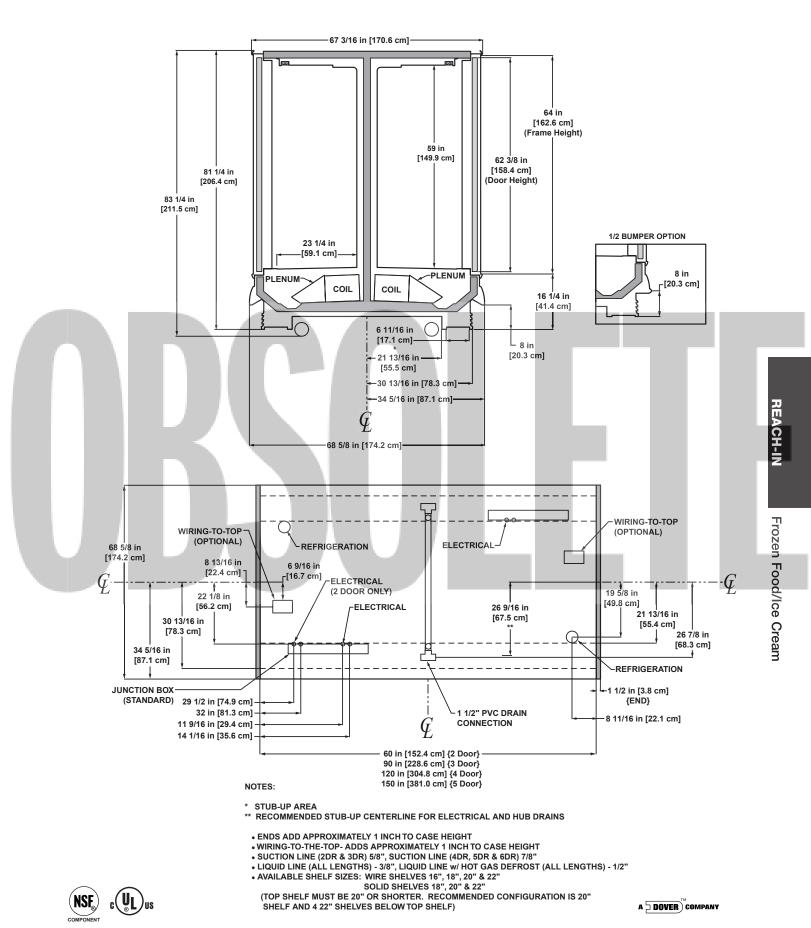
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour







High Narrow Glass Door Reach-in Back-to-Back Frozen Food/Ice Cream Merchandiser

ONRIZH - 2, 3, 4 & 5-door

Electrical Data

		Dooro	Fana	Standar	d Fans	High Efficiency Fans			ndensate aters		ndensate s (ELIM) ¹	Defrost Heaters			
	Doors Fans per per		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts		
Model		Ċase	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONRIZH	2-dr	4	4	2.00	120	0.61	36.8	6.88	826	3.56	427	15.22 ²	5484	17.54 ²	7290
	3-dr	6	6	3.00	180	0.92	55.2	10.00	1200	5.24	629	17.18 ²	6192	1978 ²	8220
	4-dr	8	8	4.00	240	1.22	73.6	12.84	1541	6.90	828	22.56 ²	8130	26.16 ²	10878
	5-dr	10	10	5.00	300	1.53	92.0	15.90	1908	8.66	1039	27.56 ²	9930	31.76 ²	13206

¹ Anti-Condensate heater load for cases with Eliminator Doors.

 $^2\,\mbox{Note:}\,$ 3 phase load. Figure given is maximum amps per phase.

Lighting Data

			al per Row	Maximum Lighting			
		120	Volts	120 Volts			
Model		Amps	Watts	Amps	Watts		
ONRIZH	2-door	NA ³	NA	3.00	360		
	3-door	NA	NA	3.80	456		
	4-door	NA	NA	4.80	576		
	5-door	NA	NA	5.80	696		

³ Not applicable.

Guidelines & Control Settings

Model	BTUH/door ⁶	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁸ (FPM)
ONRIZH - F ⁴	1162 ⁷	Enh.	-11	3-5	-3	0	46 0
ONRIZH - C ⁴	1234 ⁷	Enh.	-17	3-5	-8	-5	460
ONRIZH - F ELIM⁵	1062 ⁷	Enh.	-11	3-5	-3	0	460
ONRIZH - C ELIM ⁵	1079 ⁷	Enh.	-17	3-5	-8	-5	460

⁴ F = Frozen food, C = Ice cream.

 $^{\rm 5}$ Data given for cases with Eliminator Doors.

⁶ BTUHs/door listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁷ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁸ Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	ONRIZH	1	13 - 15	46	73 ⁹	¹⁰		24	73 ¹¹		

⁹ 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.

¹⁰ NOTE: - - - not an option on this case model.

¹¹ The recommended location is on the dump line. If using a discharge air temperature to terminate defrost, utilize a 55°F termination temp.

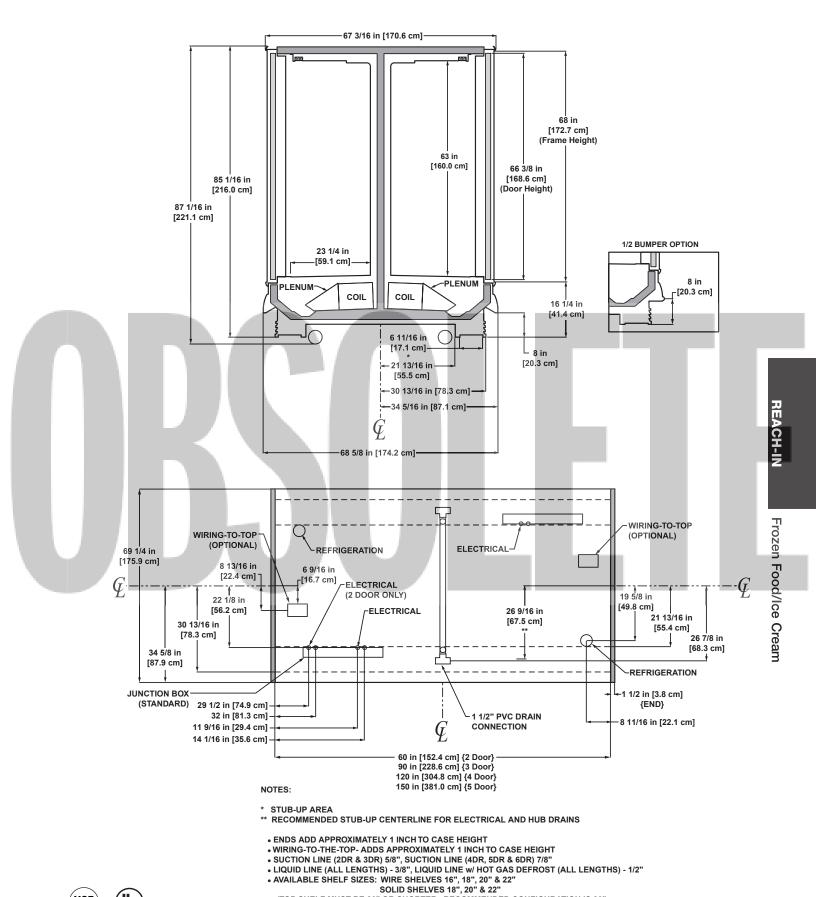
Low Temperature Defrost Schedule

Hours
10 pm
6 am - 10 pm**

** Or immediately after store closing hour







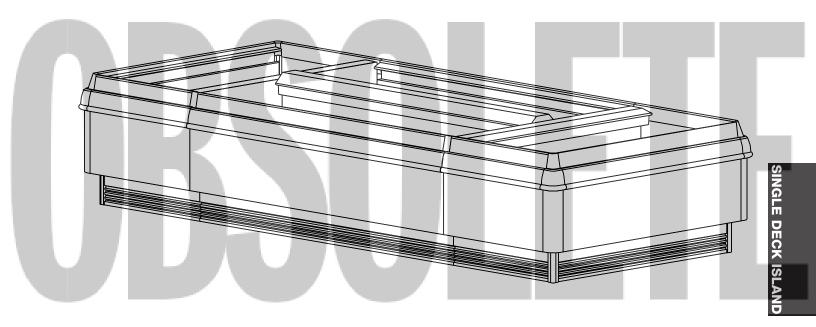
(TOP SHELF MUST BE 20" OR SHORTER. RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF)

5/06

NSF



SINGLE DECK ISLAND



Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Narrow Island Deli/Meat Merchandiser

ONIM - 8' & 12' double wraparound ends ONIMB - 8' & 12' single wraparound end

Electrical Data

			Standa	rd Fans	•	fficiency ans		ndensate iters	Defrost Heaters			
		Fans per	120 Volts		120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIM	8'	6	2.04	102	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	2.72	136	1.20	88	1.08	130	7.22	1502	8.33	2000
ONIMB	8'	6	2.04	102	0.90	66	0.75	90	4.34	902	5.00	1200
	12	8	2.72	136	1.20	88	1.17	140	7.22	1502	8.33	2000

Lighting Data

			al per t Row		imum nting		
		120	Volts	120 Volts			
Model		Amps	Watts	Amps	Watts		
ONIM	8'	NA ¹	NA	1.26	15 1		
	12'	NA	NA	1.46	175		
ONIMB	8'	NA	NA	1.26	151		
	12'	NA	NA	1.46	175		

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
ONIM/ONIMB Meat	8854	12	6-8	25	34	180
ONIM/ONIMB Deli	8605	17	6-8	28	37	180

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ ONIM (meat): +400 BTUH per wraparound end.

⁵ ONIM (deli): +250 BTUH per wraparound end.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONIM/ONIMB	3	6 - 8	35	47	45	47	26	45	6	

NSE

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Fer Day Hours	No.	Per Day	Hours
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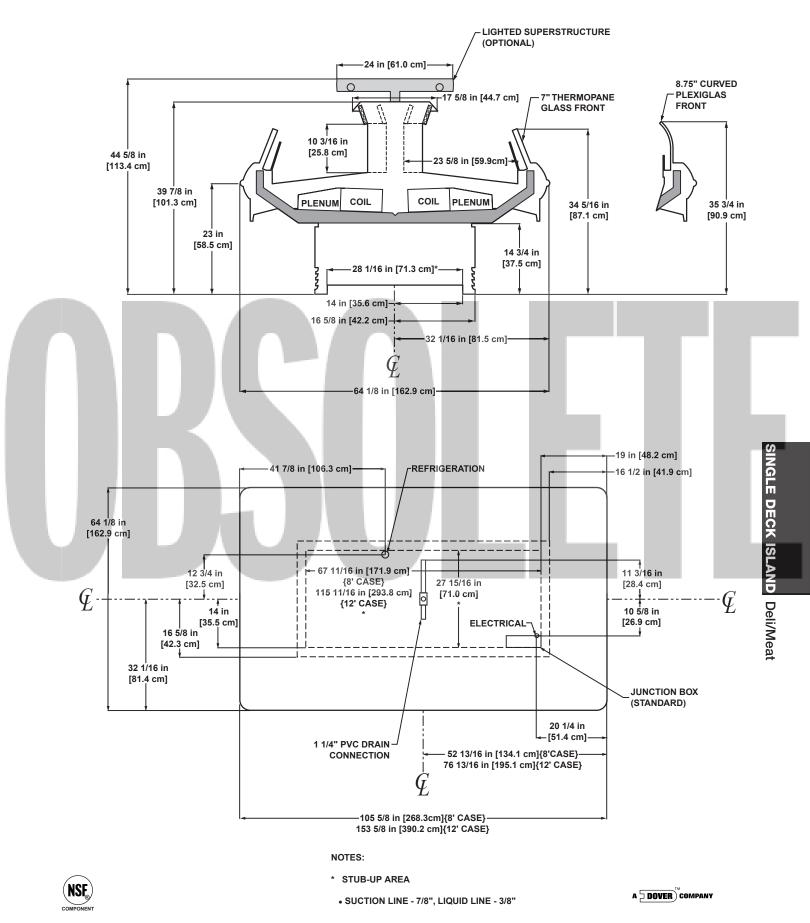
- 12 midnight 1
- 12 am 12 pm 2
- 3

6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 4

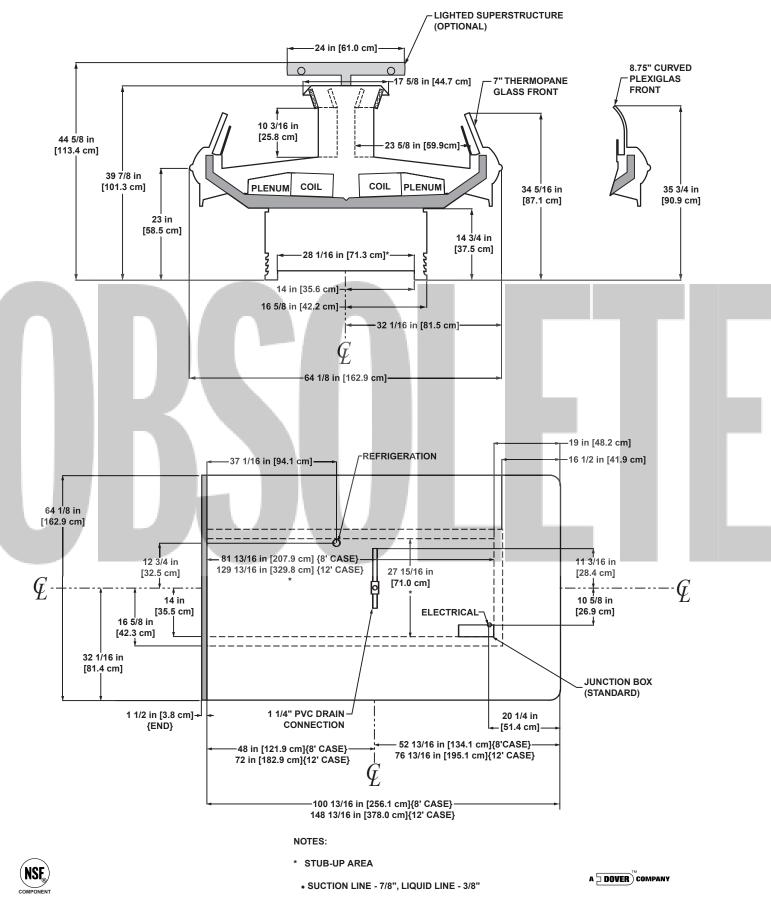


A DOVER COMPANY











System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
ONIMA	8'	208	1	60	3 wire + ground	19.325	35
	12'	208	1	60	3 wire + ground	23.343	40

Electrical Data

			Standa	rd Fans			ondensate aters	Defrost Heaters			;	Drain Heater		Maximum Lights		
		Fans per	120	Volts	208	Volts	120	Volts	208	Volts	240	/olts	208	Volts	120	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIMA	8'	6	2.04	102	0.85	88	0.82	98	4.34	902	5.00	1200	4.81	1000	1.26	151
	12'	8	2.72	136	2.60	270	1.08	130	7.22	1502	8.33	2000	4.81	1000	1.46	175

Guidelines & Control Settings

Model	 Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
ONIMA-8'	35	6-8	25	34	180
ONIMA-12'	35	6-8	25	34	180

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	нр	RLA ³ (amps)	LRA⁴ (amps)	Refrig.	lbs of Refrig.
ONIMA-8'	208	17	60	1	10.36	48.2	R22	8.2
ONIMA-12'2	208	1	60	-1	7.0	34.2	R22	12.6

 $^{2}\,$ This case uses two of the condensing units listed above.

³ RLA - Running Load Amps.

⁴ LRA - Locked Rotor Amps.

Defrost Controls

			Electri	c Defrost	Timed (Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
l	Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
	ONIMA	3	35	47	5					

NSF

⁵ NOTE: - - - not an option on this case model.

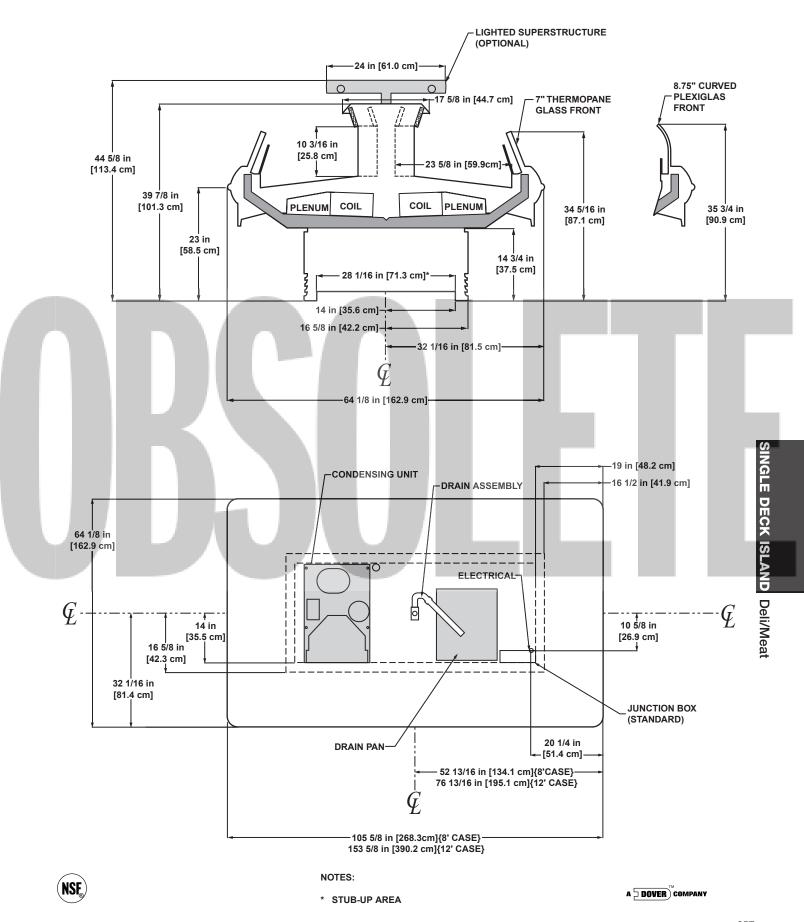
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm







System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
ONIMBA	8'	208	1	60	3 wire + ground	17.999	35
	12'	208	1	60	3 wire + ground	26.619	45

Electrical Data

			Standa	rd Fans	Condenser A Fans			Anti-Condensate Heaters		Defrost Heaters			Drain Heater		Maximum Lights	
		Fans per	120	Volts	208	Volts	120	Volts	208 \	Volts	240 \	/olts	208 \	Volts	120 \	/olts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIMBA	8'	6	2.04	102	0.85	88	0.75	90	4.34	902	5.00	1200	4.81	1000		
	12'	8	2.72	136	2.60	270	1.23	148	7.22	1502	8.33	2000	7.21	1500		

Guidelines & Control Settings

Model	24 hr Energy Usage (kWh)			Superheat S @ Bulb	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity (FPM)
ONIMBA-8'		3:	;	6-8	25	34	180
ONIMBA-12'		3	;	6-8	25	34	180

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	НР	RLA ³ (amps)	LRA⁴ (amps)	Refrig.	lbs of Refrig.
ONIMBA-8'	208	1	60	1	10.36	48.2	R22	8.2
ONIMBA-12'2	208	< <u>1</u>	60	1	7.0	34.2	R22	12.6

 $^2\,$ This case uses two of the condensing units listed above.

³ RLA - Running Load Amps.

⁴ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONIMBA	3	35	47	5					

(NSF)

⁵ NOTE: - - - not an option on this case model.

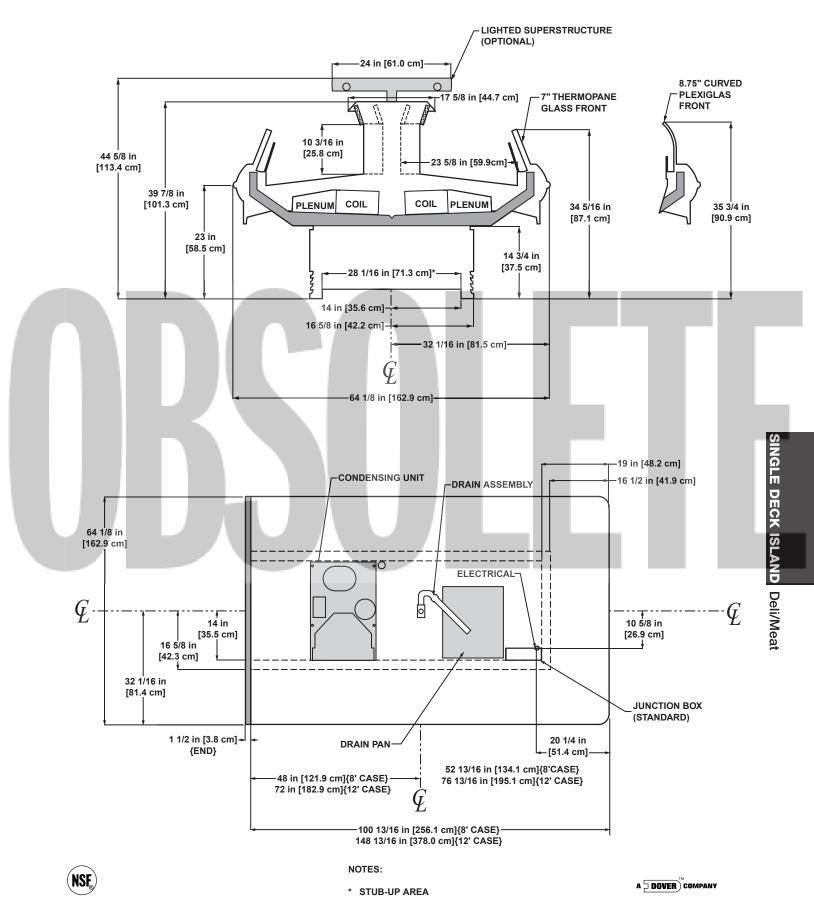
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 nm - 10 nm

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3 6 am - 2 pm - 10 pm
4 12 - 6 am - 12 - 6 pm
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Wide Island Deli/Meat Merchandiser

OIM - 8' & 12' double wraparound ends OIMB - 6', 8' & 12' single wraparound end **OIMBB - 8' double joint ends**

Electrical Data

		Fans per	Standar 120 V		High Efficiency Fans 120 Volts		Anti-Condensate Heaters 120 Volts		Defrost Heaters 208 Volts 240 Volts			
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIM	8'	6	2.04	102	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	2.72	136	1.20	88	1.08	130	7.22	1502	8.33	2000
OIMB	6'	4	1.36	76	0.60	44	0.57	68	3.25	676	3.75	900
	8'	6	2.04	102	0.90	66	0.75	90	4.34	902	5.00	1200
	12'	8	2.72	136	1.20	88	1.23	148	7.22	1502	8.33	2000
OIMBB	8'	6	2.04	102	0.90	66	0.92	110	4.34	902	5.00	1200

Lighting Data

			al per t Row		mum nting		
		120	Volts	120 Volts			
Model		Amps	Watts	Amps	Watts		
OIM	8'	NA ¹	NA	5.04	605		
	12'	NA	NA	6.50	780		
OIMB	6'	NA	NA	3.78	454		
	8'	NA	NA	4.61	553		
	12'	NA	NA	5.24	629		
OIMBB	8'	NA	NA	3.25	390		

¹ Not applicable.

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
OIM/OIMB/OIMBB Meat	7704	12	6-8	26	31	140
OIM/OIMB/OIMBB Deli	560 ⁵	17	6-8	28	33	140

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ OIM (meat): +400 BTUH per wraparound end.

⁵ OIM (deli): +250 BTUH per wraparound end.

Defrost Controls

			Electric Defrost		Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	
widdei	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
OIM/OIMB/OIMBB	3	6 - 8	40	47	45	47	26	45	6	

⁶ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule All measurements taken per ARI 1200 - 2002 specifications.

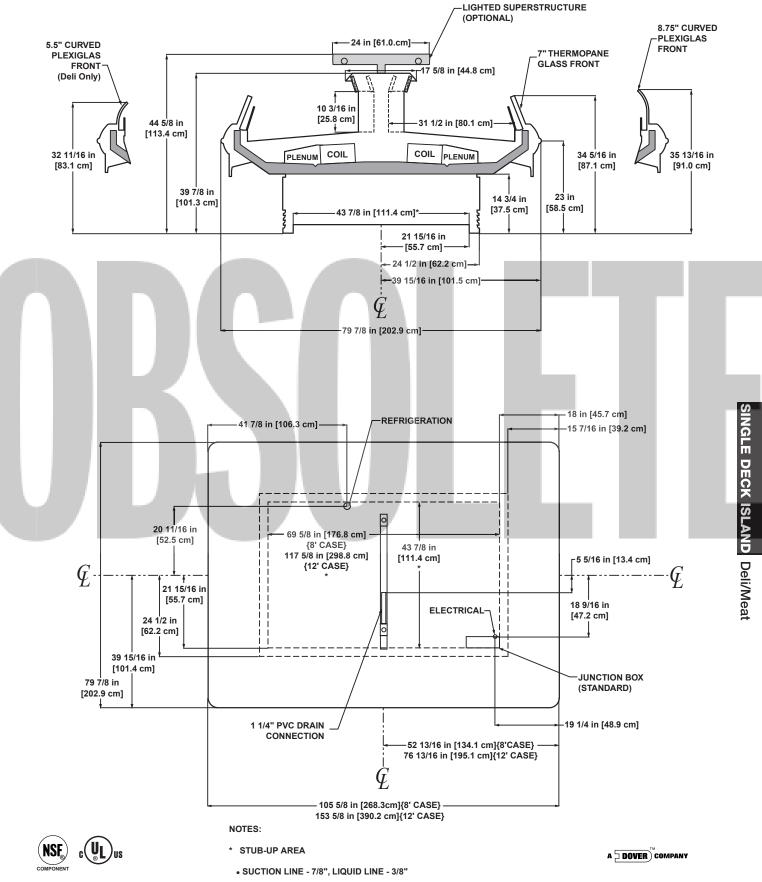
- No. Per Day Hours
 - 12 midnight 1 2
 - 3
 - 12 am 12 pm 6 am 2 pm 10 pm 12 6 am 12 6 pm 4



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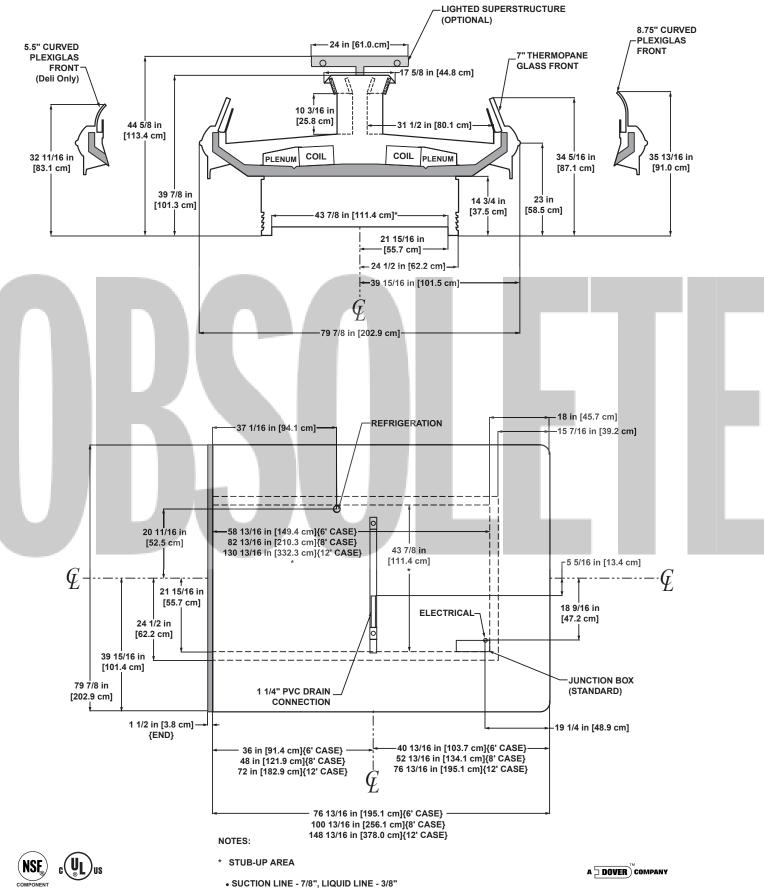




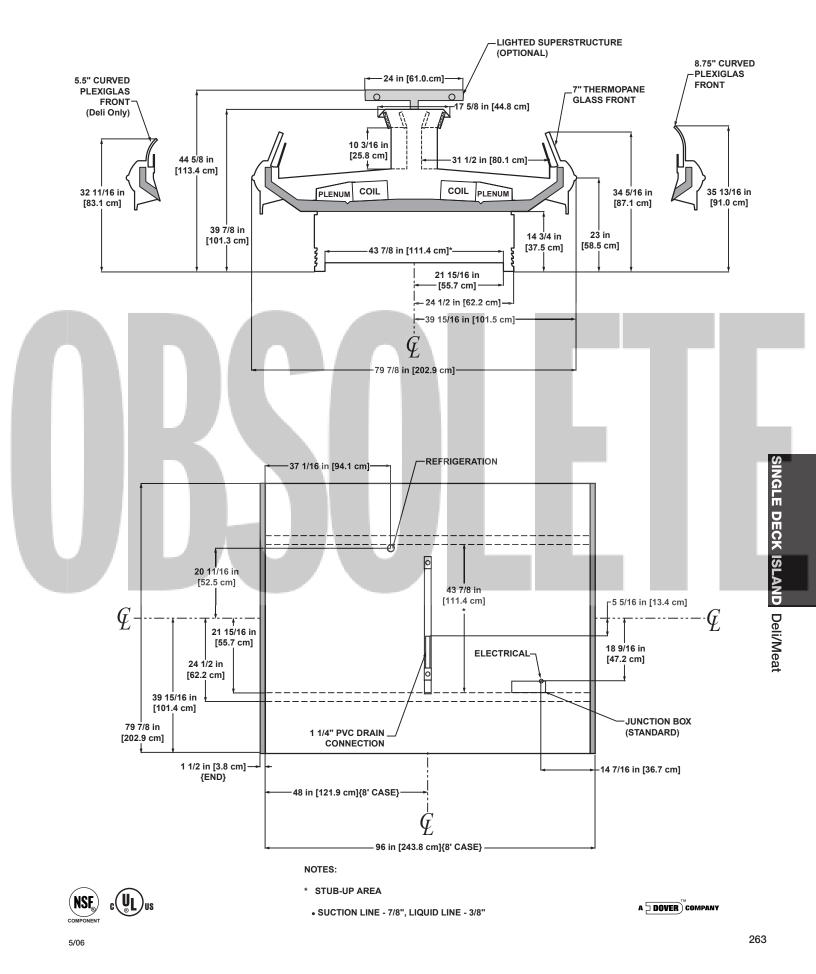


5/06









Wide Island Self-Contained Deli/Meat Merchandiser

OIMA - 8' & 12'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
OIMA	8'	208	1	60	3 wire + ground	23.655	40
	12'	208	1	60	3 wire + ground	28.435	45

Electrical Data

			Standard Fans		Condenser Fans		Anti-Condensate Heaters			Defrost Heaters				Drain Heater		mum hts
	Fans per		120 Volts		208 Volts		120 Volts		208 Volts		240 Volts		208 Volts		120 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIMA	8'	6	2.04	102	0.85	88	0.71	85	4.34	9.02	5.00	1200	4.81	1000	5.04	606
	12'	8	2.72	136	2.60	270	0.79	95	7.22	1502	8.33	2000	4.81	1000	6.50	780

Guidelines & Control Settings

Model	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OIMA-8'	35	6-8	26	31	140
OIMA-12'	35	6-8	26	31	140

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	нр	RLA³ (amps)	LRA⁴ (amps)	Refrig.	lbs of Refrig.
OIMA-8'	208	1	60	1	10.36	48.2	R22	8.2
OIMA-12'2	208	_1	60	1	7.0	34.2	R22	12.6

² This case uses two of the condensing units listed above.

³ RLA - Running Load Amps.

⁴ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Ga	as Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
OIMA	3	40	47	5						

(NSF)

⁵ NOTE: - - - not an option on this case model.

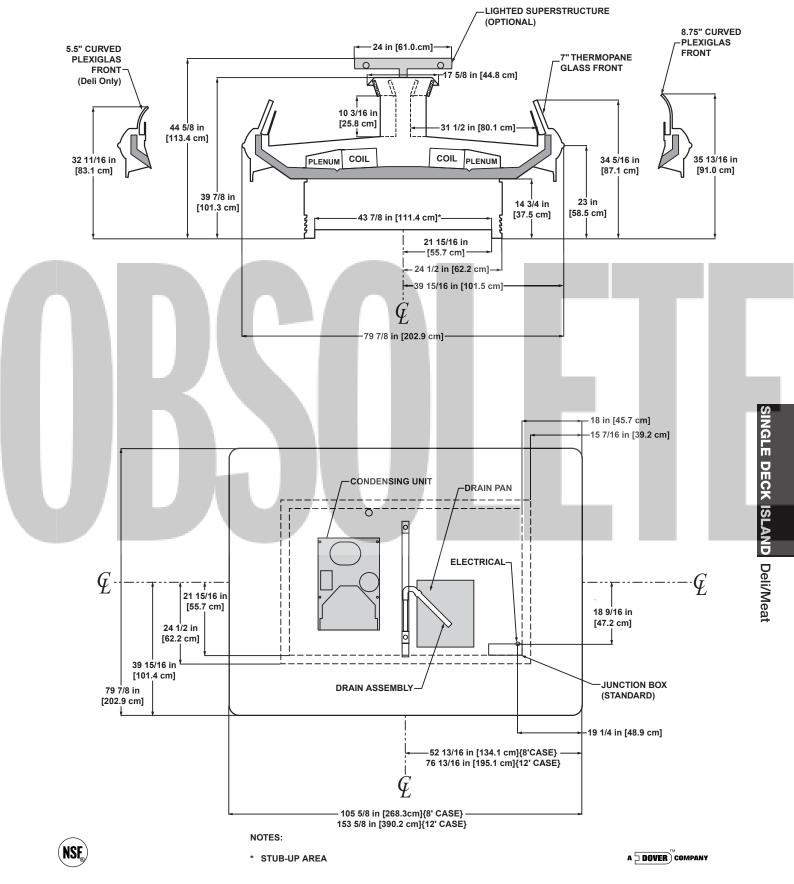
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm







System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
OIMBA	6'	208	1	60	3 wire + ground	17.047	30
	12'	208	1	60	3 wire + ground	26.619	45

Electrical Data

			Standa	rd Fans		lenser an		ndensate aters		Defrost	Heaters	;	Dra Hea			mum hts
		Fans per	120	Volts	208	Volts	120	Volts	208 \	Volts	240 \	/olts	208 \	Volts	120 \	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIMBA	6'	4	1.36	76	2.60	270	0.57	68	3.25	676	3.75	900	7.21	1500	1.26	151
	12'	8	2.72	136	2.60	270	1.23	148	7.22	1502	8.33	2000	7.21	1500	1.46	175

Guidelines & Control Settings

Model	 Suction Press Case Outlet	Superheat S @ Bulb	Discharge Air (°F)	Return Air (°F)	Discha	arge Air Velocity ¹ (FPM)
OIMBA-6'	35	6-8	26	31		140
OIMBA-12'	35	6-8	26	31		140

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	НР	RLA ³ (amps)	LRA⁴ (amps)	Refrig.	lbs of Refrig.
OIMBA-6'	208	1	60	1 🖗	7.0	34.2	R22	8.2
OIMBA-12'2	208	1	60	1	7.0	34.2	R22	12.6

 2 This case uses two of the condensing units listed above.

³ RLA - Running Load Amps.

⁴ LRA - Locked Rotor Amps.

Defrost Controls

ľ			Electric Defrost		Timed Off Defrost		Hot Ga	as Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	OIMBA	3	40	47	5						

(NSF)

⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

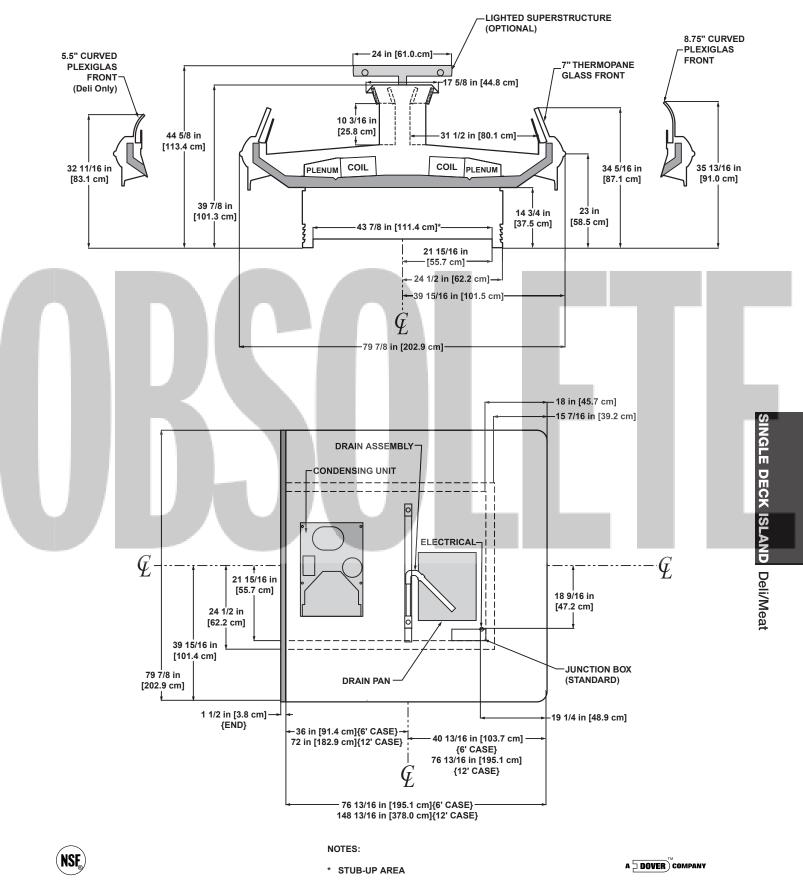
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm

4 12 - 6 am - 12 - 6 pm







5/06

Wide Island Bulk Produce Merchandiser

OIP - 8' & 12' wide island double wraparound end OIPB - 6', 8', 10' & 12' wide island single wraparound end OIPBB - 8' & 12' wide island double joint

Electrical Data

			Standar	rd Eono	0	ficiency		ndensate		Defrost	Heaters	
					Γc	115	nea	liers	1			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIP	8'	6	2.04	102	0.90	66	0.23	28	1			
	12'	8	2.72	136	1.20	88	0.55	66				
OIPB	6'	4	1.36	76	0.60	44	0.31	37				
	8'	6	2.04	102	0.90	66	0.46	55				
	10'	6	2.04	102	0.90	66	0.66	79				
	12'	8	2.72	136	1.20	88	0.78	94				
OIPBB	8'	6	2.04	102	0.90	66	0.84	101				
	12'	8	2.72	136	1.20	88	1.26	151				

¹ NOTE: - - - not an option on this case model.

Lighting Data

			_	-	
			al per t Row		imum nting
		120	Volts	120	Volts
Model		Amps	Watts	Amps	Watts
OIP	8'	NA ²	NA	3.78	454
	12'	NA	NA	5. 0 4	605
OIPB	6'	NA	NA	1.89	227
	8'	NA	NA	3.15	378
	10'	NA	NA		
	12'	NA	NA	4.41	52 9
OIPBB	8'	NA	NA	2.52	302
	12'	NA	NA	3.78	454

Guidelines & Control Settings

l	Model	BTUH/ft ³		Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
I	OIP/OIPB/OIPBB	650⁵	22	6-8	34	48	140

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ OIP: +600 BTUH per wraparound end.

Defrost Controls

			Electri	c Defrost	Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OIP/OIPB/OIPBB	3	6 - 8			44	38				

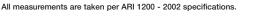
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Medium Temperature Defrost Schedule

No	Per	Day	ŀ
INU.	F CI	Day	

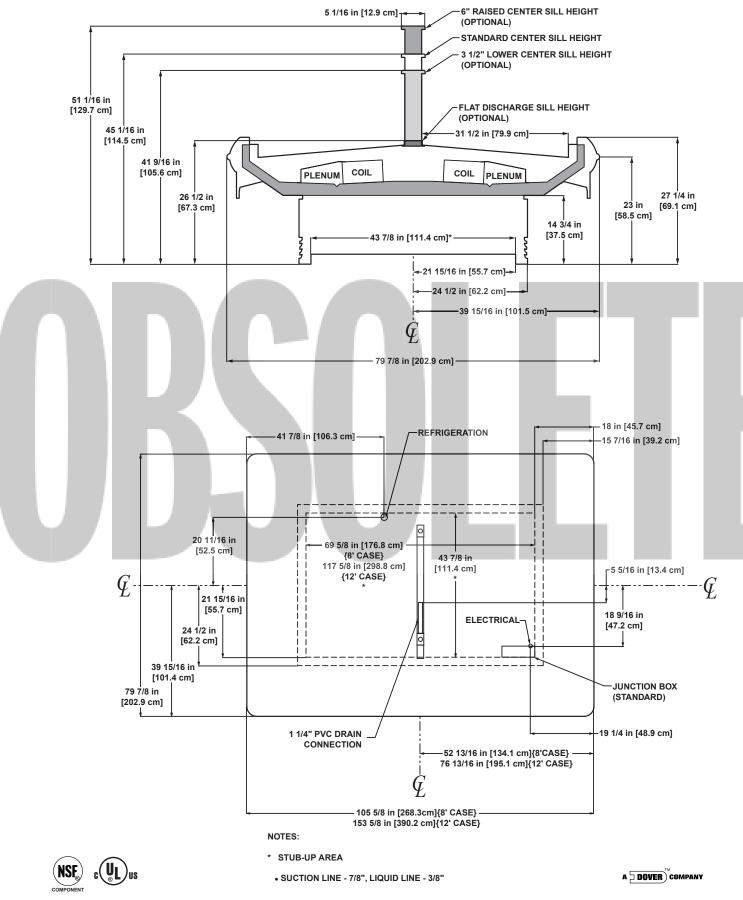
Hours 12 midnight 1

- 2 12 am - 12 pm
- 3 6 am - 2 pm - 10 pm
- 12 6 am 12 6 pm 4

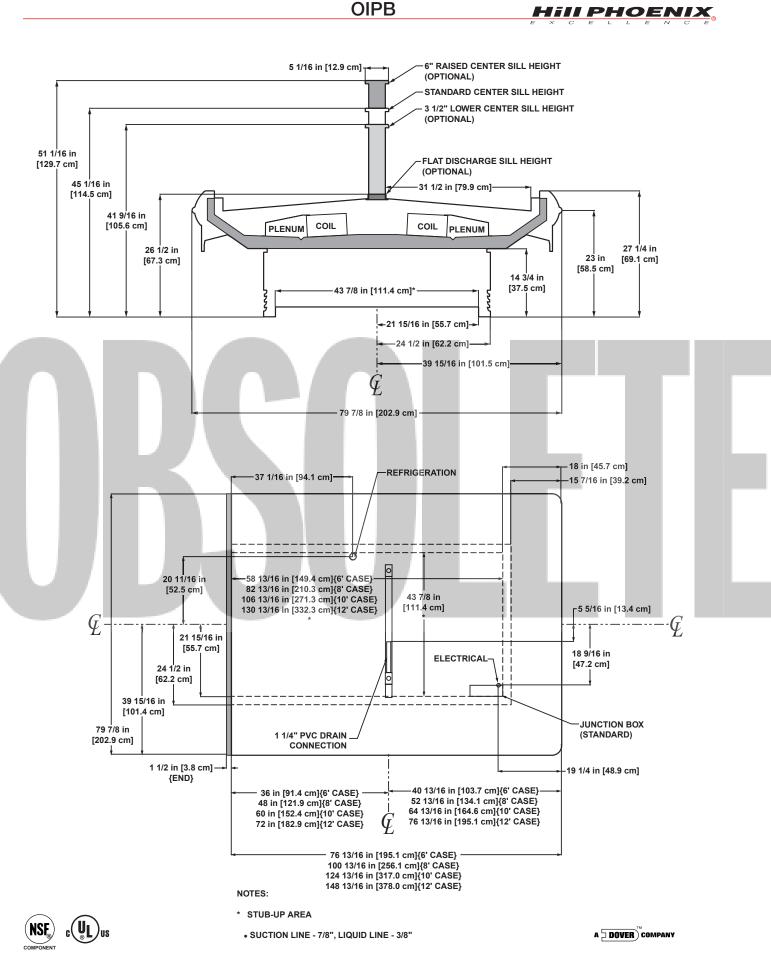




SINGLE DECK ISLAND Bulk Produce

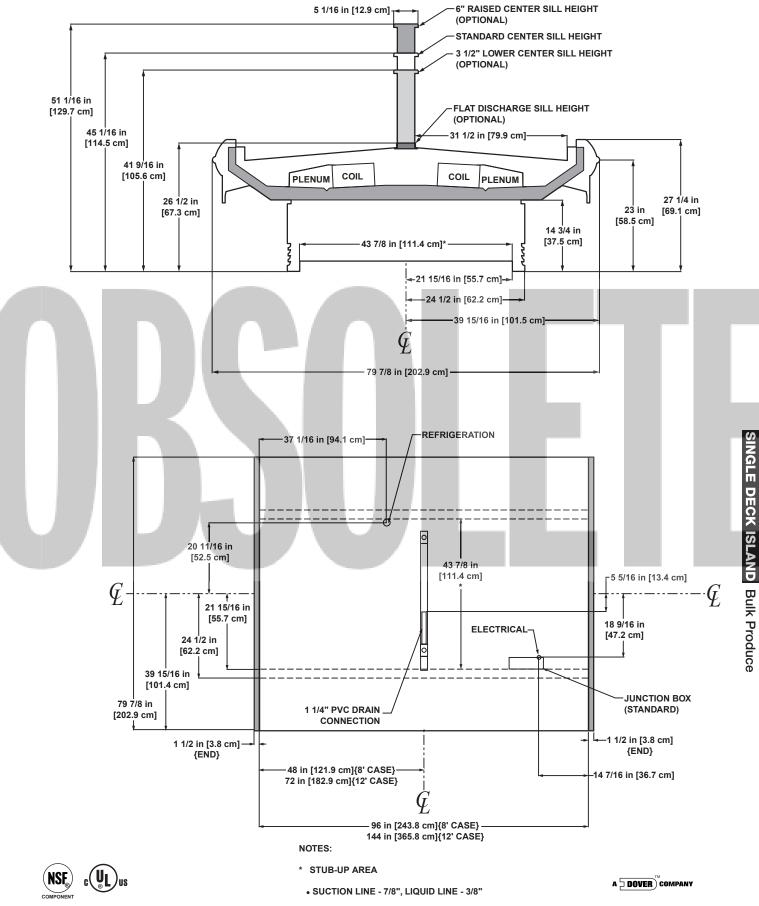






270

5/06





System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection
OIPA	8'	208	1	60	3 wire + ground	8.973	20
	12'	208	1	60	3 wire + ground	29.119	40

Electrical Data

			Standard Fans		Condenser Fan		Anti-Condensate Heaters			Defrost	Heaters	;	Drain Heater		Maximum Lights	
Fans pe		Fans per	s per 120 Volts		208	208 Volts		120 Volts		208 Volts 240		Volts	208 Volts		120 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIPA	8'	6	2.04	102	0.85	88	0.23	28	1				4.81	1000	3.78	454
	12'	8	2.72	136	2.60	270	0.55	66					4.81	1000	5.04	605

¹ NOTE: - - - not an option on this case model.

Guidelines & Control Settings

Model		Suction Pressure @ Case Outlet (psig)	erheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
OIPA-8'	-	45	6-8	34	48	140
OIPA-12'		45	6-8	34	48	140

² Average discharge air velocity at peak of defrost.

Condensing Unit Data

ľ	Model	Volts	Phase	Frequency (Hz)	HP	RLA⁴ (amps)	LRA⁵ (amps)	Refrig.	lbs of Refrig.
	OIPA-8'	208	1	60	1	6.7	33.5	R22	7.8
	OIPA-12'3	208	1	60	3/4	7.14	35.5	R22	11.9

 $^{3}\,$ This case uses two of the condensing units listed above.

⁴ RLA - Running Load Amps.

⁵ LRA - Locked Rotor Amps.

Defrost Controls

ľ			Electric Defrost		Timed C	Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	OIPA	3			44	38					

(NSF)

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm

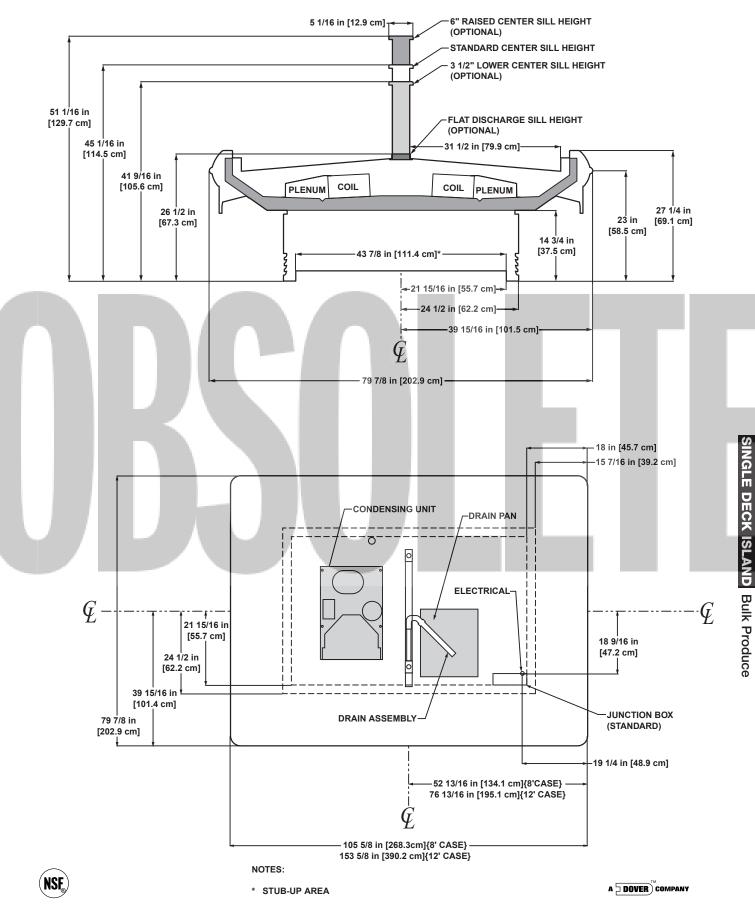
4 12 - 6 am - 12 - 6 pm











Electrical Data

	Standard Fans				•	High Efficiency Fans		ndensate ters	Defrost Heaters				Drain Heaters	
		Fans per	120	120 Volts		120 Volts		120 Volts		208 Volts		Volts	120 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONZ	F-8'1	3	1.02	51	0.45	33	1.93	232	7.69	1600	8.88	2130	0.13	15
	F-12'	4	1.36	68	0.60	44	2.70	324	11.54	2400	13.31	3195	0.13	15
	C-8'	3	1.02	51	0.45	33	1.93	232	15.38	3200	17.75	4260	0.13	15
	C-12'	4	1.36	68	0.60	44	2.70	324	23.08	4800	26.63	6390	0.13	15

¹ F = frozen food, C = ice cream.

Lighting Data

		Typic: Light			imum nting	
		120	Volts	120	Volts	
Model		Amps Watts		Amps	Watts	
ONZ	8'	 2				
	12'					

² NOTE: - - - not an option on this case model.

Guidelines & Control Settings

Model	BTUH/ft ³	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
ONZ - F	440	-12	3- 5	-2	7	393
ONZ - C	500	-22	3-5	-13	-3	400

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

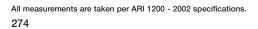
Defrost Controls

l					c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
		Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	
I	Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	
	ONZ	2	13 - 15	35	47			20	60			

Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

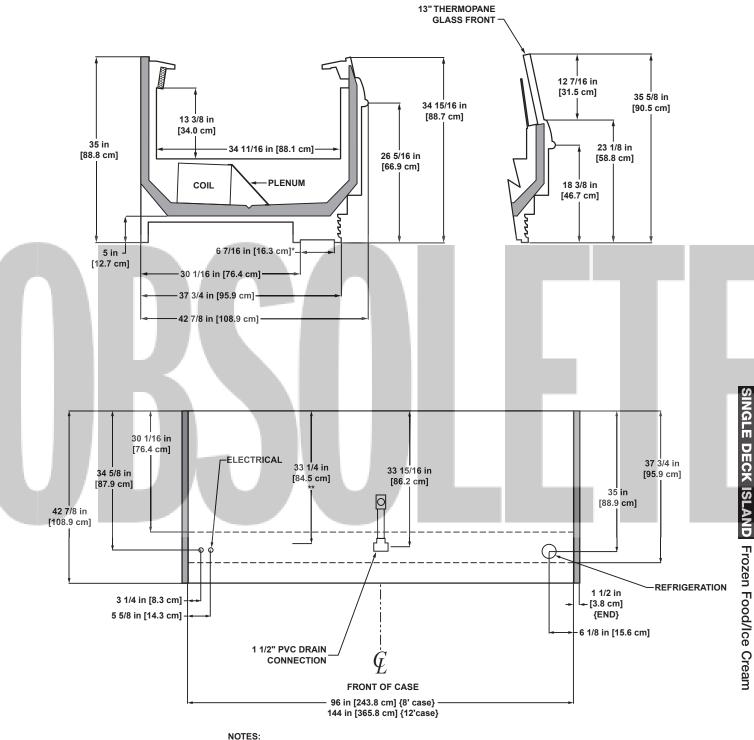
** Or immediately after store closing hour











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"



Electrical Data

			Standa	rd Eans	0	ficiency		Dofroct	Heaters			ain aters
		Fans per		120 Volts		Volts	208	208 Volts 240			1	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONIZ	F-6'1	2	0.68	34	0.30	22	5.77	1200	6.66	1598	0.13	15
	F-8'	3	1.02	51	0.45	33	7.69	1600	8.88	2130	0.13	15
	F-10'	3	1.02	51	0.45	33	9.62	2000	11.10	2663	0.13	15
	F-12'	4	1.36	68	0.60	44	11.54	2400	13.31	3195	0.13	15
	C-6'1	2	0.68	34	0.30	22	11.54	2400	13.32	3196	0.13	15
	C-8'	3	1.02	51	0.45	33	15.38	3200	17.75	4260	0.13	15
	C-10'	3	1.02	51	0.45	33	16.13	3355	18.65	4476	0.13	15
	C-12'	4	1.36	68	0.60	44	23.08	4800	26.63	6390	0.13	15

¹ F = Frozen food, C = Ice cream.

Lighting Data

	1.0						
	Typical	per	Maximum				
	Light R	ow	Lighting				
	120 Vo	lts	120	Volts			
Model	Amps W	atts /	Amps	Watts			
ONIZ-6'	2 -						
ONIZ-8'							
ONIZ-10'							
ONIZ-12'							

Anti-Condensate Heater Data

		1												
		So	lid	Solid Front ³		Solid Wrap₄		Glass		Glass Front ³		Glass Wrap4		
		Fre	ont	Glass	Glass Cap		End		Front		Glass Cap		End	
		120	Volts	120	Volts	120	Volts	120	Volts	120	Volts	120	Volts	
	Model	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
1	ONIZ-6'	0.91	109	0.42	50	0.26	31	1.69	203	0.37	44	0.57	68	
	ONIZ-8'	0.86	103	0.90	108	0.26	31	1.66	199	0.42	50	0.57	68	
	ONIZ-10 '	1.00	120	1.20	144	0.26	31	1.95	234	0.62	74	0.57	68	
	ONIZ-12'	1.27	152	1.42	170	0.26	31	2.35	282	0.74	89	0.57	68	
10														

² NOTE: - - - not an option of this case model.

³ Glass cap heater for stainless steel glass cap option only.

⁴ Data given for one glass wrap-around end.

Guidelines & Control Settings

ų	Model	BTUH/ft⁵	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁶ (FPM)
l	ONIZ-F	440	-12	3-5	-2	7	393
	ONIZ-C	500	-22	3-5	-13	-3	400

⁵ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁶ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
ONIZ	2	13 - 15	35	47			20	60		

Low Temperature Defrost Schedule

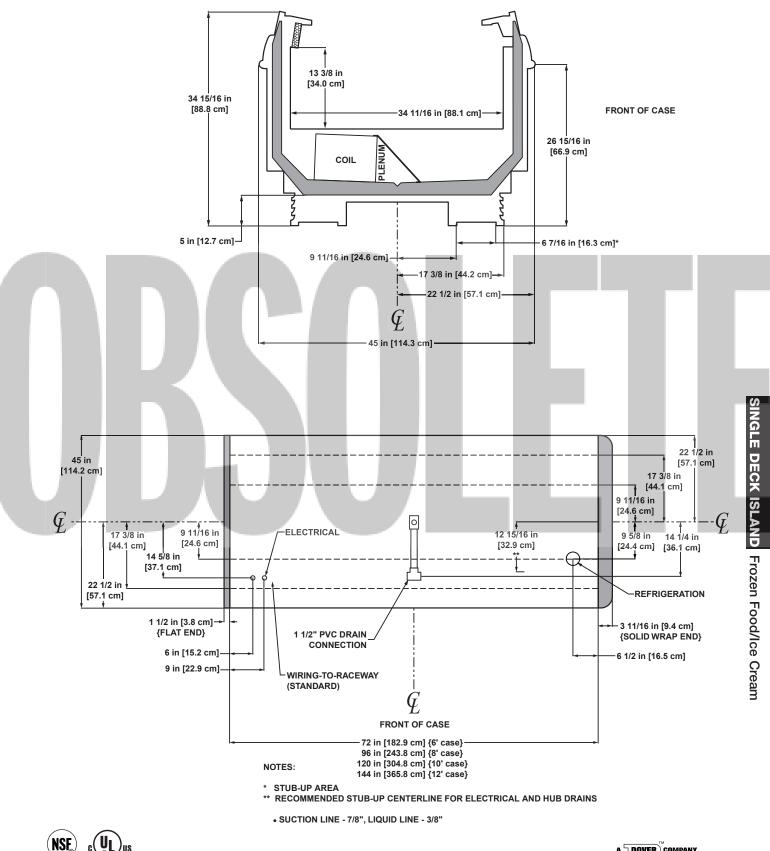
No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour

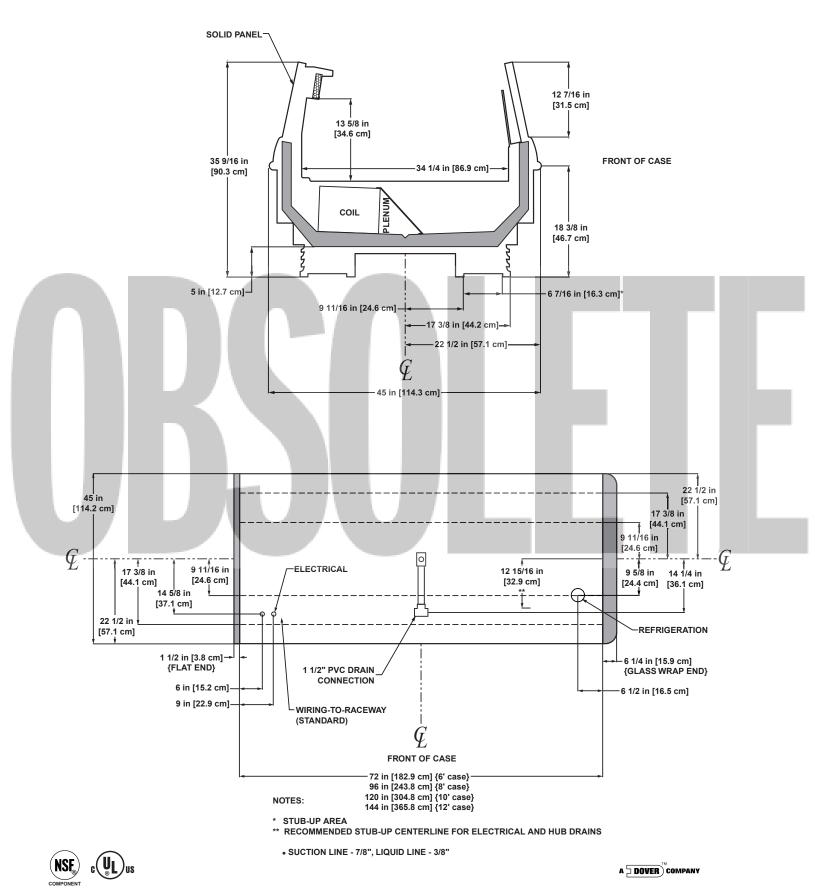


Hill PHOENIX

ONIZ (STANDARD FRONT)



ONIZ (THERMOPANE GLASS FRONT)





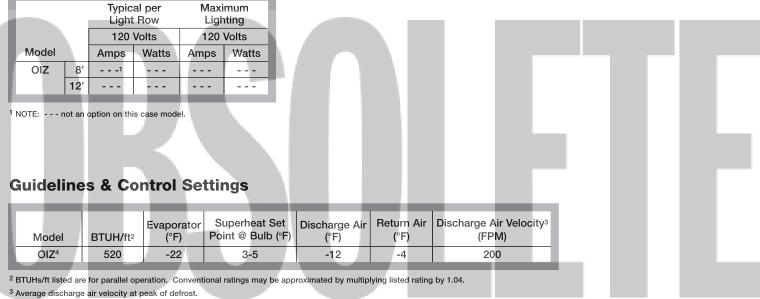
Island Frozen Food Merchandiser

OIZ - 8' & 12'

Electrical Data

			Standa	rd Fans	•	ficiency Ins		ndensate iters		Defrost	Heaters			ain iters
		Fans per	120	Volts	120	Volts	120	Volts	208	Volts	240	Volts	120	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OIZ	8'	3	1.02	51	0.45	33	3.14	377	7.69	1600	8.88	2130	0.13	15
	12'	4	1.36	68	0.60	44	3.97	476	11.54	2400	13.31	3195	0.13	15

Lighting Data



⁴ Not intended for Frozen Juice application

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
OIZ	1	13 - 15	45	47			20	60		

Low Temperature Defrost Schedule

 No. Per Day
 Hours

 1
 10 pm

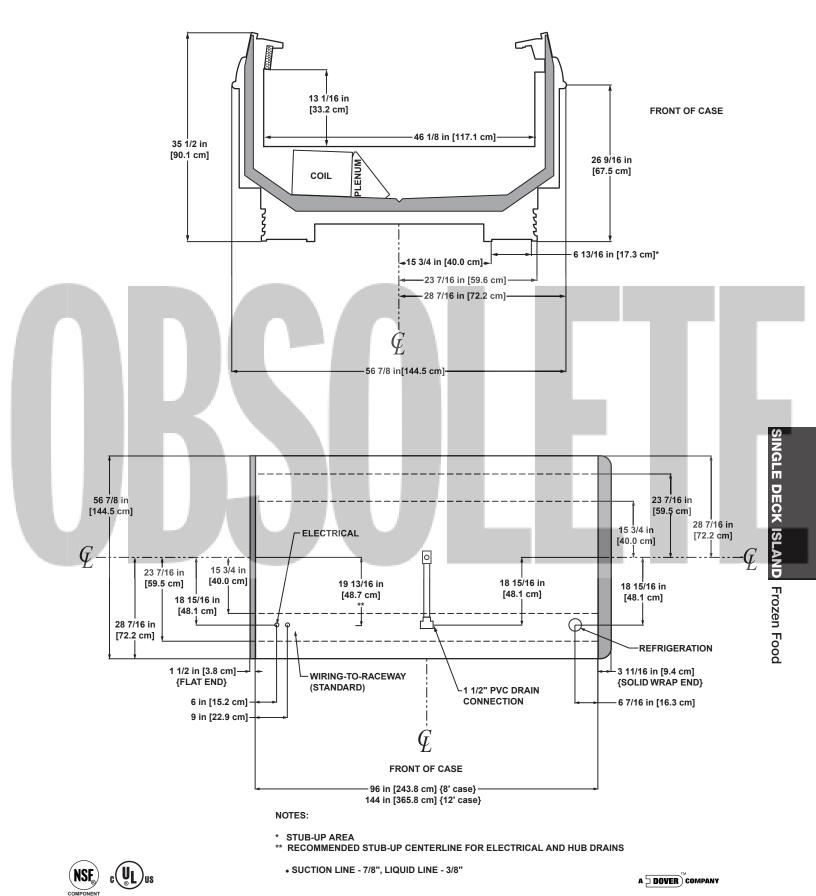
 2
 6 am - 10 pm**

** Or immediately after store closing hour









OIZ

5/06

Wide Island Frozen Food/Ice Cream Merchandiser

OWIZ - 8' & 12'

Electrical Data

			Standa	rd Fan	High Ef Fa		I	Defrost I	Heaters			ain ters
		Fans per	120 \	/olts	120 \	Volts	208 \	/olts	240	Volts	120	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWIZ	F-8'1	4	1.36	68	0.60	44	7.69 ²	1600	8.88 ²	2130	0.26	30
	F-12'	6	2.04	102	0.90	66	11.54 ²	2400	13.31 ²	3195	0.26	30
	C-8'	4	1.36	68	0.60	44	11.54 ²	2400	13.31 ²	3195	0.26	30
	C-12'	6	2.04	102	0.90	66	17.31 ²	3600	19.98 ²	4795	0.26	30

Model OWIZ-8'

OWIZ-12'

¹ F = frozen food, C = ice cream.

² Defrost data for one side of case only.

Lighting Data[®]

Anti-Condensate Heater Data

Glass

Front

120 Volts

Amps Watts Amps Watts Amps Watts

362

526

3.02

4.38

Glass⁶

Cap

120 Volts

60

89

0.50

0.74

Glass Wrap7

End

120 Volts

Amps Watts

82

82

0.68

0.68

Super

Structure

120 Volts Amps Watts

60

91

0.50

0.76

		al per Row		mum Iting	
	120	Volts	120	Volts	
Model	Amps	Watts	Amps	Watts	
OWIZ-8'	NA ⁴	NA	5.20	624	
OWIZ-12'	NA	NA	7.48	898	

³ Lighting is for cases with superstructures.

⁴ Not applicable.

475 ⁵ Solid wrap-around ends have no anti-condensate heaters.

314

⁶ Glass cap heater for stainless steel glass cap option only.

⁷ Data given for one glass wrap-around end.

Solid⁵

Front

120 Volts

2.62

3.96

Guidelines & Control Settings

		Coil	Evaporator		Dicona go / a		Discharge Air Velocity9
Model	BTUH/ft ⁸	Туре	(°F)	Point @ Bulb (°F)	(°F)	(°F)	(FPM)
OWIZ - F	635	Enh.	-12	3-5	-6	0	180
OWIZ - C	740	Enh.	-22	3-5	-16	-10	180

⁸ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04. BTUHs/ft listed are for both sides of the case.

⁹ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
Mod	lel	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
OW	IZ	1	13 - 15	60	49	¹⁰		20	60		

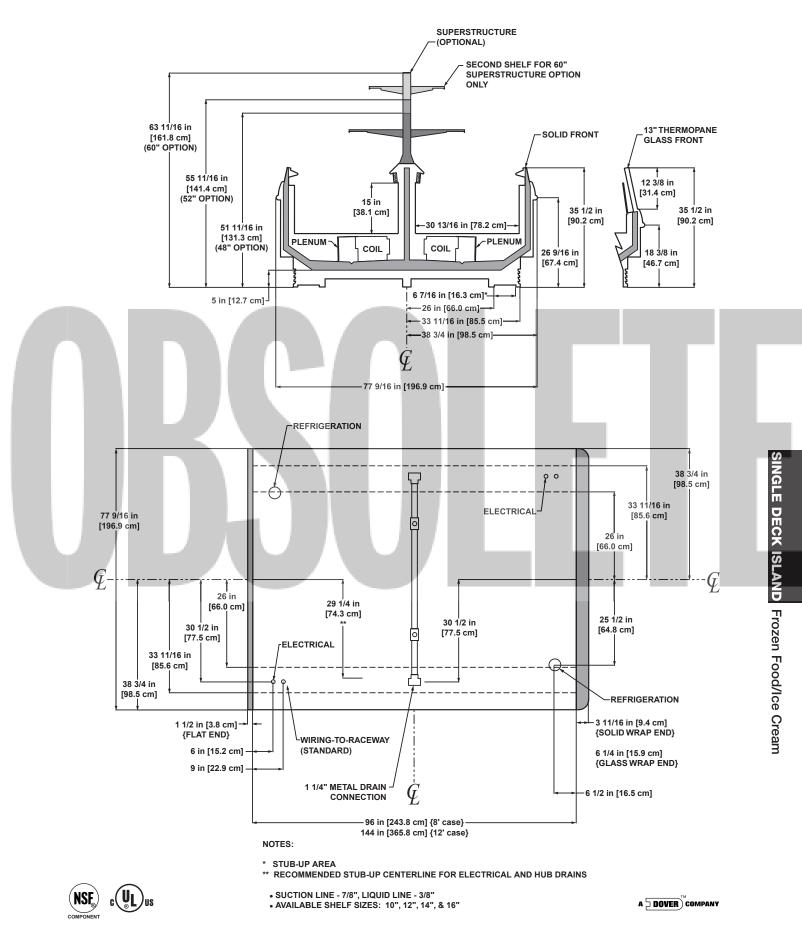
¹⁰ NOTE: - - - not an option on this case model.

Low Temperature Defrost Schedule

No. Per Day Hours 10 pm 1 2 6 am - 10 pm**

** Or immediately after store closing hour





Wide Island End Cap Frozen Food/Ice Cream Merchandiser **OWEZ**

Electrical Data

			Standa	rd Fan	High Ef Fa			Defrost I	Heaters		Dra Hea	
		Fans per	120 \	/olts	120 \	Volts	208 \	/olts	240	Volts	120	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWEZ	F ¹	2	0.68	34	0.30	22	5.77	1200	6.65	1596	0.13	15
	С	2	0.68	34	0.30	22	8.65	1800	9.98	2394	0.13	15

Anti-Condensate Heater Data

¹ F = Frozen food, C = Ice cream

Lighting Data

Typical per Maximum Solid Glass Glass³ Light Row Front Front Lighting Cap 120 Volts 120 Volts 120 Volts 120 Volts 120 Volts Amps Watts Model Amps Watts Model Amps Watts Amps Watts Amps Watts OWEZ -----OWEZ - - -- - -1.56 187 1.96 235 0.51 ² NOTE: - - - not an option on this case model. ³ Glass cap heater for stainless steel glass cap option only

Guidelines & Control Settings

				_			
		Coil E	Evaporator	Superheat Se	Discharge Air	Return Air	Discharge Air Velocity⁵
Model	BTUH/cs4		(°F)	Point @ Bulb ((°F)	(FPM)
OWEZ - F	2855	Enh.	-12	3-5	-6	0	200
OWEZ - C	3490	Enh.	-22	3-5	-16	-10	200

⁴ BTUHs/case listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁵ Average discharge air velocity at peak of defrost.

Defrost Controls

ľ				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
	OWEZ	1	13 - 15	60	49			20	60		

Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

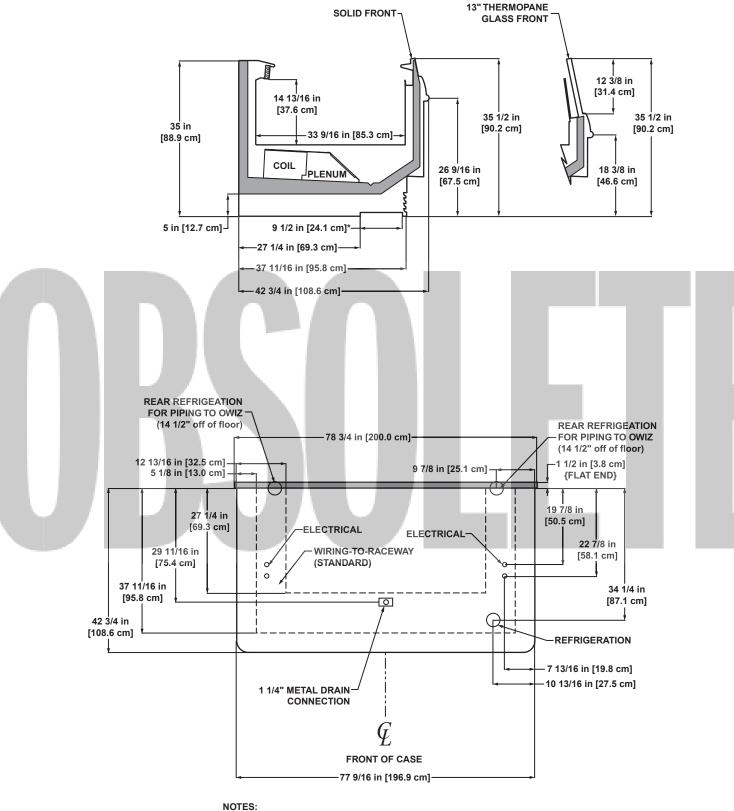
** Or immediately after store closing hour

All measurements are taken per ARI 1200 - 2002 specifications.



61





* STUB-UP AREA

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

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

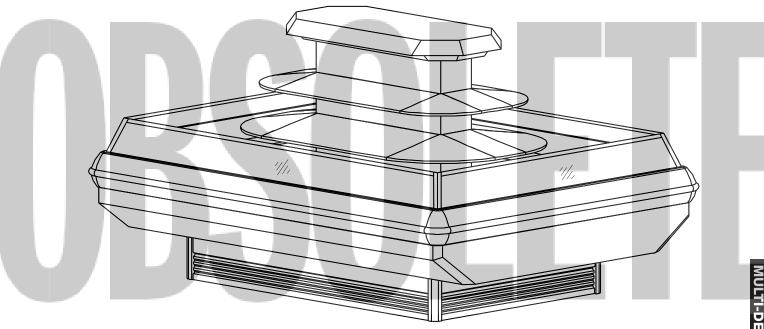


SINGLE DECK ISLAND

Frozen Food/Ice Cream



MULTI-DECK ISLAND



Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

Wide Island Multi-Deck Deli/Meat Merchandiser O2IM - 8' double wraparound end

Electrical Data

			Standar	d Fans	0	ficiency Ins		ndensate iters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O2IM	8'	6	3.00	180	0.46	27.6	0.67	80	7.70	1600	8.88	2130

Lighting Data

			cal per t Row		imum nting			_			_	
		120	Volts	120	Volts							
Model		Amps	Watts	Amps	Watts							
O2IM	8'	NA ¹	NA	0.95	114							
Not applicat	Jie.											
Guidal	inos	8.0	outrol	Sotti	age							
			ontrol BTUH/ff ²	Coil	Evaporator	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air	-	city ⁴		
Model	Applic	cation	BTUH/ft ²	Coil Type		Point @ Bulb (°F)	Discharge Air (°F) 26	Return Air (°F) 38	Discharge Air Veloc (FPM) 270	city ⁴		
		cation eat		Coil	Evaporator (°F)		(°F)	(°F)	(FPM)	city ⁴		

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O2IM	4	6 - 8	30	47	45 ⁵	45⁵	26	45	⁶	

 5 Only recommended with the high efficiency coil at a 22°F evaporator.

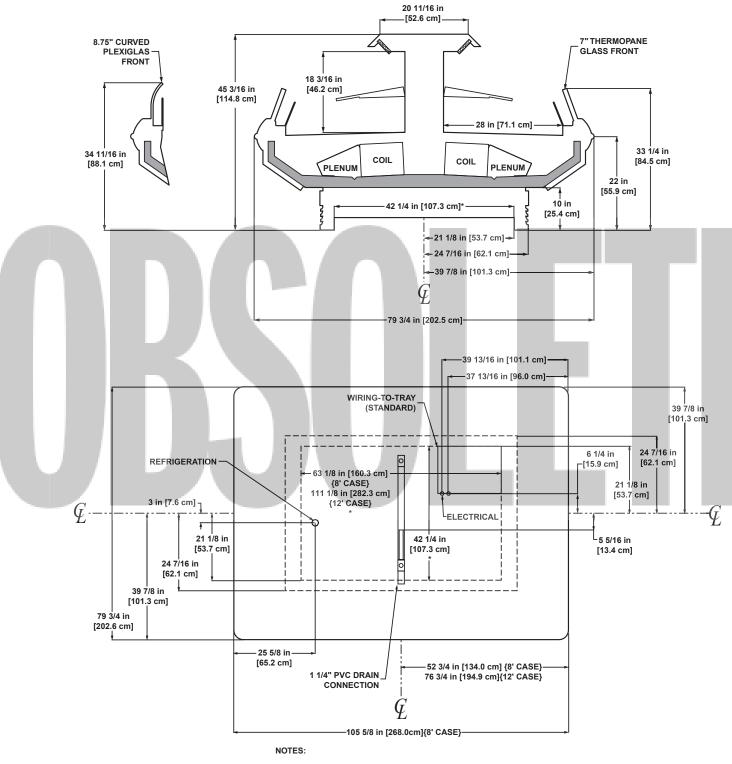
⁶ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm







* STUB-UP AREA

• SUCTION LINE - 7/8", LIQUID LINE - 1/2" • AVAILABLE SHELF SIZES: 12" & 16"

MULTI-DECK ISLAND Deli/Meat

Wide Island Multi-Deck Deli/Meat Merchandiser O3IM - 8' & 12' double wraparound end O3IMB - 6', 8' & 12' single wraparound end O3IMBB - 8' double joint end

Electrical Data

	Standard Fans		· · ·	ficiency ans		ndensate aters	Defrost Heaters					
		Fans per	120 \	120 Volts		120 Volts		120 Volts		208 Volts		Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3IM	8'	6	3.00	180	0.46	27.6	0.67	80	7.70	1600	8.88	2130
	12'	8	4.00	240	0.62	36.8	1.06	127	11.54	2400	13.32	3200
O3IMB	6'	4	2.00	120	0.31	18.4	0.63	76	5.77	1200	6.66	1596
	8'	6	3.00	180	0.46	27.6	0.88	106	7.70	1600	8.88	2130
	12'	8	4.00	240	0.62	36.8	1.24	149	11.54	2400	13.32	3200
O3IMBB	8'	6	3.00	180	0.46	27.6	0.91	109	7.70	1600	8.88	2130

Lighting Data

			al per Row		mum nting		
		120	Volts	120 Volts			
Model		Amps	Watts	Amps	Watts		
O3IM	8'	NA ¹	NA	1.88	226		
	12'	NA	NA	5.69	683		
O3IMB	6'	NA	NA	1.40	168		
	8'	NA	NA	2.02	242		
	12'	NA	NA	3.24	389		
O3IMBB	8'	NA	NA	1.84	221		

¹ Not applicable.

Guidelines & Control Settings

Model	Application	BTUH/ft ²	Coil Type	Evap orator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
O3IM	Meat	1600 ³	Enh.	17	6-8	26	38	270
	Deli	1470 ³	Enh.	22	6-8	30	40	270
O3IMB	Meat	1600 ³	Enh.	17	6-8	26	38	270
	Deli	1470 ³	Enh.	22	6-8	30	40	270
O3IMBB	Meat	1378 ³	Enh.	17	6-8	26	38	270
	Deli	1266 ³	Enh.	22	6-8	30	40	270

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Defrosts	Run-Off	Fail-safe		Fail-safe	Termination	Fail-safe	Termination	Fail-safe	
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
O3IM/O3IMB/O3IMBB	4	6 - 8	30	47	45 ⁵	45 ⁵	26	45	6	

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⁵ Only recommended with the high efficiency coil at a 22°F evaporator.

⁶ NOTE: - - not an option on this case model.

Medium	Temperature	Defrost	Schedule

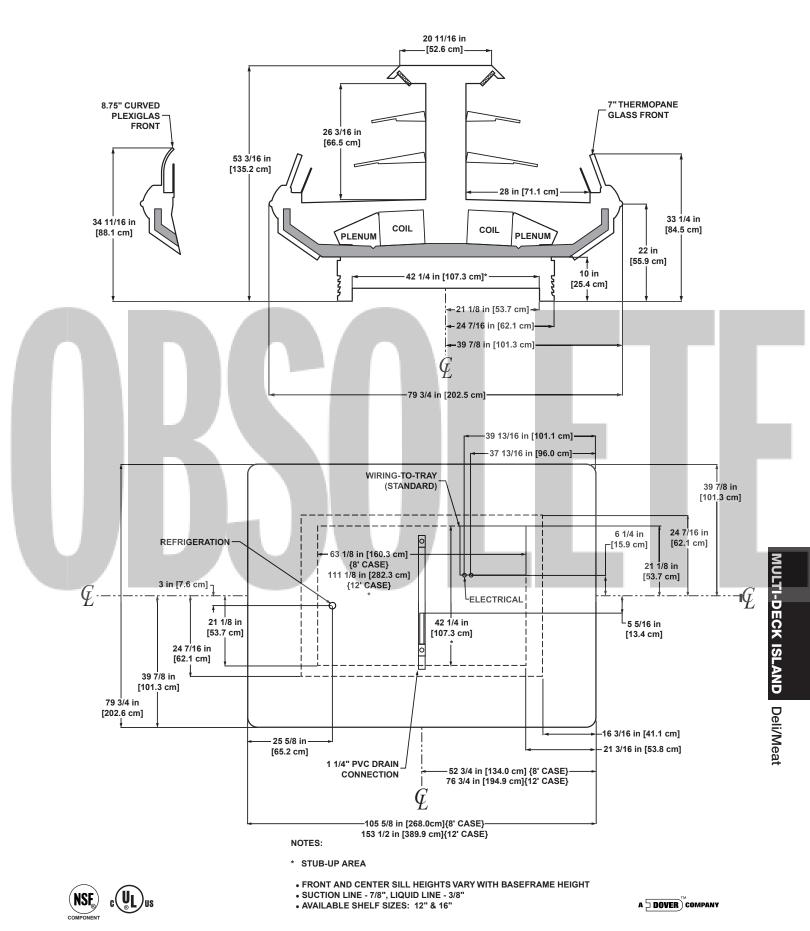
No.	Per	Day	Hours

- 1 12 midnight 2 12 am - 12 pm
- 6 am 2 pm 10 pm 12 6 am 12 6 pm 3

4

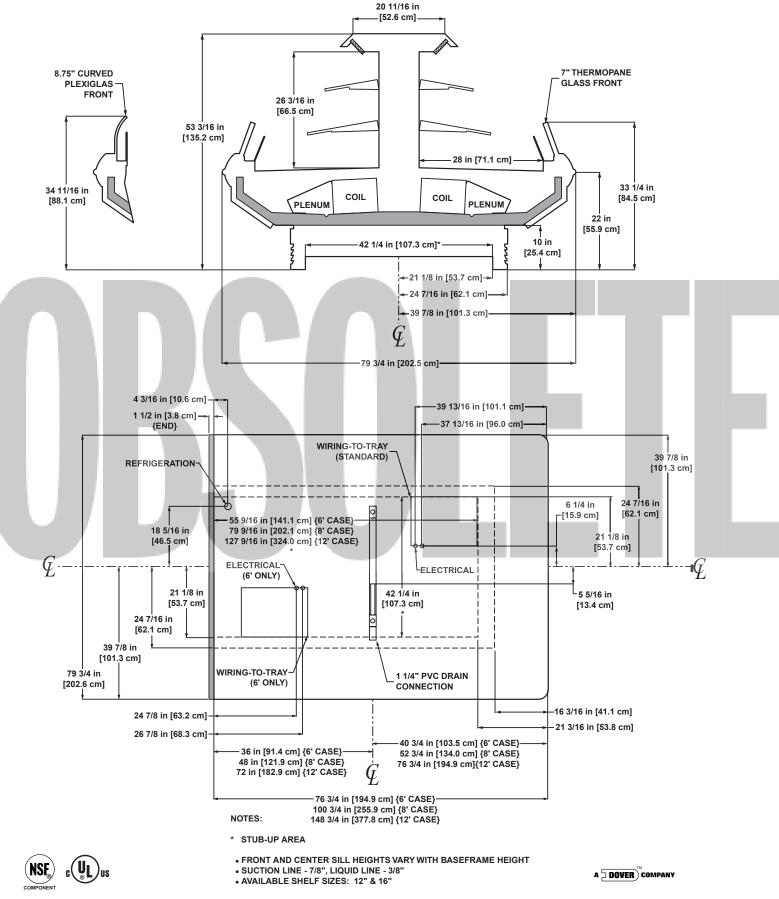




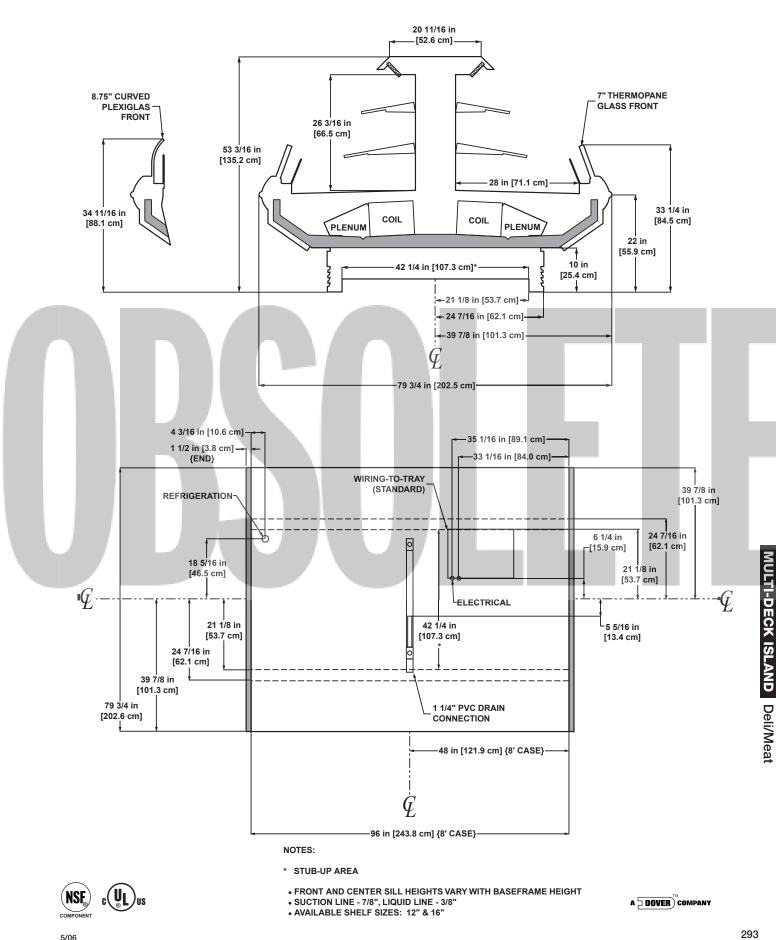




5/06







Wide Island Multi-Deck Produce Merchandiser

O3IP - 8' & 12' wide island double wraparound end O3IPB - 8' & 12' wide island single wraparound end

Electrical Data

			Standa	rd Fan	High Ef Fa		Anti-Cor Hea		Defrost Heaters			
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3IP	8'	6	2.04	102	0.90	66	0.82	98	4.34	902	5.00	1200
	12'	8	2.72	136	1.20	88	1.08	130	7.22	1502	8.33	2000
O3IPB	8'	6	2.04	102	0.90	66	0.75	90	4.34	902	5.00	1200
	12'	8	2.72	136	1.20	88	1.17	140	7.22	1502	8.33	2000

Lighting Data

J			Typica Light			kimum hting					
		1	120 \	/olts	120	Volts					
	Model		Amps	Watts	Amps	Watts				_	
- 1	O3IP	8'	NA ¹	NA	5.71	546					
		12'	NA	NA	7.46	779					
	O3IPB	8'	NA	NA	4.76	514					
		12'	NA	NA	6.02	665					
	Not applica	ine	s & Со	Eva	Setti	ngs Superheat Set Point © Bulb (°I		Return Air (°F)	Discharge Air Velocity ³ (FPM)		Г
_	he all										
	03IP/03	IPB	10504		22	6-8	34	48	160		

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ Add 650 BTUH per wrap end.

Defrost Controls

					Electric Defrost		Timed Off Defrost		s Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	O3IP/O3IPB	4	6 - 8	30	47	44	38	⁵			

⁵ NOTE: --- not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours	
	40	

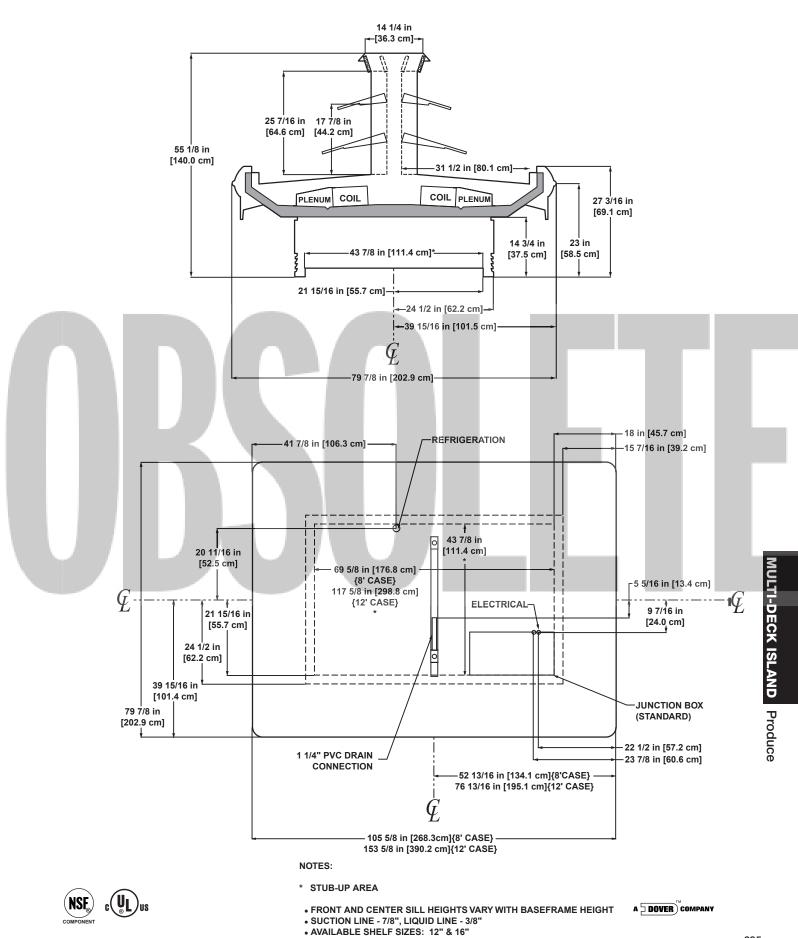
	12 miunigni
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	10 6 10 6

4 12 - 6 am - 12 - 6 pm

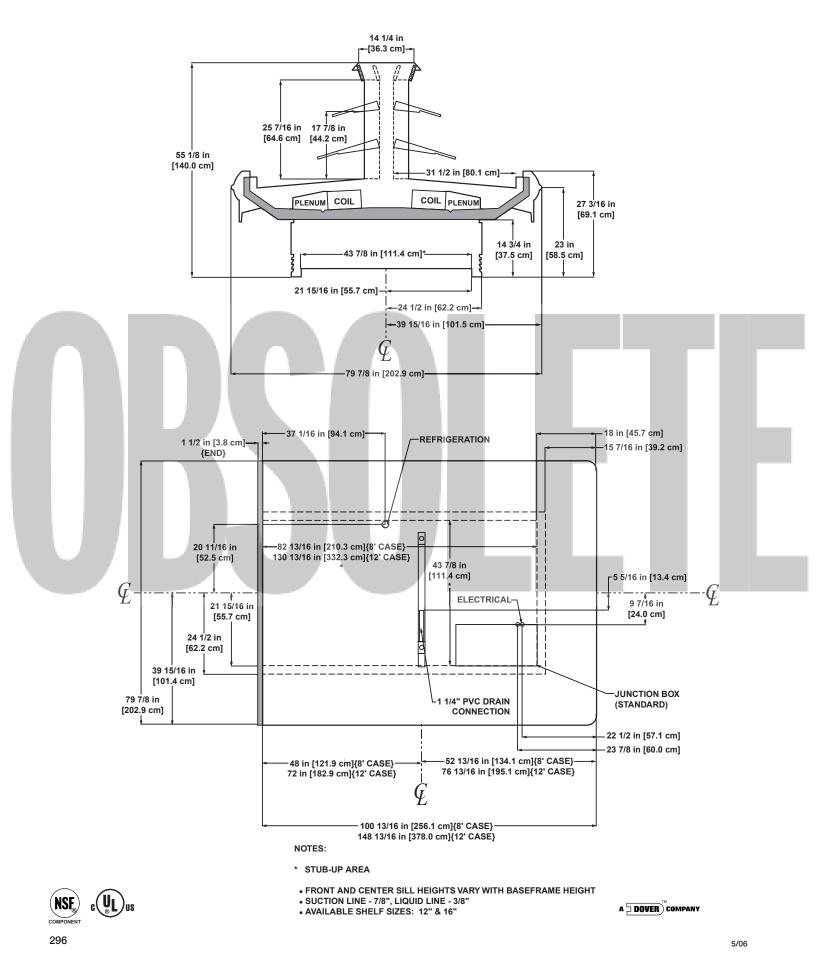














Wide Island Multi-Deck Deli Merchandiser O4ID - 8' & 12' double wraparound end O4IDB - 6', 8' & 12' single wraparound end O4IDBB - 8' double joint end

Electrical Data

Fans per		High EfficiencyAStandard FansFans120 Volts120 Volts		Anti-Condensate Heaters 120 Volts		Defrost Heaters 208 Volts 240 Volts						
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O4ID	8'	6	3.00	180	0.70	42.0	0.67	80	7.70	1600	8.88	2130
	12'	8	4.00	240	0.94	56.0	1.06	127	11.54	2400	13.32	3200
O4IDB	6'	4	2.00	120	0.47	28.0	0.63	76	5.77	1200	6.66	1596
	8'	6	3.00	180	0.70	42.0	0.88	106	7.70	1600	8.88	2130
	12'	8	4.00	240	0.94	56.0	1.24	149	11.54	2400	13.32	3200
O4IDBB	8'	6	3.00	180	0.70	42.0	0.91	109	7.70	1600	8.88	2130

Lighting Data

			al per t Row	Maximum Lighting		
		120	Volts	120 Volts		
Model		Amps	Watts	Amps	Watts	
O4ID	8'	NA ¹ NA		3.90	468	
	12'	NA	NA	6.06	727	
O4IDB	6'	NA	NA	3.07	368	
	8'	NA	NA	3.79	455	
	12'	NA	NA	5.53	664	
O4IDBB	8'	NA	NA	4.00	480	

¹ Not applicable.

Guidelines & Control Settings

Model	Application	BTUH/ft ²	Coil Type	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
O4ID	Meat	2100 ³	Enh.	17	6-8	25	40	130
	Deli	1950 ³	Enh.	22	6-8	28	43	130
O4IDB	Meat	2100 ³	Enh.	17	6-8	25	40	130
	Deli	1950 ³	Enh.	22	6-8	28	43	130
O4IDBB	Meat	1809 ³	Enh.	17	6-8	25	40	130
	Deli	1679 ³	Enh.	22	6-8	28	43	130

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ High efficiency fans reduce refrigeration load by 96 BTUHs/fan.

⁴ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electri	c Defrost	Timed C	ff Defrost Hot Gas Defrost			Reverse Air Defrost	
	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
O4ID/O4IDB/O4IDBB	4	6 - 8	30	47	45⁵	45⁵	26	45	⁶	

 5 Only recommended with the enhanced efficiency coil at a 22°F evaporator.

⁶ NOTE: --- not an option on this case model.

Medium Temperature Defrost Schedule

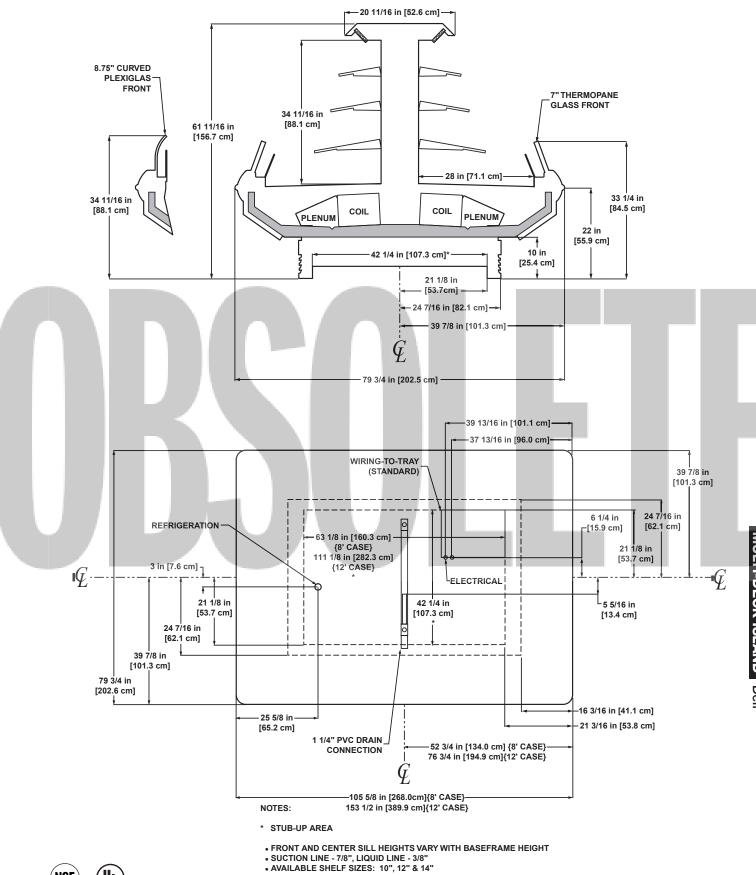
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

0	0 um	- pin	i o pin
4	12 - 6	am - 12	- 6 pm

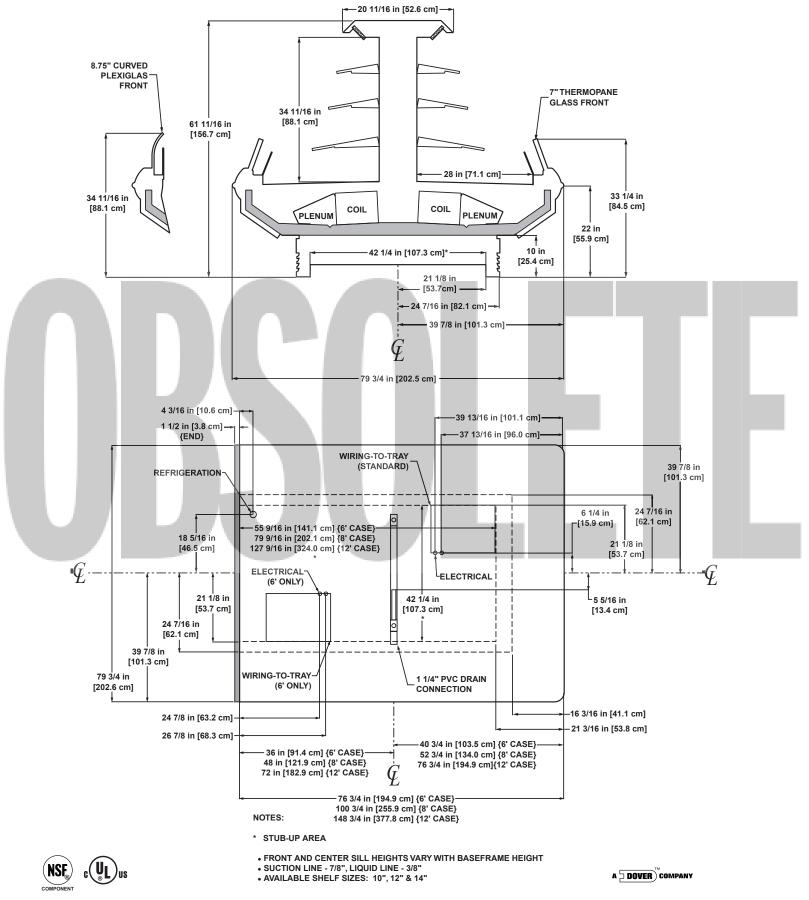




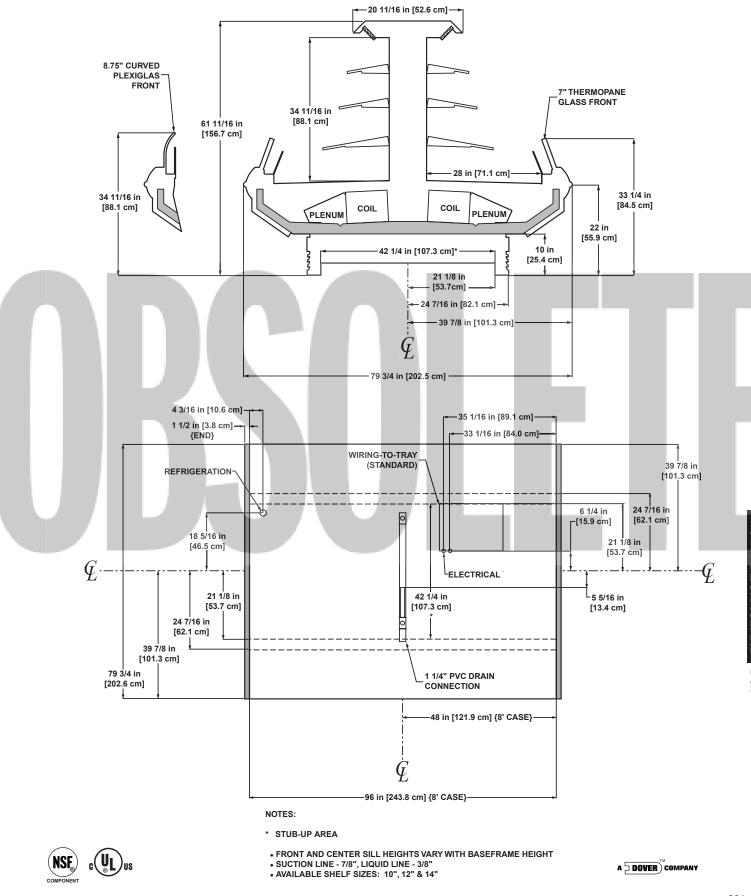








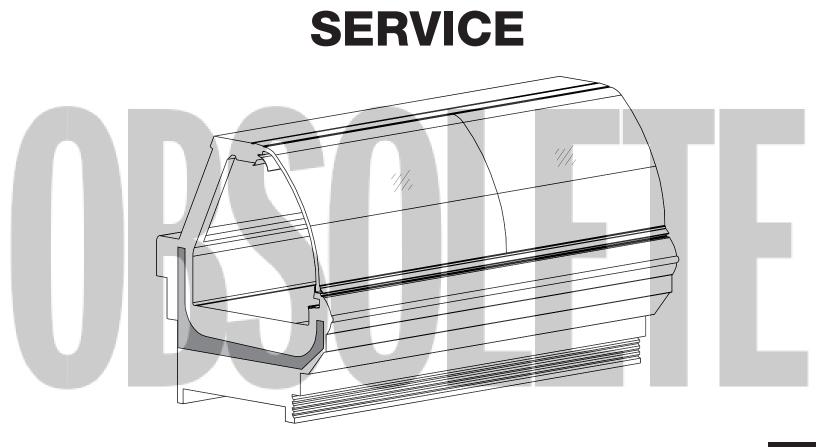




5/06

MULTI-DECK ISLAND Deli





Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

OSA - 4', 6', 8' & 12'

Electrical Data

		High Efficiency Standard Fans Fans		Anti-Condensate Heaters		Defrost Heaters						
	Fans per		120 \	/olts	120 Volts 12		120	120 Volts 208 Volts		Volts	240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSA	4'	2	0.68	34	0.30	22	1.08	130	1.92	400	2.22	532
	6'	2	0.68	34	0.30	22	1.33	160	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	2.11	253	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	2.93	352	5.77	1200	6.67	1600

Lighting Data

		Bulbs		Light	al per Row	Maximum Lighting		
		per	Bulb	120	Volts	120	Volts	
Model		Row	Length	Amps	Watts	Amps	Watts	
OSA	4'	1	4'	0.23	28	1.17	140	
	6'	2	3'	0.37	44	1.83	220	
	8'	2	4'	0.47	56	2.33	280	
	12'	3	4'	0.70	84	3.50	420	

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Dioonia go / in	Return Air (°F)	Discharge Air Velocity ² (FPM)
OSA w/ Shelf Lights	320	22	6-8	30	39	235
OSA w/o Shelf Lights	290	22	6-8	30	39	235

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04. ² Average discharge air velocity at peak of defrost.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost		
	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
OSA	2	6 - 8	35	50	75 ³	50 ³	20	45	4	

c(UL)us

³ Not recommended on this model due to long defrost time.

⁴ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours	

1	12 midnight
2	12 am - 12 pm

 3
 6 am - 2 pm - 10 pm

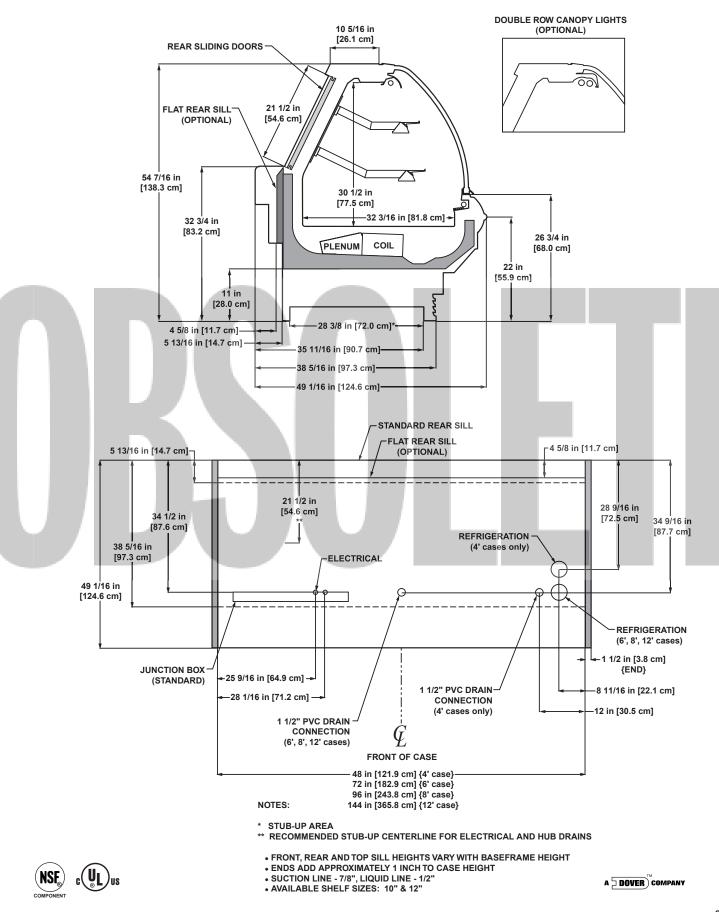
 4
 12 - 6 am - 12 - 6 pm

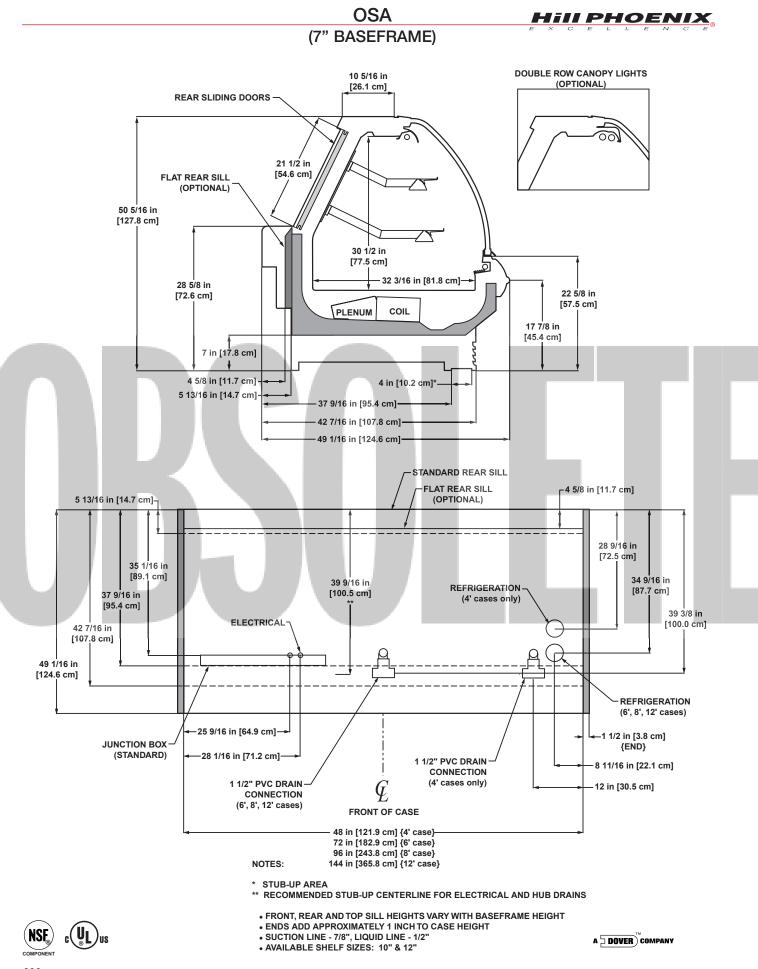
4 12 - 6 ani - 12 - 6 pin



OSA (11" BASEFRAME)









Deli

American Style Curved Glass Service Deli/Meat/Seafood Gravity Coil Merchandiser

OSAG - 4', 6', 8' & 12'

Electrical Data

			Standar	rd Fans	•	ficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSAG	4'	2	0.68	34	0.30	22	1.48	178	1			
	6'	2	0.68	34	0.30	22	1.93	232				
	8'	3	1.02	51	0.45	33	2.91	349				
	12'	4	1.36	68	0.60	44	4.13	496				

¹ NOTE: - - - not an option on this case model.

Lighting Data

							100
		Bulbs			al per Row		mum nting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OSAG	4'	1	4'	0.23	28	1.17	140
	6'	2	3'	0.37	44	1.83	220
	8'	2	4'	0.47	56	2.33	280
	12'	3	4'	0.70	84	3.50	420

Guidelines & Control Settings

I	Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F		Return Air (°F)	Discharge Air Velocity ³ (FPM)
	OSAG ⁴	270	15	6-8	21-31	38	125

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ If the OSAG is piped to a suction header lower than 10°F an EPR with a suction stop solenoid is required. If a suction stop solenoid is not provided at the rack a suction stop solenoid is required at the case. A liquid line solenoid alone will not allow the case to cycle properly and is not recommended for control of this case. The thermostat probe should be located on the inlet of the top coil. The cut out point should be set to 15°F and the cut in point should be set so that refrigeration starts as soon as the top coil ice starts to drip.

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OSAG	2	6 - 8			65	46	20	45		

Medium Temperature Defrost Schedule

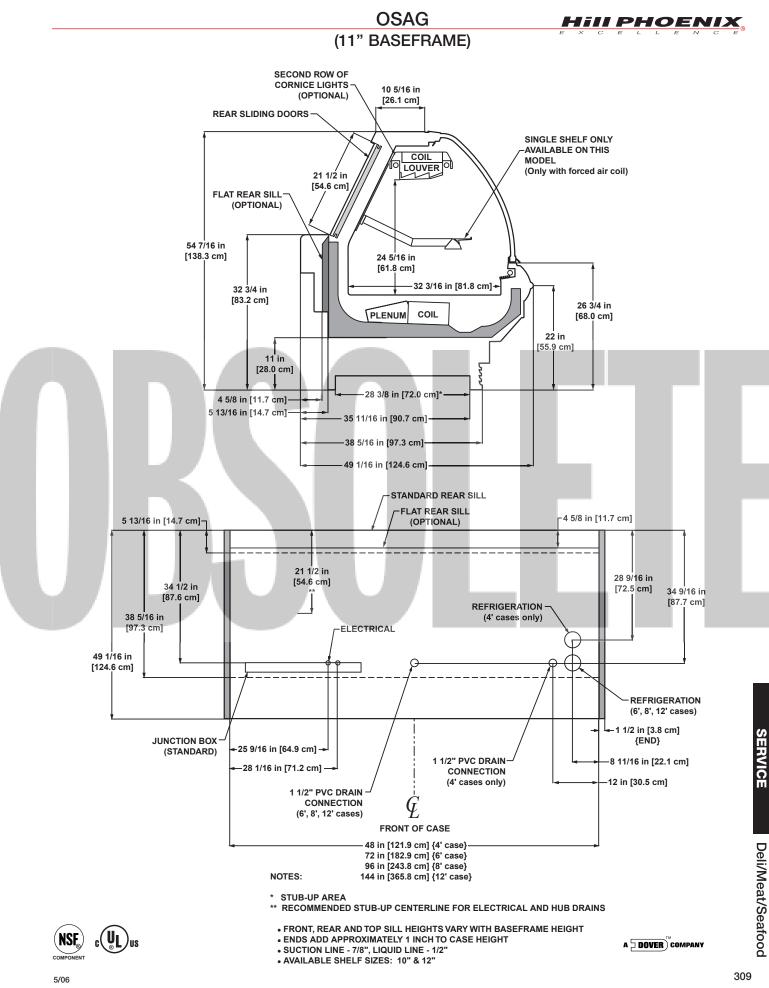
No. Per Day	Hours

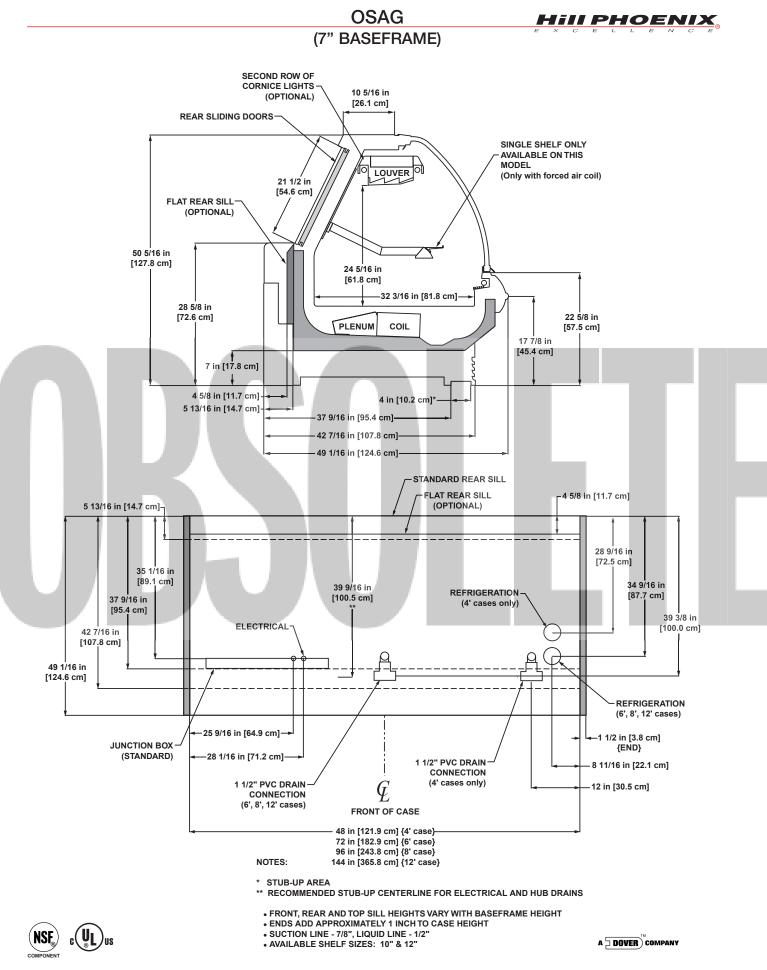
1	12 midnight
2	12 am - 12 pm

6 am - 2 pm - 10 pm 3 4

12 - 6 am - 12 - 6 pm









American Style Vertical Glass Service Deli Merchandiser

OSM - 6', 8' & 12'

Electrical Data

			Standar	rd Fans	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSM	6'	2	0.68	34	0.30	22	1.33	160	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	2.11	253	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	2.93	352	5.77	1200	6.67	1600

Lighting Data

	Bulbs		Light	al per Row	Ligh	mum nting									
Model	per Row	Bulb Length	Amps	Volts Watts	Amps	Volts Watts							_		
	6' 2	3'	0.37	44	1.48	178									
-	8' 2	4'	0.47	56	1.88	226									
1	12' 3	4'	0.70	84	2.80	336									
		$\overline{\mathbf{Z}}$													
uideline	s & Co	Evapo	ator	ngs Superhea oint @ Bu		Discharge (°F)	e Air Re	turn Air (°F)	Dischar	ge Air Velo (FPM)	ocity ²				

² Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Martal	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
OSM	2	6 - 8	35	50	75 ³	50 ³	20	45	4	

 $^{\rm 3}$ Not recommended on this model due to long defrost time.

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

|--|

1	12 midnight
2	12 am - 12 nm

2

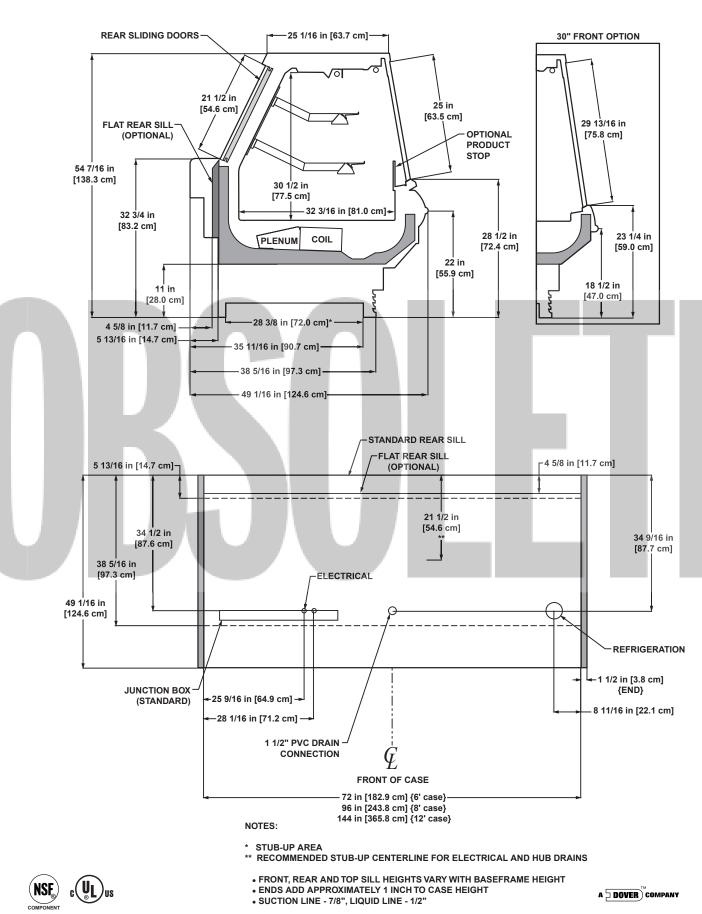
12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 4





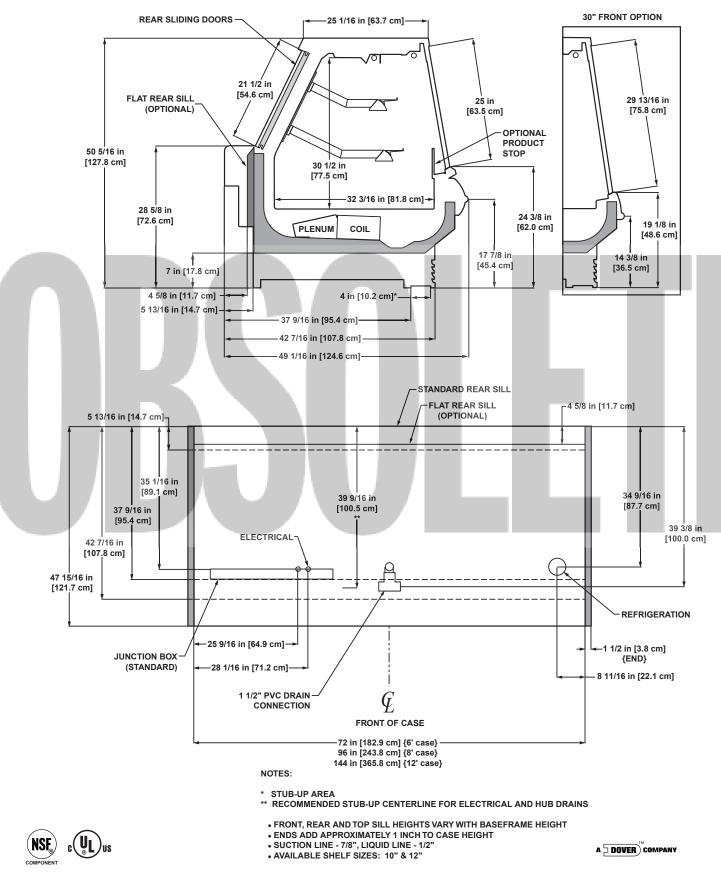
OSM (11" BASEFRAME)





HIII PHOENIX

OSM (7" BASEFRAME)





Deli

American Style Vertical Glass Service Deli/Meat/Seafood Gravity Coil Merchandiser

OGM - 6', 8' & 12'

Electrical Data

			Standar	rd Fans	0	fficiency ans	Anti-Con Hea			Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120 \	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OGM	6'	NA ¹	2				1.93	232				
	8'	NA					2.91	349				
	12'	NA					4.13	496				

¹ Not applicable.

² NOTE: - - - not an option on this case model.

Lighting Data

		Bulbs		Typic: Light	al per Row		mum nting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OGM	6'	2	3'	0.37	44	1.48	178
	8'	2	4'	0.47	56	1.88	226
	12'	3	4'	0.70	84	2.80	336

Guidelines & Control Settings

l	Model	BTUH/ft ³	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
L	OGM⁵	226	17	6-8	NA	NA	NA

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04. ⁴ Average discharge air velocity at peak of defrost.

⁵ If the OGM is piped to a suction header lower than 15°F an EPR with a suction stop solenoid is required. If a suction stop solenoid is not provided at the rack a suction stop solenoid is required at the case. A liquid line solenoid alone will not allow the case to cycle properly and is not recommended for control of this case. The thermostat probe should be located on the inlet of the top coil. The cut out point should be set to 17°F and the cut in point should be set so that refrigeration starts as soon as the top coil ice starts to drip.

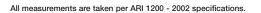
Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
OGM	2	6 - 8			65	46	20	45			

Medium Temperature Defrost Schedule

No.	Per	Day	Hours

- 12 midnight 1
- 2 12 am - 12 pm
- 6 am 2 pm 10 pm 12 6 am 12 6 pm 3 4

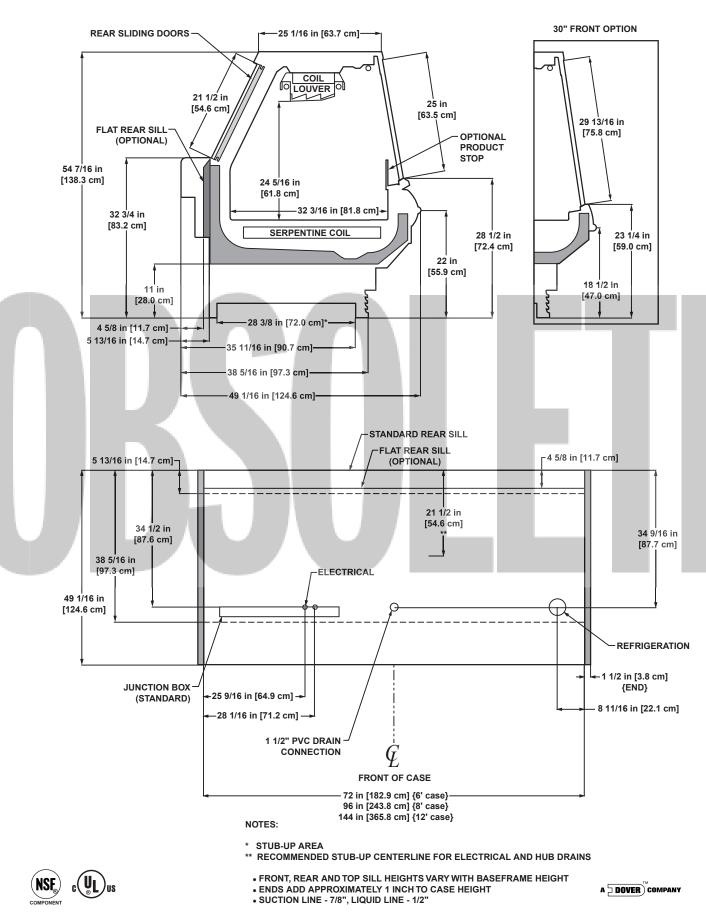




A	DOVER	COMPANY
_		

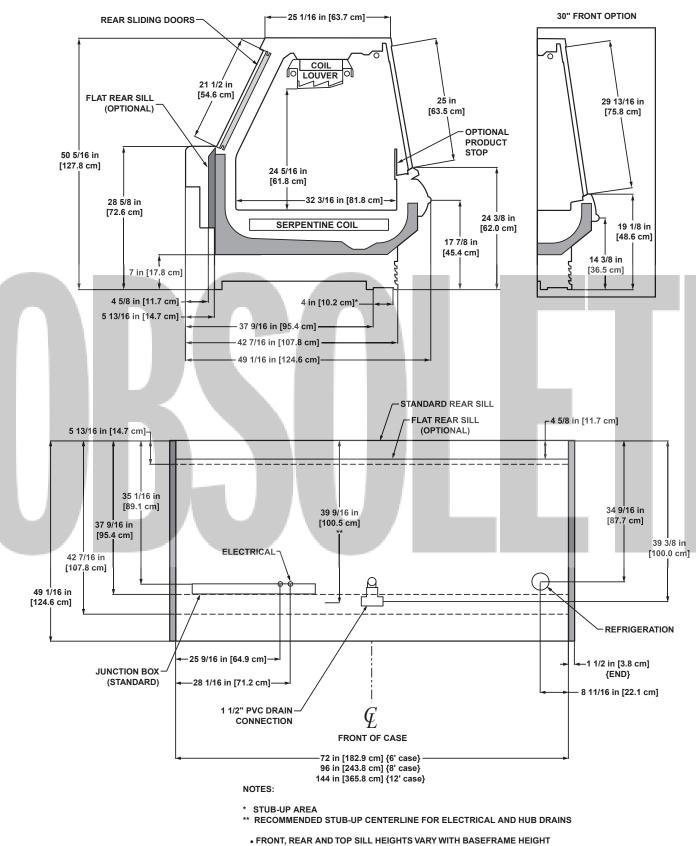
OGM (11" BASEFRAME)





OGM (7" BASEFRAME)





• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT • SUCTION LINE - 7/8", LIQUID LINE - 1/2"





American Style Flat Glass Service Frozen Food Merchandiser OSMLZ - 4' & 6'

Electrical Data

	_			d Fans	•	High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
OSMLZ	4'	2	0.68	34	0.30	22	1.09	131	3.85	800	4.43	1064	
	6'	2	0.68	34	0.30	22	1.53	184	5.77	1200	6.65	1596	

Lighting Data

			Bulbs		Typica Light		Maxir Light										
			per	Bulb	120 V		120 V			<u>, </u>							
Mo	odel		Row	Length	Amps	Watts	Amps	Watts									
OS	MLZ	4'	1	3'	0.19	2 3	0.38	46									
		6'	1	5'	0.28	34	0.56	67									
Gui	deli	ines	s & C	- 11	ol Set		-	Cat		I p	oturn Air	Diacha		Volgoitus			
F	deli ^{//odel}	Т	s & C	Coil	DI Set	ator S	Superheat		Discharge Air (°F)	r Re	eturn Air (°F)	r Discha	arge Air ' (FPM)	Velocity ²			
N	T	в	-	Coil	Evapora	ator S Po	Superheat	lb (°F)		r Re		r Discha	-				

Defrost Controls

I				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	OSMLZ	2	13 - 15	45	48	3		20	60			

(NSF) c(UL)us

³ NOTE: - - - not an option on this case model.

Low Temperature Defrost Schedule

 No. Per Day
 Hours

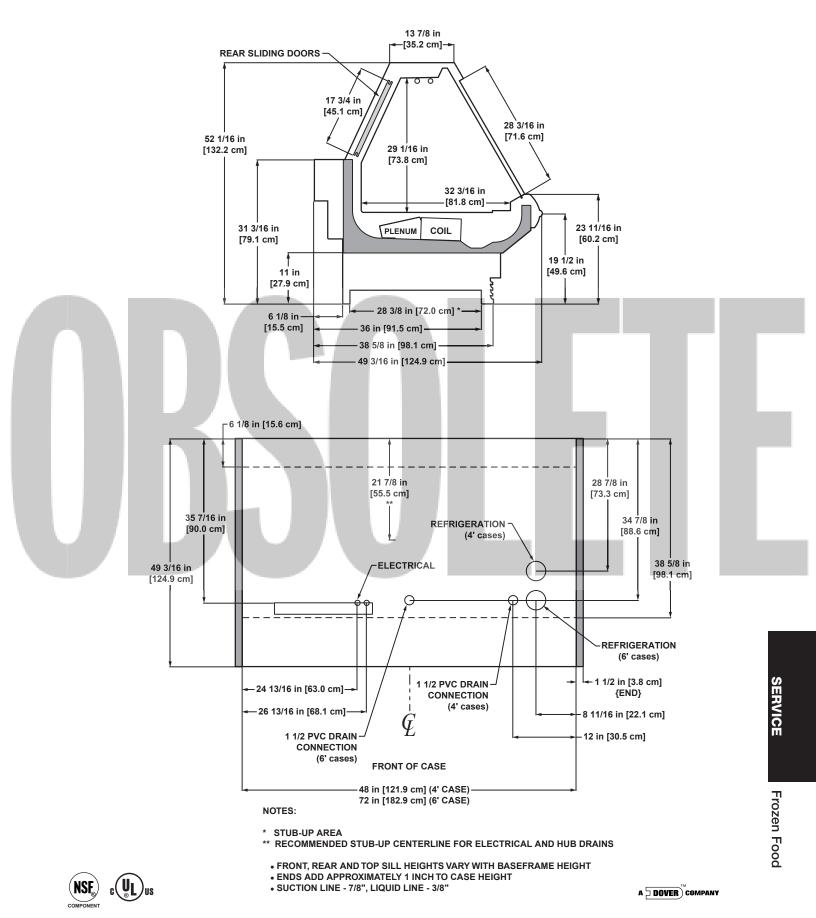
 1
 10 pm

 2
 6 am - 10 pm**

** Or immediately after store closing hour







5/06

International Style Single Deck Deli/Meat/Seafood Merchandiser OSIO - 4', 6', 8' & 12'

Electrical Data

			Standar	rd Fans	0	fficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSIO	4'	2	0.68	34	0.30	22	0.77	92	1.92	400	2.22	532
	6'	2	0.68	34	0.30	22	1.39	167	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	1.50	180	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	2.22	266	5.77	1200	6.67	1600

Lighting Data

	Typical per Light Row per Bulb 120 Volts						mum nting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OSIO	4'	1	4'	0.23	28	0.23	28
	6'	2	3'	0.37	44	0.37	44
	8'	2	4'	0.47	56	0.47	56
	12'	3	4'	0.70	84	0.70	84

Guidelines & Control Settings

l	Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ² (FPM)
	OSIO	695	17	6-8	24	33	180

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

Defrost Controls

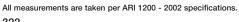
l				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
l	OSIO	3	6 - 8	35	47	55	47	26	45	3		

³ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

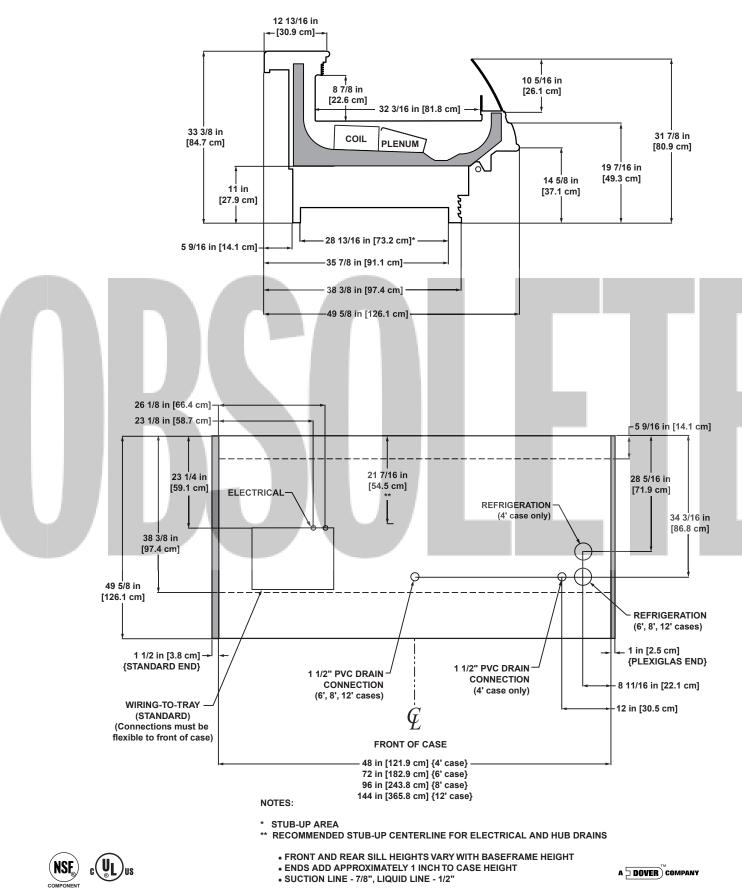
4 12 - 6 am - 12 - 6 pm



HIII PHOENIX







5/06

Wide International Style Single Deck Deli/Meat/Seafood Merchandiser OWSIO - 4', 6', 8' & 12'

Electrical Data

Fans pe			Standar	rd Fans	0	fficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWSIO	4'	2	0.68	34	0.30	22	0.77	92	1.92	400	2.22	532
	6'	2	0.68	34	0.30	22	1.39	167	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	1.50	180	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	2.22	266	5.77	1200	6.67	1600

Lighting Data

		Bulbs per	Bulb	Typical per Maximum Light Row Lighting 120 Volts 120 Volts						
Model		Row	.ength	Amps	Watts	Amps	Watts			
OWSIO	4'	1	4'	0.23	28	0.23	28			
	6'	2	3'	0.37	44	0.37	44			
	8'	2	4'	0.47	56	0.47	56			
	12'	3	4'	0.70	84	0.70	84			

Guidelines & Control Settings

Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ² (FPM)
OWSIO	795	17	6-8	24	33	180

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04. ² Average discharge air velocity at peak of defrost.

Defrost Controls

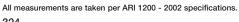
l				Electri	c Defrost	Timed C	Off Defrost	Defrost Hot Gas Defrost			Reverse Air Defrost		
I		Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination		
	Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)		
	OWSIO	3	6 - 8	35	47	55	47	26	45	3			

³ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

12 - 6 am - 12 - 6 pm 4



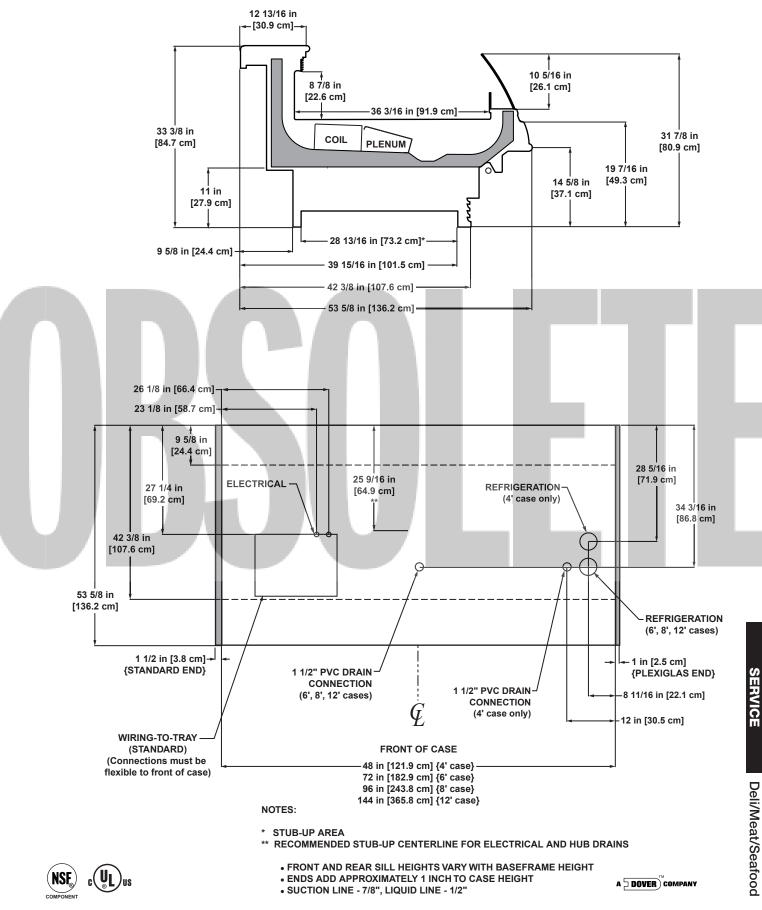












International Style Service Deli/Meat/Seafood Merchandiser

OSI - 4', 6', 8' & 12'

Electrical Data

			Standar	d Fans	0	fficiency ans		ndensate aters	Heaters			
	Fans per			/olts	120	Volts	120	Volts	208	Volts	Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSI	4'	2	0.68	34	0.30	22	0.55	66	1.92	400	2.22	532
	6'	2	0.68	34	0.30	22	1.03	124	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	0.99	119	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	1.49	179	5.77	1200	6.67	1600

Lighting Data

		Bulbs		Light	al per Row	Ligh	imum nting				Ē.,							
Model		per Row	Bulb Length	120 Amps	Volts Watts	120 Amps	Volts Watts											
OSI	4'	1	4'	0.23	28	0.70	84											
	6'	2	3'	0.37	44	1.10	132											
	8'	2	4'	0.47	56	1.40	168											
	12'	3	4'	0.70	84	2.10	252											
		TUH/ft1	Evapor (°F)	rator) P	ngs Superhea oint @ B		. ,		Return (°F)	Air	Dischar	ge Air V (FP M)	/elocit	t y 2				
OSI ³		350	22		6-8		31		38			175						
¹ BTUHs/ft listed :	are for	narallel on	eration Co	nventiona	l ratings m	av be appi	ovimated by	/ multipl	ving listed r	ating h	v 1 04							

BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

³ Humidification system required on this case when used for Fresh Meat application

Defrost Controls

I				Electric	c Defrost	Timed C	Off Defrost	Hot Gas Defrost Reverse Air D			Air Defrost
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	OSI	3	6 - 8	30	47	60 ⁴	47 ⁴	26	45	⁵	

⁴ Not recommended on this model due to long defrost time.

⁵ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
	40

1	12 midnight
2	12 am - 12 nm

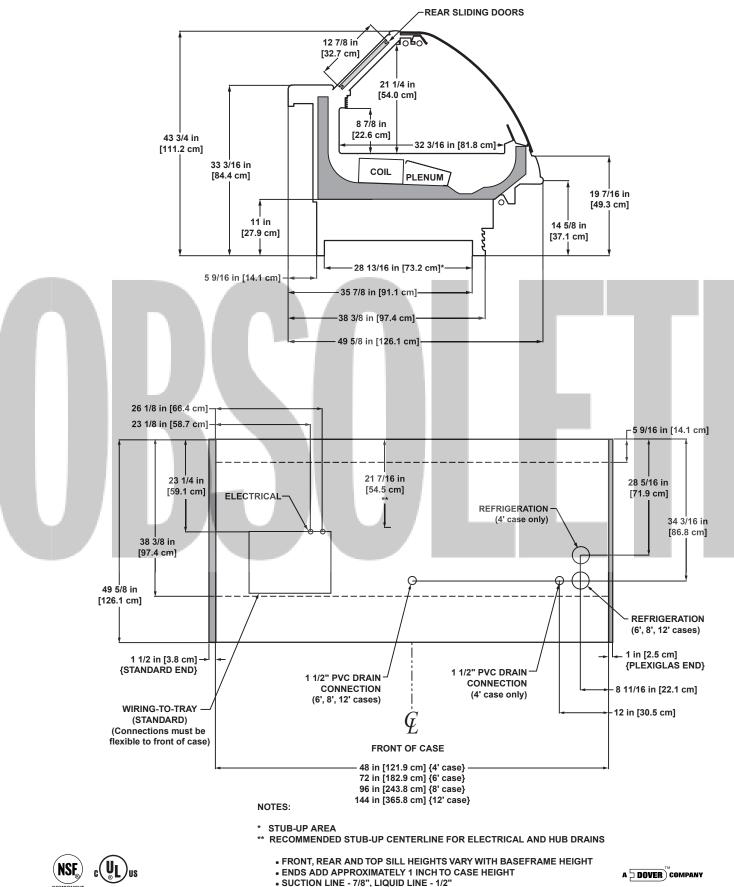
2 3 4

12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm









OSI

SERVICE

Deli/Meat/Seafood

Wide International Style Service Deli/Meat/Seafood Merchandiser

OWSI - 4', 6', 8' & 12'

Electrical Data

			Standard Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240	Volts
Model			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OWSI	4'	2	0.68	34	0.30	22	0.55	66	1.92	400	2.22	532
	6'	2	0.68	34	0.30	22	1.03	124	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	0.99	119	3.85	800	4.44	1065
	12' 4		1.36	68	0.60	44	1.49	179	5.77	1200	6.67	1600

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	imum hting Volts						
Model			Length	_	Watts	Amps						_	
OWSI	4'	1	4'	0.23	28	0.70	84						
	6'	2	3'	0.37	44	1.10	132						
	8'	2	4'	0.47	56	1.40	168						
	12'	3	4'	0.70	84	0.10	252						
	12		Ż	0.70	04	2.10	232						
	es 8	& Co	ntrol Evapor	Setti ator	ngs Superhea	at Set	Discharge Ai			city ²			
uidelin Model OWSI ³	es &		ntrol	Setti rator	ngs	at Set ulb (°F)	Discharge Ai	r Return Air (°F) 38	e Air Veloo FPM) 175	pity ²			

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

³ Humidification system required on this case when used for Fresh Meat application

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Mode	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
OWS	3	6 - 8	30	47	60 ⁴	47 ⁴	26	45	⁵		

⁴ Not recommended on this model due to long defrost time.

⁵ NOTE: - - not an option on this case model.

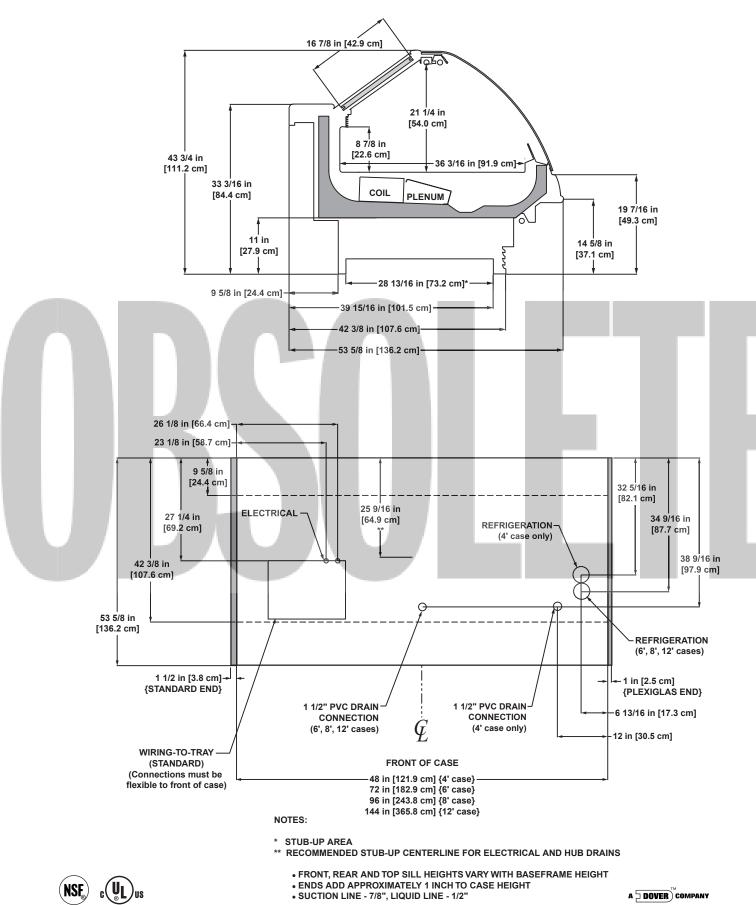
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midniaht

- 2 12 am 12 pm
- 3 6 am 2 pm 10 pm 4 12 - 6 am - 12 - 6 pm
- 4 12 6 am 12 6 pm







International Style Service Deli/Meat/Seafood Merchandiser

O2SI - 4', 6', 8' & 12'

Electrical Data

			Standar	rd Fans	•	fficiency ans		ndensate aters		Defrost	Heaters	
	Fans per		120 \	olts 120 Volts		Volts	120 Volts		208	Volts	240	Volts
Model			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O2SI	4'	2	0.68	34	0.30	22	0.55	66	1.92	400	2.22	532
	6' 2		0.68	34	0.30	22	1.03	124	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	0.99	119	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	1.49	179	5.77	1200	6.67	1600

Lighting Data

		Bulbs		Light	al per Row	Lig	imum nting							
Model		per Row	Bulb Length	Amps	Volts Watts	Amps	Volts Watts							
O2SI	4'	1	4'	0.23	28	0.70	84							
	6'	2	3'	0.37	44	1.10	132							
	8'	2	4'	0.47	56	1.40	168							
	12'	3	4'	0.70	84	2.10	252							
uideline	es 8	r	Evapoi	ator	Superhe	at Set ulb (°F)	Discharge Air		Discharge /		ty²			
	е с 8 вті	& Co UH/ft ¹ 508	1	ator	-	ulb (°F)	Discharge Air (°F) 24	Return Air (°F) 35	(FF	Air Velocit PM) 40	ty²			

² Average discharge air velocity at peak of defrost.

³ Humidification system required on this case when used for Fresh Meat application

Defrost Controls

Г				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
	M	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe		Fail-safe	Termination
Ŀ	Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
	O2SI	3	6 - 8	30	47	60 ⁴	47 ⁴	26	45	⁵	

⁴ Not recommended on this model due to long defrost time.

⁵ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight

2

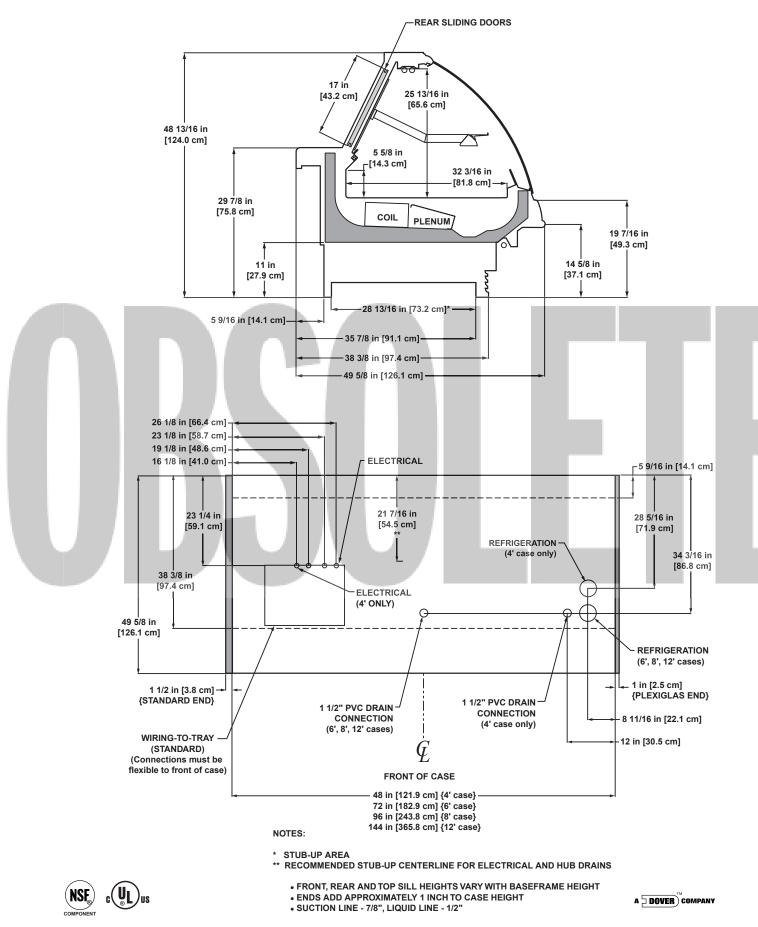
12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 3

4









O2SI

SERVICE

Deli/Meat/Seafood

Electrical Data (Domestic)

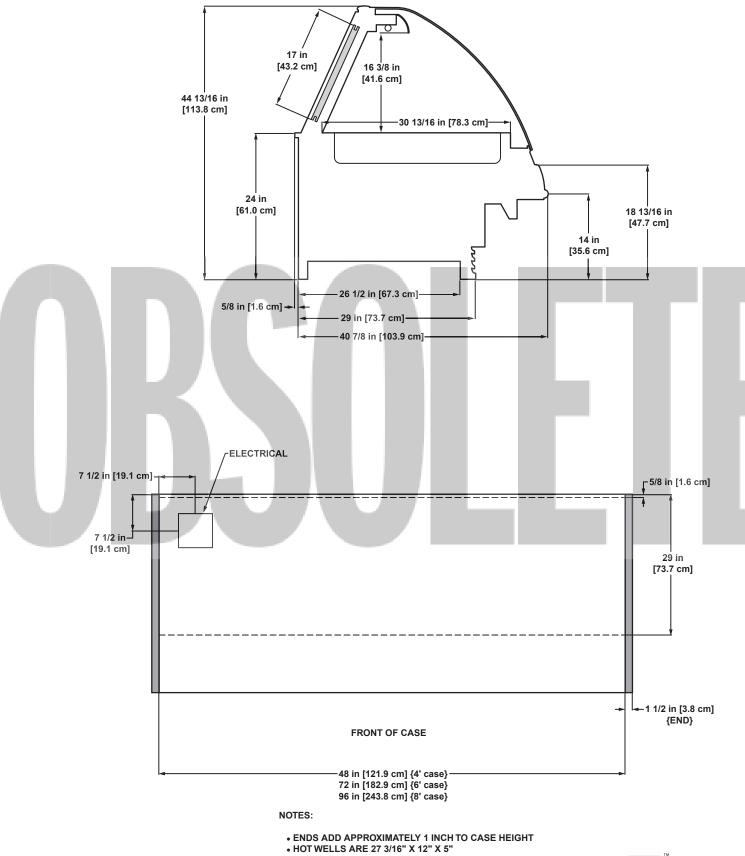
					Single	Phase					Three	Phase		
		Number of		208 Vol	ts		220 Vol	ts		208 Vol	ts		220 Vol	ts
Model		Hot Wells	Amps	Watts	Breaker	Amps	Watts	Breaker	Amps	Watts	Breaker	Amps	Watts	Breaker
OSIH	4'	3	16	3300	20	17.1	3800	25	10.0	3300	15	10.7	3800	15
	6'	5	25.3	5600	35	28.6	6300	40	15.8	5600	20	17.6	6300	25
	8'	7	36.9	7700	50	41.6	8700	55	23.7	7700	30	26.7	8700	35

ectri	cal	Data (E	uropea	an)					
			Si	ngle Ph	ase		Th	ree Ph	ase
		Number of		220 Vol	ts		З	8 80 V ol	ts
Model		Hot Wells	Amps	Watts	Breaker	Amp	s	Wat ts	Breaker
OSIH	4'	3	17.1	3800	25	`·	•		
	6'	5				10.2	2	630 0	15
	8'	7				15.3	3	870 0	20









Hot Foods

International Style Self Service Hot Foods Merchandiser

OSIHO - 4', 6', & 8'

Electrical Data (Domestic)

					Single	Phase					Three	Phase			
		Number of		208 Vol	ts		220 Vol	ts		208 Vol	ts		220 Volts		
Model		Hot Wells	Amps	Watts	Breaker	Amps	Watts	Breaker	Amps	Watts	Breaker	Amps	Watts	Breaker	
OSIHO	4'	3	16	3300	20	17.1	3800	25	10.0	3300	15	10.7	3800	15	
	6'	5	25.3	5600	35	28.6	6300	40	15.8	5600	20	17.6	6300	25	
	8' 7 36.9 7700 50						8700	55	23.7	7700	30	26.7	8700	35	

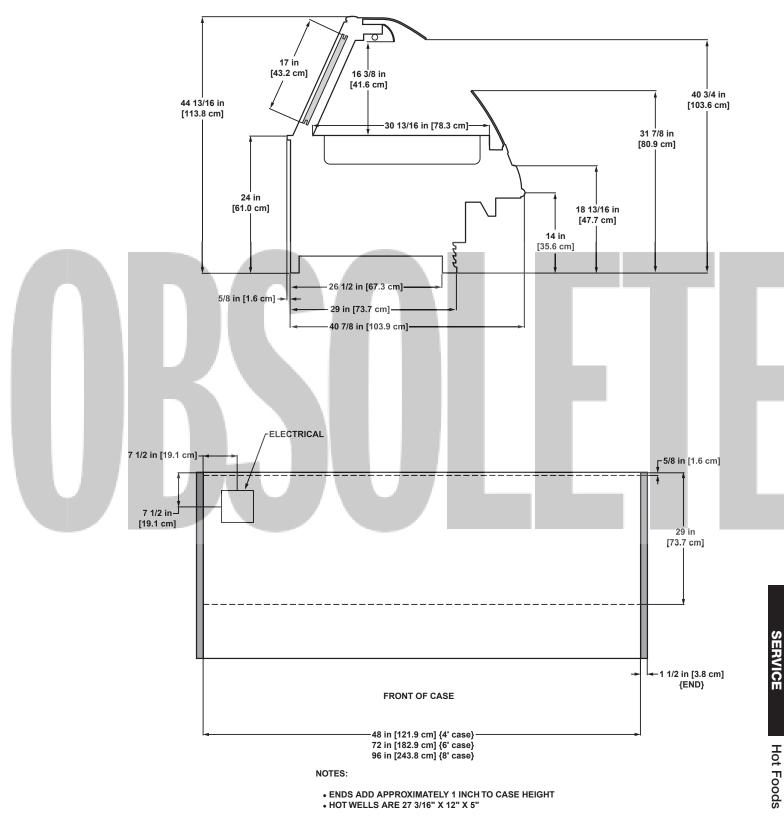
Electrical Data (European)

I					Si	ngle Ph	ase	Three Phase			
I			Numbe	r of		2 20 Vo l	ts	380 Volts			
I	Mode	el	Hot We	ells	Amps	Watts	Breaker	Amps	Watts	Bre aker	
I	OSIH	C 4'	3		17.1	3800	25				
I		6'	5					10.2	630 0	15	
1		8'	7		1			15. 3	870 0	20	









Multi-Deck Self Service Hot Foods Merchandiser

ON3W - 4', 6' & 8'

Electrical Data

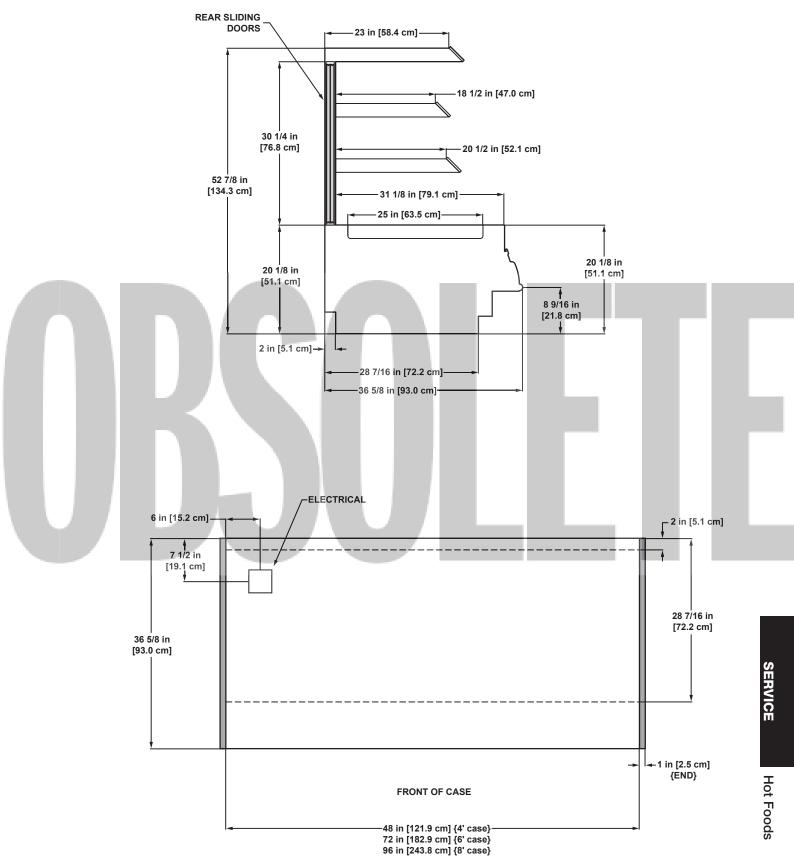
		Si	ase	Three Phase			
			240 Vol	ts		240 Vol	ts
Model		Amps	Watts	Breaker	Amps	Watts	Breaker
ON3W ¹	4'	18.2	4340	30			
	6'	2			19	6480	30
	8'			25	8680	40	

 1 Wiring configuration is 3 wire + ground on 4' models and 4 wire + ground on 6' & 8' models. 2 NOTE: - - - not an option on this case model.









International Style Flat Glass Service Deli/Meat/Seafood Merchandiser OSIF - 4', 6', 8', & 12'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate aters		Defrost	Heaters	
	Fans per			120 Volts		120 Volts		Volts	208 Volts		240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OSIF	4'	2	0.68	34	0.30	22	0.55	66	1.92	400	2.22	532
	6'	2	0.68	34	0.30	22	1.03	124	2.88	600	3.33	798
	8'	3	1.02	51	0.45	33	0.99	119	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	1.49	179	5.77	1200	6.67	1600

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum nting Volts	İ
Model		Row	Length	Amps	Watts	Amps	Watts	
OSIF	4'	1	4'	0.23	28	0.70	84	
	6'	2	3'	0.37	44	1.10	132	
	8'	2	4'	0.47	56	1.40	168	
	12'	3	4'	0.70	84	2.10	252	

Guidelines & Control Settings

ľ	Model	BTUH/ft ¹	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ² (FPM)
L	OSIF ³	350	22	6-8	31	38	175

¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Average discharge air velocity at peak of defrost.

³ Humidification system required on this case when used for Fresh Meat application

Defrost Controls

l				Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
l	OSIF	3	6 - 8	30	47	60 ⁴	47 ⁴	26	45	⁵		

NSF

c(UL)us

⁴ Not recommended on this model due to long defrost time.

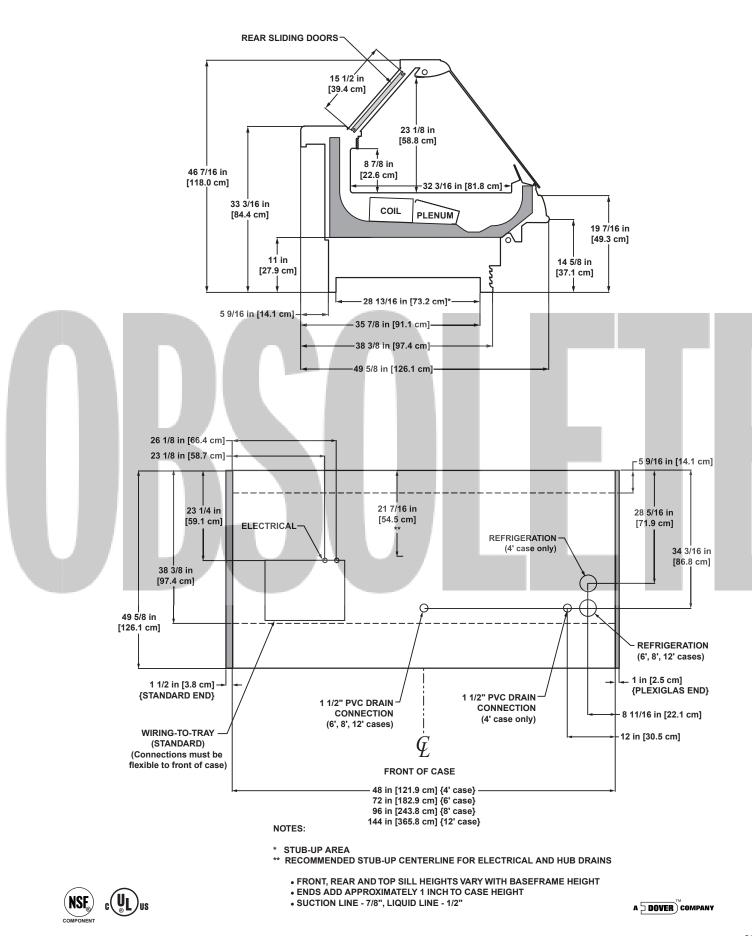
⁵ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm







International Style Flat Glass Service Deli/Meat/Seafood Merchandiser O2SIF - 8' & 12'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate aters		Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O2SIF	8'	3	1.02	51	0.45	33	0.99	119	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	1.49	179	5.77	1200	6.67	1600

Lighting Data

		Bulbs	Bulb	Typical per Light Row 120 Volts	Maxin Light 120 V	ting						
	Model	per Row				Watts						
	O2SIF	8' 2		0.47 56	1.40	168						
		12' 3	4' (0.70 84	2.10	252						
						_						
			K									
	Guidelin	es & Co	ntrol S	ettings								
¢	Guidelin	es & Co	ntrol S	ettings	1			_				
	Guidelin		Evaporat	or Superhea		Discharge Air	Return Air	Discharge		ty²		
	Guidelin _{Model}	es & Co				Discharge Air (°F)	Return Air (°F)	Ŭ	Air Velocii PM)	ty²		
			Evaporat	or Superhea				(F		ty²		
	Model O2SIF ³	BTUH/ft1 508	Evaporat (°F) 17	or Superhea Point @ Bu 6-8	ılb (°F)	(°F) 24	(°F) 35	(F	PM)	ty²		
1	Model O2SIF ³	BTUH/ft1 508 are for parallel op	Evaporat (°F) 17 eration. Conve	or Superhea Point @ Bu 6-8 entional ratings may	ılb (°F)	(°F) 24	(°F) 35	(F	PM)	ty²		1

Defrost Controls

				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
м	lodel	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
0	2SIF	3	6 - 8	30	47	60 ⁴	47 ⁴	26	45	⁵		

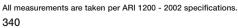
c(UL)us

⁴ Not recommended on this model due to long defrost time.

 5 NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

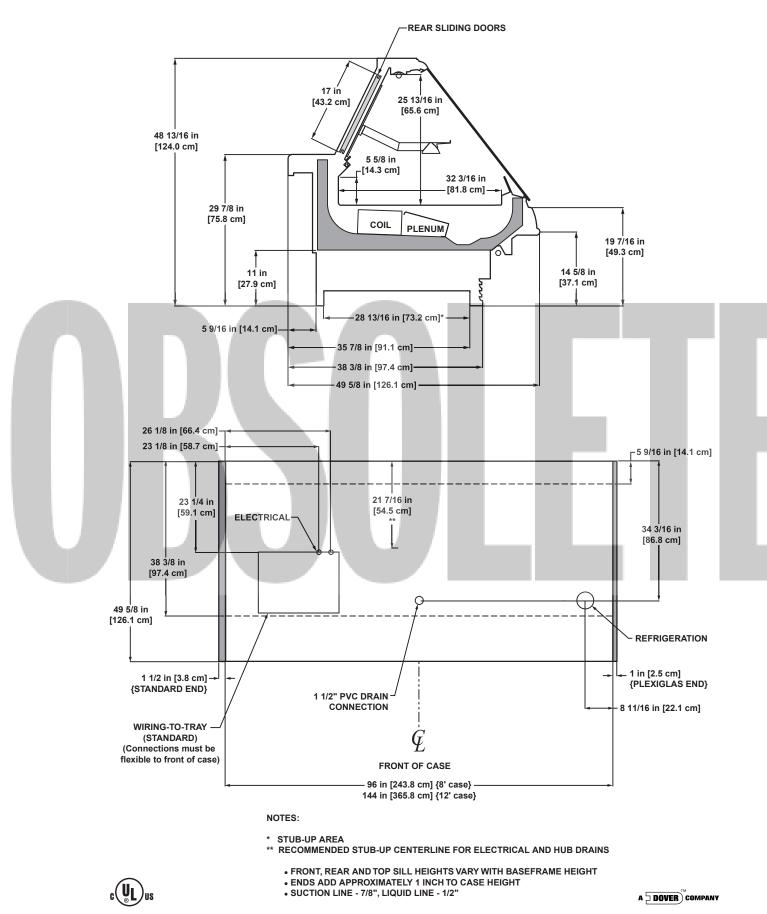
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm





O2SIF





5/06

Flat Glass Service Deli Merchandiser

OLF - 4', 6', 8' & 12'

Electrical Data

		Fan	s per	Ambier	it Fans ¹	Standa	rd Fans	High Eff Fa	,		idensate ters		Defrost	Heaters	
		С	ase	120	Volts	120	Volts	120 \	Volts	120 \	Volts	208	Volts	220	Volts
Model		Pri.	Amb.	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OLF	4'	2	2	0.30	11	0.68	34	0.30	22	3.33	400	1.92	400	2.22	532
	6'	2	3	0.45	17	0.68	34	0.30	22	5.00	600	2.88	600	3.33	798
	8'	3	4	0.60	22	1.02	51	0.45	33	6.66	800	3.85	800	4.44	1065
	12'	4	6	0.90	33	1.36	68	0.60	44	10.00	1200	5.77	1200	6.67	1600

¹ Ambient fans are standard equipment for this case model. The primary fans can either be standard or high efficiency.

Lighting Data

	1	Bulbs			Light	al per Row	Maximum Lighting 120 Volts		
		per		Bulb	120 Volts		120	VOITS	
Model		Row	1	Length	Amps	Watts	Amps	Watts	
OLF	4'	1		4'	0.23	28	1.40	168	
	6'	2		3'	0.37	44	2.20	264	
	8'	2		4'	0.47	56	2.80	336	
	12'	3		4'	0.70	84	4.20	504	

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
OLF	431	17	6-8	27	34	235

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.
³ Average discharge air velocity at peak of defrost.

Defrost Controls

				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
l	OLF	2	6 - 8	35	47	50 ⁴	47 ⁴	20	45	⁵		

⁴ Not recommended on this model due to long defrost time.

 5 NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

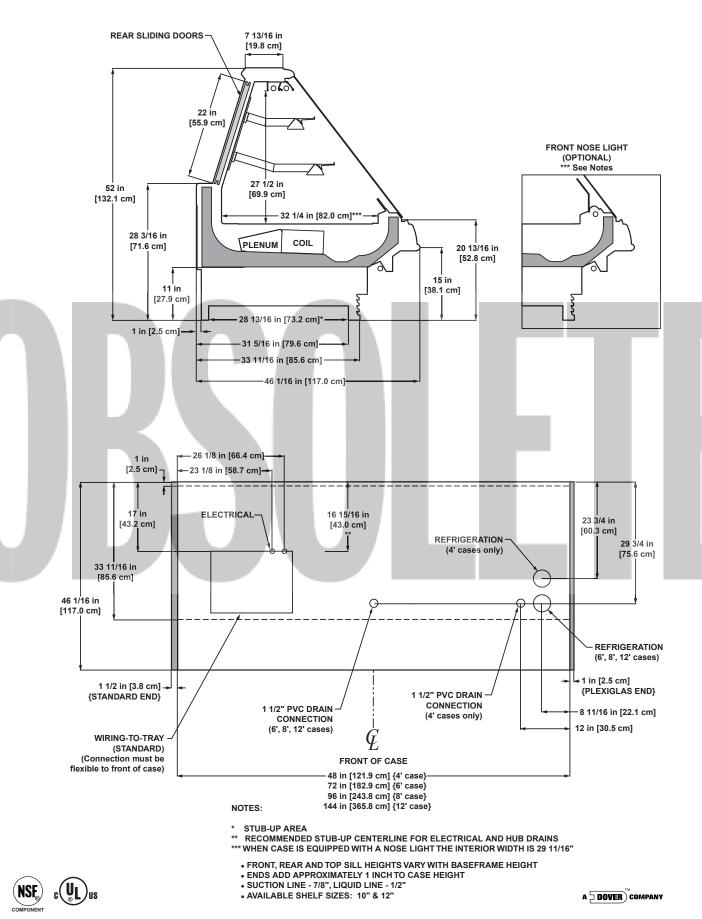
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm





A	5	DOVI	ER)	COMP	ANY





5/06

Flat Glass Service Deli Gravity Coil Merchandiser OLFG - 4', 6', 8' & 12'

Electrical Data

	Fans per				it Fans ¹	Standa	rd Fans	High Ef Fa		Anti-Cor Hea			Defrost	Heaters	
		Ca	ase	120	Volts	120	Volts	120	Volts	120 \	Volts	208	Volts	220	Volts
Model		Pri.	Amb.	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OLFG	4'	2	2	0.30	11	0.68	34	0.30	22	3.33	400	1.92	400	2.22	532
	6'	2	3	0.45	17	0.68	34	0.30	22	5.00	600	2.88	600	3.33	798
	8'	3	4	0.60	22	1.02	51	0.45	33	6.66	800	3.85	800	4.44	1065
	12'	4	6	0.90	33	1.36	68	0.60	44	10.00	1200	5.77	1200	6.67	1600

¹ Ambient fans are standard equipment for this case model. The primary fans can either be standard or high efficiency.

Lighting Data

		Bulbs		Light	al per Row	Ligh	mum Iting
		per	Bulb	120	Volts	120	Volts
Model		Row	Length	Amps	Watts	Amps	Watts
OLFG	4'	1	4'	0.23	28	1.40	168
	6'	2	3'	0.37	44	2.20	264
	8'	2	4'	0.47	56	2.80	336
	12'	3	4'	0.70	84	4.20	504

Guidelines & Control Settings

l	Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)		Return Air (°F)	Discharge Air Velocity ³ (FPM)
1	OLFG⁴	275	15	6-8	31	38	125

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

⁴ If the OLFG is piped to a suction header lower than 10°F an EPR with a suction stop solenoid is required. If a suction stop solenoid is not provided at the rack a suction stop solenoid is required at the case. A liquid line solenoid alone will not allow the case to cycle properly and is not recommended for control of this case. The thermostat probe should be located on the inlet of the top coil. The cut out point should be set to 15°F and the cut in point should be set so that refrigeration starts as soon as the top coil ice starts to drip.

Defrost Controls

				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
	OLFG	2	6 - 8	35	47	65	47	20	45	⁵		

⁵ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

- No. Per Day Hours
 - 12 midnight 1

2 3

12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 4



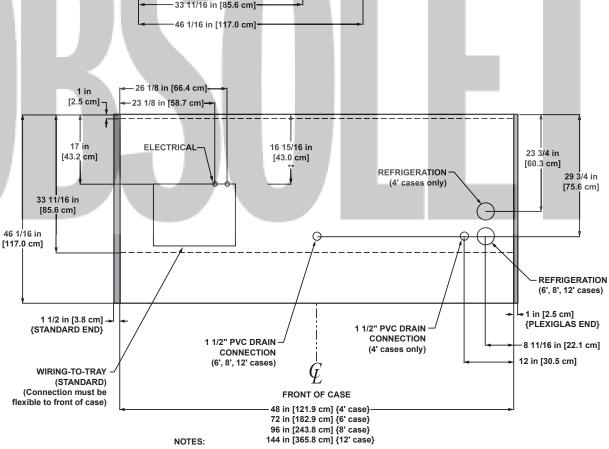
SERVICE

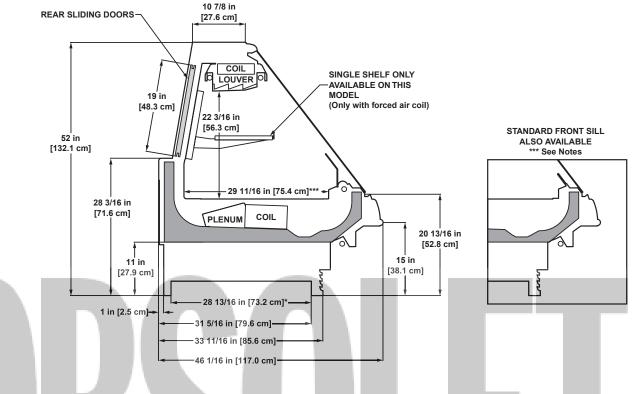


- SUCTION LINE 7/8", LIQUID LINE 1/2"
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- FRONT, REAR AND TOP SILL HEIGHTS VARY WITH BASEFRAME HEIGHT

• AVAILABLE SHELF SIZES: 10" & 12" (SINGLE ROW OF SHELVES PER CASE)

- *** WHEN CASE IS EQUIPPED WITH A NOSE LIGHT THE INTERIOR WIDTH IS 29 11/16"
- RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS
- STUB-UP AREA **







Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate aters	Defrost Heaters			
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PDIF	8'	3	1.02	51	0.45	33	2.10	252	3.85	800	4.44	1065
	12'	4	1.36	68	0.60	44	3.20	384	5.77	1200	6.67	1600

Lighting Data

		Bulbs Light Row Li per Bulb 120 Volts 12		Ligi 120	imum nting Volts							
Model	_	_		Amps	Watts	Amps						
PDIF	8'	2	4'	0.47	56	0.47	56					
	12'	3	4'	0.70	84	0.70	84					
Guidelin	es &	Co	ntrol :							Ŀ		
Model	BTU	IH/ft1	Evapora (°F)		Superhea oint @ B		Discharge Air (°F)	Return Air (°F)	Discharge Ai (FPN	_		
PDIF	4	00	17		6-8		28	39	100)		
¹ BTUHs/ft listed a ² Average discharg					I ratings m	ay be app	roximated by multi	olying listed rating) by 1.04.			

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
PDIF	4	6 - 8	30	47	40	47	26	45	3		

Medium Temperature Defrost Schedule

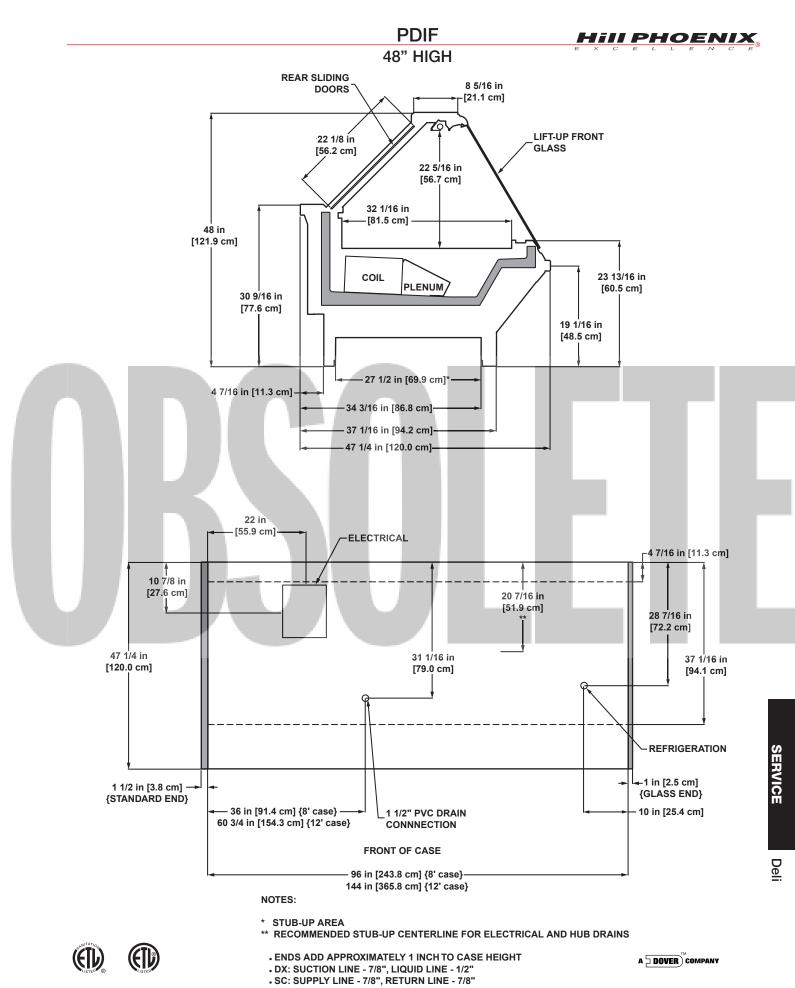
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

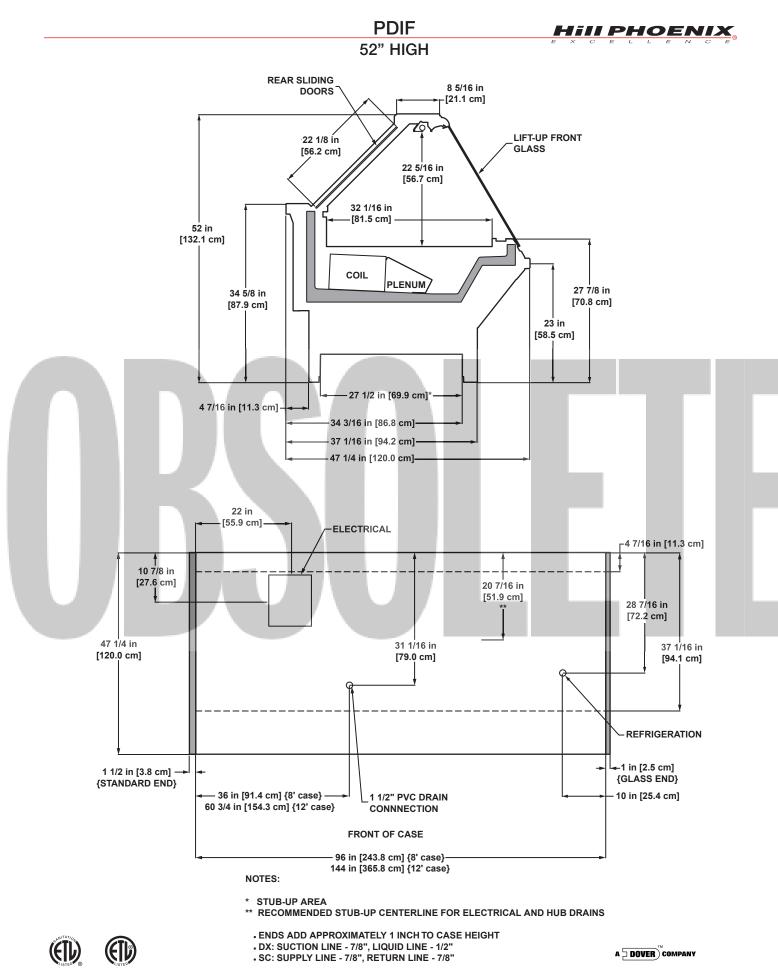
4 12 - 6 am - 12 - 6 pm













Multi-Deck Curved Glass Dome Deli/Meat/Seafood Merchandiser PDNUM - 4', 6', 8' & 12'

Electrical Data

	Far		Dome	Standa	rd Fans	0	ficiency Ins	Service Fa	e Dome ns		ndensate ters		Defrost I	Heaters ¹	
		Fans per	Fans per	120	Volts	120	Volts	120 \	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PDNUM	4'	3	2	0.68	34	0.30	22	0.52	52	0.55	66	1.92	400	2.22	532
	6'	4	2	1.36	68	0.60	44	0.52	52	1.03	124	2.88	600	3.33	798
	8'	4	3	1.36	68	0.60	44	0.78	78	1.03	124	3.85	800	4.44	1065
	12'	6	4	2.04	102	0.90	66	1.04	104	1.60	192	5.77	1200	6.67	1600

¹ Applicable for self service portion of the PDNUM case only.

Lighting Data

	Typical per Max Bulbs Light Row Lig per Bulb 120 Volts 120									
Model		Row	Leng	th Amps	Watts	Amps	Watts			
PDNUM	4'	1	4'	0.23	28	0.92	110			
	6'	2	3'	0.37	44	1.48	178			
	8'	2	4'	0.47	56	1.88	226			
	12'	3	4'	0.70	84	2.80	336			

Guidelines & Control Settings - Self Service Portion

Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ³ (FPM)
PDNUM - Self Service	570	17	6-8	33	40	260
PDNUM - Service Dome	290	17	6-8	30	33	360

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

			Electric Defrost		Timed C	Off Defrost	Ho	t Gas	Reverse	Air Defrost
	Defrosts Run-Off				Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
PDNUM - Self Service	4	6 - 8	30	47	30	47	26	45		
PDNUM - Service Dome	4	6 - 8	4		30	47	26	45		

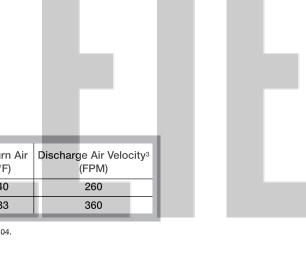
⁴ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	10 6 10 6

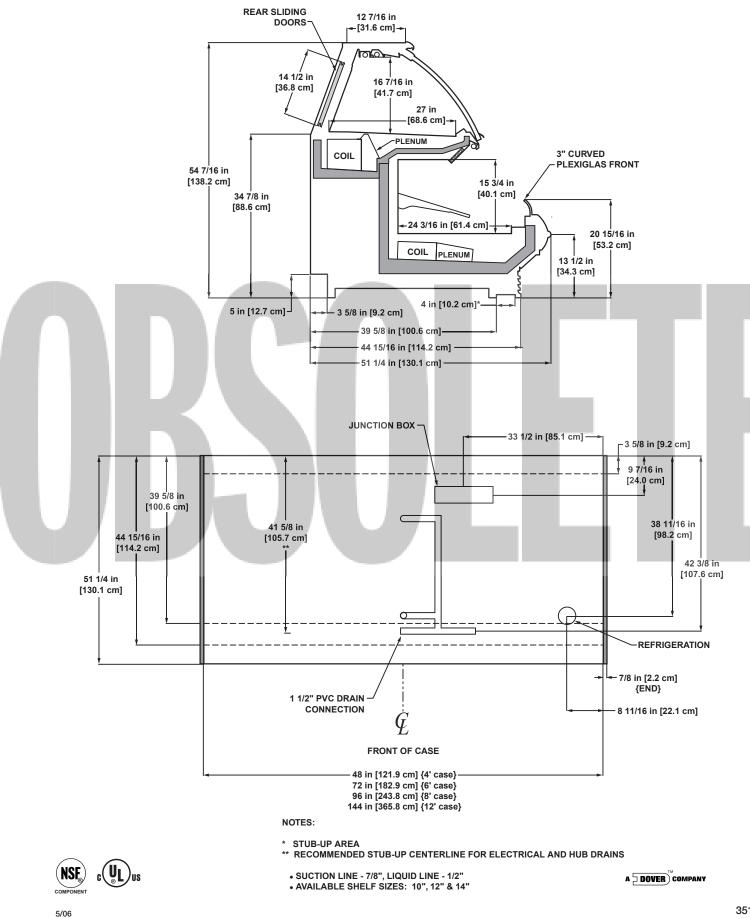
4 12 - 6 am - 12 - 6 pm











SERVICE

Deli/Meat/Seafood

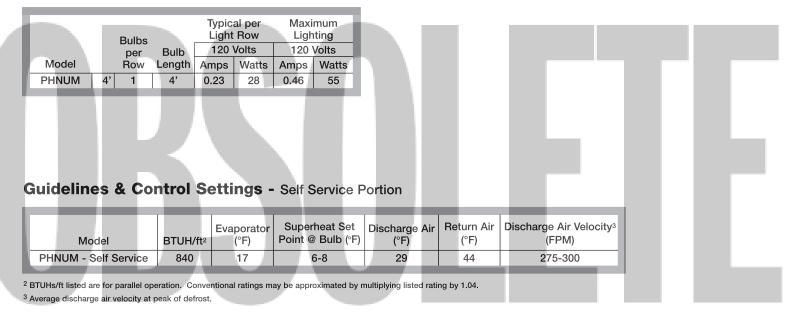
Multi-Deck Curved Glass Dome Deli/Hot Food Warmer Merchandiser PHNUM - 4'

Electrical Data

	Fonet	Standa	rd Fans	High Ef Fa	ficiency ns	Anti-Cor Hea	idensate ters	H De	ot eck	He Lan	eat nps		Defrost	Heaters	
	Fans ¹ 120 V per		Volts	120	Volts	olts 120 Volts 120 Volts 120 Volts 208 Volts		Volts	240	Volts					
Model	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PHNUM	4' 3	0.68	34	0.30	22	0.55	66	8.30	1000	2.00	240	1.92	400	2.22	532

¹ Applicable for self service portion of PHNUM case only.

Lighting Data



Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
PHNUM - Self Service	6	6 - 8	30	47	30	47	4			

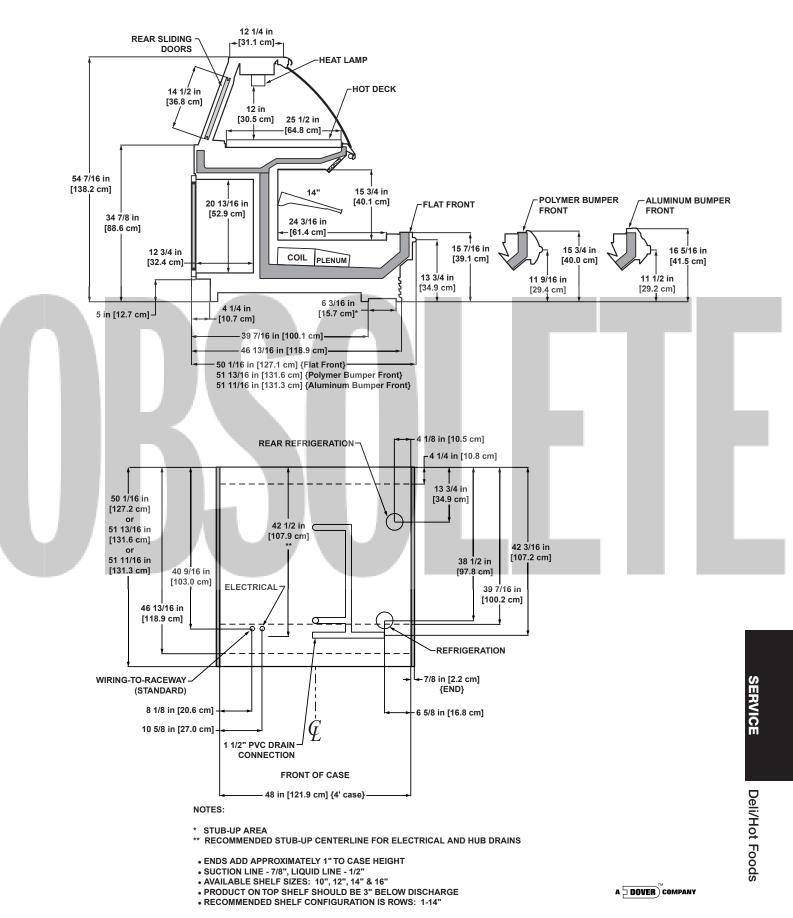
⁴ NOTE: - - not an option on this case model.

Medium Temperature Defrost Schedule

Hours
12 midnight
12 am - 12 pm
6 am - 2 pm - 10 pm
12 - 6 am - 12 - 6 pm







5/06

Multi-Deck Curved Glass Dome Meat/Seafood Merchandiser

PMNUM - 4', 6', 8' & 12'

Electrical Data

	Fans ¹ per		Standard Fans		0	ficiency Ins	Anti-Cor Hea	idensate ters	Secor Coolan	ndary ² t Pump		Defrost	Heaters	
			120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PMNUM	4'	3	0.68	34	0.30	22	0.55	66	2.10	252	1.92	400	2.22	532
	6'	4	1.36	68	0.60	44	1.03	124	2.10	252	2.88	600	3.33	798
	8'	4	1.36	68	0.60	44	1.03	124	2.10	252	3.85	800	4.44	1065
	12'	6	2.04	102	0.90	66	1.60	192	2.10	252	5.77	1200	6.67	1600

¹ Applicable for self service portion of PMNUM case only.

² Secondary coolant pump is only applicable for the semi-self-contained version of the service dome.

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Maximum Lighting 120 Volts		
Model		Row	Length	Amps	Watts	Amps	Watts	
PMNUM	4'	1	4'	0.23	28	0.70	84	
	6'	2	3'	0.37	44	1.10	132	
	8'	2	4'	0.47	56	1.40	168	
	12'	3	4'	0.70	84	2.10	252	

Guidelines & Control Settings - Semi-Self-Contained

		Evaporator	Supe	erheat Set	Discharge	Air	Return Air	Discharge Air Velocity4
Model	BTUH/ft ³	(°F)	Point	@ Bulb (°F	(°F)		(°F)	(FPM)
PMNUM - Self Service	840	17		6-8	29		44	275 - 300
		1						

Model	BTUH/ft³	Supply Temp. (°F)	Chiller Temp. (°F)			Max. Working Pressure (PSIG)	Max. Static Pressure (PSIG)
PMNUM - Dome ⁷	350	20	15	0.75	0.25	50	70

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ Minimum flow rate.

⁶ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

⁷ The dome portion of the PMNUM case operates using our patented secondary coolant Coolgenix technology.

Guidelines & Control Settings - Remote Secondary

Model	BTUH/ft		Flow Rate GPM/ft	Charge GAL/ft
PMNUM - Self Service	840	20	0.65	0.54
PMNUM - Dome	350	20	0.75	0.50

Cut in / Cut Out

	Cut Out Temp. (°F)	Cut in Temp. (°F)
Pans	26	31
Top Coil	26	31

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Warr	n Fluid	Reverse	Air Defrost
Model	Defrosts Per Dav	Run-Off Time (min)	Fail-safe	Termination		Termination	Fail-safe	Termination	Fail-safe	
PMNUM - Self Service	6	6 - 8	(min) 30	Temp. (°F) 47	(min) 30	Temp. (°F) 47	(min) 159	Temp. (°F) 45 ⁹	(min) 	Temp. (°F)
PMNUM - Dome	1	5	8		60	45				

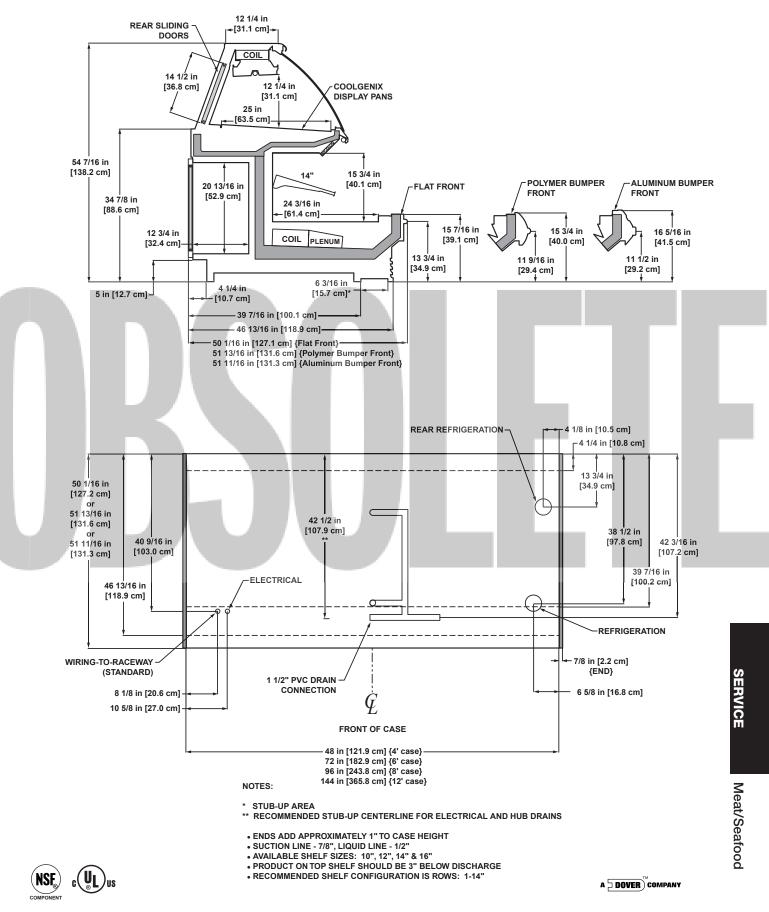
⁸ NOTE: - - not an option on this case model.

⁹ This option only available on the remote secondary version.









Multi-Deck Flat Glass Dome Meat/Seafood Merchandiser

PMFNUM - 4', 6', 8' & 12'

Electrical Data

		Farret	Standa	rd Fans	High Ef Fa	ficiency Ins		ndensate iters		ndary ² t Pump		Defrost	Heaters	
		Fans ¹ per	120	Volts	120	Volts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PMFNUM	4'	3	0.68	34	0.30	22	0.55	66	2.10	252	1.92	400	2.22	532
	6'	4	1.36	68	0.60	44	1.03	124	2.10	252	2.88	600	3.33	798
	8'	4	1.36	68	0.60	44	1.03	124	2.10	252	3.85	800	4.44	1065
	12'	6	2.04	102	0.90	66	1.60	192	2.10	252	5.77	1200	6.67	1600

¹ Applicable for self service portion of PMFNUM case only.

² Secondary coolant pump is only applicable for the semi-self-contained version of the service dome.

Lighting Data

		Bulbs per	Bulb	Light	al per Row Volts	Ligh	mum iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
PMFNUM	4'	1	4'	0.23	28	0.70	84
	6'	2	3'	0.37	44	1.10	132
	8'	2	4'	0.47	56	1. 40	168
	12'	3	4'	0.70	84	2.10	252

Guidelines & Control Settings - Semi-Self-Contained

		Evaporator	Superheat Se	t Dise	charge Ai	r Re	turn Air	Discharge Air Velocity4
Model	BTUH/ft ³	(°F)	Point @ Bulb (F)	(°F)		(°F)	(FPM)
PMFNUM - Self Service	840	17	6-8		29		44	275 - 300

Model	BTUH/ft³	Supply Temp. (°F)	Chiller Temp. (°F)	Flow Rate⁵ GPM/ft		Max. Working Pressure (PSIG)	Max. Static Pressure (PSIG)
PMFNUM - Dome ⁷	350	20	15	0.75	0.25	50	70

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ Minimum flow rate.

⁶ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

⁷ The dome portion of the PMFNUM case operates using our patented secondary coolant Coolgenix technology.

Guidelines & Control Settings - Remote Secondary

Model	BTUH/ft	Supply Temp. (°F)	Flow Rate GPM/ft	Charge GAL/ft
PMFNUM - Self Service	840	20	0.65	0.54
PMFNUM - Dome	350	20	0.75	0.50

Cut in / Cut Out

	Cut Out Temp. (°F)	Cut in Temp. (°F)
Pans	26	31
Top Coil	26	31

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Warm Fluid Reverse Ai			Air Defrost
	Defrosts Run-O			Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
PMFNUM - Self Service	6	6 - 8	30	47	30	47	15 ⁹	45 ⁹		
PMFNUM - Dome	1	5	8		60	45				

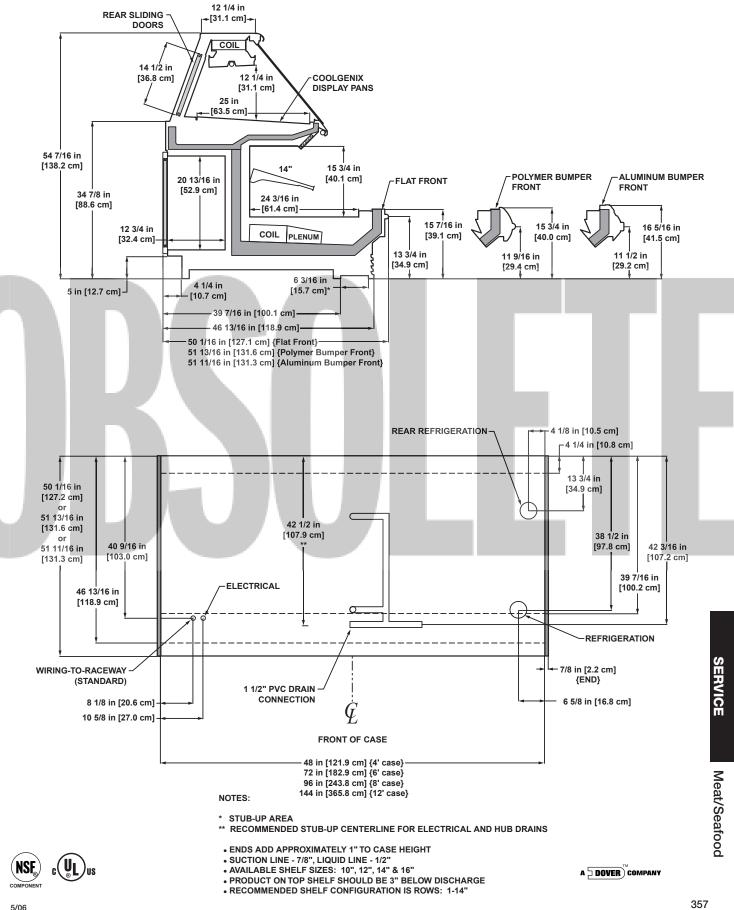
⁸ NOTE: - - not an option on this case model.

⁹ This option only available on the remote secondary version.



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Multi-Deck Curved Glass Dome Meat/Seafood Merchandiser

PMN2UM - 4', 6', 8' & 12'

Electrical Data

		Fene1	Standa	rd Fans	0	ficiency Ins		ndensate iters	Secor Coolan			Defrost	Heaters	
		Fans ¹ per	120	Volts	120	Volts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PMN2UM	4'	3	0.68	34	0.30	22	0.55	66	2.10	252	1.92	400	2.22	532
	6'	4	1.36	68	0.60	44	1.03	124	2.10	252	2.88	600	3.33	798
	8'	4	1.36	68	0.60	44	1.03	124	2.10	252	3.85	800	4.44	1065
	12'	6	2.04	102	0.90	66	1.60	192	2.10	252	5.77	1200	6.67	1600

¹ Applicable for self service portion of PMN2UM case only.

² Secondary coolant pump is only applicable for the semi-self-contained version of the service dome.

Lighting Data

	Ì.	Bulbs		Duille	Light	al per Row Volts	Maximum Lighting 120 Volts		
Model		per Row	ų	Bulb _ength	Amps	Watts	Amps	Watts	
PMN2UM	4'	1	Γ	4'	0.23	28	0.92	110	
	6'	2		3'	0.37	44	1.48	178	
	8'	2		4'	0.47	56	1.88	226	
	12'	3		4'	0.70	84	2.80	336	

Cut in / Cut Out

	i		Cut Out Temp. (°F)	Cut in Temp. (°	
	Pans	;	26	31	
	Top Co	oil	26	31	
		12	_		
					_
	Data a Aire	D:-	- h	(- - 4	
\ir	Return Air (°F)	Dis	charge Air \ (FPM)	/elocity ⁴	
-	44		275 - 30		
	44		215 - 30	0	
		1		-	
e ⁶	Max. Work	king	Max. Sta	atic	
ft	Pressure (P	PSIG)	Pressure (PSIG)	
	50		70		

Guidelines & Control Settings - Semi-Self-Contained

	Model	BTUH/ft ³	Evaporator (°F)	Superhea Point @ B		Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ⁴ (FPM)
l	PMN2UM - Self Service	840	17	6-8		29	44	275 - 300
i				_		_		_
	Model	BTUH/ft³	Supply Temp. (°F)	Chiller Temp. (°F)	Flow Ra GPM/f		Max. Work Pressure (P	ing Max. Static SIG) Pressure (PSIG)
	PMN2UM - Dome ⁷	350	20	15	0.75	0.25	50	70

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ Minimum flow rate.

⁶ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

⁷ The dome portion of the PMN2UM case operates using our patented secondary coolant Coolgenix technology.

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Warr	n Fluid	Reverse	Air Defrost
	Defrosts	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
PMN2UM - Self Service	6	6 - 8	30	47	30	47	15 ⁹	45 ⁹		
PMN2UM - Dome	1	5	8		60	45				

⁸ NOTE: - - not an option on this case model.

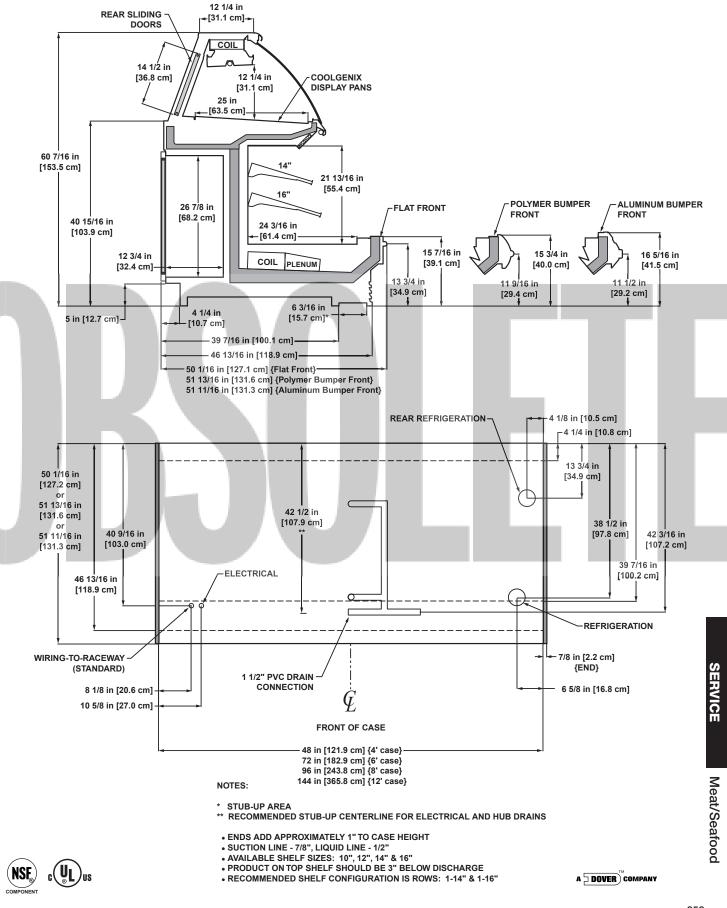
⁹ This option only available on the remote secondary version.





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5/06

Electrical Data

		Fene1	Standa	rd Fans	High Ef Fa	ficiency Ins		ndensate iters	Secor Coolan			Defrost	Heaters	
		Fans ¹ per	120	Volts	120	Volts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
PMFN2UM	4'	3	0.68	34	0.30	22	0.55	66	2.10	252	1.92	400	2.22	532
	6'	4	1.36	68	0.60	44	1.03	124	2.10	252	2.88	600	3.33	798
	8'	4	1.36	68	0.60	44	1.03	124	2.10	252	3.85	800	4.44	1065
	12'	6	2.04	102	0.90	66	1.60	192	2.10	252	5.77	1200	6.67	1600

¹ Applicable for self service portion of PMFN2UM case only.

² Secondary coolant pump is only applicable for the semi-self-contained version of the service dome.

Lighting Data

	Ì.	Bulbs	Dull	Light	al per Row Volts	Ligh	mum nting Volts
Model		per Row	Bulb Length	Amps	Watts	Amps	Watts
PMFN2UM	4'	1	4'	0.23	28	0.92	110
	6'	2	3'	0.37	44	1.48	178
	8'	2	4'	0.47	56	1.88	226
	12'	3	4'	0.70	84	2.80	336

Cut in / Cut Out

	ĺ			Cut Out Temp. (°F)	Cut ir Temp. (
		Pans		26	31	
		Top Co	oil	26	31	
	17		- 12	_		-
1	_					
Air	Re	turn Air	Dise	harge Air ۱) (FPM)	/elocity ⁴	
		(°F)		, ,		
		44		2 75 - 30	0	
					_	
e ⁶ ft		ax. Work essure (P	-	Max. Sta Pressure (
		50		70		

Guidelines & Control Settings - Semi-Self-Contained

1	Model	BTUH/ft³	Evaporator (°F)	Superhea Point @ B		ischarge Air (°F)	Return Air C (°F)	Discharge Air Velocity ⁴ (FPM)
	PMFN2UM - Self Service	840	17	6-8		29	44	275 - 300
i						_	_	_
			Supply		Flow Rat	J	Max. Workin	5
ч	Model	BTUH/ft ³	Temp. (°F)	Temp. (°F)	GPM/ft	GAL/ft	Pressure (PS	IG) Pressure (PSIG)
	PMFN2UM - Dome ⁷	350	20	15	0.75	0.25	50	70

³ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

⁴ Average discharge air velocity at peak of defrost.

⁵ Minimum flow rate.

 $^{\rm 6}$ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

⁷ The dome portion of the PMFN2UM case operates using our patented secondary coolant Coolgenix technology.

Defrost Controls

			Electric	c Defrost	Timed C	Off Defrost	Warr	n Fluid	Reverse	Air Defrost
	Defrosts		Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination	Fail-safe	Termination
Model	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
PMFN2UM - Self Service	6	6 - 8	30	47	30	47	15 ⁹	45 ⁹		
PMFN2UM - Dome	1	5	8		60	45				

⁸ NOTE: - - not an option on this case model.

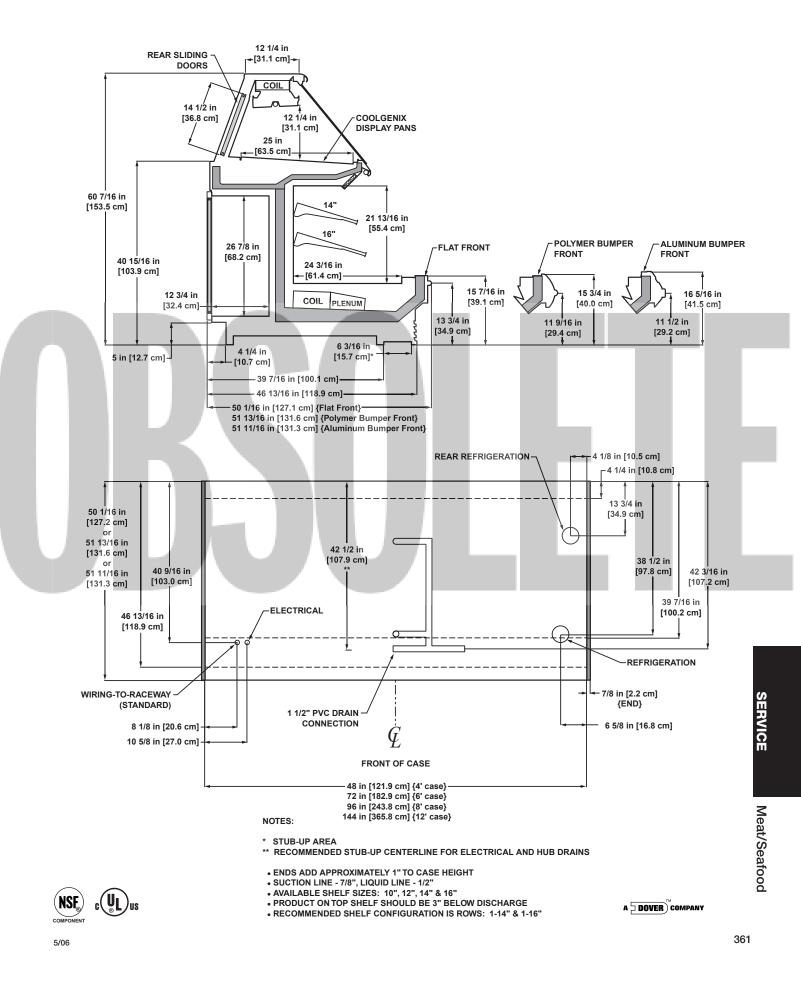
⁹ This option only available on the remote secondary version.





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Secondary Coolant Gravity Coil Meat Merchandiser

PSG - 4', 6', 8', 12, E30 & E45

Electrical Data

			ndary¹ It Pump		ndensate aters	
		120	Volts	120 Volts		
Model		Amps	Watts	Amps	Watts	
PSG	4'	2.00	240	0.55	66	
	6'	2.00	240	1.03	124	
	8'	2.00	240	1.03	124	
	12'	2.00	240	1.60	192	
	E30	2.00	240	1.03	124	
	E45	2.00	240	1.03	124	

¹ Secondary coolant pump is only applicable for the semi-self-contained version.

Lighting Data

	1	Bulbs	Bulb	Light	al per Row Volts	Ligh	mum iting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
PSG	4'	1	4'	0.23	28	0.23	28
	6'	2	3'	0.37	44	0.37	44
	8'	2	4'	0.47	56	0.47	56
	12'	3	4'	0.70	84	0.70	84
	E30	2	3'	0.37	44	0.37	44
	E45	2	3'	0.37	44	0.37	44

Guidelines & Control Settings - Remote Secondary

Model BTU	JH/ft Ten	·p. (· /	GPM/ft	GAL/ft
PSG 30	00	26	0.45	0.27

Guidelines & Control Settings - Semi-Self-Contained

Model	BTUH/ft ²	Supply Temp. (°F)	Chiller Temp. (°F)	Flow Rate ³ GPM/ft	0	Max. Working Pressure (PSIG)	
PSG⁵	350	26	20	0.45	0.27	50	70

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Minimum flow rate.

 $^{\rm 4}$ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

 5 When calculating charge E30 and E45 wedges are equivalent to an 8' case.

Defrost Controls

	Top Coil		Electri	c Defrost	Timed C	Off Defrost	Warm Fl	uid Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
PSG	1	5	6		50	45				

⁶ NOTE: - - not an option on this case model.





Cut in / Cut Out

Pans

Top Coil

Cut Out

Temp. (°F)

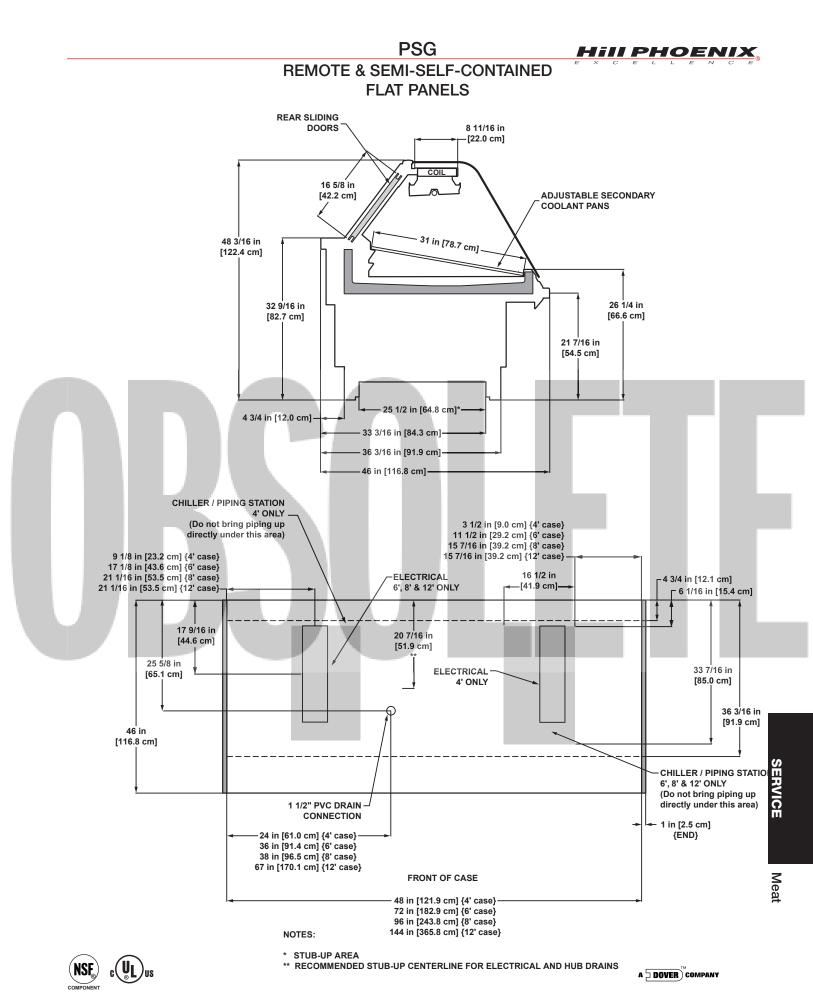
29

31

Cut in

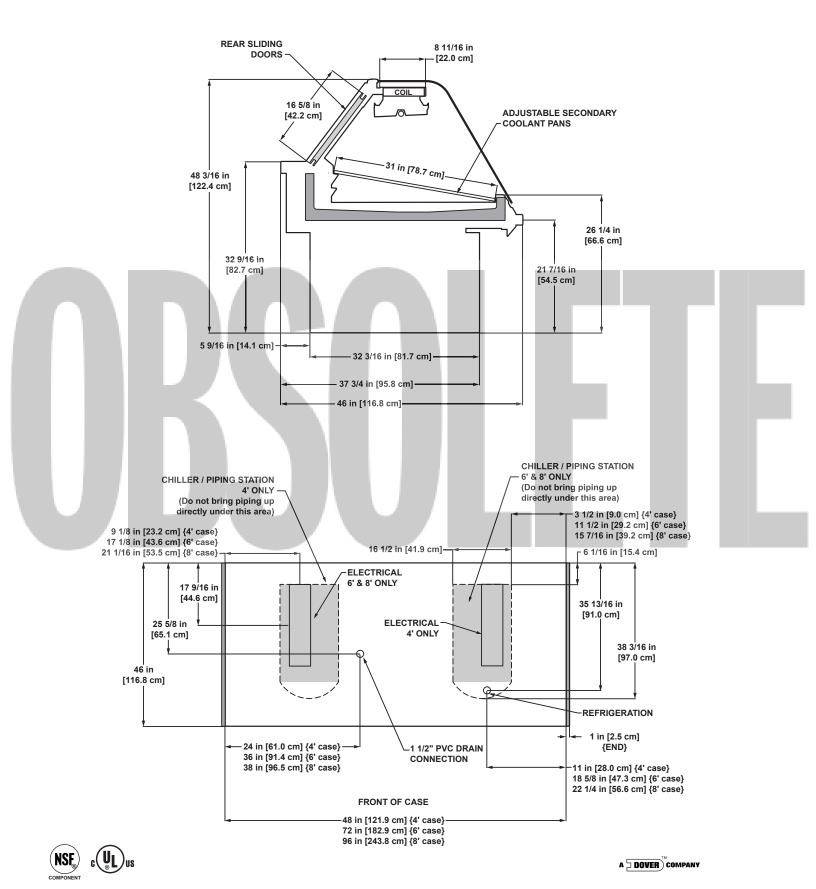
Temp. (°F)

33





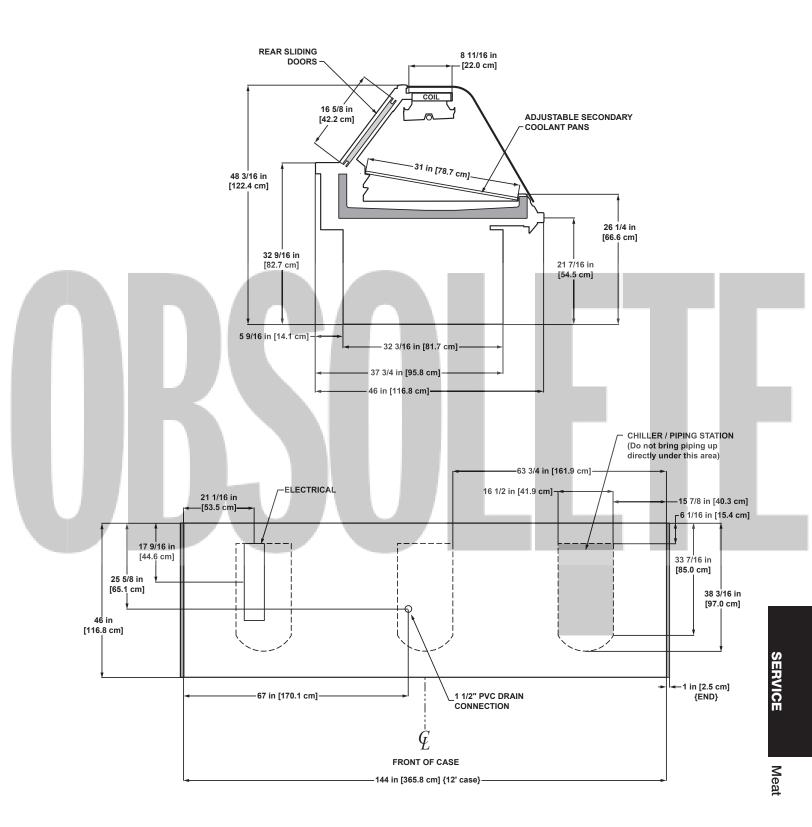
PSG-4', 6' & 8' REMOTE & SEMI-SELF-CONTAINED PEDESTALS



5/06

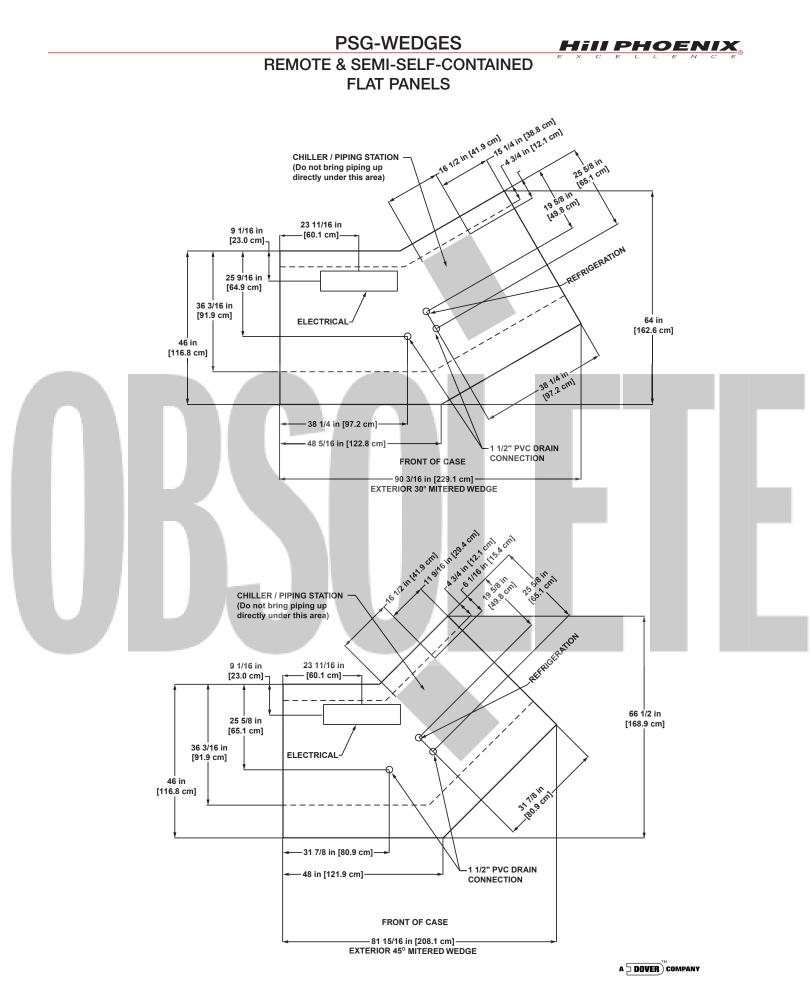


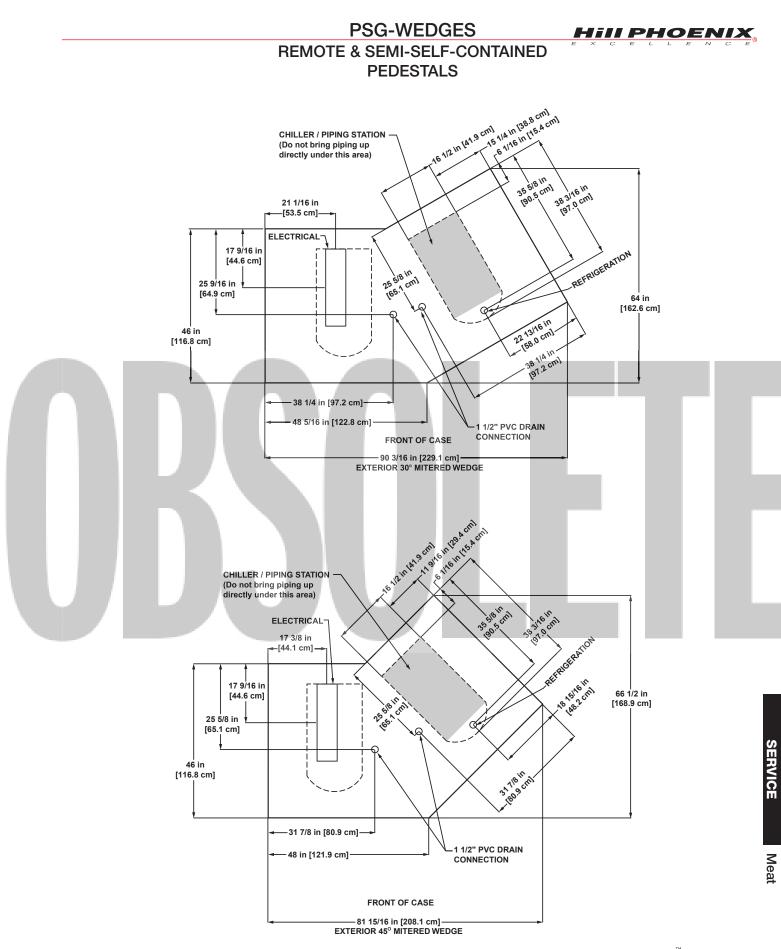
PSG-12' REMOTE & SEMI-SELF-CONTAINED PEDESTALS





5/06





Secondary Coolant Flat Glass Gravity Coil Meat Merchandiser

PSGF - 4', 6', 8', 12', 145 & E90

Electrical Data

			ndary¹ It Pump		ndensate iters
		120	Volts	120	Volts
Model		Amps	Watts	Amps	Watts
PSGF	4'	2.00	240	0.55	66
	6'	2.00	240	1.03	124
	8'	2.00	240	1.03	124
	12'	2.00	240	1.60	192
	145	2.00	240	1.03	124
	E90	2.00	240	1.60	192

¹ Secondary coolant pump is only applicable for the semi-self-contained version.

Lighting Data

	1	Bulbs per		Bulb	Typical per Light Row 120 Volts		Maximum Lighting 120 Volts	
Model			Row	Length	Amps	Watts	Amps	Watts
PSGF		4'	1	4'	0.23	28	0.23	28
		6'	2	3'	0.37	44	0.37	44
		8'	2	4'	0.47	56	0.47	56
	1	2'	3	4'	0.70	84	0.70	84
	4	15	2	3'	0.37	44	0.37	44
	E	90	3	3'	0.55	66	0.55	66
					1			

Guidelines & Control Settings - Remote Secondary

Model	BTUH/ft	Supply Temp. (°F)	Flow Rate GPM/ft	Charge GAL/ft
PSGF	300	26	0.45	0.27

Guidelines & Control Settings - Semi-Self-Contained

Model	BTUH/ft ²	Supply Temp. (°F)		Flow Rate ³ GPM/ft		Max. Working Pressure (PSIG)	Max. Static Pressure (PSIG)
PSGF⁵	350	26	20	0.45	0.27	50	70

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Minimum flow rate.

⁴ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

⁵ When calculating charge I45 wedges are equivalent to an 8' case and E90 wedges are equivalent to an 12' case.

Defrost Controls

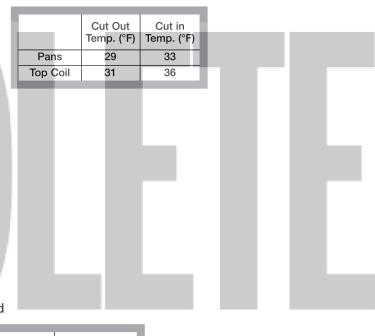
l		Top Coil		Electri	c Defrost	Timed C	Off Defrost	Warm Fl	uid Defrost	Reverse	Air Defrost
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
	PSGF	1	5	6		50	45				

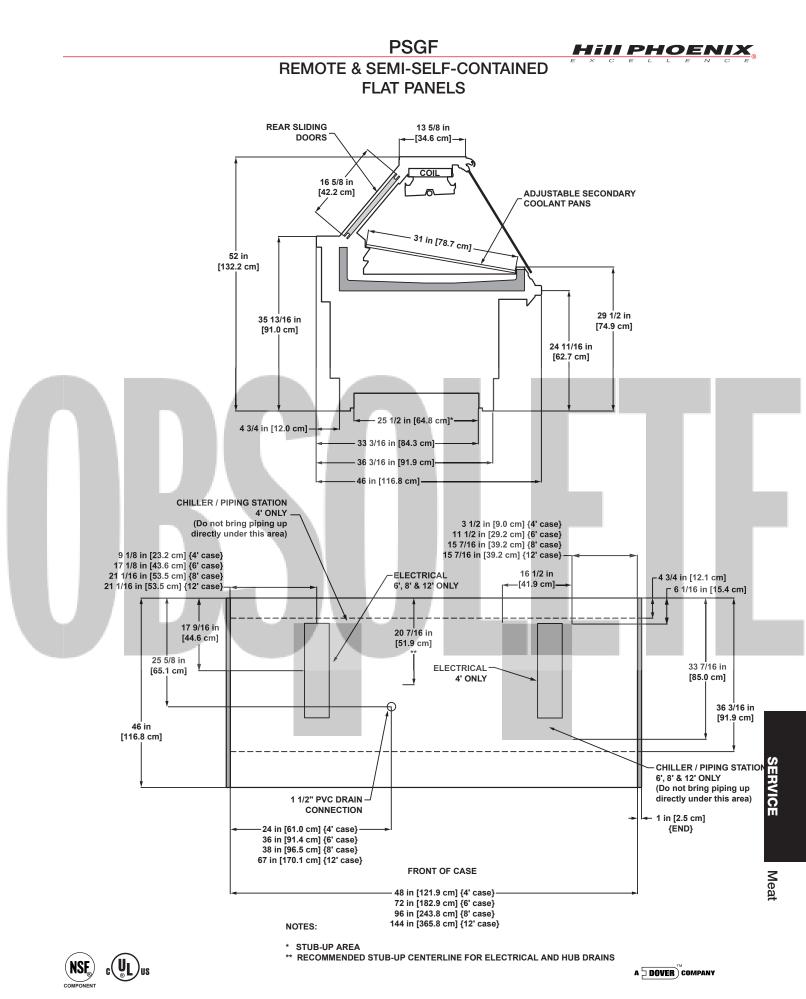
⁶ NOTE: - - not an option on this case model.



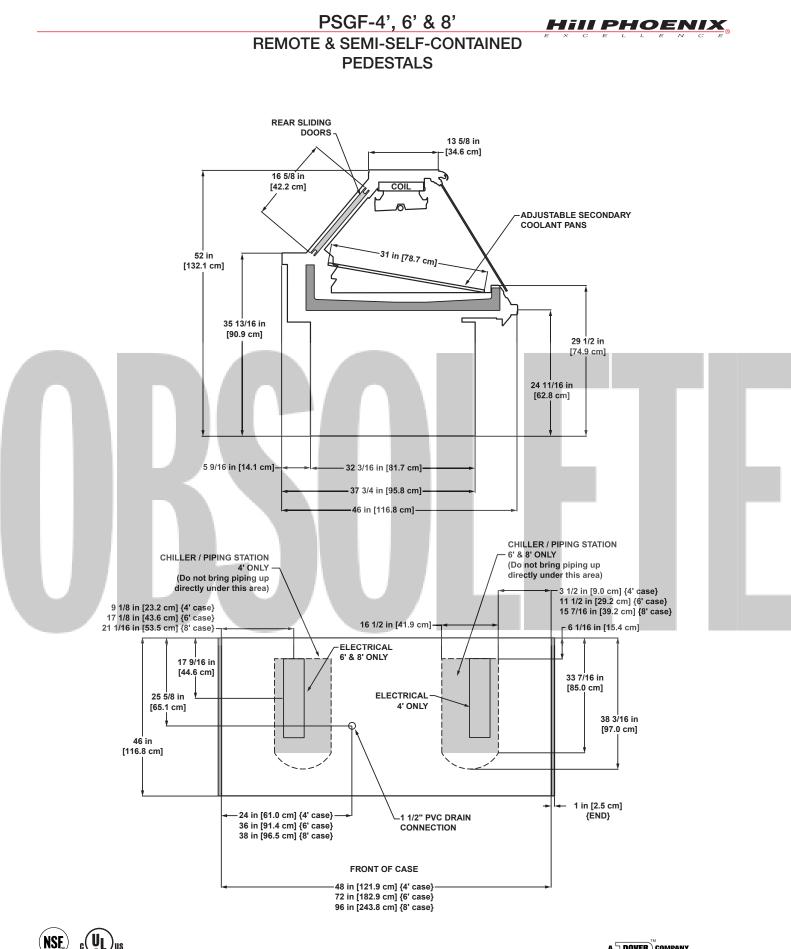


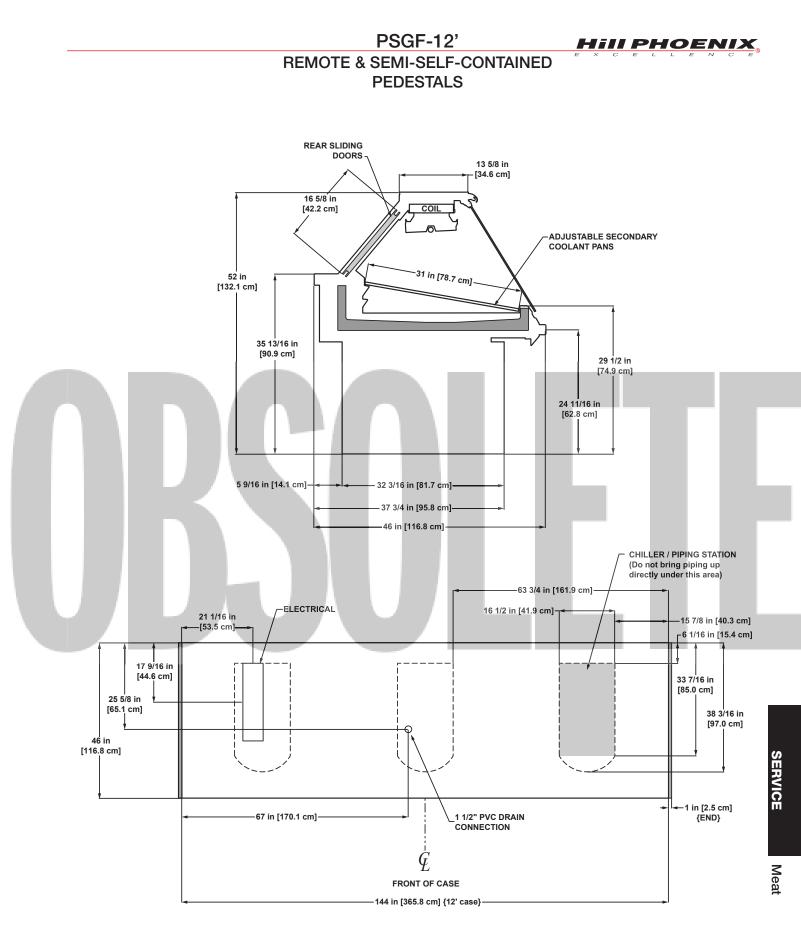
Cut in / Cut Out





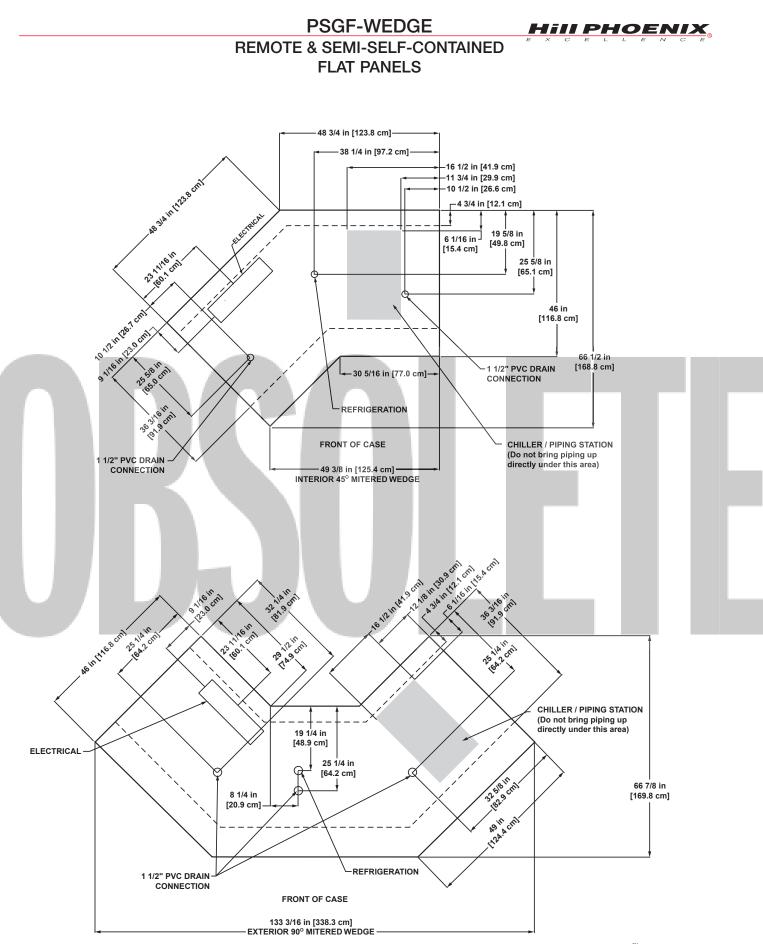
5/06

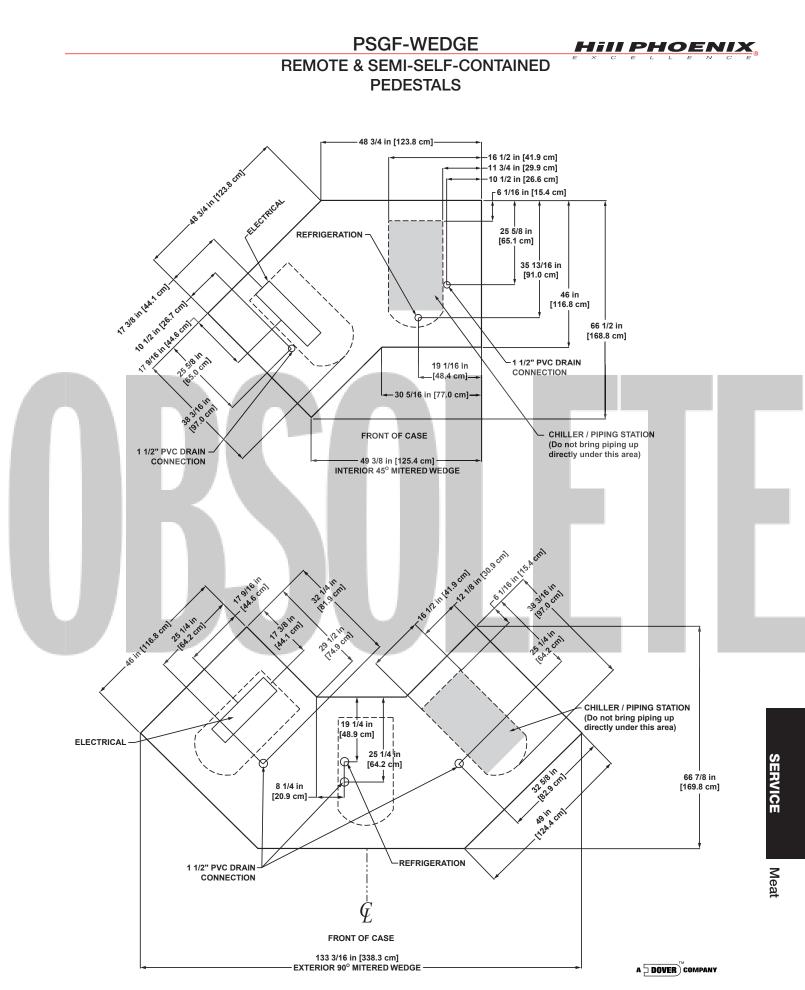




A DOVER COMPANY

5/06





Secondary Coolant Flat Glass Gravity Coil Meat Merchandiser

P2SGF - 4', 6', 8', 12'

Electrical Data

			ndary¹ It Pump		ndensate iters
		120	Volts	120	Volts
Model		Amps	Watts	Amps	Watts
P2SGF	4' 6'	2.00	240	0.55	66
		6'	2.00	240	1.03
	8'	2.00	240	1.03	124
	12'	2.00	240	1.60	192

¹ Secondary coolant pump is only applicable for the semi-self-contained version.

Lighting Data

	Typical per Light Row						mum nting
		per	Bulb	120	Volts	120 Volts	
Model		Row	Length	Amps	Watts	Amps	Watts
P2SGF	4'	1	4'	0.23 28		0.23	28
	6'	2	3'	0.37	44	0.37	44
	8'	2	4'	0.47	56	0.47	56
	12'	3	4'	0.70 84		0.70	84

Guidelines & Control Settings - Remote Secondary

Model	BTUH/ft	Supply Temp. (°F)	Flow Rate GPM/ft	Charge GAL/ft
P2SGF	300	26	0.45	0.27

Guidelines & Control Settings - Semi-Self-Contained

		Supply	Chiller	Flow Rate ³	Charge ⁴	Max. Working	Max. Static
Model	BTUH/ft ²	Temp. (°F)	Temp. (°F)	GPM/ft	GAL/ft	Pressure (PSIG)	Pressure (PSIG)
P2SGF ⁵	350	26	20	0.45	0.27	50	70

 2 BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Minimum flow rate.

⁴ For semi-self-contained cases add 2.75 gallon of fluid for the chiller to the total charge.

⁵ When calculating charge I45 wedges are equivalent to an 8' case and E90 wedges are equivalent to an 12' case.

Defrost Controls

I		Top Coil		Electri	c Defrost	Timed C	Off Defrost	Warm Fl	uid Defrost	Reverse	Air Defrost
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
l	P2SGF	1	5	6		50	45				

⁶ NOTE: - - not an option on this case model.



Cut in / Cut Out

Pans

Top Coil

Cut Out

Temp. (°F)

29

31

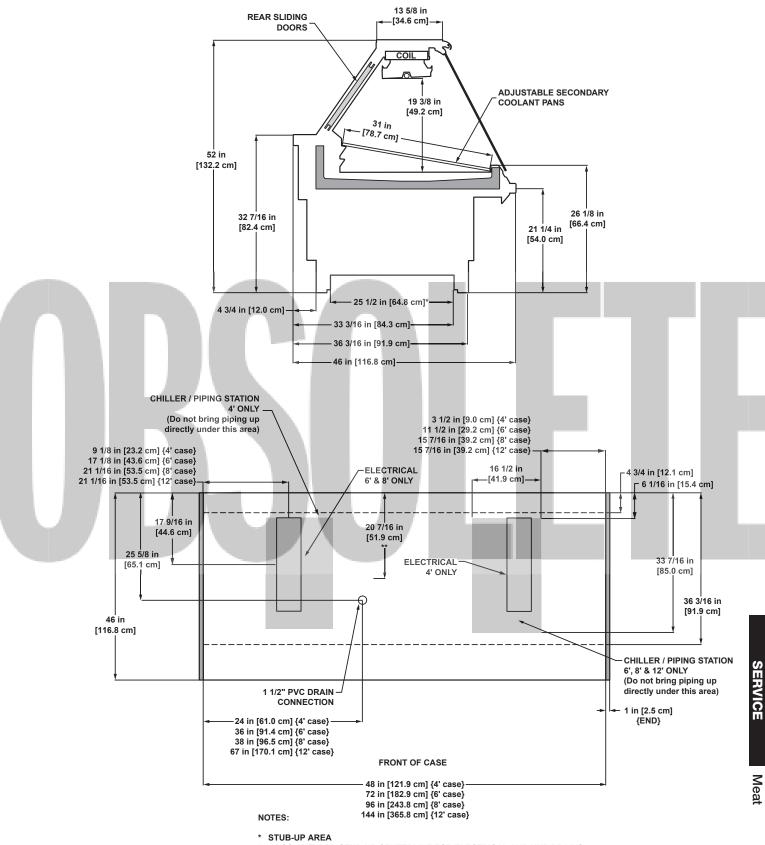
Cut in

Temp. (°F)

33







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

Full Service Bakery Merchandiser

OB - 4', 5', 6.5', & 8'

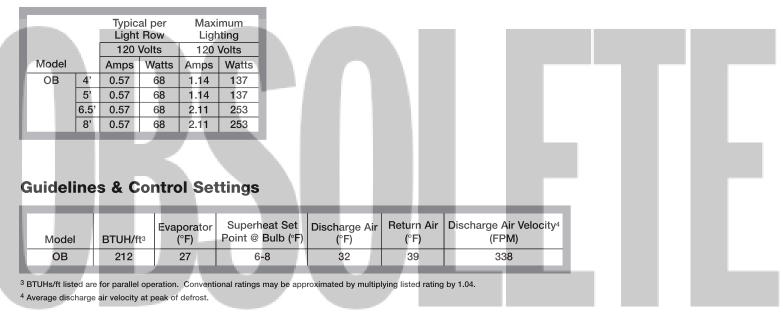
Electrical Data

Γ									High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
			Case		120 Volts		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
	Model		Pri.	Amb.	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
	OB	4'	2	2	0.30	11	0.68	34	0.30	22	1.6	192	2			
		5'	2	2	0.30	11	0.68	34	0.30	22	2.0	240				
		6.5'	3	2	0.30	11	1.02	51	0.45	33	2.4	288				
L		8'	4	3	0.45	17	1.36	68	0.60	44	2.8	336				

¹ Ambient fans are standard equipment for this case model. The primary fans can either be standard or high efficiency.

² NOTE: - - - not an option on this case model.

Lighting Data



Defrost Controls

l				Electric	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse Air Defrost		
l	Model	Defrosts Run-Off Per Day Time (min)		Fail-safe Termination (min) Temp. (°F)		Fail-safe (min)			Termination Temp. (°F)	Fail-safe (min)		
	OB	3	6 - 8			45	47	26	45	45	45	

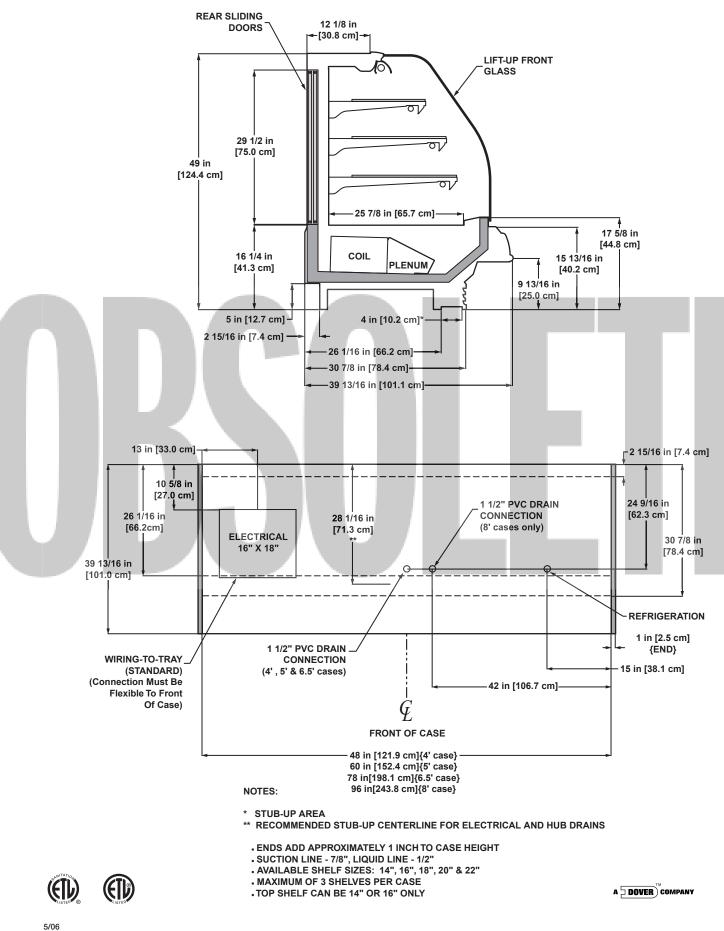
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.







Bakery

Full Service Self-Contained Bakery Merchandiser

OBA - 4', 5', 6.5', & 8'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Fuse Size
OBA	4'	120	1	60	2 wire + ground	17.40	20
	5'	120	1	60	2 wire + ground	18.30	25
	6.5'	120	1	60	2 wire + ground	20.25	25
	8'	120	1	60	2 wire + ground	22.50	25

Lighting Data

				al per Row	Maxi Ligh	-		
			120	Volts	120 Volts			
	Model		Amps	Watts	Amps	Watts		
	OBA	4' 5'		0.57	68	1.14	137	
				5'	0.57	68	1.14	137
a		6.5'	0.57	68	2.11	253		
		8'	0.57	68	2.11	253		

Guidelines & Control Settings

Model	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OBA-4'	54-58	6-8	32	39	338
OBA-5'	54-58	6-8	32	39	338
OBA-6.5'	54-48	6-8	32	39	338
OBA-8'	54-58	6-8	32	39	338

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

l	Model	Volts	Phase	Frequency (Hz)	ΗΡ	RLA² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
1	OBA-4'	120	1	60	1/4	8	34.6	404A	3.1
l	OBA-5'	120	1	60	1/2	12.9	66.3	404A	3.6
I	OBA-6.5'	120	1	60	1/2	12.9	66.3	404A	3.6
I	OBA-8'	120	1	60	3/4	10.9	85.5	404A	3.75

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

		Electri	c Defrost	Timed (Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost		
Model	Defrosts Per Day	Fail-safe (min)Termination Temp. (°F)		Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	
OBA	4	4		40	49					

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

1 2

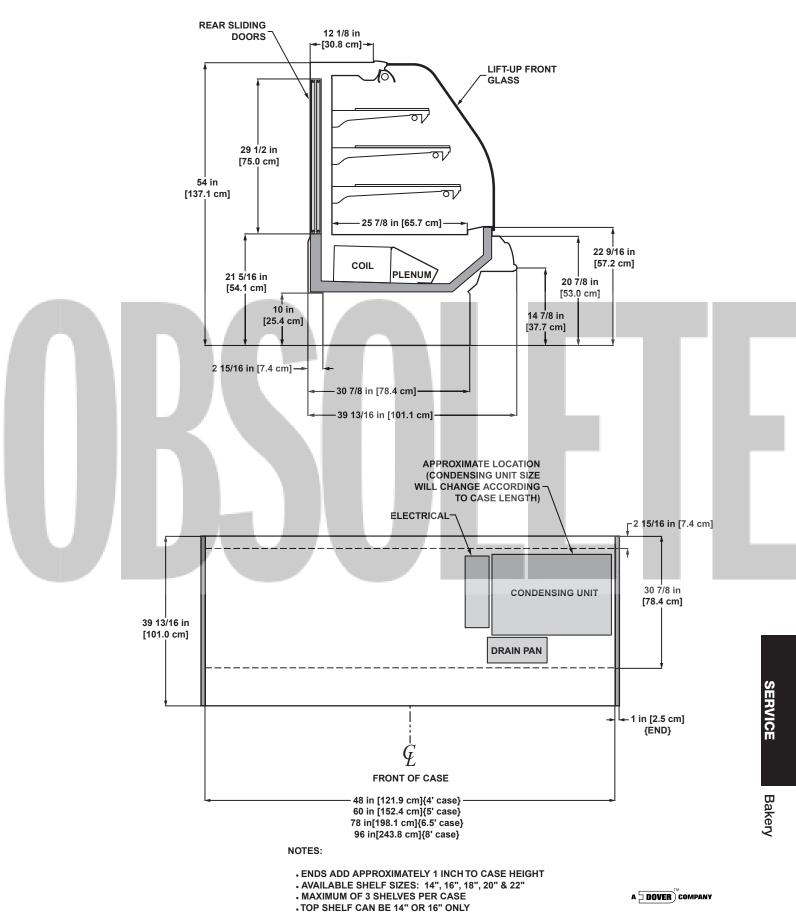
12 midnight 12 am - 12 pm 6 am - 2 pm - 10 pm

3 4 12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.







OBD - 4', 5', 6.5', & 8'

Lighting Data

[Light	al per Row	Maximum Lighting			
			120	Volts	120 Volts			
	Model		Amps	Watts	Amps	Watts		
	OBD	OBD 4'		68	1.14	137		
		5'	0.57	68	1.14	137		
	6.5' 8'		0.57	68	2.11	253		
			0.57	68	2.11	253		

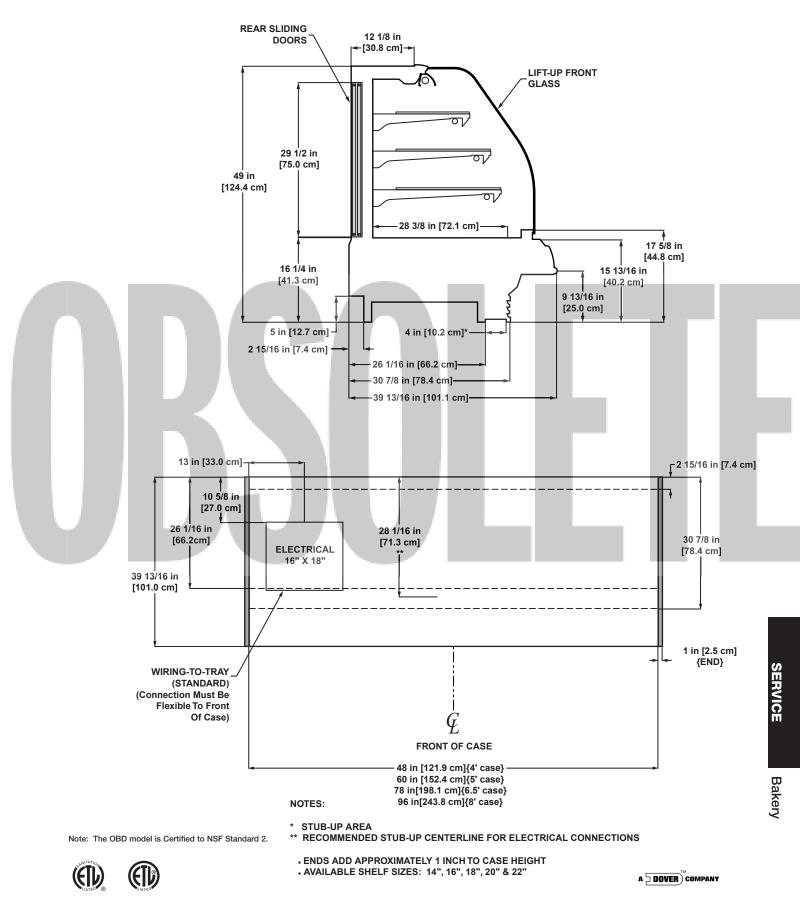


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Self Service Bakery/Deli Merchandiser

OBOL - 4', 5', 6.5', & 8'

Electrical Data

			Standar	d Fans	•	ficiency ans		ndensate ters¹		Defrost	Heaters	
	Fans per		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OBOL	4'	2	0.68	34	0.30	22	1					
	5'	2	0.68	34	0.30	22						
	6.5'	2	0.68	34	0.30	22						
	8'	3	1.02	51	0.45	33						

¹ NOTE: --- not an option on this case model.

Lighting Data

4			Typica Light			imum nting						_		
			120 \	/olts	120	Volts	1							
	Model		Amps	Watts	Amps	Watts					_			
- 1	OBOL	4'	0.57	68	1.14	137								
- 1		5'	0.57	68	1.14	137								
_ 1		6.5'	0.57	68	1.14	1 37								
		8'	0.57	68	1.14	137								
	Guideli	ine	s & C		DI Se t	Superheat		Discharge Air	Return Air	Discharge Air Velo	city ³			1
- 1	Model		BTUH/ft	2	(°F)	Point @ Bu	lb (°F)	(°F)	(°F)	(FP M)				
- 1	OBOL bak	kery	509		27	6-8		33	40	305				
	OBOL deli	i /4	534		22	6-8		30	37	305				
2	BTUHs/ft list	ed are	for parallel	operation	. Convent	ional ratings may	y be app	proximated by multip	lying listed rating	by 1.04.				

³ Average discharge air velocity at peak of defrost.

Defrost Controls

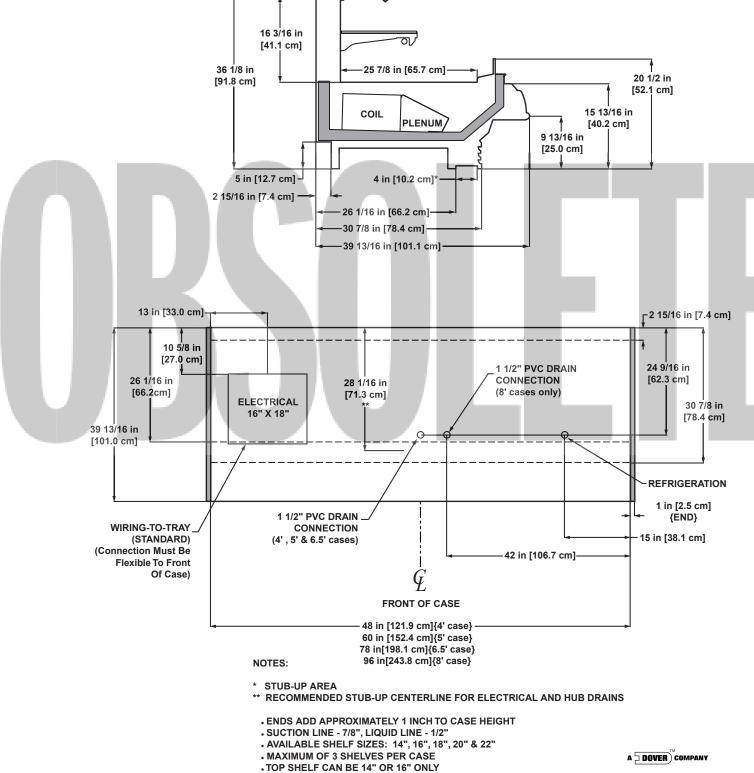
l				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
	Model	Defrosts Per Dav	Run-Off	Fail-safe	Termination	Fail-safe	Termination	Fail-safe		Fail-safe	Termination
	woder	Per Day	Time (min)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)	(min)	Temp. (°F)
	OBOL	3	6 - 8			45	47	26	45	45	45

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per ARI 1200 - 2002 specifications.







18 7/8 in [47.9 cm]·

Self Service Bakery/Deli Merchandiser

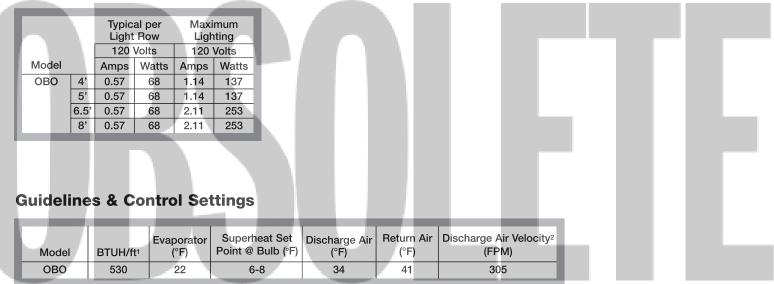
OBO - 4', 5', 6.5', & 8'

Electrical Data

			Standar	d Fans	High Efficiency Fans		Anti-Condensate Heaters ¹		Defrost Heaters			
	Fa		120 Volts		120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OBO	4'	2	0.68	34	0.30	22	1					
	5'	2	0.68	34	0.30	22						
	6.5'	2	0.68	34	0.30	22						
	8'	3	1.02	51	0.45	33						

¹ NOTE: --- not an option on this case model.

Lighting Data



¹ BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.
² Average discharge air velocity at peak of defrost.

Defrost Controls

l				Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
I	ОВО	3	6 - 8			45	47	26	45	45	45

Medium Temperature Defrost Schedule

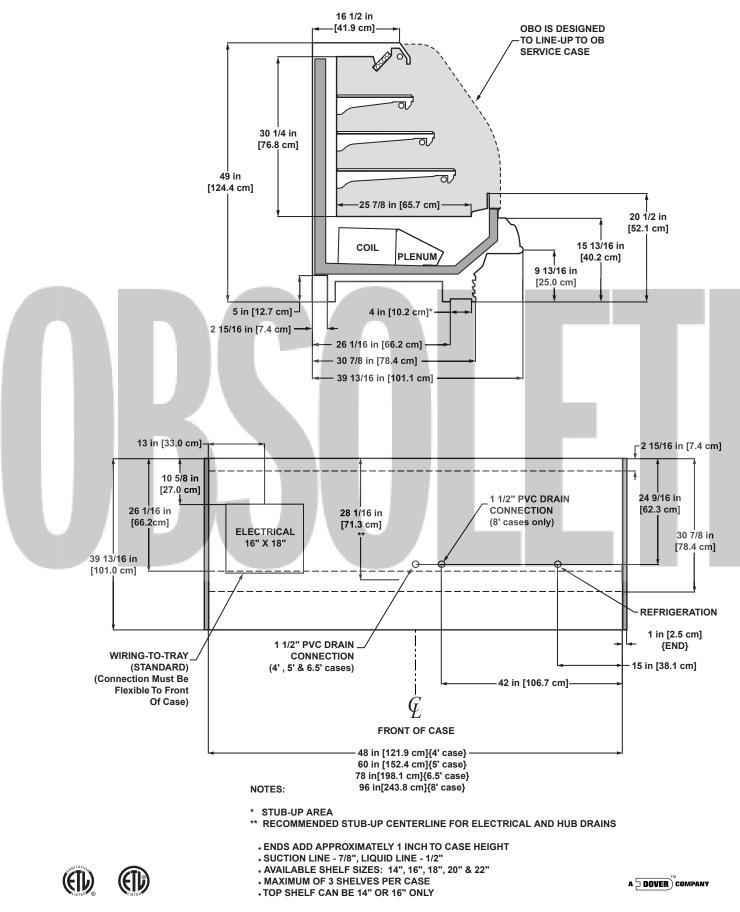
	No. Per Day	Hours	
--	-------------	-------	--

- 1 12 midnight 2 12 am - 12 pm
- 3 6 am 2 pm 10 pm

All measurements are taken per ARI 1200 - 2002 specifications.

^{4 12 - 6} am - 12 - 6 pm





System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Fuse Size
OBOA	4'	120	1	60	2 wire + ground	15.5	20
	8'	120	1	60	2 wire + ground	19.1	25

Lighting Data

ſ				al per Row	Maximum Lighting		
			120	Volts	120 Volts		
	Model		Amps	Watts	Amps	Watts	
	OBOA	4'	0.57	68	1.14	137	
		8'	0.57	68	2.11	253	

Guidelines & Control Settings

Model		Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OB OA- 4'	26.5	54-48	6-8	29-30	40-42	210-240
OBOA-8'	34.1	54-58	6-8	29-30	40-42	210-240

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

L				Frequency		RLA ²	LRA ³		lbs of
	Model	Volts	Phase	(Hz)	HP	(amps)	(amps)	Refrig.	Refrig.
	OBOA-4'	120	1	60	1/4	8	34.6	4 04A	3.1
	OBOA-8'	120	1	60	3/4	10.9	85.5	404A	3.75

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

I			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
l	Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
l	OBOA	4	4		40	49				

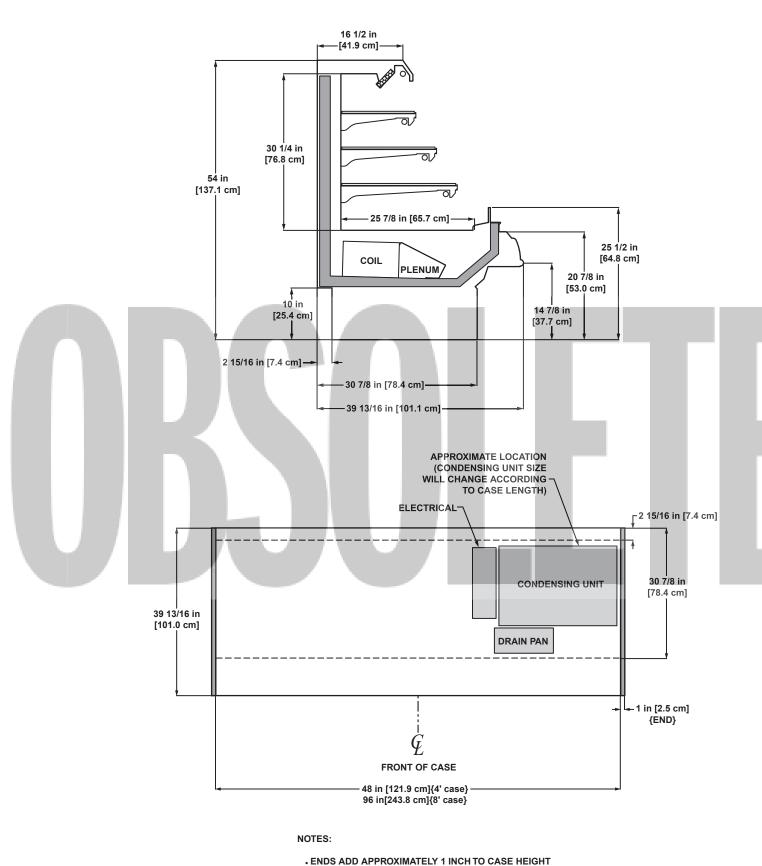
⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm







- AVAILABLE SHELF SIZES: 14", 16", 18", 20" & 22"
 MAXIMUM OF 3 SHELVES PER CASE
- . TOP SHELF CAN BE 14" OR 16" ONLY

SERVICE

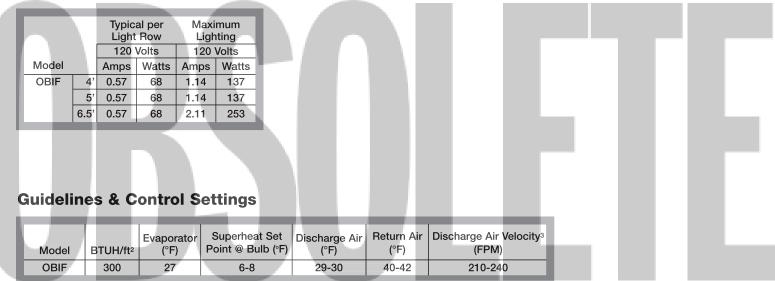
Bakery/Deli

Electrical Data

				d Fans		High Efficiency Fans		Anti-Condensate Heaters		Defrost Heaters			
	Fans per		120 Volts		120	120 Volts		120 Volts		208 Volts		240 Volts	
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	
OBIF	4'	2	0.68	34	0.30	22	1						
	5'	2	0.68	34	0.30	22							
	6.5'	3	1.02	51	0.45	33							

¹ NOTE: - - - not an option on this case model.

Lighting Data



² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

³ Average discharge air velocity at peak of defrost.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OBIF	4			40	49				

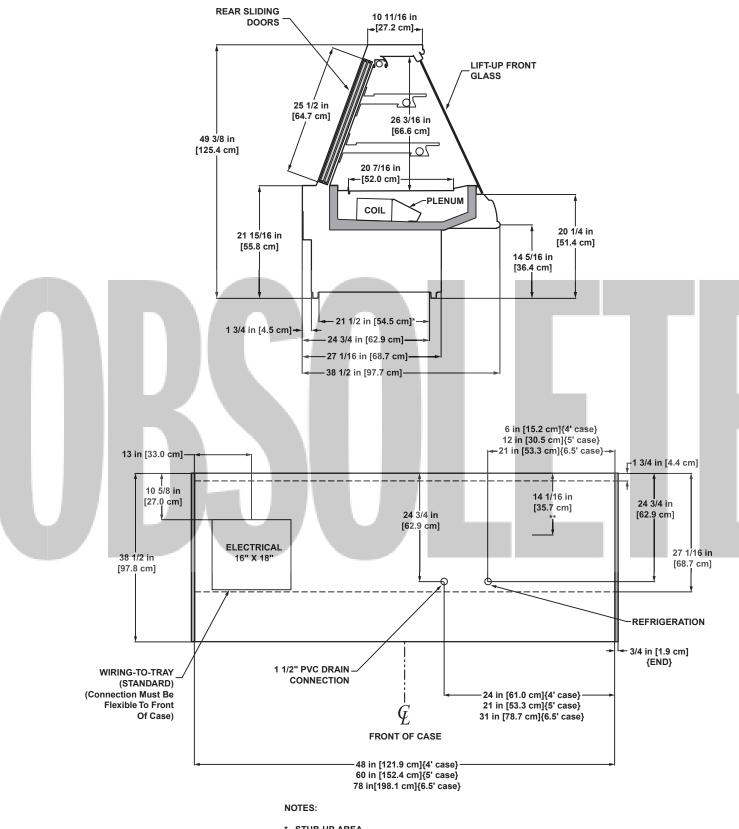
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 nm

12 - 6 am - 12 - 6 pm







* STUB-UP AREA

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

. ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

• SUCTION LINE - 7/8", LIQUID LINE - 1/2"

• AVAILABLE SHELF SIZES: 10" & 16"

SERVICE

Bakery

OBIFA - 4' & 6.5'

System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Fuse Size
OBIFA	4'	120	1	60	2 wire + ground	15.5	20
	6.5'	120	1	60	2 wire + ground	20.1	25

Lighting Data

				al per Row	Maximum Lighting		
			120	Volts	120 Volts		
	Model		Amps	Watts	Amps	Watts	
Ľ	OBIFA	4'	0.57	68	1.14	137	
		6.5'	0.57	68	2.11	253	

Guidelines & Control Settings

Model		Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
OBIFA-4'	26.5	72-74	6-8	29-30	40-42	210-240
OBIFA-6.5'	35.3	72-74	6-8	29-30	40-42	210-2 40

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

ľ	Model	Volts	Phase	Frequency (Hz)	нр	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
ľ	OBIFA-4'	120	1	60	1/4	4.94	25	404A	3.1
ų.	OBIFA-6.5'	120	-1	60	1/3	7.20	29	404A	3.5

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

		Electri	c Defrost	Timed (Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
OBIFA	4	4		40	49				

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours

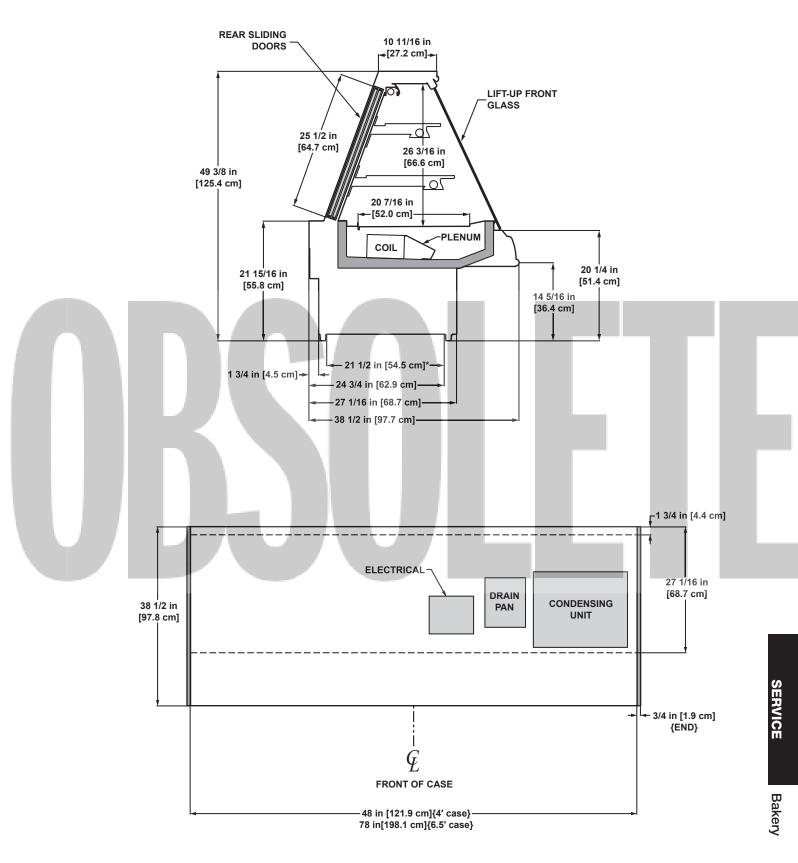
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm







NOTES:

• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT • AVAILABLE SHELF SIZES: 10" & 16"

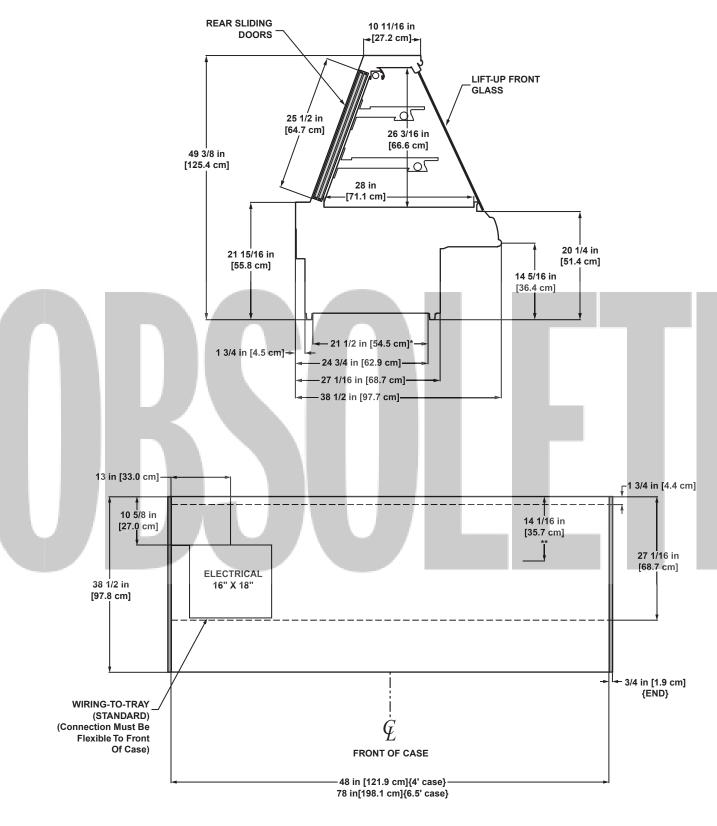
Lighting Data

				al per Row		mum iting
			120	Volts	120	Volts
	Model		Amps	Watts	Amps	Watts
ľ	OBIFD	4'	0.57	68	1.14	137
		6.5'	0.57	68	2.11	253









NOTES:

* STUB-UP AREA

- ** RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL CONNECTIONS
- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT • AVAILABLE SHELF SIZES: 10" & 16"

SERVICE

Dry Bakery

Single Deck Cub Case Merchandiser CUB - 4', 6' & 8'

Electrical Data

			Standar	d Fans	•	fficiency ans	Anti-Con Hea			Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
CUB	4'	2	0.30	36	1							
	6'	2	0.30	36								
	8'	3	0.45	54								

¹ NOTE: --- not an option on this case model.

Lighting Data

		Bulbs	Bulb	Light	al per Row Volts	Ligh	mum nting Volts
Model		Row	Length	Amps	Watts	Amps	Watts
CUB	4'	1	4'	0.25	30	0.25	30
	6'	2	3'	0.50	60	0.50	60
	8'	2	4'	0.50	60	0.50	60

Guidelines & Control Settings

Model	BTUH/ft ²	Evaporator (°F)	Superheat Set Point @ Bulb (°F)
CUB	650	22	6-8

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	s Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)						
CUB	3	6 - 8			20	47				

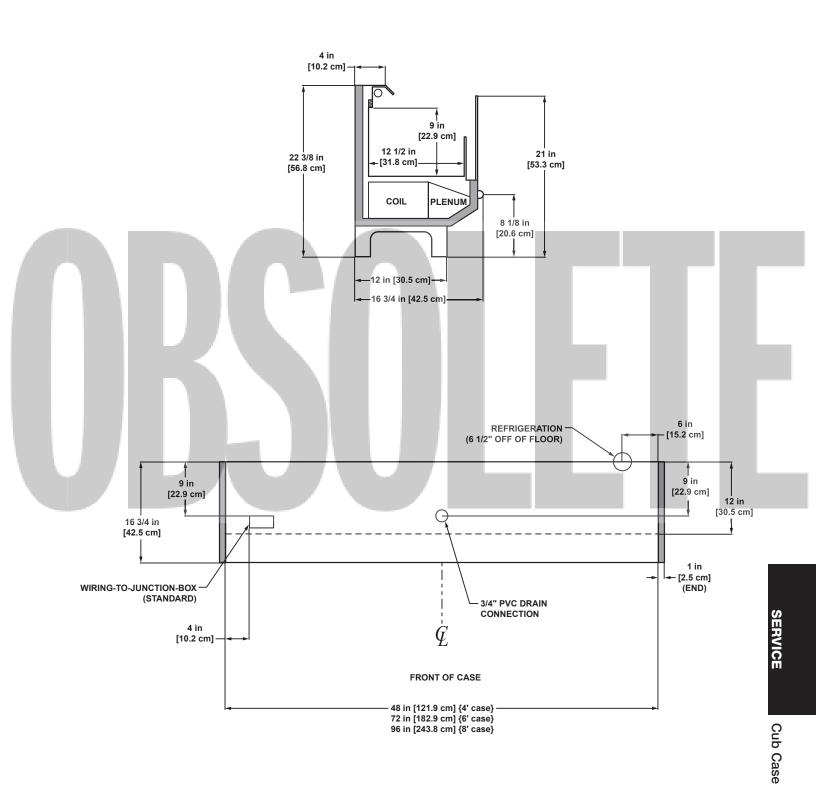
Medium Temperature Defrost Schedule

No. Per Day Hours 12 midnight 1 12 am - 12 pm 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm 2 3 4

HIII PHOENIX

	TM	
Αþ	DOVER) COMPAN	n

CUB CASE (Service Cases on 11" Baseframes)



Single Deck Cub Case Merchandiser CUB - 4', 6' & 8'

Electrical Data

			Standar	d Fans	•	fficiency ans	Anti-Con Hea			Defrost	Heaters	
		Fans per	120 \	/olts	120	Volts	120	Volts	208	Volts	240	Volts
Model		Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
CUB	4'	2	0.30	36	1							
	6'	2	0.30	36								
	8'	3	0.45	54								

¹ NOTE: --- not an option on this case model.

Lighting Data

1			Bulbs per	Bulb	Light	al per Row Volts	Ligh	imum nting Volts
- 1	Model		Row	Length	Amps	Watts	Amps	Watts
- 1	CUB	4'	1	4'	0.25	30	0.25	30
		6'	2	3'	0.50	60	0.50	60
		8'	2	4'	0.50	60	0.50	60

Guidelines & Control Settings

l			TUH/ft ²	Eva	aporator (°F)	Superheat Set Point @ Bulb (°F			
I	CUB		650		22	6-8			

² BTUHs/ft listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

Defrost Controls

I			Electri	c Defrost	Timed Off Defrost Hot Gas Defrost Reverse Air		Air Defrost				
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	CUB	3	6 - 8			20	47				

Medium Temperature Defrost Schedule

No. Per Day Hours 12 midnight 1 12 am - 12 pm 2 3 4

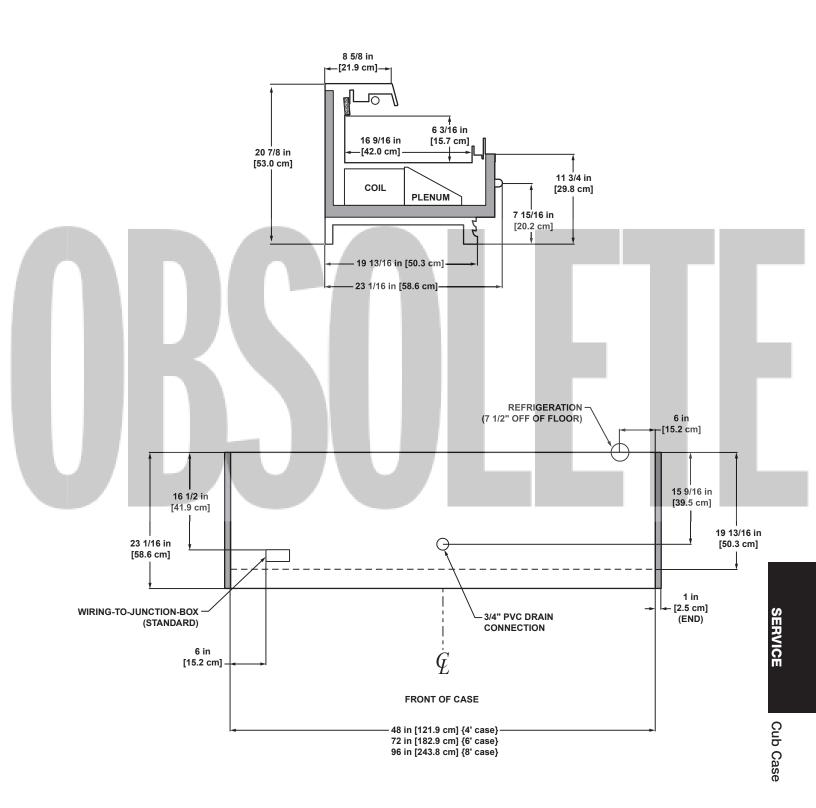
12 am - 12 pm	
6 am - 2 pm - 10 pm	
12 - 6 am - 12 - 6 pm	







CUB CASE (PSG / PSGF on 52" Baseframe)



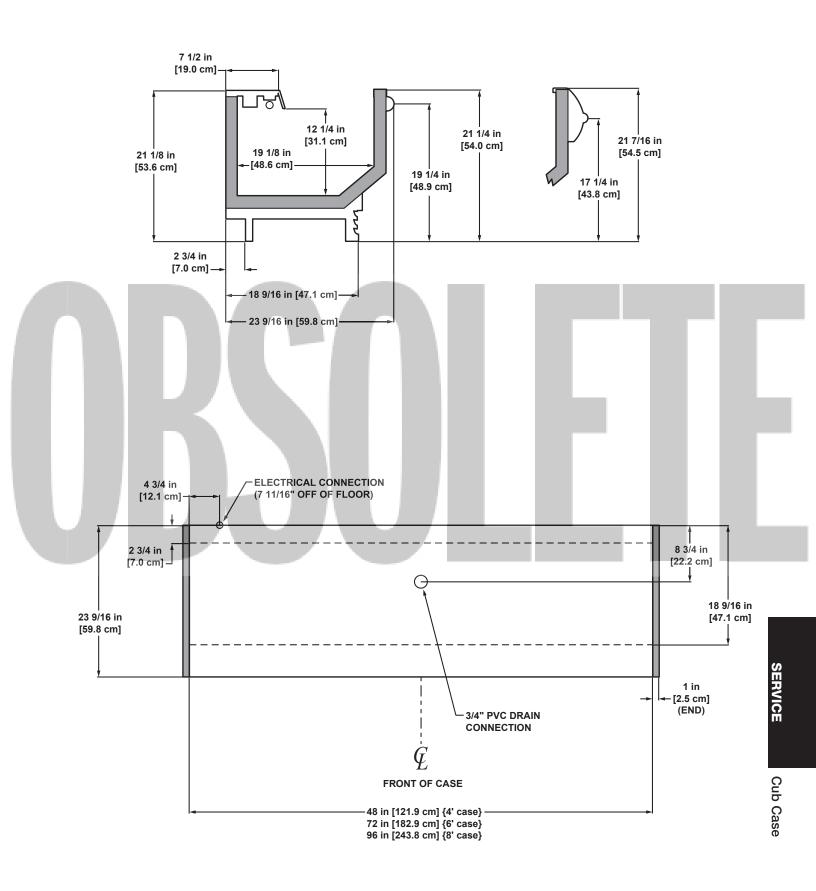
Lighting Data

		Bulbs		Typical per Maximum Light Row Lighting			
	per			120	120 Volts 120 V		Volts
Model		Řow	Length	Amps	Watts	Amps	Watts
CUB	4'	1	4'	0.25	30	0.25	30
	6'	2	3'	0.50	60	0.50	60
	8'	2	4'	0.50	60	0.50	60



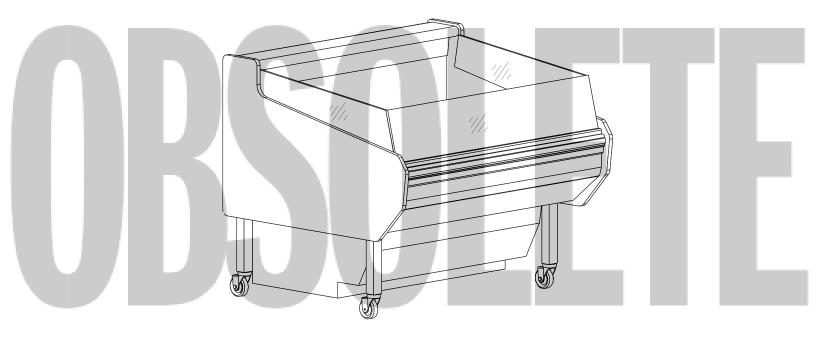


ICE CUB CASE (PSG / PSGF on 52" Baseframe)





MOBILE SELF-CONTAINED



Notes:

- Cases comply with ANSI / NSF* Standard 7. Units marked as components require remote refrigeration.
- Allow for an extra 1/8" per joint when lining up merchandisers.
- Front sill height does not affect case performance unless specifically shown.
- Front and rear sill heights vary with baseframe height.

* ANSI - American National Standard Institute NSF - National Sanitation Foundation

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
MDCA-4'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft
MDCA-6'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

		24 hr Energy	Suction Pressure @	Superheat Set Point	Discharge Air	Return Air	Discharge Air Velocity ¹
I	Model	Usage (kWh)	Case Outlet (psig)	@ Bulb (°F)	(°F)	(°F)	(FPM)
ł	MDCA-4'	16.6	52	6-8	25	36	295
đ	MDCA-6'		52	6-8	25	36	295

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA³ (amps)	Refrig.	lbs of Refrig.
MDCA-4'	115	1	60	1/3	7.4	29 .8	R404A	3.5
MDCA-6'	115	1	60	1/2	10.1	51.0	R404A	
_								

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

			Electri	c Defrost	Timed C	Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Mod	el Defro		Fail-safe (min)	Termination Temp. (°F)						
MDC	A 4		35	47	4					

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

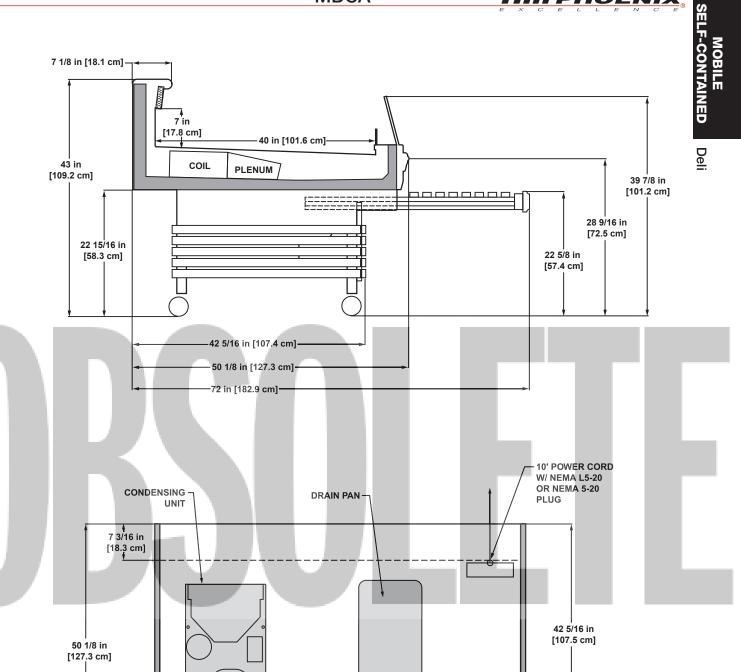
No. Per Day	Hours	

1	12 midnight
2	12 am - 12 pm

6 am - 2 pm - 10 pm 3

4 12 - 6 am - 12 - 6 pm





• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT • CASE BASEFRAME ALLOWS OVERALL HEIGHT TO BE LOWERED AS MUCH AS 6" IN 1" INCREMENTS

FRONT OF CASE

-48 in [121.9 cm] {4' case} 72 in [182.9 cm] {6' case}

NOTES:

← 1 in [2.5 cm] {END}

HIII PHOENIX



System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
MMCA-4'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft
MMCA-6'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft
MMCA-8'	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

	Model		Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
	MMCA-4'	17.2	49	6-8	24	35	140
I	MMCA-6'		49	6-8	24	35	140
	MMCA-8'		49	6-8	24	35	140

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
MMCA-4'	115	1	60	1/3	7.4	29.8	R404A	3.5
MMCA-6'	115	1	60	1/2	10.1	51.0	R404A	
MMCA-8'	115	1	60	1/2	10.1	51.0	R404A	

² RLA - Running Load Amps.

³ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed C	Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
MMCA	3	35	47	4					

(NSF)

⁴ NOTE: - - - not an option on this case model.

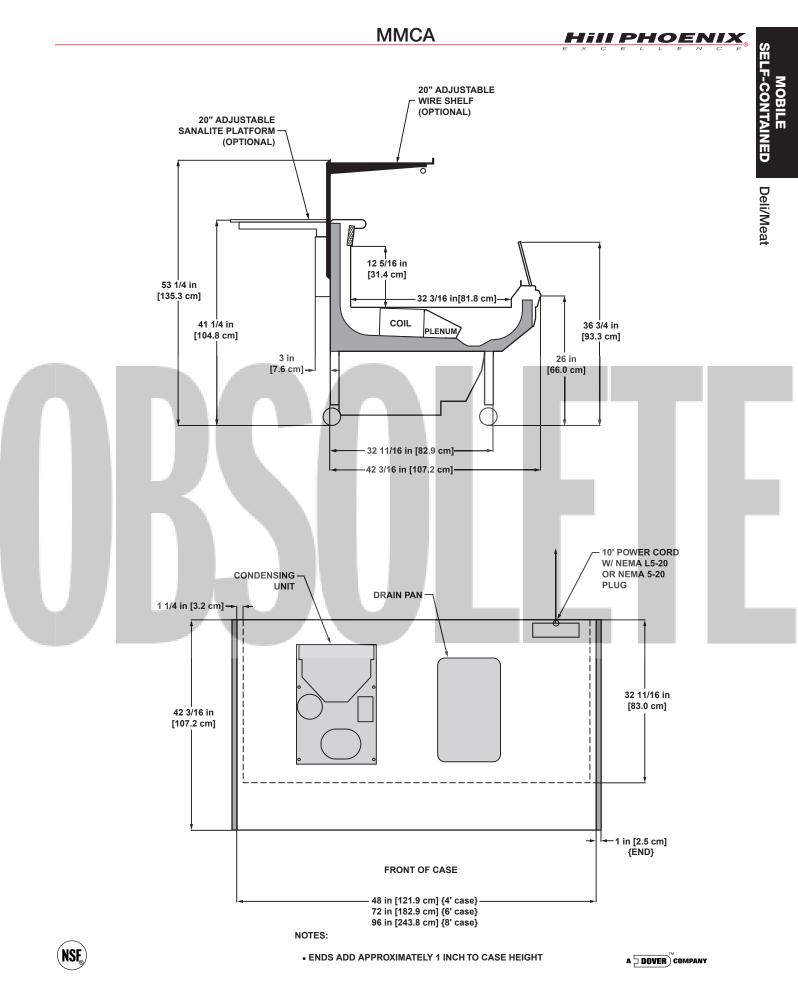
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

6 am - 2 pm - 10 pm 3 4

12 - 6 am - 12 - 6 pm





5/06

Single Deck Self-Contained Mobile Deli/Meat Merchandiser MMRA - 2', 3', 4' & 6'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
MMRA	120	1	60	NEMA 5-20	6 ft

Guidelines & Control Settings

Model	 Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ¹ (FPM)
MMRA	15	6-8	29	39	180

¹ Average discharge air velocity at peak of defrost.

Condensing Unit Data

Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.
MMRA - 2'	115	1	60	1/4	4.94	25	134A	1.75
MMRA - 3'	115	1	60	1/4	7.20	29	134A	1.94
MMRA - 4'	115	1	6 0	1/3	9.30	36	134A	3.00
MMRA - 6'	115	1	60	1/2	9.00	51	134A	3.38
RLA - Running L		6.						

³ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed 0	Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
MMRA	4	4		30	47				

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

|--|

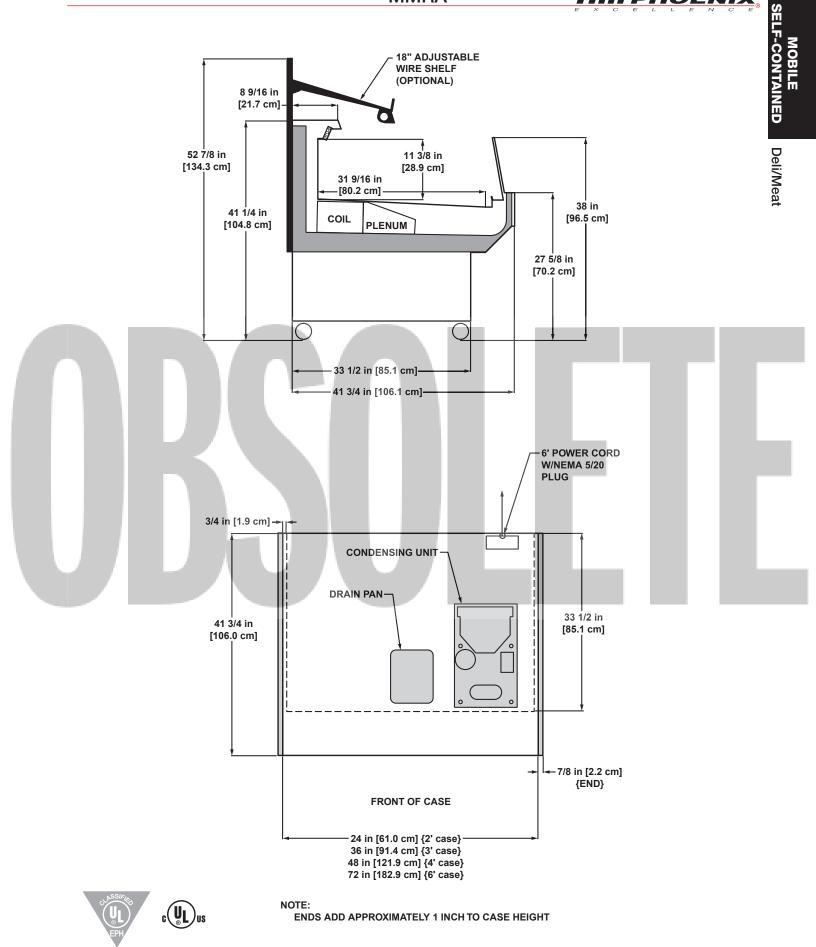
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm

All measurements are taken per CRMA specifications.



MMRA





Single Deck Self-Contained Mobile Produce Merchandiser

MPCA - 8'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
MPCA	120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

	Model	24 hr Energy Usage (kWh)		Outlet (psig)	•	eat Set Po Bulb (°F)	int Disc	charge Air (°F)	(°F)	Disch	arge Air Velo (FPM)	ocity ¹			
	MPCA			19.9		6-8		30	42		163				
1 Aver	age discharg	ge air velocity at j	peak of de	efrost											
Aven	age discharg	je all velocity at j	Jeak of de												
						- 11									
					1.1										
			-		1. C										
Co	ndens	ing Unit	t Dat	a											
Co	ndens	ing Unit	t Dat	a				_	_	÷.					
Co	ndens	ing Unit	t Dat			RLA ²	LRA ³	_	lbs of	Ľ.					
E	ndens Model		t Dat	a Frequency (Hz)	НР	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.	Ľ					
Ľ	-			Frequency	HP 1/2			Refrig.	Refrig.	1		1			
E	Model MPCA	Volts 120		Frequency (Hz)		(amps)	(amps)	_	Refrig.						
² RLA	Model MPCA - Running La	Volts 120 Dad Amps.		Frequency (Hz)		(amps)	(amps)	_	Refrig.]					
² RLA	Model MPCA	Volts 120 Dad Amps.		Frequency (Hz)		(amps)	(amps)	_	Refrig.]					

Defrost Controls

Γ				Electric Defrost		Timed Off Defrost		Hot Ga	s Defrost	Reverse Air Defrost	
	Model	Defrosts Per Day	Run-Off Time (min)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	MPCA	3	6 - 8	40	49	60	47	3			

³ NOTE: - - - not an option on this case model.

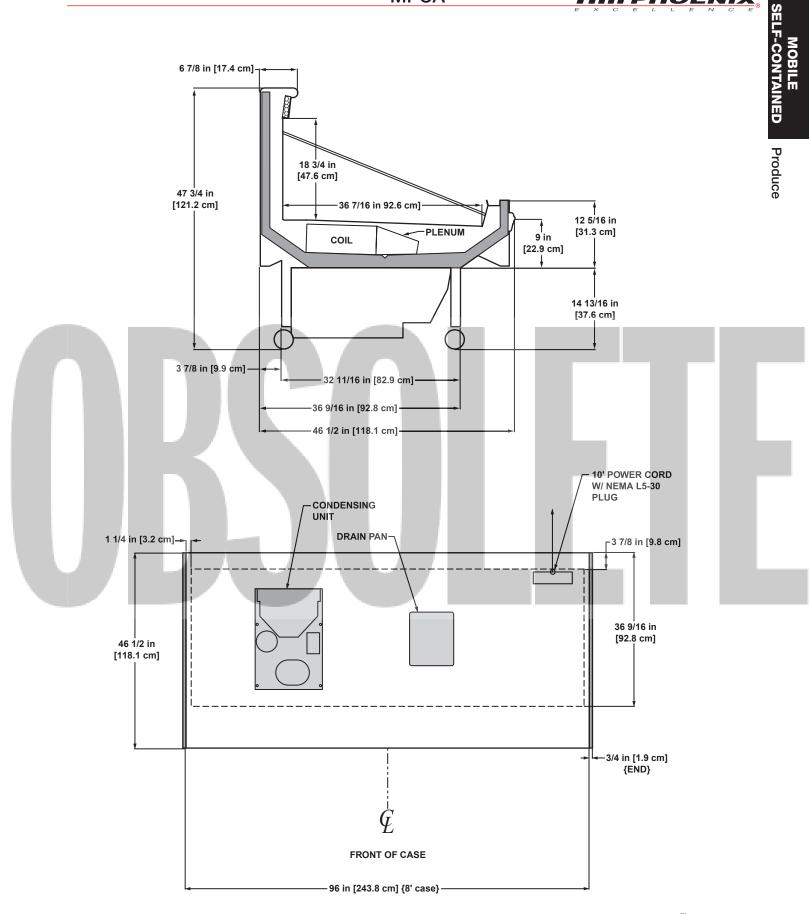
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm



HIII PHOENIX



Hill PHOENIX

International Style Self-Contained Mobile Deli/Meat/Seafood Merchandiser OSIOA-4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
OSIOA	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

Model		nr Energy ge (kWh)	Suction Pre Case Outle	essure @ et (psig)	Superh @	eat Set F Bulb (°F)	Point Di	ischarge Air (°F)	Return Air (°F)	Discharge Air Vel (FPM)	locity	
OSIOA		14.1	12-1	4		6-8		26	34	182		
erage discha										F		Γ
Model	Volts	Phase	Frequency (Hz)	HP	RLA ² (amps)	LRA ³ (amps)	Refrig	lbs of g. Refrig.				

Defrost Controls

		Electric Defrost		Timed C	Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OSIOA	4	40	47	4					

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours	

1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

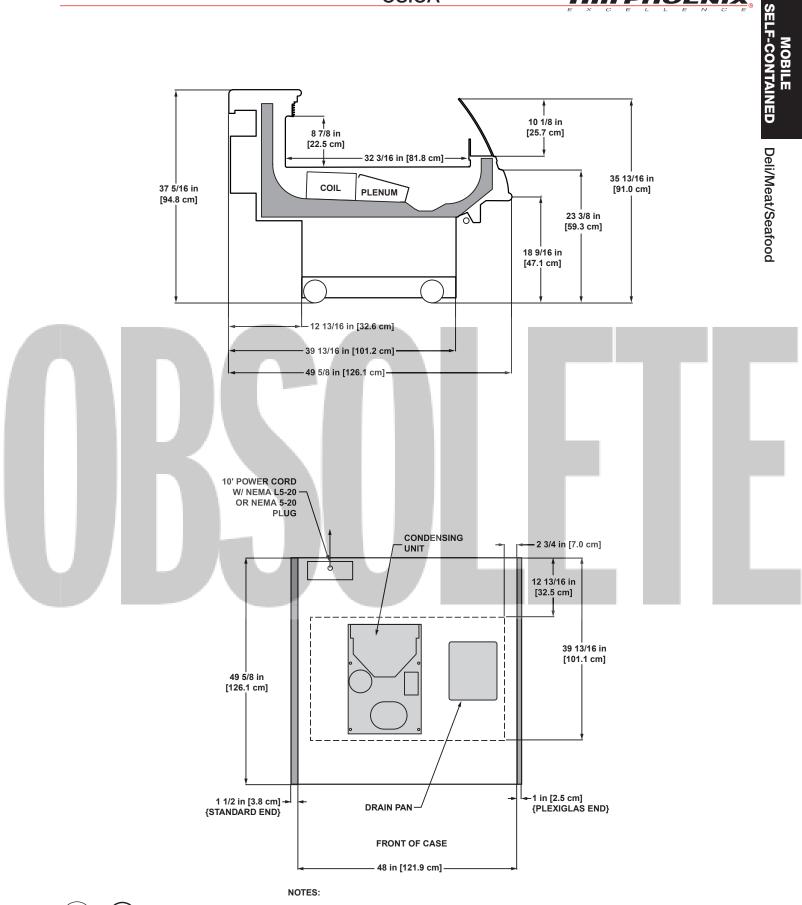
4 12 - 6 am - 12 - 6 pm



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~ _	DOTEN SOM ANT







International Style Self-Contained Mobile Deli/Meat/Seafood Prep Merchandiser

OSIOPA-4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
OSIOPA	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

04 b E C D D D D D D D D D D D D D D D D D D	
24 hr Energy Suction Pressure @ Superheat Set Point Discharge Air Return Air Discharge Air Ve	elocity ¹
Model Usage (kWh) Case Outlet (psig) @ Bulb (°F) (°F) (°F) (FPM)	
OSIOPA 13.6 20 6-8 34 36 200	
OSIOPA meat 18.0 16 6-8 32 36 200	
¹ Average discharge air velocity at peak of defrost.	
Condensing Unit Data	
Model Volts Phase (Hz) HP (amps) (amps) Refrig. Refrig.	
OSIOPA 120 1 60 1/3 7.2 29.0 R134A 2.25	
² RLA - Running Load Amps. ³ LRA - Locked Rotor Amps.	

Defrost Controls

			Electric Defrost		Timed C	Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost	
l	Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
	OSIOPA	2	40	47	4					

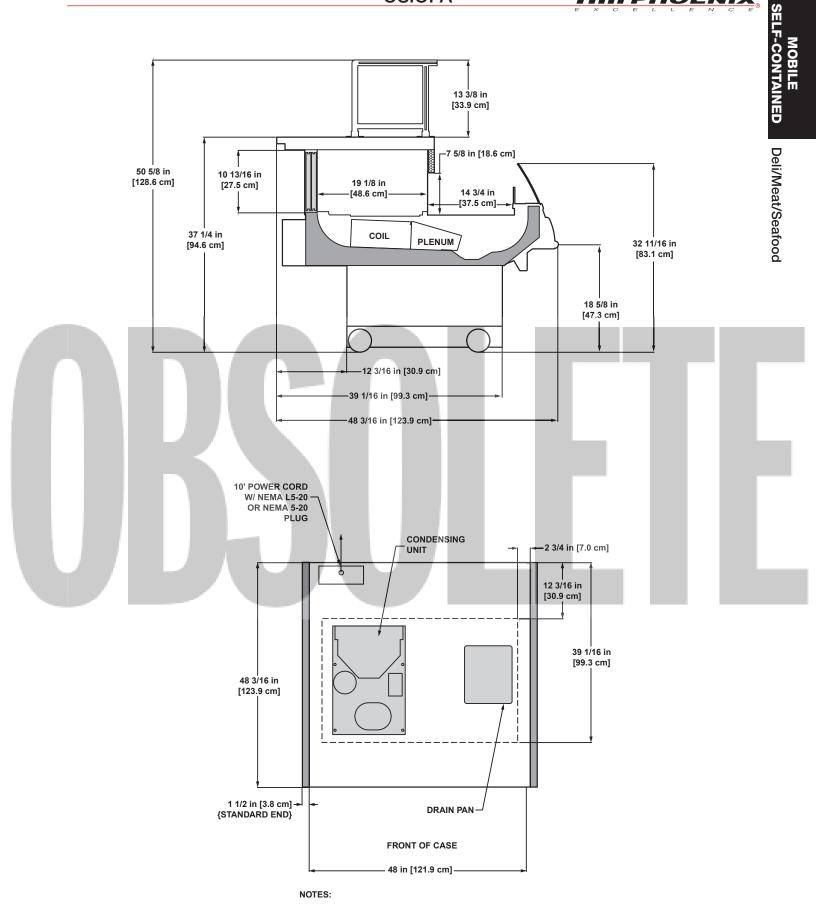
⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	10 6 cm 10 6 cm

4 12 - 6 am - 12 - 6 pm





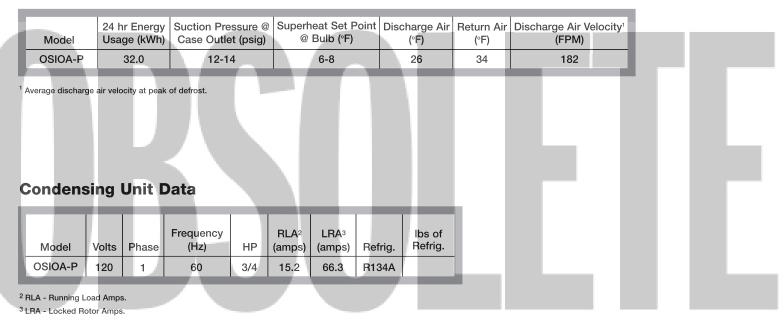
• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

International Style Self-Contained Mobile Sushi Prep Merchandiser OSIOA-P-4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
OSIOA-P	120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings



Defrost Controls

		Electri	c Defrost	Timed C	Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
OSIOA-P	2	40	47	4					

⁴ NOTE: - - - not an option on this case model.

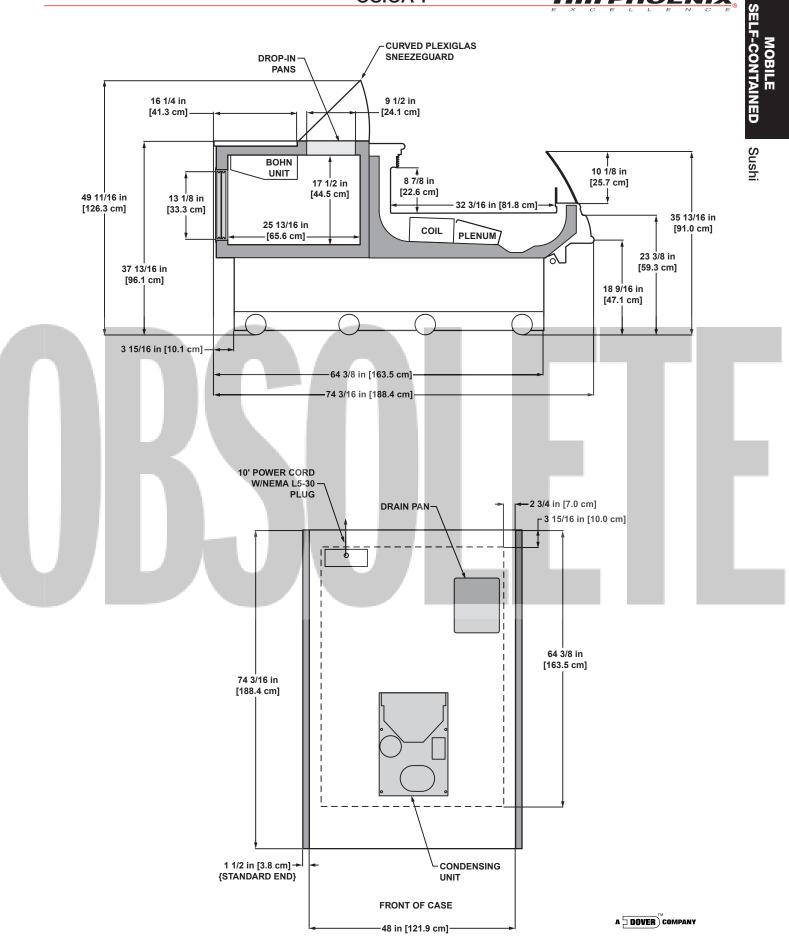
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm



OSIOA-P





International Style Self-Contained Mobile Dual Temp. Merchandiser OSIOZA-4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
OSIOZA	120	1	60	NEMA L5-30	10 ft

Guidelines & Control Settings

l	Model	24 hr E Usage				Superf @	neat Set F Bulb (°F)	' oint		arge Air °F)	Return Air (°F)	Dischar	ge Air Ve (FPM)	elocity			
	OSIOZA	25.	0	12-1	4		3-4		-	24	-10		220				
	Average discharge											I					
	Model		nase	Frequency (Hz)	НР	RLA² (amps)	LRA ³ (amps)	Ref	rig.	lbs of Refrig.							
	OSIOZA	115	1	60	3/4	10.9	85.5	R40	04A	3.75							
	RLA - Running Lo LRA - Locked Rot																

Defrost Controls

		Electric Defrost		Timed C	Off Defrost	Hot Ga	as Defrost	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
OSIOZA	2	45	45	4					

⁴ NOTE: - - - not an option on this case model.

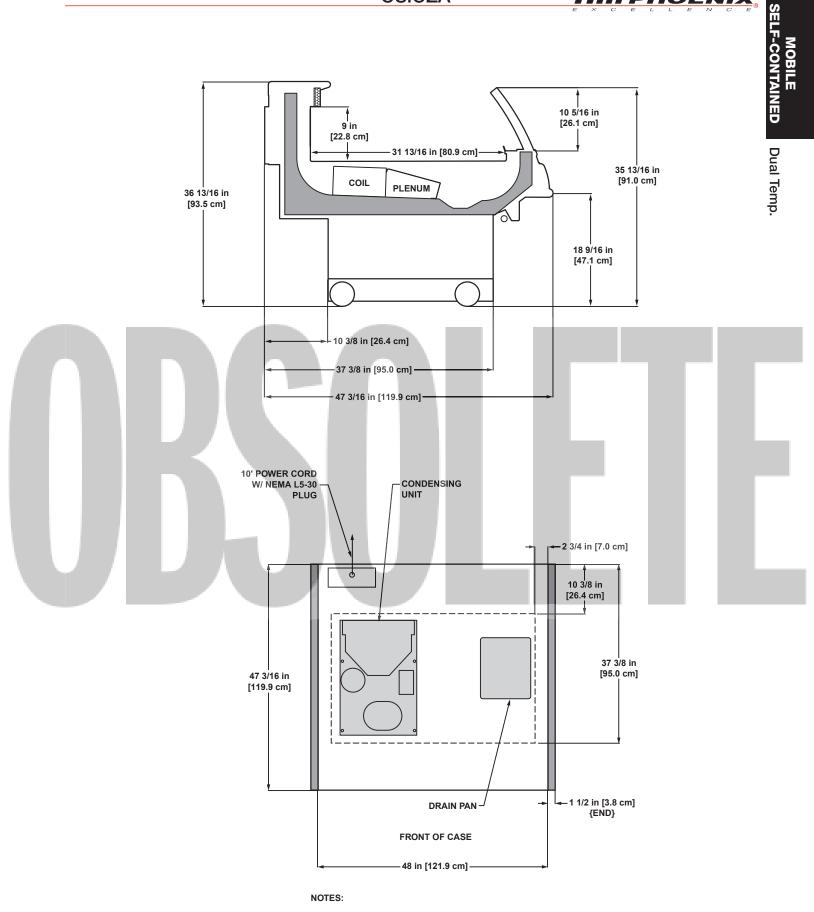
Low Temperature Defrost Schedule

No. Per Day	Hours
1	10 pm
2	6 am - 10 pm**

** Or immediately after store closing hour





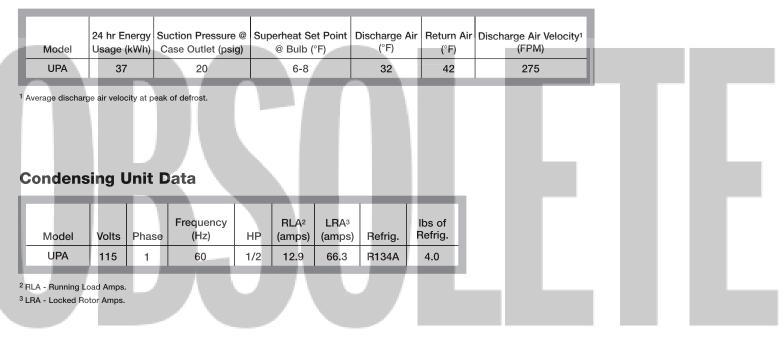


Single Deck Self-Contained Mobile Boxed Produce Merchandiser UPA-8'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
UPA	120	1	60	NEMA L5-30	6'

Guidelines & Control Settings



Defrost Controls

		Electri	c Defrost	Timed C	Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
UPA	3	4		45	45				

⁴ NOTE: - - - not an option on this case model.

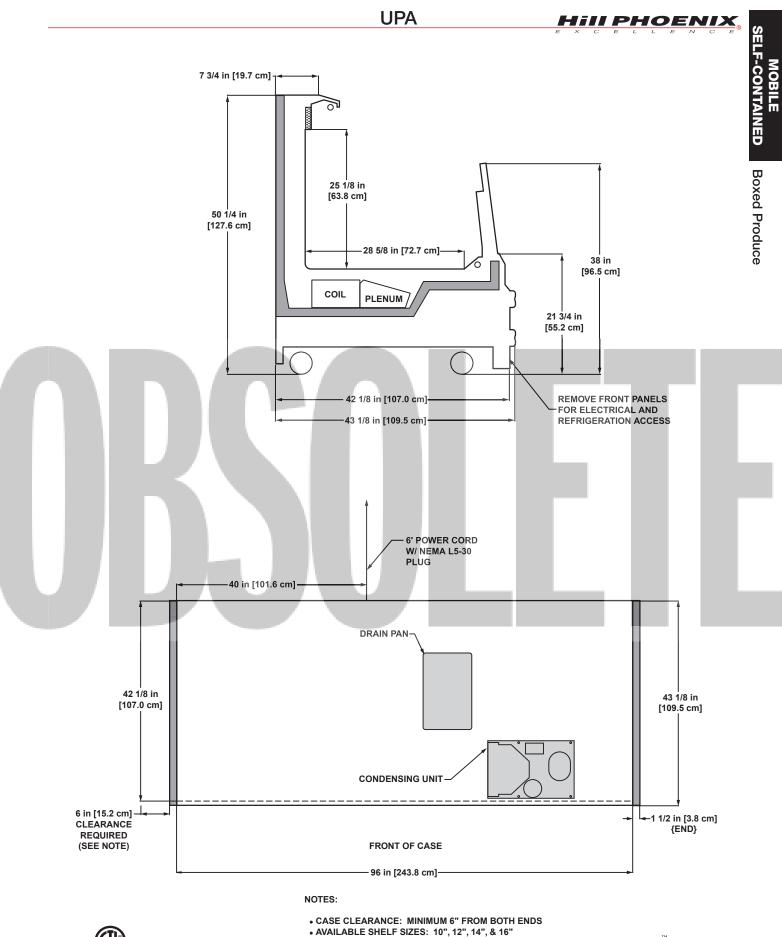
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm

4 12 - 6 am - 12 - 6 pm







Multi-Deck Self-Contained Mobile Produce/Dairy/Deli/Meat Merchandiser 02.5UMA - 4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
O2.5UMA	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

	Model			Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity ² (FPM)
	O2.5UMA Produce	Standard ¹	32.3	12-14	6-8	29-30	40-42	228
1	Deli	Solid/Extd.	30.2	12-14	6-8	25-27	39-4 1	230
I	Meat	Thermopane	30.3	12-14	6-8	25-26	36-38	226

¹ Note: when ordering the standard front a 4" piece of straight plexiglass must be placed in front of the return air baffle.

² Average discharge air velocity at peak of defrost.

Condensing Unit Data

ľ	Model	Volts	Phase	Frequency (Hz)	НР	RLA ³ (amps)	LRA ⁴ (amps)	Refrig.	lbs of Refrig.
	02.5UMA	115	1	60	1/2	12.9	66.3	R134A	3.6
3	RLA - Running Lo	ad Amps.							

⁴ LRA - Locked Rotor Amps.

Defrost Controls

		Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost		
Mod		Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
O2.5U	JMA	3	40	47	5					

(NSF_)

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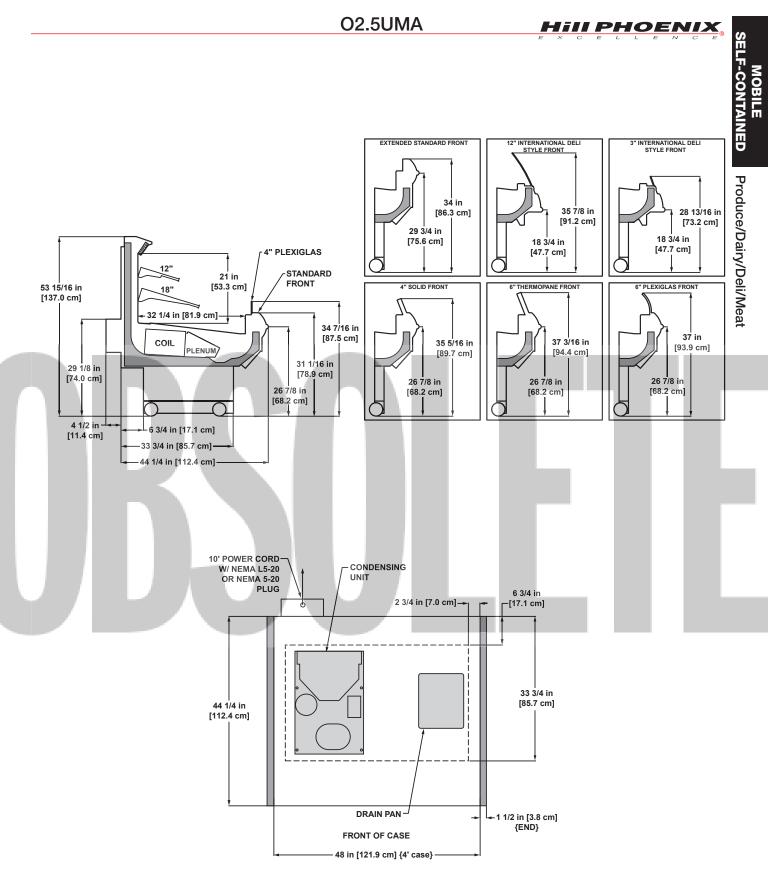
⁵ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
-	

3 4 6 am - 2 pm - 10 pm 12 - 6 am - 12 - 6 pm





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"



Multi-Deck Self-Contained Mobile Produce/Dairy/Deli/Meat Merchandiser **O3UMA - 4'**

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
O3UMA	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

Model	Front Sil		(kWh) C	ase Outlet (12-14		Superheat S @ Bulb 6-8	(°F)	Discharge Air (°F) 26	Return Air (°F) 35	Discharge Air (FPM 230)		
¹ Average dischare	ge air veloci	ty at peak o	of defrost.					20			1		
Model O3UMA	Volts 115	Phase 1	Frequen (Hz)	cy HP 1/2	RLA ² (amps 12.9) (amps)	Refrig. R134A			г			
² RLA - Running L ³ LRA - Locked Ro				U									

Defrost Controls

		Electri	c Defrost	Timed C	Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
O3UMA	3	40	47	4					

⁴ NOTE: - - - not an option on this case model.

Medium	Temperature	Defrost	Schedule	

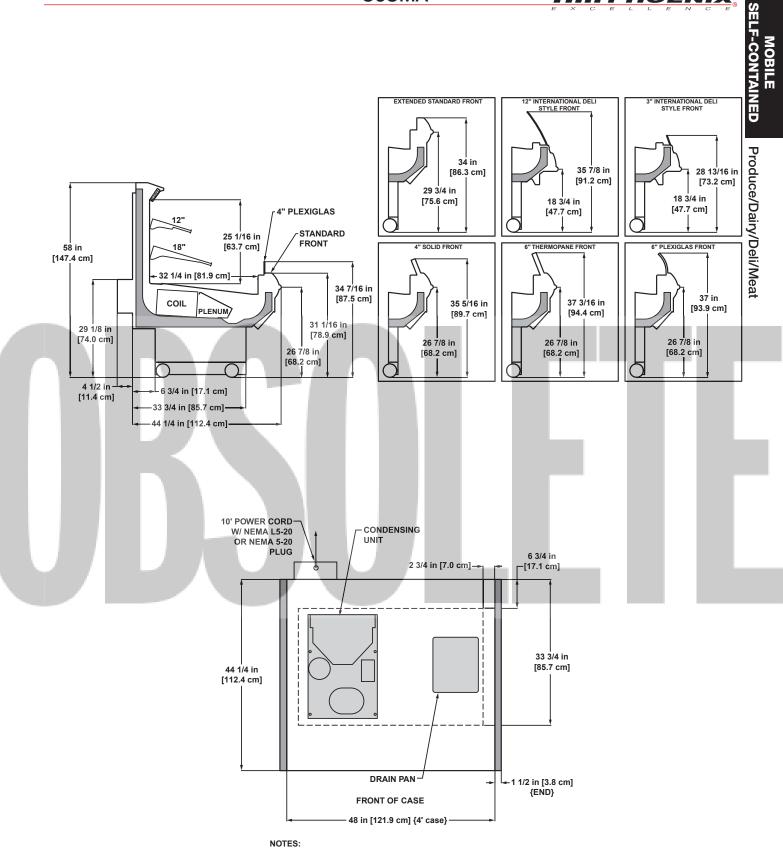
- No. Per Day Hours
 - 12 midnight 1
 - 2
 - 12 am 12 pm 6 am 2 pm 10 pm 12 6 am 12 6 pm 3 4











- 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"





Multi-Deck Self-Contained Mobile Produce/Dairy/Deli/Meat Merchandiser 03UMA-56" - 4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
O3UMA-56	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

Model	24 hr Energy Usage (kWh	Suction Pressure Case Outlet (psig		uperheat Se @ Bulb (Discharge A (°F)	ir Return A	r Discharge Air Velocity ¹ (FPM)		
O3UMA-56	24.1	18-20		6-8		31	41	230		
¹ Average discharg	Sing Unit	t Data Frequency (Hz)	нр		LRA ³ (amps) Refrig.	lbs of Refrig.	F	T	
O3UMA-56	115 1	60	1/2	10.2	51.0	R134A	2.84			
² RLA - Running Lo ³ LRA - Locked Ro		入								

Defrost Controls

		Electri	c Defrost	Timed C	Off Defrost	Hot Ga	as Defrost	Reverse	Reverse Air Defrost	
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)							
O3UMA-56	6	40	47	4						

⁴ NOTE: - - - not an option on this case model.

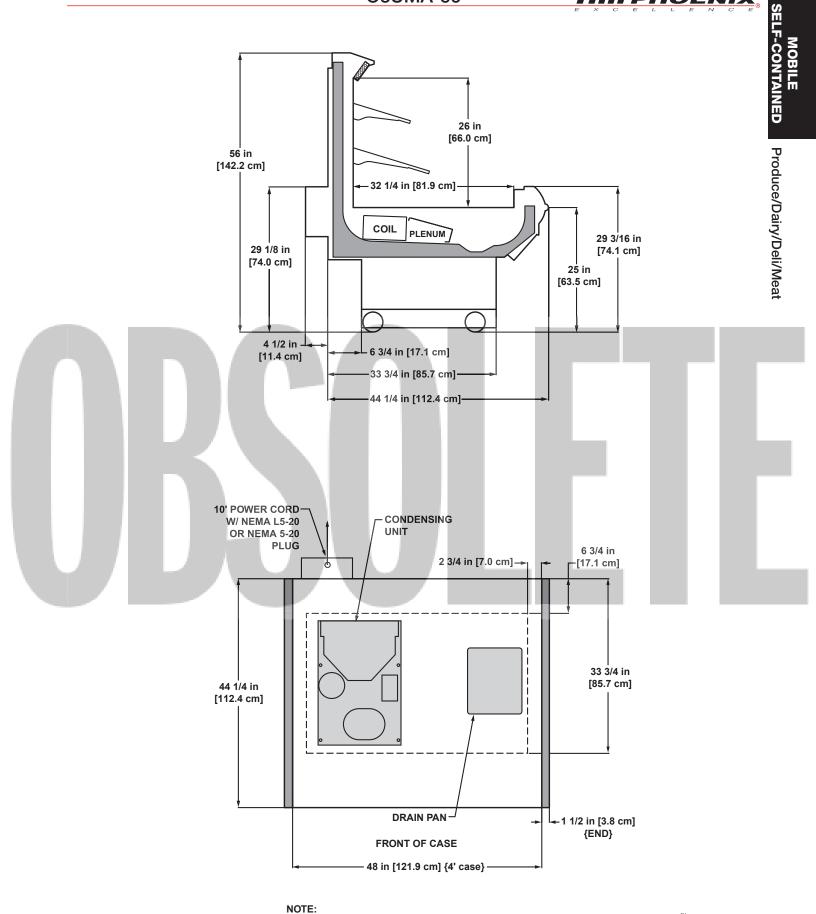
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
	40 0 40 0

4 12 - 6 am - 12 - 6 pm



HIII PHOENIX



ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

International Style Self-Contained Mobile Service Deli/Meat/Seafood Merchandiser

OSIA-4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
OSIA	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

OSIA ¹ Average discharge air ve Condensing		12-14 of defrost.		Y	6-8		26	34	175	1	ľ	
		of defrost.	ŀ						Г	٦	Г	
OUTUEISII M	Unit D	ata										
Model Volts		Frequency (Hz)	НР	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs of Refrig.		г			
OSIA 115	1	60	1/3	7.2	29.0	R134A	2.25	1				

Defrost Controls

		Electri	c Defrost	Timed C	Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Model	Defrosts Per Day	Fail-safe (min)	Termination Temp. (°F)						
OSIA	2	45	47	4					

⁴ NOTE: - - - not an option on this case model.

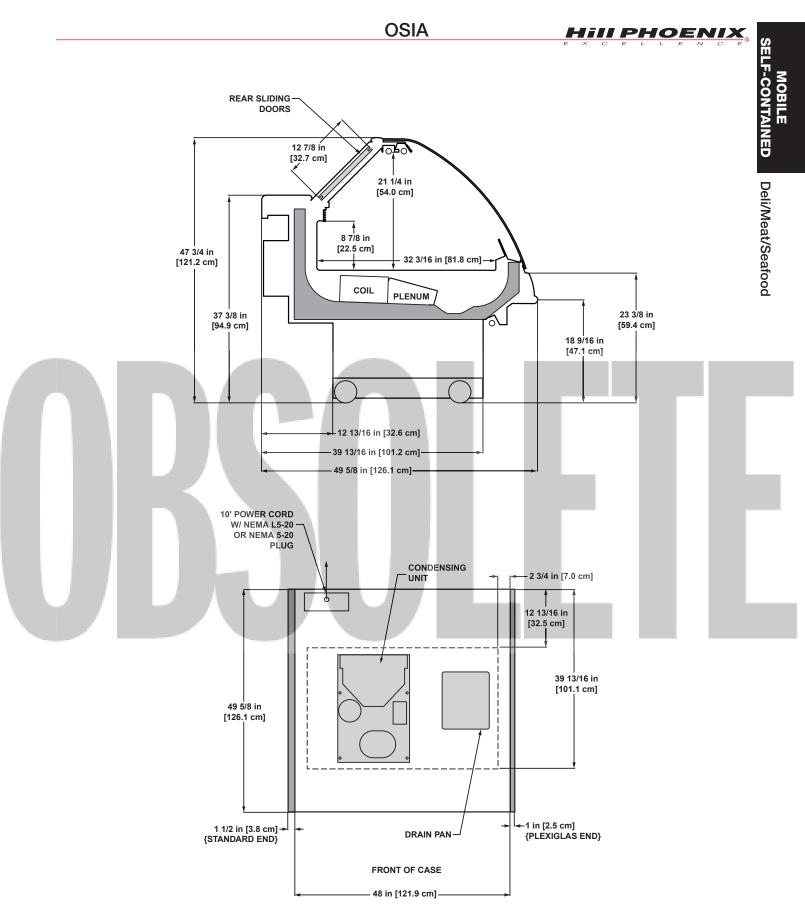
Medium Temperature Defrost Schedule

No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm

3 6 am - 2 pm - 10 pm 4 12 - 6 am - 12 - 6 pm









• ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT

(NSF_®)

5/06

U

International Style Self-Contained Mobile Service Deli/Meat/Seafood Merchandiser

O2SIA-4'

System Data

Model	Volts	Phase	Hz	Plug Style	Cord Length
O2SIA	120	1	60	NEMA L5-20 or NEMA 5-20	10 ft

Guidelines & Control Settings

	Model		r Energy ge (kWh)	Suction Pres			eat Set P Bulb (°F)	Point Dis	scharge (°F)	Air	Return Air (°F)	Discharge / (FF		city¹		
1	O2SIA	1	4.02	16			6-8		24		35	54	0			
	Average discharge					1						L		1		
	Model	/olts	Phase	Frequency (Hz)	НР	RLA ² (amps)	LRA ³ (amps)	Refrig.	lbs c Refri							
	O2SIA	115	1	60	1/3	7.2	29.0	R134A	2.25	5	- 1					
	RLA - Running Loa LRA - Locked Roto			人												

Defrost Controls

		Electri	c Defrost	Timed 0	Off Defrost	Hot Ga	as Defrost	Reverse	Air Defrost
Model			Fail-safe (min)Termination Temp. (°F)		Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)	Fail-safe (min)	Termination Temp. (°F)
O2SIA	3	45	50	4					

⁴ NOTE: - - - not an option on this case model.

Medium Temperature Defrost Schedule

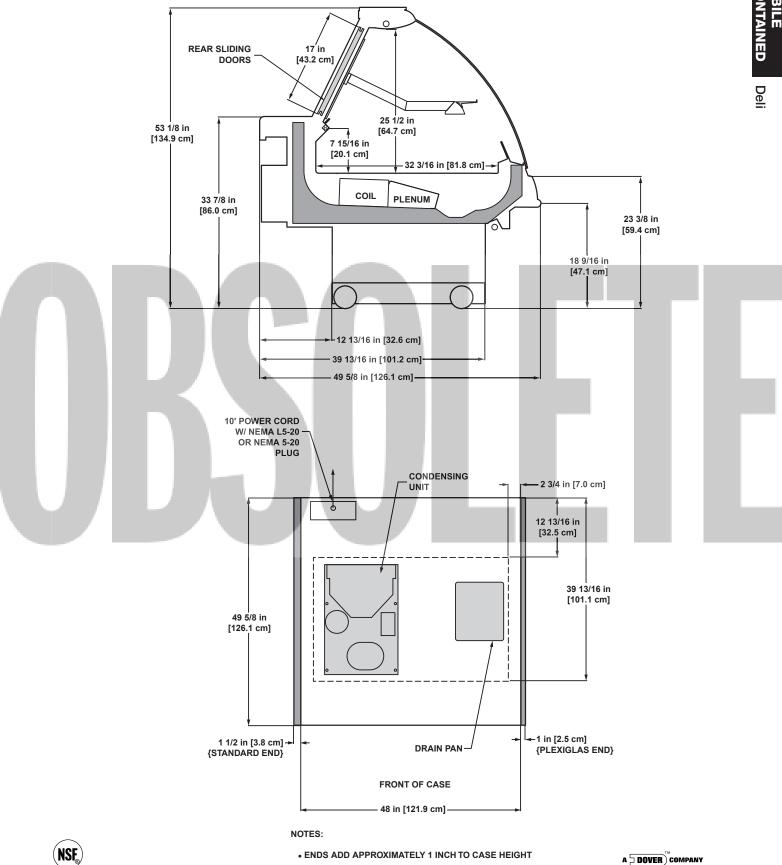
No. Per Day	Hours
1	12 midnight
2	12 am - 12 pm
3	6 am - 2 pm - 10 pm
4	12 - 6 am - 12 - 6 pm





O2SIA









30°, 45°, 60°, & 90° Inside and Outside

						Standar	d Fans	0	ficiency Ins		ndensate iters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OC	30° I/S	7.5	550	22	1	0.80	53	0.36	36	0.15	18		
	45° I/S	11.3	820	22	1	0.80	53	0.36	36	0.21	25		
	60° I/S	15.1	1090	22	1	0.80	53	0.36	36	0.26	31		
	90° I/S	22.6	1630	22	2	1.60	107	0.72	71	0.39	47		
	30° O/S	6.5	480	22	1	0.80	53	0.36	36	0.04	5		
	45° O/S	9.8	710	22	1	0.80	53	0.36	36	0.05	6		
	60° O/S	13.1	950	22	1	0.80	53	0.36	36	0.08	10		
	90° O/S	19.6	1420	22	2	1.60	107	0.72	71	0.10	12		

						Standa	rd Fans	0	ficiency Ins		ndensate iters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Mode	0	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OM	30° I/S	6.6	570	22	_ 1 _	0.80	53	0.36	36	0.15	18	0.75	90
	45° I/S	9.9	850	22	1	0.80	53	0.36	36	0.21	25	0.75	90
	60° I/S	13.3	1 140	22	1	0 .80	53	0.36	36	0.26	31	1.50	180
	90° I/S	19.9	1 70 0	22	2	1.60	107	0.72	71	0.39	47	1.50	180
	30° O/S	6.1	5 30	22	1	0.80	53	0.36	36	0.04	5	0.75	90
	45° O/S	9.2	790	22	1	0.80	53	0.36	36	0.05	6	0.75	90
	60° O/S	12.2	1050	22	1	0.80	53	0.36	36	0.08	10	1.50	180
	90° O/S	18.3	1570	22	2	1.60	107	0.72	71	0.10	12	1.50	180

						Standa	rd Fans	0	ficiency Ins		ndensate iters	Maximum Lighting	
Case	Wedge	Volume		Suction	Fans per	120 \	Volts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watt s
OP	30° I/S	6.1	410	29	1	0.80	53	0.36	36				
39" Rear Sill	45° I/S	6.2	620	29	1	0 .80	53	0.36	36				
	60° I/S	12.2	820	29	1	0.80	53	0.36	36				
	90° I/S	18.4	1230	29	2	1.60	107	0.72	71				
	30º O/S	5.4	360	29	1	0.80	53	0.36	36				
	45° O/S	8.1	540	29	1	0.80	53	0.36	36				
	60° O/S	10.8	720	29	1	0.80	53	0.36	36				
	90° O/S	16.1	1080	29	2	1.60	107	0.72	71				

						Standar	rd Fans	0	ficiency Ins		ndensate iters	Maxii Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120 \	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OP	30° I/S	7.0	580	29	1	0.80	53	0.36	36				
43" Rear Sill	45° I/S	10.5	860	29	1	0.80	53	0.36	36				
	60° I/S	14.0	1150	29	1	0.80	53	0.36	36				
	90° I/S	21.0	1720	29	2	1.60	107	0.72	71				
	30° O/S	5.8	480	29	1	0.80	53	0.36	36				
	45° O/S	8.7	720	29	1	0.80	53	0.36	36				
	60° O/S	11.6	950	29	1	0.80	53	0.36	36				
	90° O/S	17.4	1430	29	2	1.60	107	0.72	71				

¹ BTUHs listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.



30°, 45°, 60°, & 90° Inside and Outside

						Standa	rd Fans	0	ficiency Ins	Anti-Condensate Heaters		Maxi Ligh	mum ting
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O2UM	30º I/S	7.8	1350	22	1	0.80	53	0.36	36	0.15 ²	18	1.55	186
	45° I/S	11.7	2030	22	1	0.80	53	0.36	36	0.21 ²	25	1.55	186
	60° I/S	15.6	2700	22	1	0.80	53	0.36	36	0.26 ²	31	1.90	288
	90º I/S	23.4	4050	22	2	1.60	107	0.72	71	0.39 ²	47	2.85	342
	30° O/S	6.5	1130	22	1	0.80	53	0.36	36	0.04 ²	5	1.55	186
	45° O/S	9.8	1690	22	1	0.80	53	0.36	36	0.05 ²	6	1.55	186
	60° O/S	13.0	2260	22	1	0.80	53	0.36	36	0.08 ²	10	1.90	288
	90° O/S	19.5	3380	22	2	1.60	107	0.72	71	0.10 ²	12	2.85	342

I							Standa	rd Fans	0	ficiency Ins	Anti-Cor Hea	idensate ters	Maxi Ligh	
	Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
	Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
	02.5UM	30º I/S	8.4	1450	22	- 1	0.80	5 3	0.36	36	0.15 ²	18	2.35	282
		45° I/S	12.7	2170	22	1	0.80	53	0.36	36	0.21 ²	25	2.35	282
Т		60° I/S	16.9	2890	22	1	0.80	53	0.36	36	0.26 ²	31	2.55	306
		90° I/S	25.3	4340	22	2	1.60	107	0.72	71	0.39 ²	47	4.45	534
		30° O/S	6.9	1190	22	1	0.80	53	0.36	36	0.04 ²	5	2.35	282
		45° O/S	10.4	1780	22	1	0.80	53	0.36	36	0.05 ²	6	2.35	282
		60° O/S	13.8	2370	22	1	0.8 0	53	0.36	36	0.08 ²	10	2.55	306
		90° O/S	20.7	3550	22	2	1.60	107	0.72	71	0.10 ²	12	4.45	534
- 8				1										

						Standar	rd Fans	0	ficiency ns		ndensat <mark>e</mark> iters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O3UM	30° I/S	9.3	1510	22	1	0.80	53	0.36	36	0.15 ²	18	2. 35	282
	45° I/S	14.0	2260	22	1	0.80	53	0.36	36	0.21 ²	25	2.35	282
	60° I/S	18.7	3020	22	1	0.80	53	0.36	36	0.26 ²	31	2.55	306
	90° I/S	28.0	45 20	22	2	1.60	107	0.72	71	0.39 ²	47	4.45	534
T	30° O/S	7.5	1220	22	1	0.80	53	0.36	36	0.04 ²	5	2.35	282
	45° O/S	11.3	1830	22	1	0.80	53	0.36	36	0.05 ²	6	2.35	282
	60° O/S	15.1	2440	22	1	0.80	53	0.36	36	0.08 ²	10	2.55	306
	90° O/S	22.6	3650	22	2	1.60	107	0.72	71	0.10 ²	12	4.45	534

						Standa	rd Fans	0	ficiency Ins		ndensate iters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	Volts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
03.5UM	30º I/S	10.4	1880	22	1	0.80	53	0.36	36	0.15 ²	18	3.15	378
	45° I/S	15.7	2820	22	1	0.80	53	0.36	36	0.21 ²	25	3.15	378
	60° I/S	20.9	3760	22	1	0.80	53	0.36	36	0.26 ²	31	3.20	384
	90º I/S	31.3	5640	22	2	1.60	107	0.72	71	0.39 ²	47	6.05	726
	30° O/S	8.2	1480	22	1	0.80	53	0.36	36	0.04 ²	5	3.15	378
	45° O/S	12.3	2210	22	1	0.80	53	0.36	36	0.05 ²	6	3.15	378
	60° O/S	16.4	2950	22	1	0.80	53	0.36	36	0.08 ²	10	3.20	384
	90° O/S	24.6	4420	22	2	1.60	107	0.72	71	0.10 ²	12	6.05	726

¹ BTUHs listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.



30°, 45°, 60°, & 90° Inside and Outside

						Standa	d Fans	0	ficiency Ins	Anti-Cor Hea	ndensate ters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O4UM	30° I/S	12.1	2040	22	1	0.80	53	0.36	36	0.15 ²	18	3.15	378
	45° I/S	18.2	3060	22	1	0.80	53	0.36	36	0.21 ²	25	3.15	378
	60° I/S	24.3	4080	22	1	0.80	53	0.36	36	0.26 ²	31	3.20	384
	90° I/S	36.4	6120	22	2	1.60	107	0.72	71	0.39 ²	47	6.05	726
	30° O/S	9.4	1580	22	1	0.80	53	0.36	36	0.04 ²	5	3.15	378
	45° O/S	14.0	2360	22	1	0.80	53	0.36	36	0.05 ²	6	3.15	378
	60° O/S	18.7	3150	22	1	0.80	53	0.36	36	0.08 ²	10	3.20	384
	90° O/S	28.1	4720	22	2	1.60	107	0.72	71	0.10 ²	12	6.05	726

							Standa	rd Fans	0	ficiency Ins		ndensate ters	Maxii Ligh	
Ca	ase	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
	odel	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
05	5UM	30° I/S	13.2	2090	22	1	0.80	53	0.36	36	0.15 ²	18	3.95	474
		45° I/S	19.8	3130	22	1	0.80	53	0.36	36	0.21 ²	25	3.95	474
		60° I/S	26.3	4170	22	1	0.80	53	0.36	36	0.26 ²	31	3.85	462
		90° I/S	39.5	6260	22	2	1.60	107	0.72	71	0.3 9 ²	47	7.65	918
		30° O/S	10.1	1600	22	1	0.80	53	0.36	36	0.0 4 ²	5	3.95	474
		45° O/S	15.1	2390	22	1	0.80	53	0.36	36	0.05 ²	6	3.95	474
		60° O/S	20.1	3190	22	1	0.80	53	0.36	36	0.08 ²	10	3.85	462
		90° O/S	30.2	4780	22	2	1.60	107	0.72	71	0.10 ²	12	7.65	918

						Standa	d Fans	0	ficiency Ins		ndensate iters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watt s
O5DM	30° I/S	21.3	2020	22	1	0.80	53	0.36	36			5.00	600
Deli	45° I/S	32.0	3030	22	1	0.80	53	0.36	36			5.00	600
	60° I/S	42.6	4030	22	1	0.80	53	0.36	36			5.25	630
	90° I/S	64.0	6050	22	2	1.60	107	0.72	71			10.00	120 0
	30° O/S	20.5	1940	22	1	0.80	53	0.36	36			5.00	600
	45° O/S	30.8	2910	22	1	0.80	53	0.36	36			5.00	600
	60° O/S	41.0	3880	22	1	0.80	53	0.36	36			5.25	630
	90° O/S	61.5	5820	22	2	1.60	107	0.72	71			10.00	1200

						Standa	d Fans	0	ficiency ns		ndensate iters	Maxii Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
O5DM	30° I/S	21.3	1890	26	1	0.80	53	0.36	36			5.00	600
Dairy	45° I/S	32.0	2840	26	1	0.80	53	0.36	36			5.00	600
	60º I/S	42.6	3780	26	1	0.80	53	0.36	36			5.25	630
	90º I/S	64.0	5670	26	2	1.60	107	0.72	71			10.00	1200
	30° O/S	20.5	1820	26	1	0.80	53	0.36	36			5.00	600
	45° O/S	30.8	2730	26	1	0.80	53	0.36	36			5.00	600
	60° O/S	41.0	3640	26	1	0.80	53	0.36	36			5.25	630
	90° O/S	61.5	5460	26	2	1.60	107	0.72	71			10.00	1200

¹ BTUHs listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

² Anti-condensate heater data for unlighted rear sill. For lighted rear sill, double the values.





30°, 45°, 60°, & 90° Inside and Outside

						Standa	d Fans	0	ficiency Ins		ndensate iters	Maxi Ligh	mum ting
Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHM	30º I/S	17.3	1780	22	1	0.80	53	0.36	36	0.04	5	3.95	474
	45° I/S	26.0	2660	22	1	0.80	53	0.36	36	0.10	12	3.95	474
	60º I/S	34.6	3550	22	1	0.80	53	0.36	36	0.34	41	4.10	492
	90º I/S	52.0	5320	22	2	1.60	107	0.72	71	0.32	38	7.90	948
	30° O/S	16.2	1660	22	1	0.80	53	0.36	36	0.10	12	3.95	474
	45° O/S	24.2	2480	22	1	0.80	53	0.36	36	0.14	17	3.95	474
	60° O/S	32.3	3310	22	1	0.80	53	0.36	36	0.18	22	4.10	492
	90° O/S	48.5	4960	22	2	1.60	107	0.72	71	0.28	34	7.90	948

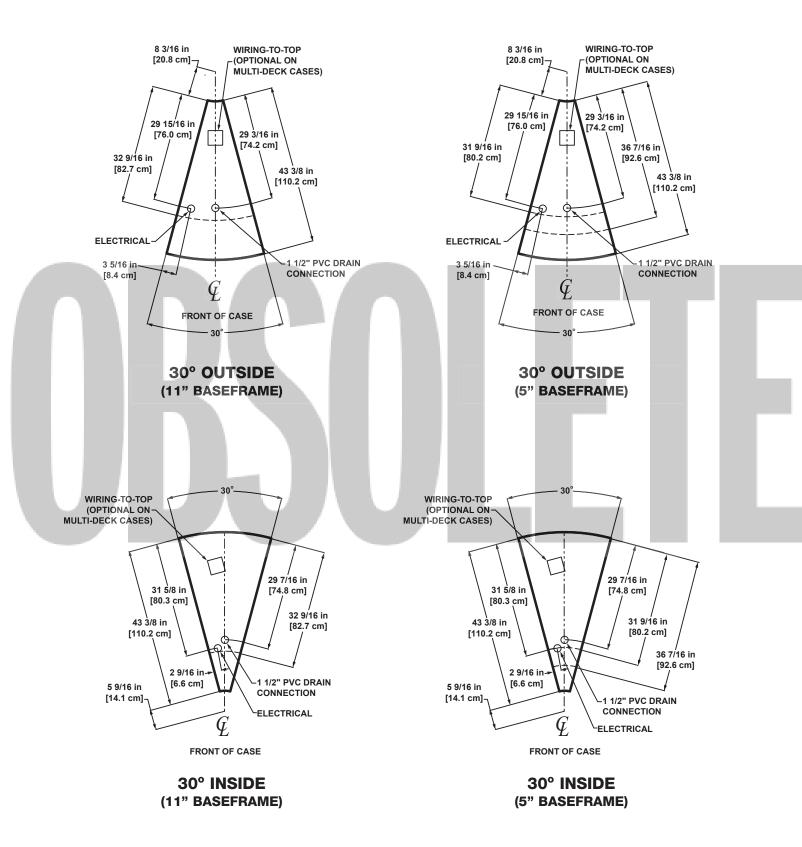
I							Standa	rd Fans	0	ficiency ns		ndensate iters	Maxii Ligh	
	Case	Wedge	Volume		Suction	Fans per	120 \	/olts	120	Volts	120	Volts	120	Volts
	Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
	ОНМН	30° I/S	18.3	1980	22	1	0.80	5 3	0.36	36	0.08	10	4.75	570
		45° I/S	27.4	2970	22	1	0.80	53	0.36	36	0.20	24	4.75	570
П		60° I/S	36.6	3960	22	1	0.80	53	0.36	36	0.68	82	4.75	570
		90° I/S	54.9	5940	22	2	1.60	107	0.72	71	0.64	77	9.50	1140
		30° O/S	15.9	1730	22	1	0.80	53	0.36	36	0.20	24	4.75	570
		45° O/S	23.9	2590	22	1	0.80	53	0.36	36	0.28	34	4.75	570
		60° O/S	31.8	3450	22	1	0.8 <mark>0</mark>	53	0.36	36	0.36	44	4.75	570
		90° O/S	47.8	5170	22	2	1.6 0	107	0.72	71	0.56	68	9.50	1140
- 8			-											

l							Standar		Fa	ficiency ins		ndensat <mark>e</mark> iters	Maxii Ligh	ting
	Case	Wedge		DTUUI		Fans per	120 \		120	Volts		Volts	120	Volts
	Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
	OHP	30° I/S	17.2	1650	26	1	0.80	53	0.36	36			3.95	474
		45° I/S	25.8	2470	26	1	0.80	53	0.36	36			3.95	474
1		60° I/S	34.4	3300	26	1	0.80	53	0.36	36			4.10	492
		90° I/S	51.6	4940	26	2	1.60	107	0.72	71			7.90	948
T		30° O/S	16.1	1550	26	1	0.80	53	0.36	36			3.95	474
1		45° O/S	24.2	2320	26	1	0.80	53	0.36	36			3.95	474
1		60° O/S	32.3	3090	26	1	0.80	53	0.36	36			4.10	492
		90° O/S	48.4	4640	26	2	1.60	107	0.72	71			7.90	948

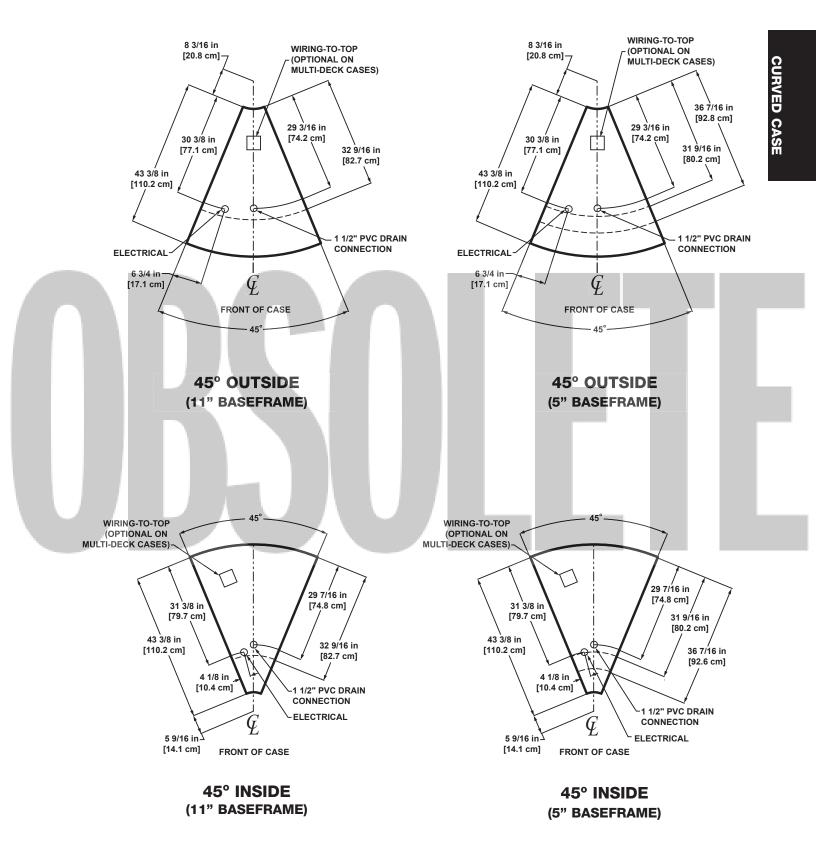
						Standa	rd Fans	0	ficiency Ins		ndensate iters	Maxi Ligh	
Case	Wedge	Volume		Suction	Fans per	120 \	Volts	120	Volts	120	Volts	120	Volts
Model	Model	(ft ³)	BTUH ¹	Temp. (°F)	Case	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
OHPH	30° I/S	18.3	1860	26	1	0.80	53	0.36	36	0.04	5	4.75	570
	45° I/S	27.5	2790	26	1	0.80	53	0.36	36	0.10	12	4.75	570
	60° I/S	36.7	3720	26	1	0.80	53	0.36	36	0.34	41	4.75	570
	90º I/S	55.0	5580	26	2	1.60	107	0.72	71	0.32	38	9.50	1140
	30° O/S	15.8	1610	26	1	0.80	53	0.36	36	0.10	12	4.75	570
	45° O/S	23.7	2410	26	1	0.80	53	0.36	36	0.14	17	4.75	570
	60° O/S	31.6	3210	26	1	0.80	53	0.36	36	0.18	22	4.75	570
	90° O/S	47.4	4810	26	2	1.60	107	0.72	71	0.28	34	9.50	1140

¹ BTUHs listed are for parallel operation. Conventional ratings may be approximated by multiplying listed rating by 1.04.

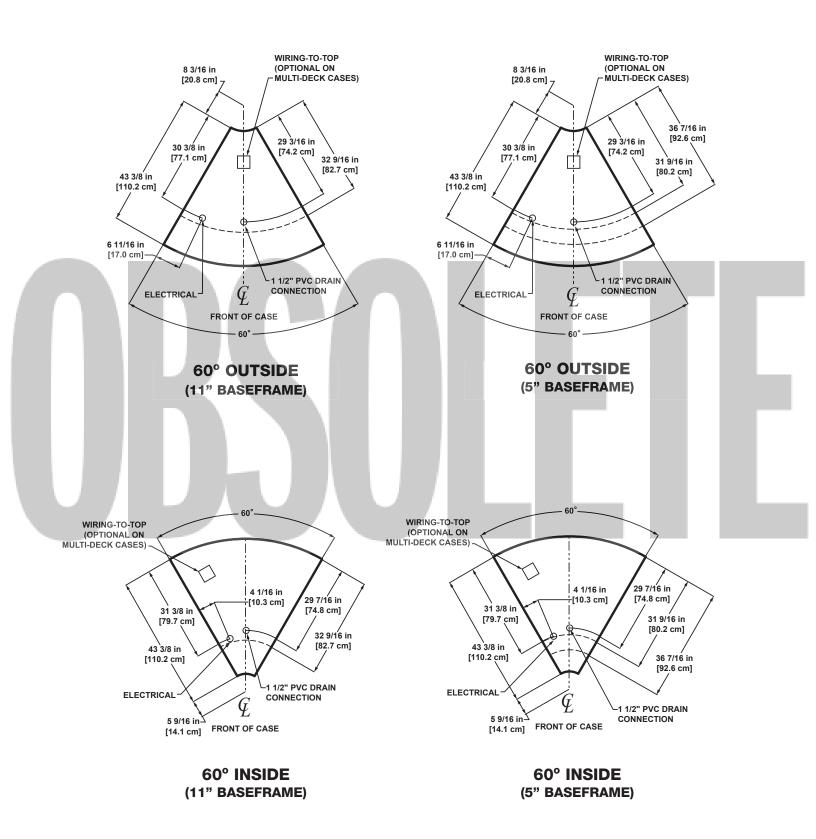




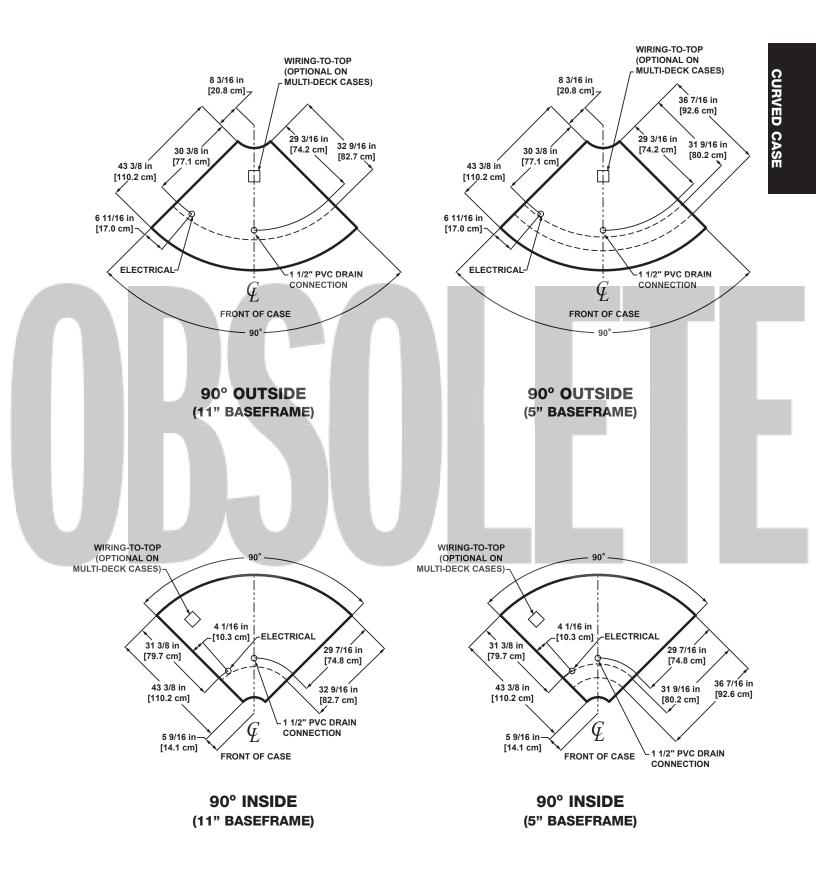












INDEX

BB Cub Cas													.114
Cub Ca	200			-	-	٠,	20		7	20	26	2	308
Cub Ca	303 0	>		1	1		53	÷.	, `	5	0	0	400
Curved	Ca	se	S	•	•	•	• •	-	·	·	• •	•	.432
KRZH .													
MDCA .													.402
MMCA				_	_	_		_	_	_		_	.404
MMRA				-	-	-			-	-			
MPC MPCA .	• •	• •	•	•	•		• •	•	•	•	• •	•	2
02.5UM													
02.5UM	A (M	oł	oil	le)							.420
02.5UM													
02.75M		•											
02.75UI													
O2IM													
02SI								-					.330
O2SIA .													.428
O2SIF .				_	_			_		_			.340
O2LIM				i	ì				i.	Ĵ.			14
	Υ.		•	•	1	1	• •	•	1	•	Ľ,		
03.5EM	11	•	• •	•	1	•	• •	•	1	•	• •	Ċ.	.200
03.5UD	• •	2.5	•	•	•	•	• •	2	÷	•	• •	÷	86
03.5UM	Ι.	. .											82
O3EM .													.192
03EP													220
0311	•••	1	•	•	1	•			1	•	• •	1	200
	• • •	1	•••	•	1	•		7	1	•	1	1	.290
03IIVIB	•••	• •	• •	•	1	•	• •	•	1	•	1		.290
O3IMBE	3.	• •	• •	•	÷	•	• •	•	÷	•	۰.,	•	.290
03IP								٦.				١.	.294
O3IPB .									١.				.294
O3UD .				_	_					_			76
02SIF . 02UM . 03.5EM 03.5UD 03.5UM 03EM . 03IM . 03IMB 03IMB 03IMB 03IMB . 03IP . 03UD . 03UD . 03UM . 03UMA 03UMA 03UMA		1			1			-	1	1			70
	• •	Ľ	•	•	1	1		•	1	•	• •		
030IVIA		t i	• •	•	1	•	•	-	t.	•	• •	•	.422
030MA	-56) .	• •	·	•	•	• •	1	•	•	• •	•	.424
04ID						•				•		4	.298
O4IDB .	Ζ.										.4		.298
O4IDBB										2			.298
04UM													
O5DM .	•••	• •	•		۰.	•	• •			•	• •	•	.128
O5DMA													.130
O5DMH													-
05DR .								-					.134
O5DRH													.136
													.138
05MR .													
													-
05UM .				-	-	-			-	-			
05Z	• • •	• •	• •	•	÷	•	• •	-	•	•	• •	•	.142
O6UM .								-					.108
OB								_					.376
													.378
-													.380
													.388
OBIFA .													
OBIFD .													.392
ОВО								-					.384
OBOA .													
													.382
UDUL .	• •	• •	•	•	•	•	• •	•	•	•	• •	•	.002

OC																4
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
OEM		•	÷	•	•	•	÷	•	•	•	•	•	•			.184
OEP																.212
-																.316
OHM																.148
OHMH .																.152
-															-	
OHP		•	÷	•	•	÷	÷	÷	•	•	•	÷	•	·	•	.160
OHPH .																.162
OIM																.260
-																
OIMA .		•	÷	•	•	÷	÷	÷	•	•	•	÷	•	·		.264
OIMB .																.260
OIMBA																.266
		-	-	-	-	-	-	-								
OIMBB		-	-	-	•	-	-	-			•					.260
OIP																.268
OIPA .																.272
OIPB																.268
														•	•	
OIPBB .			÷				÷					÷				.268
0IZ																.280
					i	i	i			1			ì	ì	ì	.342
OLF	- 14	•	÷	•	•	÷	•	•	•	ċ.	•	•	÷	•	•	
OLFG .	<i>.</i> .											÷				.344
OM				į.												6
	•••	1	1		1	1	1	1	1	1	٦,	1	1	1	•	
OMZ	•••	•	÷	÷	•	÷	÷	•	•	•	•	Ċ.	÷	•	•	10
OMZD .			ļ,	÷								ŀ.				12
ON2.5U	М											Ŀ				50
		•	Ē.	ĵ,	1	1	1	1	•	1	1	1	1	•	1	40
ON2UM		•	Ŀ.	r,	•	1	1	•	•	•	2	•	ł.	•	1	
ON3.5E	Μ		k.				ł									.196
ON 3.5U	М		Ŀ													78
ON3EM		•	Ľ.	ĵ,	1	1	1	1	1	1	1	1	1	•	1	.188
		•	Ľ.	•	1	1	1	1	•	1	•	1	t	•	1	
ON3EP			k.				ł									.216
ON3UM			Ŀ.						_							66
ON3W		1	Ε.	1	1	1	1	1	1	1	1	ī.	1	1	1	.336
		•	t.	•	1	1	1	1	•	1	•	Ŀ.	t	•	1	
ON4EM			÷						•		۰,	5		•		.20 4
ON4UM			J.				L									88
ON5DM			-	i.		2	1	1		1	Γ.		1	1	1	.122
		•	1	•	•	1	1	1	•	Ż		1	1	•	1	
ON5DM	Α		÷					÷		ų,						.124
ON5DM	H	7					÷	1			_	_	J			.126
ON5EM		-	1				1	ĵ,		1		1			1	.208
				•	•		1	1	1	•	1	1	•	•	•	
ON5UM		•			÷					÷	•	•			÷	96
ON6UM																.104
ONEMZ																.180
-																
ONHM .																
ONHMH	Ι.															.146
ONHP .																.156
•••••																
ONHPH																.158
ONIM .																.252
ONIMA																.256
-																
ONIMB																.252
ONIMB/	Α.		÷				÷									.258
ONIZ .																
																8
ONN																.168
ONN35																
ONN5U																
ONNA .																.170
																16
ONRB .	•••	•	÷	•	•	÷	÷	÷	÷	•	÷	•	•	·	•	.228

ONRE	ЯН																	.230
ONRIZ		1	1	1	-	-	-	-	1	-	•	Ì	•	•	•	1	•	.246
ONRIZ			1														1	.240
			•	-	-	-	-	-	-	-	-	•	-	-	-	-	•	
ONRZ		÷	•	÷	•	•	÷	•	÷	•	•	•	•	•	•	•	•	.238
ONRZ	Ή	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	.240
ONU																		.172
ONUA	١.																	.174
ONUH	Ι.																	34
ONUN	Λ.																	30
ONUN			-									Ĵ				-	-	28
ONZ			1						-	-	-	Ì	-	Ξ.	-	•	•	.274
-	• •	1	1													1	1	
OP .	• •	•										•					1	
OPA	• •	•														•	•	20
ORB	• •	÷	•	•	•	•	÷	•	÷	•	•	•	•	•	•	•	•	.232
ORBH			•	•	•	•		•		•	•		•	•	•	•	•	.236
ORBR	Ι.																	.234
ORDR	Ι.																	.176
ORZ																		.242
ORZH		Ì	Ì	Ì	Ì	Ň	Ì		Ì			Ì				Ì		.244
OSA		Ĵ	1	:	1	l		-	:	1	•	1	•	1	•	1	•	.304
OSAG		1			1		1	•	1	1	1	1	•	1	•	•	•	.304
		1	1	1	1	1	1	1	1	1	1	1	•	1	•	1	1	
OSI.	1 T	ł	-	-	-	•	1	1	1	•	•	1	•	•	•	1	1	.326
OSIA	• •	÷	ł	÷	ł	•	ł	÷	ł	•	÷	÷	÷	•	•	1	÷	.426
OSIF	• •	÷	÷	•	÷	•	÷	•	÷		÷	÷	÷	•	•			.338
OSIH																		.332
OSIH	C				÷		÷											.334
OSIO																		.322
OSIO/	Α.					_					_	_	_			_	_	.410
OSIO/		5	ĵ,	1	Ĩ	1	ĵ,	ľ	ĵ,	1	1	1			1	1	1	.414
OSIOF			ľ	Ì	ĵ,	Ì	Ĩ,	1	ĵ,	1	1	1	•			1	1	.412
OSIO			ľ	1	-	-		1	Ĩ,	1	1	1	•	1	1	1	1	.416
			1	1	-	•		1	1	1	1	1	•	1	•	1	1	.410
OSM		1				1	ł	1	1	1	•	1	•	•	•	1	1	
OSML		÷		•		•	1	•	r,	÷	÷	÷	÷	•	÷	1	1	.320
OUM			÷	•	÷	•	•	•	•	-	•	•	•	•	•	•	÷	36
OW2L	JM			•		•					•	÷	•	•				48
OW3L	JM				1	÷				7				×.				74
OWEZ	Ζ.																	.284
OWH	۰.																	.164
OWH	эн			_		_	_	_	_		_	_	_	_	_	_	_	.166
OWIZ	•••		1	1	1	1	1		Ĵ	1	1			1	1	1	1	.282
OWP	•	1	1	1								Ì	1	1	1	1	1	22
-		•	1	1	1	1	1	1	1	1	1	1	1	1	1	•	1	
OWPA	۰.	•	•	•	•	•	•	•	•	•	•	1	•	1	•	•	1	24
OWSI	•	÷	•	•	•	•	-	-	•	-	•	·	•	•	•	•	•	.328
OWSI	-	÷	•	•	•	•	÷	•	÷	•	•	•	•	•	•	•	•	.324
P2SG	F	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	.374
PDIF																		.346
PDNU	M																	.350
PHNU	M																	.352
PMFN	121	IN	/								-	-		-	-		-	.360
PMFN								•	1		•	•	•	•	•	1	•	.356
PMN2	-			1	•	1	•	•	1	•	•	•	•	•	•	1	•	.358
				•	•	•	•	•	1	•	•	•	•	•	•	•	•	
PMNL	JM		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	.354
PSG	• •	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	.362
PSGF	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	.368
UPA																		.418





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