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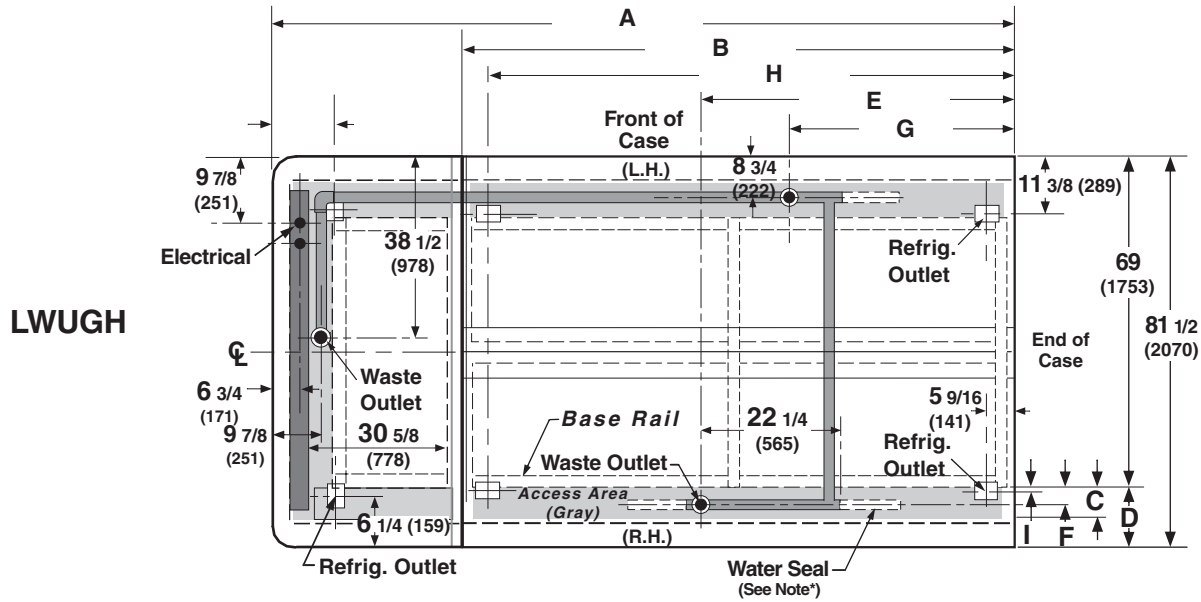
Item	Part #	Description	Wiring Item #	Item	Part #	Description	Wiring Item #
<b>FAN ASSEMBLIES AND THERMOSTATS</b>				<b>HEATERS (CONTINUED)</b>			
A.	4W Fan Assembly		(1)	G.	Drip Pan Heaters, Electric 208V		(7)
	0392457	Fan Motor, Standard (MO.4410101)		0392412	90 inch case (HE.4850461)		
	0409511	Front & Rear — Fan Blade embossing toward motor (FB.0409511)		0392413	138 inch case (HE.0392413)		
	0409513	End Compartment — Fan Blade embossing toward motor (FB.0409513)		0392412	End Compartment (HE.4850461)		
B.	Optional Adjustable Refrigeration Thermostat		(2)		Drip Pan Heaters, Koolgas 120V		(8)
C.	Defrost Termination Thermostat (Electric Defrost only)		(3)	0421237	90 inch case (HE.4850495)		
	0398557	Front & End Compartment (CT.4440611)		0421238	138 inch case (HE.4850496)		
	0398558	Rear (CT.4481088)		0421237	End Compartment (HE.4850495)		
D.	0425304	Heater Switch (Koolgas Defrost only) (CT.0425304)	(4)	H.	Nosing Anti-sweat Heaters – Discharge		(9)
<b>HEATERS</b>				0401603	90 inch case (Front & Rear) (HE.4850470)		
E.	Control – Glass Anti-sweat Heaters (Export) Contour Ends 250V, 5amp		(5)	0401605	138 inch case (Front & Rear) (HE.0401605)		
	0400543	90 & 138 inch cases (CT.4480905)		0401612	End Compartment (90 & 138) (HE.0401612)		
F.	Modular Electric Defrost Heaters, 208V		(6)	I.	Multiglass - 2 Pane, w/heater		(10)
	0395709	Parent (HE.4850409)		0420178	90 inch case (Front) (GL.4985216)		
	0406444	End Compartment (HE.4850478)		0420179	90 inch case (Rear) (GL.4986383)		
				0420180	138 inch case (Front) (GL.4986384)		
				0420181	138 inch case (Rear) (GL.4985217)		
				0420185	End compartment (90 & 138) (GL.4985219)		
				0420184	Contour End (GL.4985218)		

**NOTE: Revision F corrects heater data on Page 4.**

# Engineering Plan Views

## Single Deck Frozen Food Wide Island with Unitized End

Dimensions shown as inches & (mm).



	U-90	U-138
<b>General</b>		
<b>(A)</b> Case Length ( <i>without ends or partitions</i> ) <i>(Each end and insulated partition adds 2 in. (51 mm) to case line up.)</i>	89 (2261)	137 1/4 (3486)
<b>(B)</b> End of case to end compartment Maximum O/S dimension of case back to front ( <i>includes bumper</i> )	48 1/4 (1226) 81 1/2 (2070)	96 1/4 (2445) 81 1/2 (2070)
<b>(C)</b> Front of splashguard to O/S edge of base rail Front edge of case to O/S edge of rear base rail	8 1/2 (216) 69 (1753)	8 1/2 (216) 69 (1753)
<b>(D)</b> Rear of case to O/S edge of rear base rail Width of base rail Stub-up area (gray) between front base rail and splashguard	12 1/2 (318) 2 1/2 (64) 7 5/8 (194)	12 1/2 (318) 2 1/2 (64) 7 5/8 (194)
<b>Electrical Service</b> ( <i>Electrical Field Wiring connection point</i> )		
Edge of case to center of knockouts	6 3/4 (172)	6 3/4 (172)
Front O/S edge of case to nearest knockouts	9 7/8 (251)	9 7/8 (251)
<b>Waste Outlets</b>		
<b>(E)</b> End of case to the center of rear waste outlet	10 1/8 (257)	58 1/4 (1480)
<b>(F)</b> Center of waste outlet to O/S edge of rear base rail	3 3/4 (95)	3 3/4 (95)
<b>(G)</b> End of case to center of front waste outlet O/S edge of case to center of waste outlet	38 (965) 8 3/4 (222)	38 (965) 8 3/4 (222)
<b>Water Seal</b>		
Edge of water seal to center of waste outlet	11 (279)	11 (279)
O/S diameter of drip pipe lines	1 1/2 (38)	1 1/2 (38)
Note*: Field installed water seal outlet, tees and connectors are shipped with case.		
<b>Refrigeration Outlet</b>		
End of case to center of front and rear refrigeration outlets	5 9/16 (141)	5 9/16 (141)
<b>(H)</b> End of case to center of refrigeration outlets at other end O/S edges of case to center of refrigeration outlets	42 5/8 (1083) 11 3/8 (289)	88 3/8 (2245) 11 3/8 (289)
<b>(I)</b> Center of refrigeration outlet to O/S edge of rear base rail	1 1/4 (32)	1 1/4 (32)

**Impact LWUGH**  
**Frozen Food & Ice Cream**

**REFRIGERATION DATA**

**Note:** This data is based on store temperature and humidity that does not exceed 75°F and 55% R.H.

	FF	IC
<b>Discharge Air (°F)</b>	-12	-22
<b>Evaporator (°F)</b>	-20	-30
<b>Unit Sizing (°F)</b>	-23	-33
<b>Btu/hr/case</b>	<b>FF</b>	<b>IC</b>
<b>Parallel</b>		
90 in.	5425	5485
138 in.	8525	8620
<b>Conventional</b>		
90 in.	5600	5665
138 in.	8800	8900

**DEFROST DATA**

	FF	IC
<b>Frequency (hr)</b>	24	24
<b>Defrost Water (lb/case/day)</b>		
90 in.	12.5	10.0
138 in.	20.0	16.0
<i>(± 15% based on case configuration and product loading).</i>		
<b>ELECTRIC</b>	<b>FF</b>	<b>IC</b>
<b>Temp Term (°F)</b>	48°	48°
<b>Failsafe (minutes)</b>	60	60
<b>GAS</b>		
<b>Duration (minutes)</b>	15	18
<b>OFFTIME</b>	Not Recommended	

**Standard Defrost Thermostat**  
Close on rise: close 48°F — open 33°F

**CONVENTIONAL CONTROLS**

	FF	IC
<b>Low Pressure Backup Control</b>		
<b>CI/CO (Temp °F)*</b>	-27/-39	-27/-39

**Indoor Unit Only, Pressure Defrost Termination (Temp °F)** Not Recommended

\*Use a Temperature Pressure Chart to determine PSIG conversions.

**PHYSICAL DATA**

Merchandiser Drip Pipe (in.)	1 1/4
Merchandiser Liquid Line (in.)	3/8
Merchandiser Suction Line (in.)	7/8

**Estimated Charge (lb)\*\***

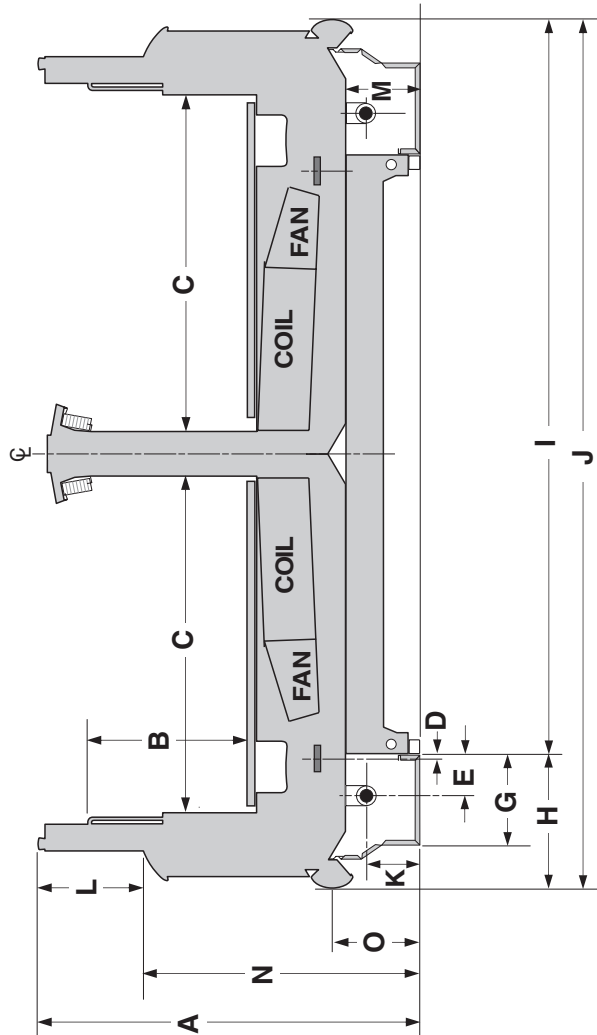
<b>90 in.</b>	2.8
<b>138 in.</b>	4.6

\*\*This is an average for all refrigerant types. Actual refrigerant charge may vary by approximately half a pound.

**Length Added to Lineup by:**

<b>Each End/Partition (in.)</b>	1 1/2
<b>Each Contoured End</b>	5

Dimensions shown in inches & (mm).



Dimensions

	A	B	C	D	E	F	G	H	I	J	K	L	M
<b>LWUGH</b>	36	15	32	1 1/4	3 3/4	—	8 1/2	12 1/2	69	81 1/2	5	10	7
(MM)	914	381	813	32	95	—	214	318	1753	2070	127	254	178

	N	O
<b>LWUGH</b>	26	8 1/4
(MM)	660	210

**NSF Certification**

These merchandisers are manufactured to meet ANSI /National Sanitation Foundation (NSF®) Standard #7 requirements.

<b>Impact LWUGH</b> <b>Frozen Food &amp; Ice Cream</b>
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### Electrical Data

	<b>90 in.</b>	<b>138 in.</b>
<b>Number of Fans – 4W</b>	<b>3</b>	<b>5</b>

(Energy Efficient fan motors are not available for End or End-compartment models)

	<b>Amperes</b>		<b>Watts</b>	
	<b>90 in.</b>	<b>138 in.</b>	<b>90 in.</b>	<b>138 in.</b>
<b>Evaporator Fans</b>				
120V 60Hz Standard	0.93	1.55	72	120
120V 50Hz Standard	NA			
230V 60Hz Export	0.45	0.75	72	120
230V 50Hz Export	0.74	1.10	111	165
120V 60Hz Energy Efficient	0.42	0.70	30	50
230V 60Hz Energy Efficient	NA			
<b>Nosing Anti-sweat Heaters (on fan circuit)</b>				
120V 50Hz / 60Hz	1.87	2.83	226	338
230V 50Hz / 60Hz	0.98	1.47	226	338
<b>Glass Anti-sweat Heaters</b>				
120V 60Hz Standard	2.86	3.56	329	413
230V 50Hz Export	1.58	1.98	363	455
<b>Cycling Anti-sweat Heaters</b>				
120V 50Hz / 60Hz	NA			
230V 50Hz / 60Hz	NA			
<b>Minimum Circuit Ampacity</b>				
120V 60Hz Standard	5.86	8.14		
120V 50Hz Standard	NA			
230V 60Hz Export	3.21	4.40		
230V 50Hz Export	3.50	4.75		
120V 60Hz Energy Efficient	5.35	7.29		
230V 60Hz Energy Efficient	NA			
<b>Maximum Over Current Protection 120V</b>				
	20	20		
<b>Maximum Over Current Protection 230V</b>				
	15	15		

#### Electric Defrost Heaters

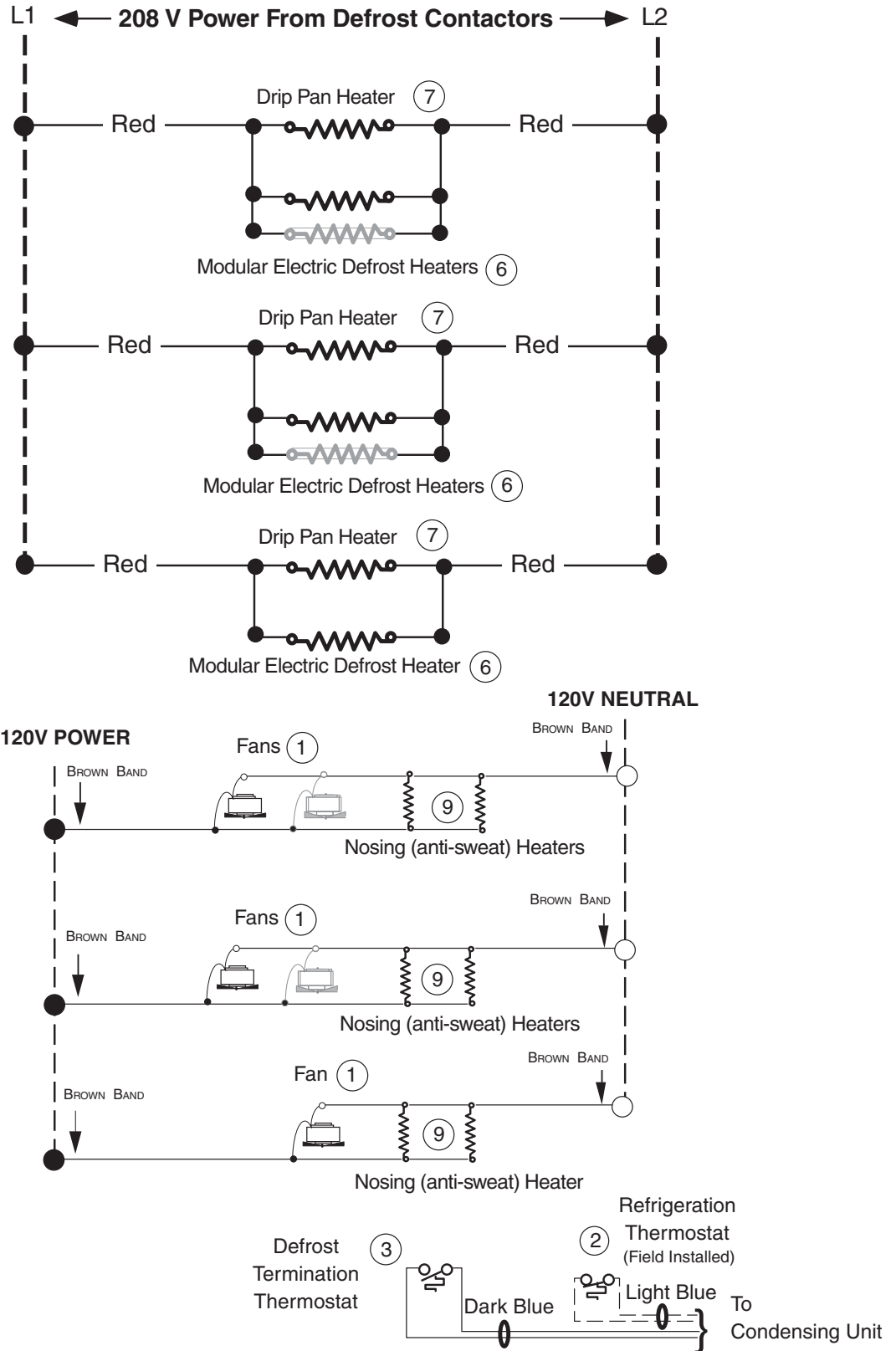
<u>208V</u> 60Hz Standard Front Compartment	4.00	8.00	835	1670
<u>208V</u> 60Hz Standard Rear Compartment	4.00	8.00	835	1670
<u>208V</u> 60Hz Standard End Compartment	5.50	5.50	1150	1150
230V 50Hz Export Front Compartment	4.40	8.90	1012	2047
230V 50Hz Export Rear Compartment	4.40	8.90	1012	2047
230V 50Hz Export End Compartment	6.10	6.10	1403	1403

#### Koolgas Drip Pan Heaters

<u>120V</u> 60Hz Standard	3.75	6.25	450	750
<u>230V</u> 50Hz Export	NA			

**Standard Lighting:** None

# Electric Defrost – Standard



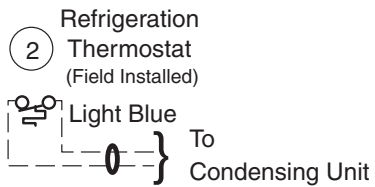
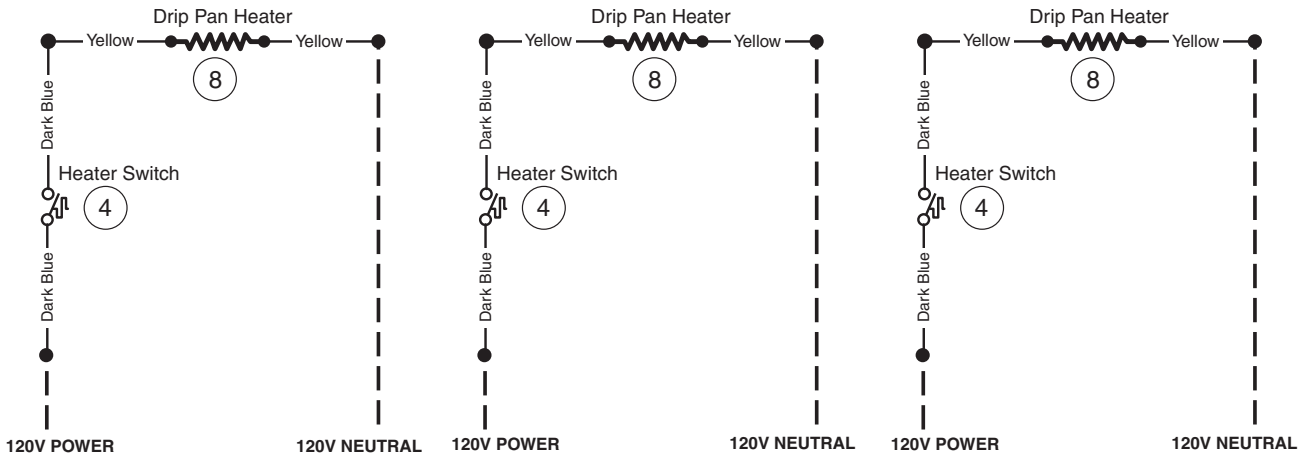
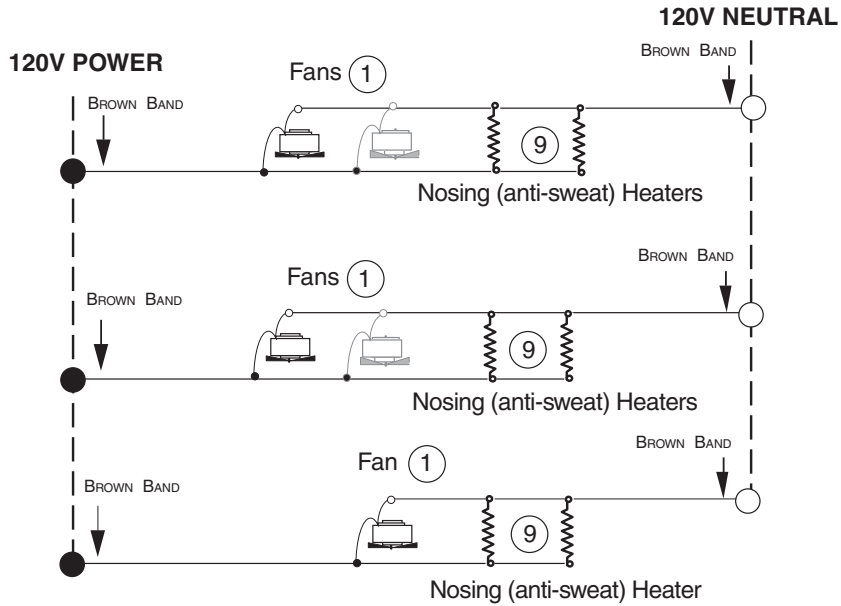
## WARNING

All components must have mechanical ground, and the merchandiser must be grounded.

Circled Numbers = Parts List Item Numbers

Grayed components in 138 inch models only.

# Gas Defrost – Optional

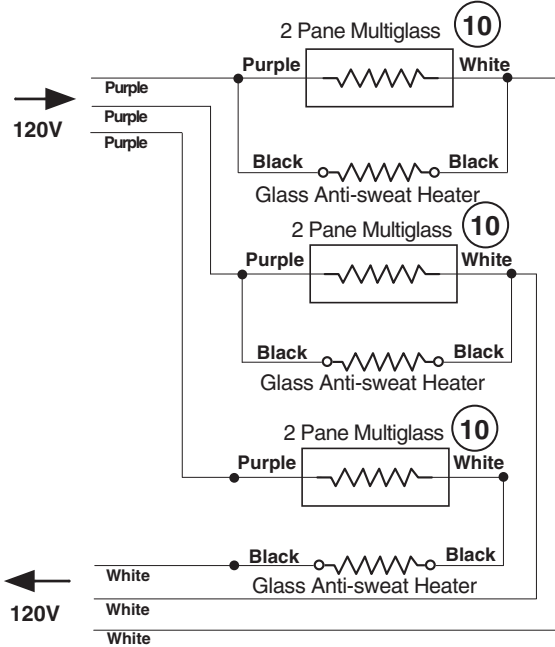


## WARNING

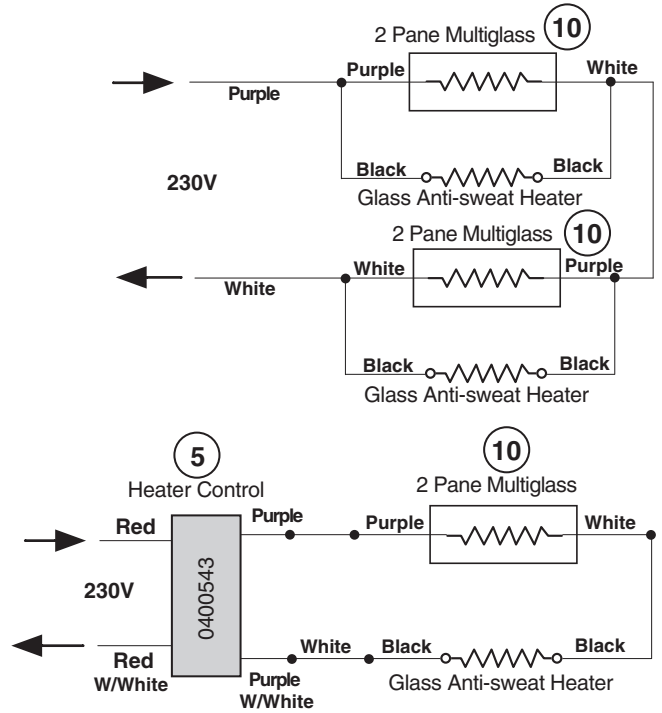
All components must have mechanical ground, and the merchandiser must be grounded.  
 Circled Numbers = Parts List Item Numbers  
 Grayed components in 12 foot models only.

# Glass Anti-sweat Heaters — Domestic & Export

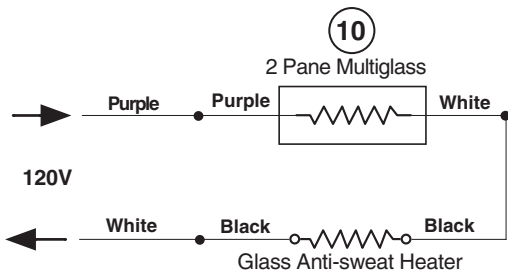
**Glass Anti-sweat Heater (Domestic)**  
**LWUGH-90 & LWUGH-138 (Unitized)**



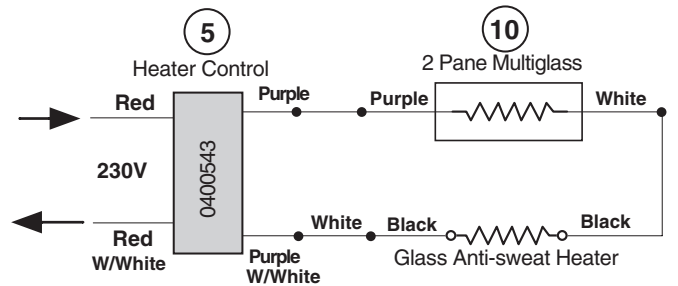
**Glass Anti-sweat Heater (Export Only)**  
**LWUGH-90 & LWUGH-138 (Unitized)**



**Anti-sweat Heater (Domestic)**  
**LWUGH Contour Ends**



**Anti-sweat Heater (Export Only)**  
**LWUGH Contour Ends**



## WARNING

All components must have mechanical ground, and the merchandiser must be grounded.  
 Circled Numbers = Parts List Item Numbers