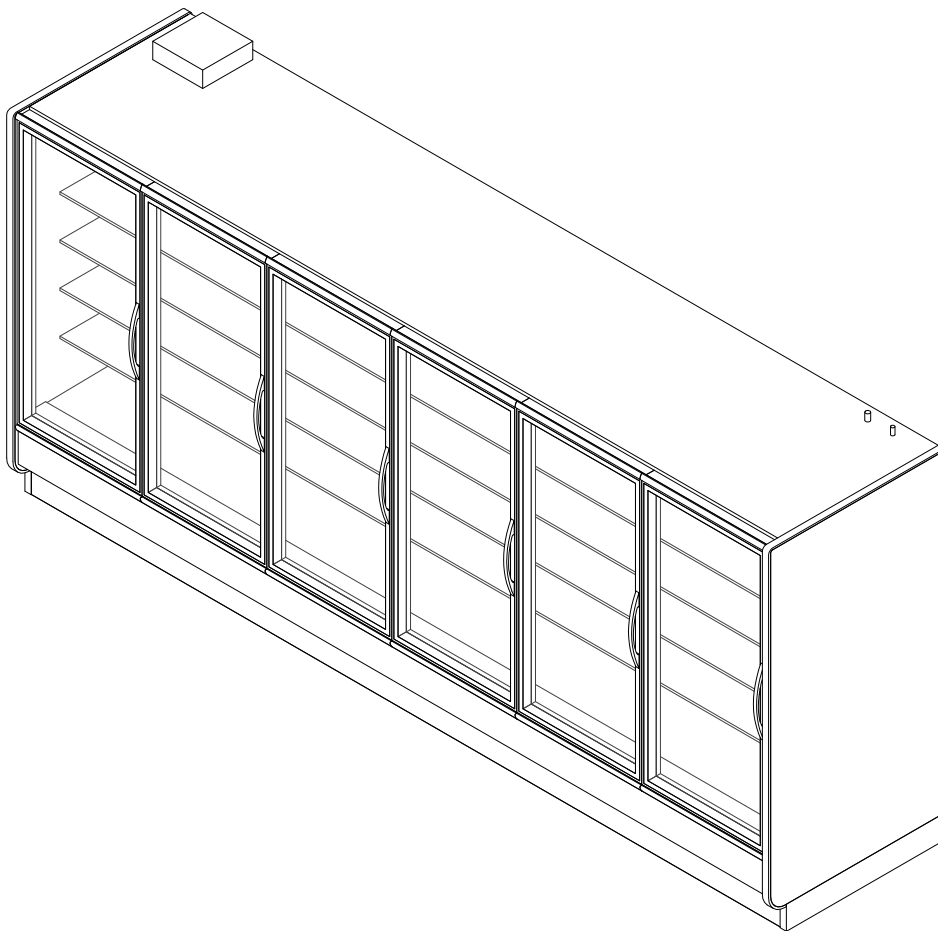


GENERAL NOTES

- 4-foot cases consist of 2 (24") doors
- 8-foot cases single swing consist of 3 (32") doors
- 8-foot case Bi-swing consist of 4 (24") doors
- 12-foot cases single swing consist of 4 (36") doors
- 12-foot cases Bi-swing consist of 6 (24") doors
- Lighting controls - occupancy sensors are required.
 - Option 1: OEM Provided: Lighting controls (on/off) are standard unless otherwise specified.
 - Option 2: End User Provided: Lighting controls should be based on occupancy sensors. Store level A/S control should be set to 30% minimum off time at 75°F/55%RH.



SHIPPING WEIGHT	
Case	Weight
ORB	1000-2000 LBs



COMPONENT

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

ORB

Rev Date:	Rev #	Revision Description:
4-23-18	2	NEW STANDARDS
12-1-17	1	DOE 2017

ELECTRICAL DATA			
Case Length	Fans Per Case	High Efficiency Fans	
		120 Volts	
		Amps	Watts
1 Door	1	0.22	26
2 Door	2	0.44	53
3 Door	3	0.66	79
4 Door	4	0.88	106
5 Door	5	1.10	132
6 Door	6	1.32	158
4'	1	0.22	26
6'	2	0.44	53
8'	2	0.44	53
12'	3	0.66	79

LIGHTING DATA							
Case Length	Door Size	OP45		OP55 (French Swing Only)		Optimax Pro 24 LO	
		120 V		120 V		120 V	
		Amps	Watts	Amps	Watts	Amps	Watts
1 Door	31"	0.18	21.0	---	---	0.16	18.8
2 Door	30"	0.36	43.1	---	---	0.31	36.8
3 Door	30"	0.54	65.2	---	---	0.46	54.8
4 Door	30"	0.73	87.3	---	---	0.61	72.8
5 Door	30"	0.91	109.4	---	---	0.76	90.8
6 Door	30"	1.10	131.5	---	---	0.91	108.8
4'	24"	---	---	0.26	31.0	0.28	33.7
6'	24"	---	---	0.52	61.9	0.51	60.6
8'	24"	---	---	0.52	61.9	0.56	66.6
8'	32"	0.54	65.2	---	---	0.46	54.8
12'	24"	---	---	0.77	92.8	0.83	99.5
12'	36"	0.73	87.3	---	---	0.61	72.8

ANTI CONDENSATE DATA						
Case Length	Door Size	Number of Doors	101 Frames		Vista Frames	
			Un Heated Doors		Un Heated Doors	
			ELMD, ELMH, I90		Vista C, I60, Elite	
			120 V		120 V	
			Amps	Watts	Amps	Watts
1 Door	31"	1	0.16	19	0.16	19
2 Door	30"	2	0.32	38	0.32	38
3 Door	30"	3	0.50	60	0.50	60
4 Door	30"	4	0.69	83	0.69	83
5 Door	30"	5	0.86	103	0.86	103
6 Door	30"	6	1.06	127	1.06	127
4'	24"	2	0.18	22	0.18	22
6'	24"	3	0.35	42	0.35	42
8'	24"	4	0.39	47	0.39	47
8'	32"	3	0.51	61	0.51	61
12'	24"	6	0.63	76	0.63	76
12'	36"	4	0.74	89	0.74	89


ORB

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

Rev Date:	Rev #	Revision Description:
4-23-18	2	NEW STANDARDS
12-1-17	1	DOE 2017

GUIDELINES & CONTROL DATA								
Application	Doors	Door Size	BTUH/door		Superheat Set Point @ Bulb (°F)	Evaporator (°F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
			Conventional	Parallel				
Beverage	1 - 6 Doors	30"	500	460	4 - 6	34	40	215
Beverage	4'	24"	400	365	4 - 6	34	40	215
Beverage	6'	24"	400	365	4 - 6	34	40	215
Beverage	8'	24"	400	365	4 - 6	34	40	215
Beverage	8'	32"	535	490	4 - 6	34	40	215
Beverage	12'	24"	400	365	4 - 6	34	40	215
Beverage	12'	36"	600	550	4 - 6	34	40	215
Deli / Dairy	1 - 6 Doors	30"	560	510	4 - 6	30	36	215
Deli / Dairy	4'	24"	445	405	4 - 6	30	36	215
Deli / Dairy	6'	24"	445	405	4 - 6	30	36	215
Deli / Dairy	8'	24"	445	405	4 - 6	30	36	215
Deli / Dairy	8'	32"	595	540	4 - 6	30	36	215
Deli / Dairy	12'	24"	445	405	4 - 6	30	36	215
Deli / Dairy	12'	36"	670	610	4 - 6	30	36	215
Meat	1 - 6 Doors	30"	595	545	4 - 6	28	34	215
Meat	4'	24"	475	435	4 - 6	28	34	215
Meat	6'	24"	475	435	4 - 6	28	34	215
Meat	8'	24"	475	435	4 - 6	28	34	215
Meat	8'	32"	635	580	4 - 6	28	34	215
Meat	12'	24"	475	435	4 - 6	28	34	215
Meat	12'	36"	715	655	4 - 6	28	34	215

DEFROST DATA		
Defrosts Per Day	Timed-Off Defrost	
	Fail-Safe (Min)	Termination Temp (°F)
4	30	47

NOTES

- "---" indicates that this feature is not an option on this case model.
- Data listed is for Optimax Radiant and low power Optimax Pro (high power available). For other lighting options please contact your sales representative.
- Anti-condensate heat values for Eliminaator represent a door with no heat on the glass.
- Listed discharge air velocity represents the average velocity at the peak of defrost.
- Temperature and defrost settings listed above are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- Light wattages above reflect 100% run time. To determine actual daily energy usage at 75°F/55%RH conditions, reduce the light wattages below by 42%.



ORB

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

Rev Date:	Rev #	Revision Description:
4-23-18	2	NEW STANDARDS
12-1-17	1	DOE 2017



SECOND NATURE DATA								
Case Model	No. of Coils	Application	Front Sill Type	BTUH/ft (DR)		GPM/ft (DR)	Supply Fluid Temp (°F)	Discharge Air Temp (°F)
				Conventional	Parallel			
ORB (30" Door)	1	Beverage	Std. Reach In	500	460	0.05	20	38
ORB (30" Door)	1	Deli / Dairy	Std. Reach In	560	510	0.08	20	36
ORB (30" Door)	1	Meat	Std. Reach In	595	545	0.11	20	34
ORB (30" Door)	1	Beverage	Std. Reach In	500	460	0.08	25	38
ORB (30" Door)	1	Deli / Dairy	Std. Reach In	560	510	0.13	25	36
ORB (30" Door)	1	Meat	Std. Reach In	595	545	0.16	25	34
ORB (Per Foot)	1	Beverage	Std. Reach In	200	183	0.02	20	38
ORB (Per Foot)	1	Deli / Dairy	Std. Reach In	223	203	0.03	20	36
ORB (Per Foot)	1	Meat	Std. Reach In	238	218	0.04	20	34
ORB (Per Foot)	1	Beverage	Std. Reach In	200	183	0.03	25	38
ORB (Per Foot)	1	Deli / Dairy	Std. Reach In	223	203	0.05	25	36
ORB (Per Foot)	1	Meat	Std. Reach In	238	218	0.06	25	34

SECOND NATURE DATA								
Case Model	No. of Coils	Application	Front Sill Type	No. of Defrosts	Timed Off Defrost		Warm Fluid Defrost	
					Fail-Safe (Min)	Termination Temp (°F)	Fail-Safe (Min)	Termination Temp (°F)
ORB (30" Door)	1	Beverage	Std. Reach In	4	60	47	26	49
ORB (30" Door)	1	Deli / Dairy	Std. Reach In	4	60	47	26	49
ORB (30" Door)	1	Meat	Std. Reach In	4	60	47	26	49
ORB (30" Door)	1	Beverage	Std. Reach In	4	45	47	26	49
ORB (30" Door)	1	Deli / Dairy	Std. Reach In	4	45	47	26	49
ORB (30" Door)	1	Meat	Std. Reach In	4	45	47	26	49
ORB (Per Foot)	1	Beverage	Std. Reach In	4	60	47	26	49
ORB (Per Foot)	1	Deli / Dairy	Std. Reach In	4	60	47	26	49
ORB (Per Foot)	1	Meat	Std. Reach In	4	60	47	26	49
ORB (Per Foot)	1	Beverage	Std. Reach In	4	45	47	26	49
ORB (Per Foot)	1	Deli / Dairy	Std. Reach In	4	45	47	26	49
ORB (Per Foot)	1	Meat	Std. Reach In	4	45	47	26	49

NOTES

- "---" indicates that this feature is not an option on this case model.
- Data listed is for Optimax Radiant and low power Optimax Pro (high power available). For other lighting options please contact your sales representative.
- Anti-condensate heat values for Eliminaator represent a door with no heat on the glass.
- Listed discharge air velocity represents the average velocity at the peak of defrost.
- Temperature and defrost settings listed above are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- Light wattages above reflect 100% run time. To determine actual daily energy usage at 75°F/55%RH conditions, reduce the light wattages below by 42%.

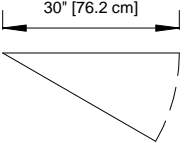
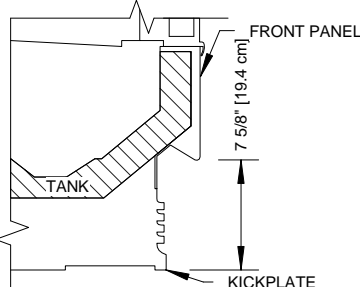

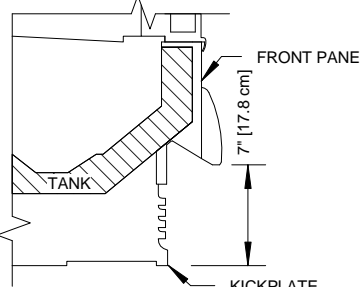
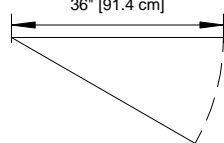
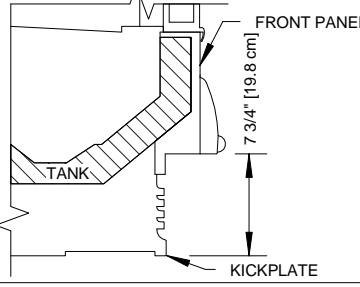
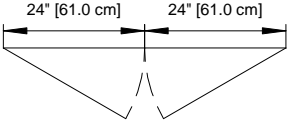


ORB

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

Rev Date:	Rev #	Revision Description:
4-23-18	2	NEW STANDARDS
12-1-17	1	DOE 2017



DOOR OPTIONS	FRONT OPTIONS
<p>STANDARD SWING DOOR 2,3,4,5 - DOOR CASES</p> 	<p>FLAT FRONT (O SERIES)</p> 
<p>STANDARD SWING DOOR 8' CASE</p> 	<p>STREAMLINE BUMPER</p> 
<p>STANDARD SWING DOOR 12' CASE</p> 	<p>HALF BUMPER</p> 
<p>BI- SWING DOOR 4,8' & 12' CASES</p> 	

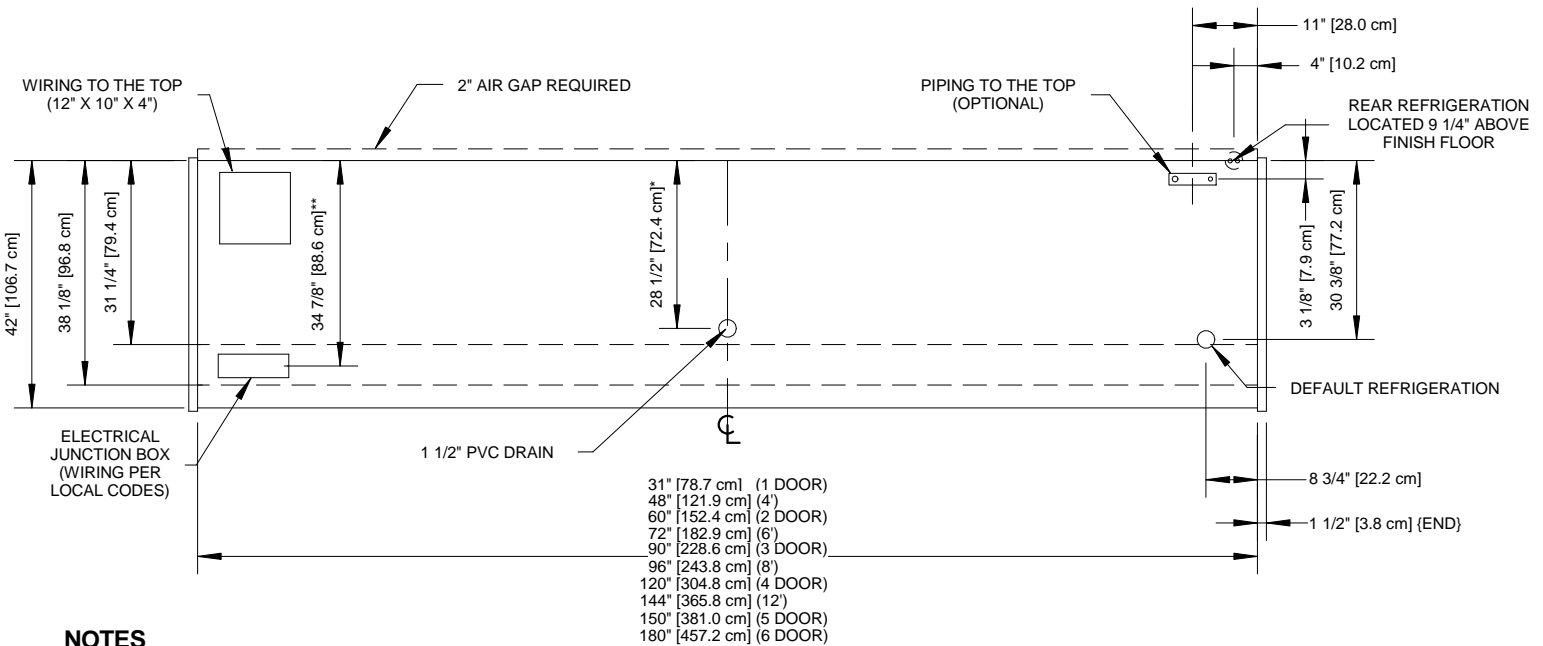
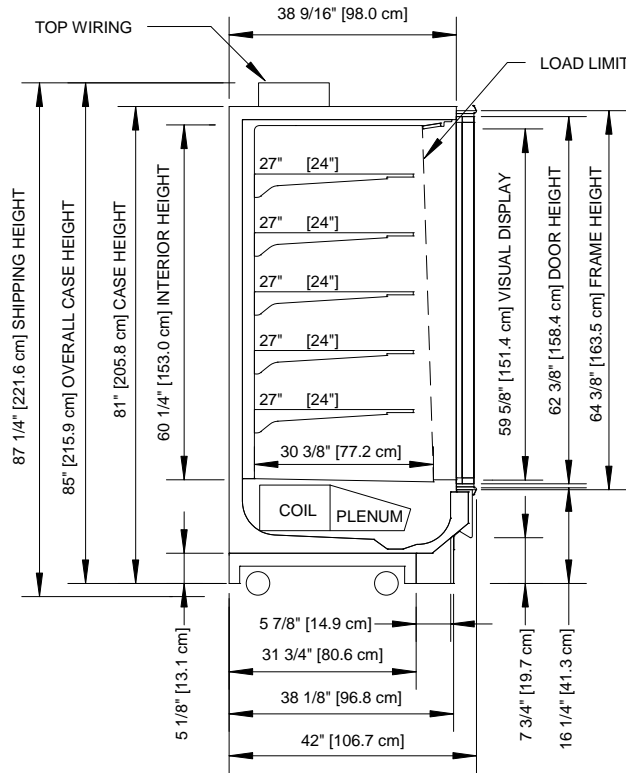


COMPONENT

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

ORB

Rev Date:	Rev #	Revision Description:
4-23-18	2	NEW STANDARDS
12-1-17	1	DOE 2017



NOTES

* : STUB-UP AREA

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

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



ORB

ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

Rev Date:	Rev #	Revision Description:
4-23-18	2	NEW STANDARDS
12-1-17	1	DOE 2017