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WARMFLO 1kW High Efficiency Duct Heater Installation and Setup Guide



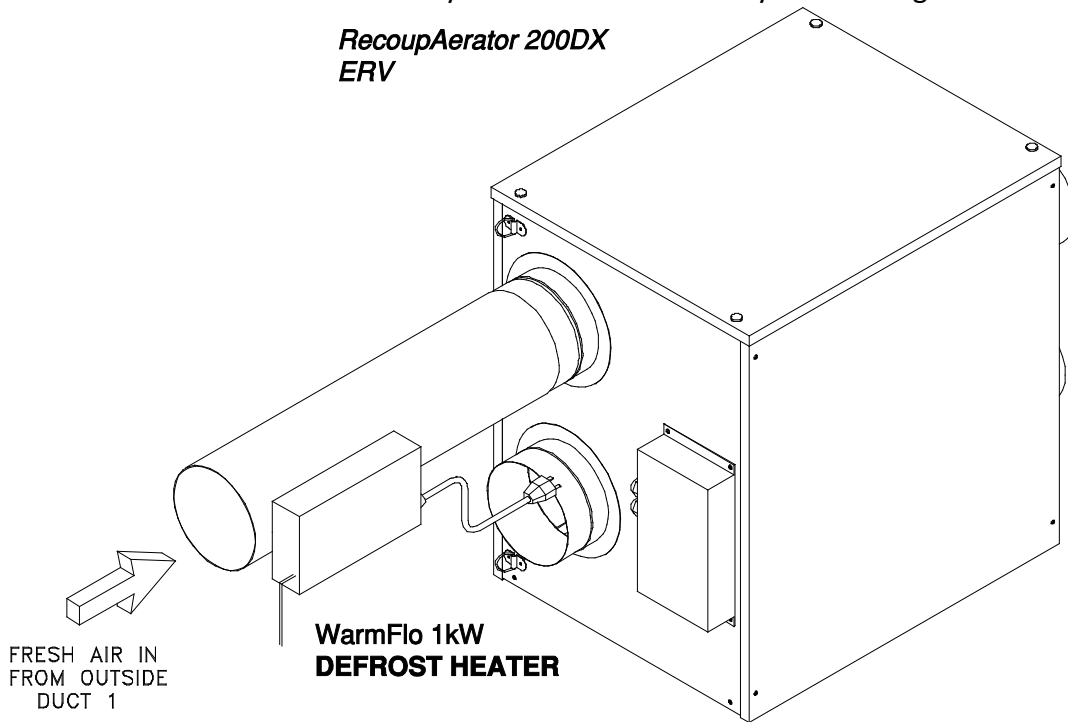
Thank you for your purchase of the WarmFlo 1.0 kW heater for use with your *RecoupAerator*®!

For Defrost Pre-Heat: The WarmFlo Defrost Heater is a high efficiency defrost option for extended periods of outdoor air temperatures below 12°F. The defrost will actively pre-heat the incoming air, maintaining a 12°F air stream just above the automatic frost-prevention-shut-off temperature of the *RecoupAerator*®. The WarmFlo is more than a typical duct heater. Included is an electronic duct sensor and control for modulating temperature so the WarmFlo will not use more electricity than needed to maintain the incoming air temperature.

For Post Heat: As a post heater, the WarmFlo will deliver heat into the ducted space using air flow provided by the *RecoupAerator*®.

Setup Defrost Pre-Heat

1 The WarmFlo 1kW, as a high efficiency defrost, connects to the “Fresh Air In”, noted as Duct 1 of the *RecoupAerator*. Match the air flow direction labeled on the WarmFlo with the *RecoupAerator* air flow direction. Use Screws, mastic, and/or metal tape to make the duct connections. It is important there is no air leakage. After installation of the WarmFlo and the remaining duct work, all ducts connected to the outside must be insulated, including the duct section housing the WarmFlo Defrost Pre-Heater. The electronics box mounted to the WarmFlo may be covered if necessary after wiring. See details below.

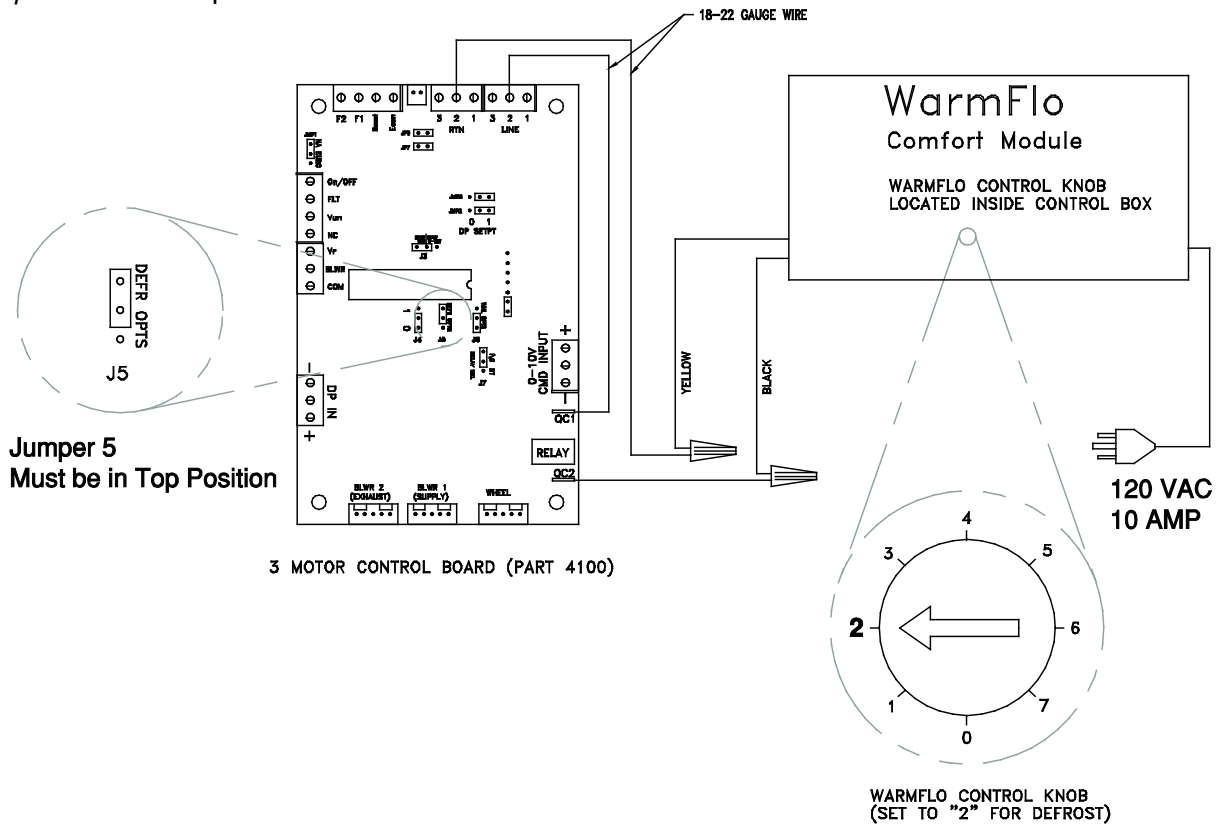


2 Set the Output Temperature to position “2”. The Temperature Setting knob is inside the WarmFlo control box. The *RecoupAerator* is designed to shut off below 10°F, and the WarmFlo Defrost Heat is meant to keep the Fresh Air Inlet at above the *RecoupAerator* frost protection shutoff temperature. The WarmFlo Defrost Preheat ensures the *RecoupAerator* provides a Fresh Air supply below freezing temperatures.

WarmFlo Control Board Settings	
Control Knob Setting	Output Temperature (°F)
0	0
1	6
2	12°F Pre-Heat
3	18
4	88
5	100
6	112
7	124

Setup Defrost Pre-Heat (cont)

3 Jumper 5 must be in the top position. When used as a defrost heater, the WarmFlo should be plugged into a dedicated 10 amp circuit. The heater also requires a low voltage signal from the *RecoupAerator*® for operation.



WarmFlo Defrost Pre-Heat Energy Usage

Outside Temp F	Single RecoupAerator					2 RecoupAerators	
	30 CFM	70	100	150	200	300	400
10.0	0 watts	0	0	0	0	0	0
5.0	47.5	110.8	158.3	237.4	316.5	474.8	633.0
0.0	95.0	221.6	316.5	474.8	633.0	949.6	1266.1
-5.0	142.4	332.3	474.8	712.2	949.6	1424.3	1899.1
-10.0	189.9	443.1	633.0	949.6	1266.1	1899.1	2532.1
-15.0	237.4	553.9	791.3	1186.9	1582.6	2373.9	
-20.0	284.9	664.7	949.6	1424.3	1899.1		
-25.0	332.3	775.5	1107.8	1661.7	2215.6		
-30.0	379.8	886.2	1266.1	1899.1	2532.1		
-35.0	427.3	997.0	1424.3	2136.5			
-40.0	474.8	1107.8	1582.6	2373.9			
-45.0	522.3	1218.6	1740.8				
-50.0	569.7	1329.4	1899.1				
-55.0	617.2	1440.2	2057.4				
-60.0	664.7	1550.9	2215.6				

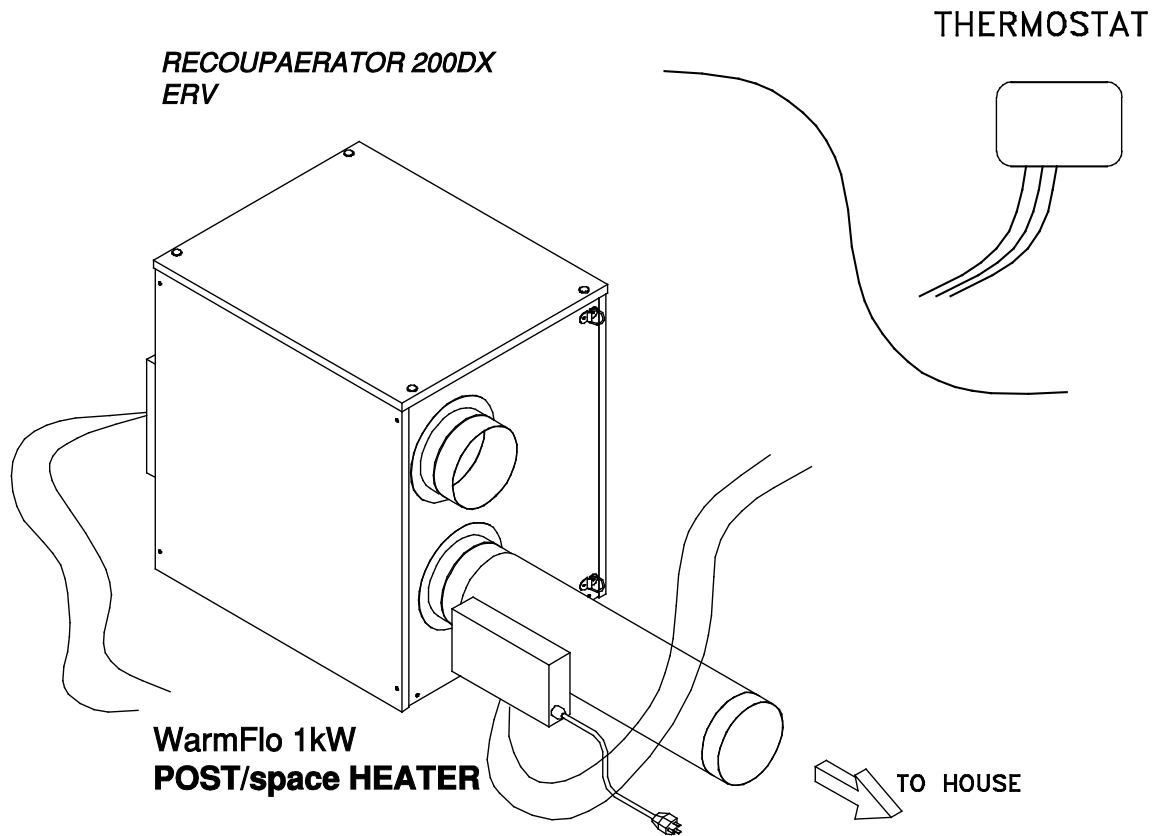
Watts Electric

WarmFlo 1.0
WarmFlo 2.5

In extreme outside low temperatures, it is recommended to run the *RecoupAerator*® with as low a flow rate as possible.

Setup Post-Heat

1 The WarmFlo heater connects to the *RecoupAerator*[®] Fresh Air Duct into the house labeled Duct 2 on the *RecoupAerator*[®]. When connecting the WarmFlo, match the air flow direction as noted on the heater. Screws, mastic, and/or metal tape are suggested to seal the ducts after making the connections. It is important to have no air leakage. See details below.



The Warmflo is a self modulated pulse heater with a temperature feedback control loop. This feedback controls the output temperature of the air stream. This temperature is manually set on the WarmFlo (please see the instructions provided with the heater).

WarmFlo 1.0 kW Post Heat Energy Usage			
Unit CFM Delivery	Max. Temp (F)	BTU	Watts
70	113.1	3410	999
100	99.6	3413	1000
150	89	3402	997
200	83.8	3413	1000

*This WarmFlo Duct Heater is rated at 1KW, or 3412 Btu
Output data can be calculated as follows: Temperature rise = (Btu/CFM)/1.08
Assuming 68°F room temperature*

Setup Post-Heat (cont)

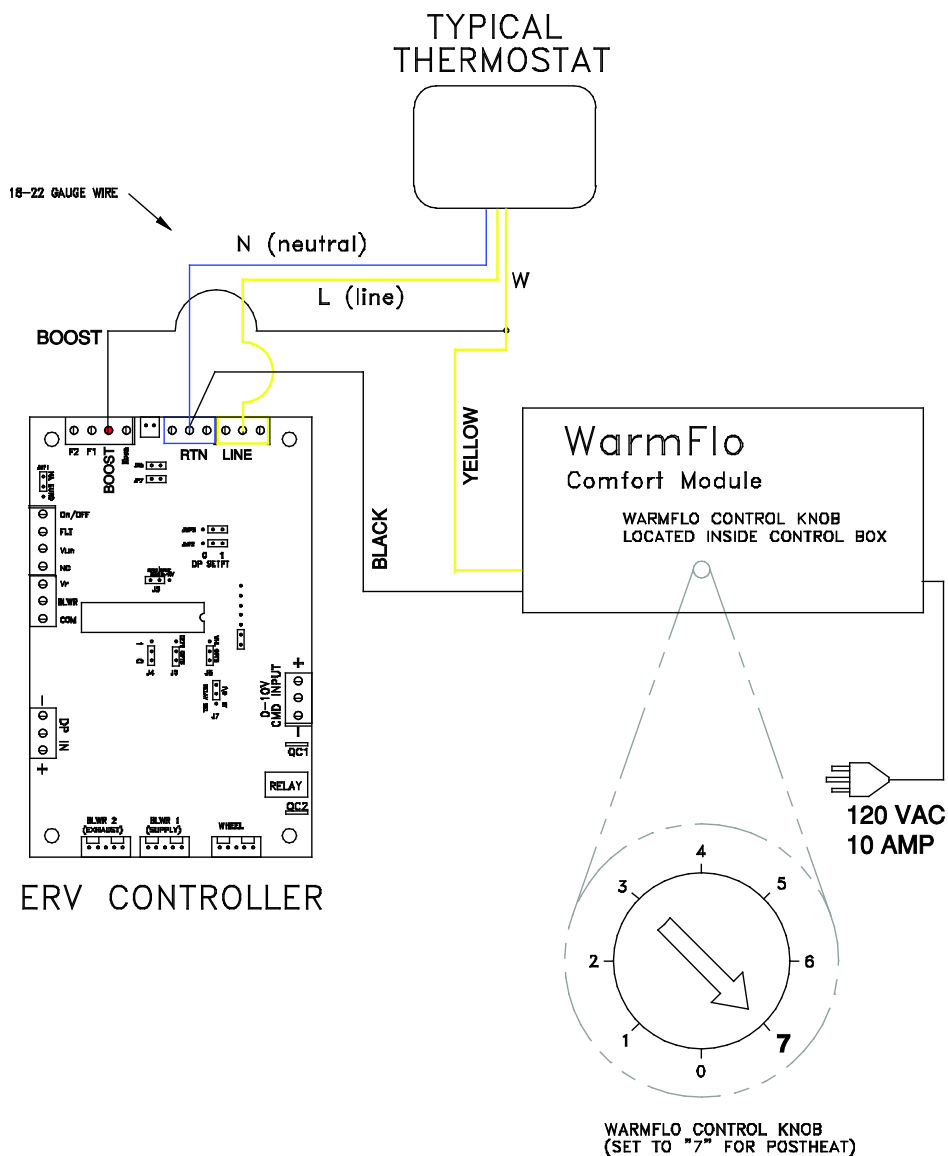
2 When using the WarmFlo 1.0 as a post heater, it should be plugged into a dedicated 10 amp circuit. The WarmFlo post-heater requires a 24 VAC signal supplied by the *RecoupAerator*, and is switched on when the Thermostat calls for heat.

Note: If an external 24VAC source is used remove both jumpers 6 & 7.

For example, removing both jumpers 6 & 7 allows control by a furnace 24VAC source while safely isolating the RecoupAerator's 24VAC system.

3 Set the WarmFlo temperature control to **position 7**, as to deliver the maximum amount of Btu's, which will meet the heating demand in as little time as possible. Adjustments can be made per the specific installation.

Post Heat Wiring Option 1 with BOOST full Flow when heating



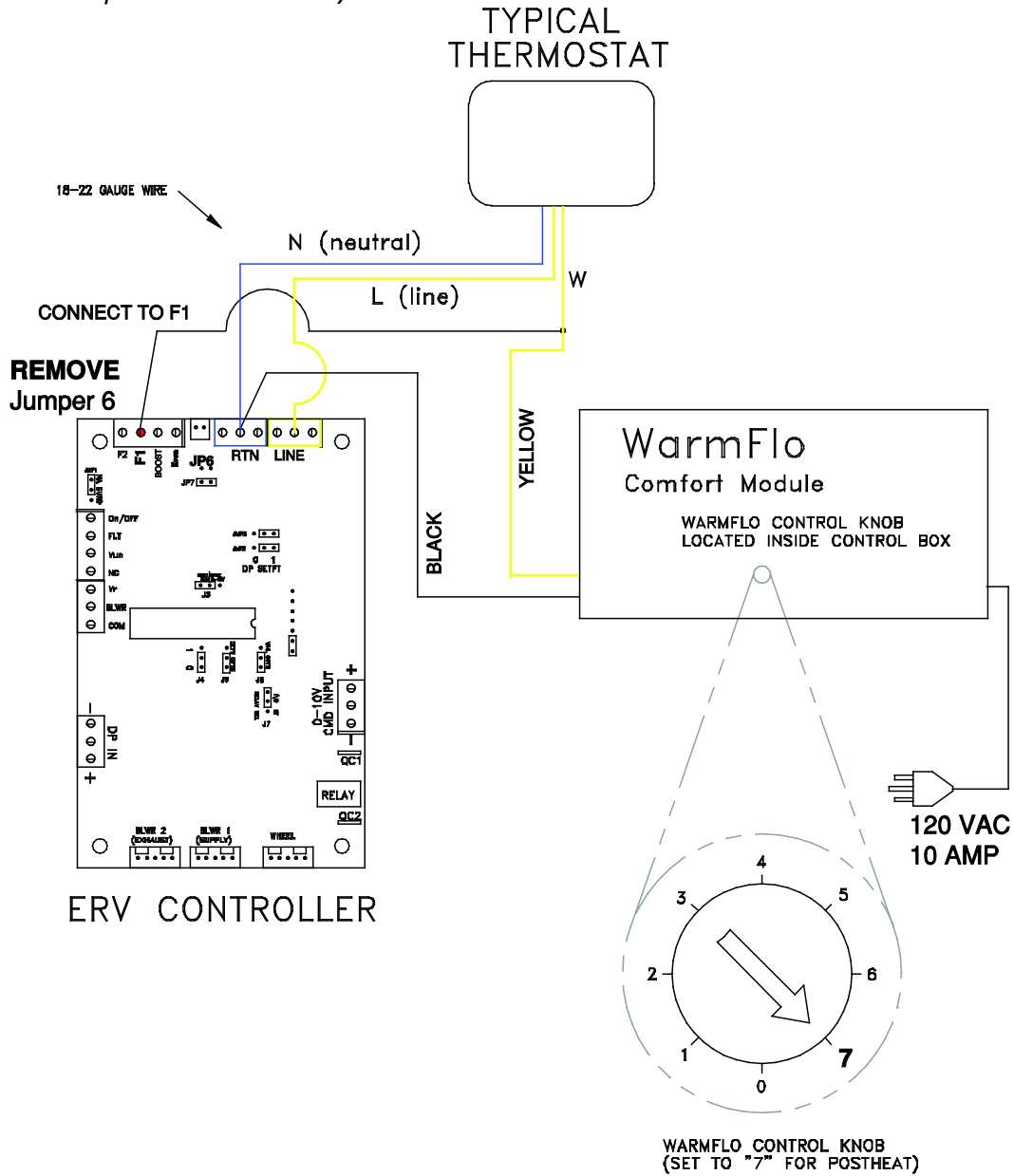
Post Heat Wiring Option 2 with flow set by RecoupAerator Wall Dial

This wiring option will run the WarmFlo Heater at a flow rate set by the user on the *RecoupAerator* Wall Dial Control. The WarmFlo post-heater requires a 24 VAC signal supplied by the *RecoupAerator*, and is switched on when the Thermostat calls for heat.

Remove **Jumper 6** and **connect the 24VAC** signal line to **F1** on the *RecoupAerator*.

Note: If an external 24VAC source is used remove both jumpers 6 & 7.

For example, removing both jumpers 6 & 7 allows control by a furnace 24VAC source while safely isolating the RecoupAerator's 24VAC system.



Call for more information on any aspect of your WarmFlo Duct Heater.