MiniCOREVentilator

INSTALLATION INSTRUCTIONS

MC500-1ERV
JUNE 7, 2019
SUPERSEDES: 02-21-19

ENERGY RECOVERY CORE

INSTALLATION INSTRUCTIONS FOR MINICORE VENTILATOR (MCV) WITH FACTORY INSTALLED OPTIONS USED AS A STAND ALONE OR WITH SPLIT SYSTEMS UNITS

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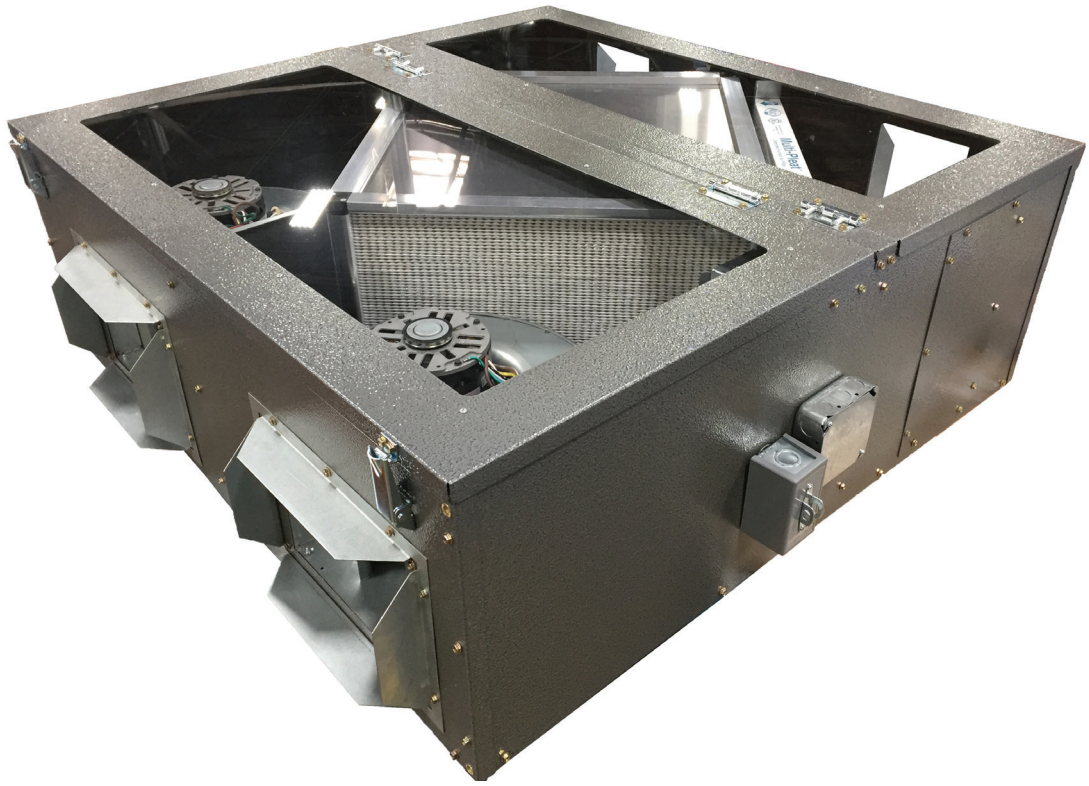
Energy recovery COMPONENT certified to the AHRI Air-to-Air Energy Recovery Ventilation Equipment Certification Program in accordance with AHRI Standard 1060-2000. Actual performance in packaged equipment may vary.

C ETL US LISTED Intertek

ETL Certified per UL 1995 and CSA 22.2



I - Shipping And Packing List

Package 1 of 1 contains:

1 - MiniCore Ventilator Assembly

II - Shipping Damage

Check unit for shipping damage. Receiving party should contact last carrier immediately if shipping damage is found.

III - General

These instructions are intended as a general guide and do not supersede local codes in any way. Authorities having jurisdiction should be consulted before installation.

⚠ CAUTION

Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

⚠ WARNING

Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

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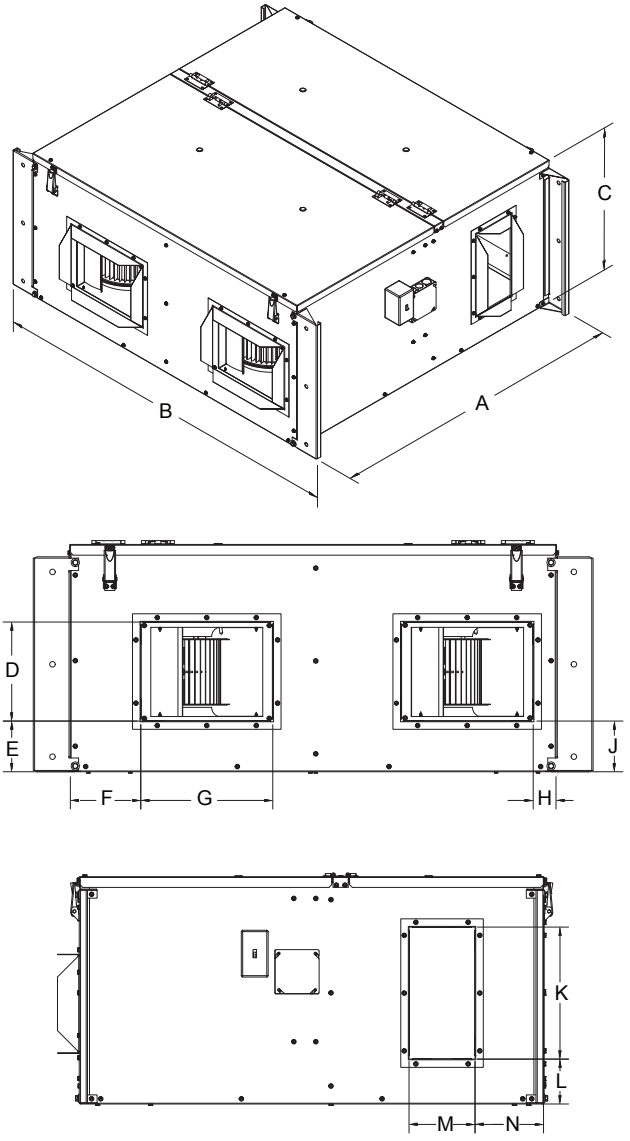


Figure 1

Unit Dimensions (Figure 1)													
Unit	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**
MCV500	42 ¼	51	15 ½	8	1 ⅞	7 1⁄16	12	2 ¾	1 ⅞	12	1 ½	6	6 ¼
MCV1000			20 ¾	9	4 ⅝	6 7⁄16		2 1⁄16	4 ⅝		4 1⁄16		

IV - Electrical Requirements (Code)

When installed, the unit must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with the current National Electric Code, ANSI/NFPA No. 70.

V - Application

MiniCore ventilators are used as a stand alone indoor option for heat recovery ventilators used in light commercial applications. These ventilators conserve energy by transferring heat energy across two opposing air streams using a polymer core heat exchanger. This process works in the summer by rejecting the heat energy from incoming intake air and in the winter by conserving the heat energy from the exhaust air, allowing outdoor ventilation rates to be increased by factors of three or more without additional energy penalty or increase in size of the heating or air conditioning systems.

VI - Rigging Unit For Lifting

1. Maximum weight of unit is:

Model#	MCV-500	MCV-1000
Net Weight	182	222
Ship Weight	230	270

2. Remove carton.
3. All panels must be in place for rigging.
4. Lift unit into place with a winch or jack.

VII - Installation

A - Location

When choosing a location to mount the MiniCore Ventilator take into consideration ductwork layout as well as access for future filter changes and Core cleaning. Clearance of 30" should be provided on the controls side and access to bottom opening doors should not be restricted. **See Figure 1** on **Page 2** for dimensions.

Normal installation of the MiniCore Ventilator unit is hanging from the 4 corners using the included hanging kit though the units can be mounted on a shelf or on the floor of a mechanical room using optional floor vibration isolators.

The maximum weight of a MiniCore Ventilator is less than 225 lbs, Using ⅜" all-thread and the included hanging brackets is the preferable method of supporting the unit though the use of metal strap to hang the unit is also acceptable. When hanging the unit be sure to take into account the need to provide access for filter replacement and Core removal as well as blower balancing or removal through the bottom access panels.

B - Orientation

While orientation of the heat exchanging core inside of the MiniCore Ventilator is important for maximizing airflow orientation of the Ventilator itself is not, the MiniCore can be mounted in a vertical or horizontal fashion. Additionally the Fresh Air intake and Return intake can either be mounted on the side of the MiniCore or on the end by switching the duct collar and cover panel attached using 5⁄16" screws. **See Figure 2.**

Once the MiniCore Ventilator is hung connect ductwork to proper sectors of the unit with ¼" screws, use tape to seal seams. Supply and Exhaust are labeled on the outside of the cabinet and are determined by the orientation of the Core inside of the MiniCore Ventilator, a sticker on the Core will indicate the supply (outdoor air) vector. The Outside Air and Return connections will always be on the opposite side of the MiniCore Ventilator from their respective Supply and Exhaust blowers. **See Figure 2.**

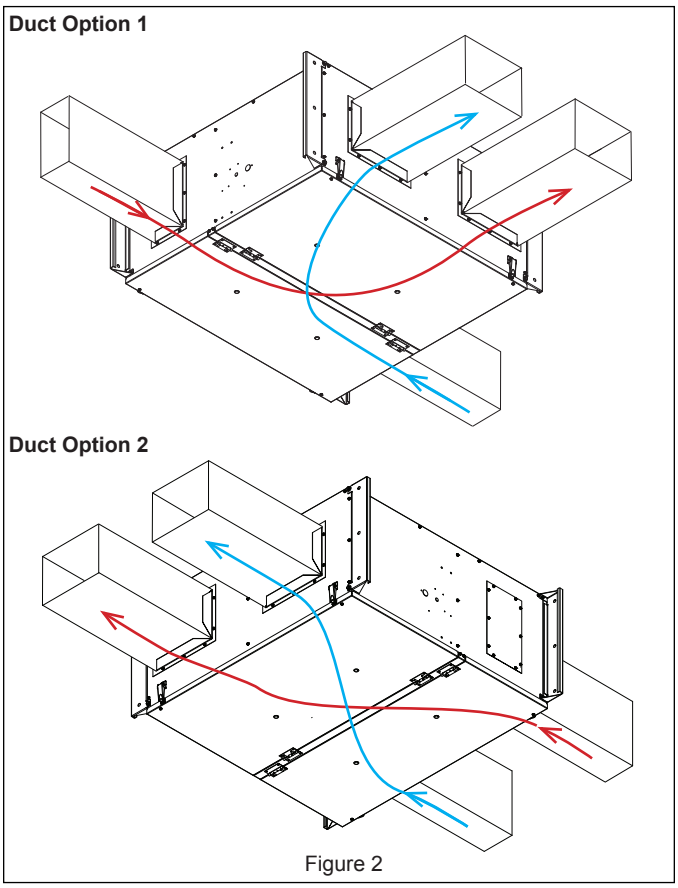


Figure 2

C - Wiring

A 30 Amp single phase power Disconnect switch is provided attached to every Minicore ventilator that must be field wired into the Minicore ventilators fused high voltage distribution block. ½" and ¾" knockouts are available on the top and bottom of the disconnect for the line wiring, load wiring should be run through the back of the disconnect to the Minicore ventilators fused High Voltage distribution block.

High Voltage:

115V/ 208V/230V: Connect high voltage wires to L1 (hot) and L2 (common) on the disconnect switch, Connect the ground to the green grounding nut. Connect T1 in the disconnect to L1 on the High Voltage distribution block in the Minicore ventilators controls section, connect L2 to T2 in the same manor, connect the green grounding nut to the ground lug inside the controls section. **See Wiring Diagrams on Page 9-10.**

208/230V: Check voltage into the unit and adjust the voltage input to the transformer from 230V to 208V if necessary by switching wires at the transformer. **See Wiring Diagrams on Page 9-10.**

460V: A step down transformer (PT# 300000425) is available as an option in 460 volt applications. The 3 Va transformer steps power down from 460 volts to 110 volts and should be installed external to the Minicore Ventilator (after the power disconnect switch) and wires run in field provided conduit to the high voltage distribution block. When using this option the disconnect switch can be moved exposing the ½" hole behind it providing access to the Controls section.

Low Voltage:

The Minicore Ventilator can be controlled by any dry contact closure like a switch, a CO2 sensor with relay or a timer with all of the factory jumpers installed. By removing the Jumpers between terminals 2 & 3 on the TB-38 terminal strip external controls can operate each blower individually.

The TB-38 terminal strip is located in a 2 gang box external to the Minicore Ventilator (located next to the power disconnect switch).

Standard Units: Pass low voltage wires through a knockout on the provided 2 gang terminal strip access box next to the High Voltage disconnect. Connect R (24vac hot) to terminal #1 and G to terminals 2 or 3. To operate the blowers individually remove the factory jumper between terminals 2 and 3 and connect the Supply enable to terminal #2 and Exhaust enable to terminal #3. 24V com is available on terminal #5. **See Wiring Diagrams on Page 9-10 and Figure 3**

ECM Units: Pass low voltage wiring through a knockout on the provided 2 gang terminal strip access box, connect R to terminal T#1 on 7 pin terminal block TB38, connect G to terminal T#3. The default wiring for ECM units is 2 speed operation with the unit factory wired for low speed. To change to high speed remove the blue (BL-25 & BL-30) wires from terminal 4 on the K163 & K164 relays and connect white (WH-25 & WH-30) wires to terminal 4. **See Wiring Diagrams on Page 9-10.**

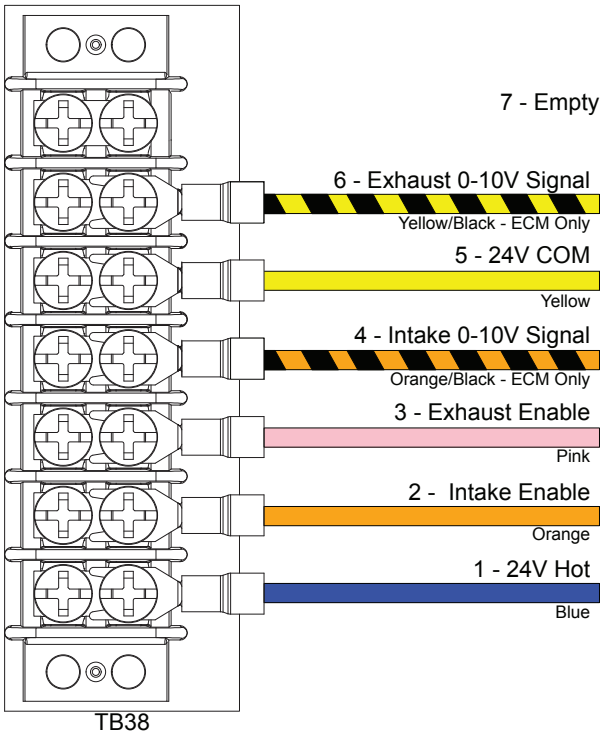


Figure 3

To use the ECMs to modulate speed the 24V speed selection wires (BL-25 & BL-30 / WH-25 & WH-30) first need to removed from relays K163 & K164 pin #4 in the controls section.

Terminals 4-6 on TB38 are for speed selection. To control both blowers in unison wire the 0-10vdc control signal to terminals 4 (10vdc+) and 5 (10vdc com) and add a jumper between terminals 4 & 6. If the blowers are controlled independently then wire the exhaust blower signal to terminals 5 & 6 and the supply signal to terminals 4 & 5, **See Adjusting Blower Speed in Section IX - System Check** for balancing information.

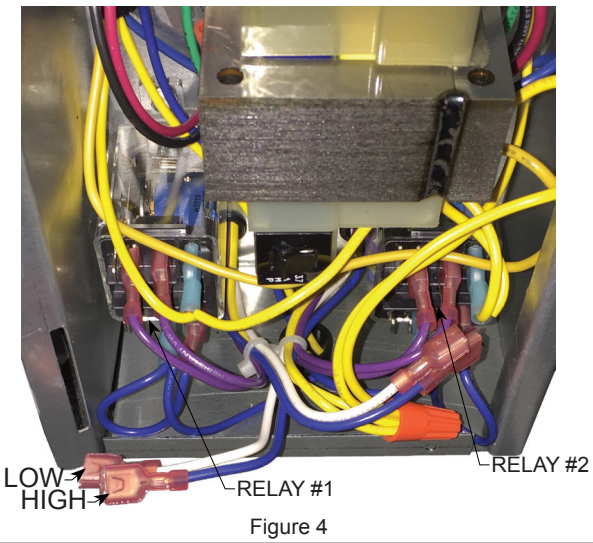


Figure 4

VIII - Operation

How It Works

The unit uses a dPoint polymer based ERV core which offers latent and sensible energy recovery with no cross contamination and no moving parts. In the summer outside heat and humidity is rejected from the incoming outside airstream and exhausted out the building, while in the winter the same process works to conserve wasted heat and humidity making the building more efficient, healthier and more comfortable.

The dense polymer membrane uses selective transfer technology to allow heat and water vapor to permeate through, while blocking contaminant compounds. The transfer is driven by temperature and humidity differentials between the airstreams. This allows you to reduce the size of the cooling system by 30% while still meeting outside air requirements.

The Cores material is designed to prevent mold and bacteria growth – the material was ISO 846 tested with a rating of 0 –, is designed to avoid virus transfer –ASTM Method F-1671 tested with 0 penetration –, and eliminate cross contamination from exhaust air – 0% EATR certified to AHRI 1060. It's polymer construction also means that it is washable with water for easy cleaning.

B - Sequence of Operation

MCV500/ MCV1000

When terminal number 2 on TB38 is energized with 24v the K164 relay closes engaging the intake motor. When terminal number 3 on TB38 is energized with 24v the K163 relay closes energizing the exhaust blower. Speed is selected by changing high speed taps on the relays.

Factory wiring includes a jumper between terminals 2 and 3 on TB38.

MCV500E/ MCV1000E

When terminal number 2 on TB38 is energized with 24v the K164 relay closes powering the Intake ECM motor with high voltage as well as sending a low voltage (24vac) signal to the ECM to engage in low speed. When terminal number 3 on TB38 is energized with 24v the K163 relay closes powering the Exhaust ECM motor with high voltage as well as sending a low voltage (24vac) signal to the ECM to engage in low speed. Selection between low and high speed is made by removing the Sig 1 wire from pin 4 on the K163 and K164 relays and replacing it with the Sig 2 wire. Speed modulation is achieved by removing the 24v speed selection wire from relay pin #4 and by using the 2-10 VDC modulation signal connecting to terminals 4-6 on TB38.

The ECMs require a high voltage power source and low voltage signal in order to operate.

IX - System Check

1. 1 Turn off power to the unit.
2. Remove access cover to the terminal strip access box and jump Terminal 1 to Terminals 2 or 3.
3. Restore power to the Unit. Observe that the supply blower runs when energizing Terminal 2, the exhaust blower runs when energizing Terminal 3, and both run when the factory installed jumper between 2 and 3 is connected.
4. Adjustments to the speed of the motors can be made by changing the input on the multi tap blower motors. Inside the High voltage control box Connect Red wire to the blower relay N/O terminal for low speed, blue for med speed, black for high speed. The Factory setting is Black/High.

A - Blower Speed Adjustment

MCV500/1000 - Both fresh air and exhaust air blowers are direct drive multi-tap motors. Both blowers are factory set at "high" speed for maximum airflow. To determine air flow setting, external static pressure readings will need to be read across the MiniCore.

B - Air Balancing Adjustment

1. Remove plastic plugs in access fittings on either side of the unit.
2. With a manometer measure pressure drop [inches of water column] diagonally across the MiniCore. The High and Low ports will be on opposite sides of the cabinet and are labeled. Unit CFM for 3 speed PMC motors is determined then by referring to T**able #1 on Page 7**.
3. Repeat the same process for the other airflow vector of MiniCore.
4. System can be balanced by adding dampers to ductwork or by adjusting blower speed taps in the High Voltage control box, or by adding an optional Motor speed control to either blower to reduce CFM.

C - Adjusting Blower Speed

3 speed PCM motors: Standard units have individual relays (K-163, K-164) where the speed taps on the 3 speed motors can be changed. Remove the Black wire from the N/O terminal and replace with red for low speed or blue for med speed.

An additional 120V (PT# 300000646) or 240V (PT# 300001416) speed controller is available to balance each blower with in these ranges.

The speed control is installed on the side of the MiniCore in a field provided 2 gang box, and wired into the appropriate speed tap wire by cutting the red/blue/black wire and wire nutting the speed control in line.

Speed is reduced by turning the knob counter clockwise until CFM is met. **See Table #1 on Page 7** for balancing data.

Variable speed ECM units: MiniCore Ventilators with Electronically Commutated Motors are shipped in 2 speed mode with blue (BL-25 and BL-30) wires attached to terminal #4 of K163 and K164 in the control box locking the ECM in high speed mode, to switch to low speed remove the blue wires and attach the white wires to terminal #4. To use the Variable speed option both of the wires need to be disconnected from the relays (K163 & K164) they are attached to, and 0-10 VDC control wiring should be connected to terminals #4 through #6 detailed in the Low Voltage connections **See Figure 3 on Page 4**. **See Wiring Diagrams on Page 9-10.**

X - Maintenance

1. All motors use prelubricated sealed bearings; no further lubrication is necessary.
2. Make visual inspection of filters, motor assemblies and MiniCore Ventilator's Heat exchange core during routine maintenance.
3. Filters should be checked periodically and replaced when necessary. Filters are located in front of Core in the unit.

A - Core Removal (See Figure 5)

1. Remove Access panels by opening each panel and then releasing the spring loaded pins in the hinges by pinching the tabs together.
2. Remove the center divider panel by removing the two 5⁄16" screws at with end of the panel on the side of the MiniCore.
3. Carefully slide the core outwards.

When re-installing the core make sure the sticker indicating the supply path lines up with the supply blower.

B - Filter Removal (See Figure 6)

1. Open the Filter Access panel by opening the two spring loaded latches to expose filters.
2. Slide filters outwards.

XII - Options

A - BMS Controls Option (PT # 01FRTMSTAL)

A field installed kit that allows you to import temperature, humidity, CO2, wheel rotation and smoke control info into your BMS. The FAC controller has outputs to control blower enable and speed as well as field installed electric pre heat and motorized damper options. Controllers come preprogrammed and options can be turned on and off using the optional display panel, a bacnet capable BMS, or a Metasys MAP gateway, all wire lengths and sensors are designed to be easily attached to the MiniVent.

Figure 5

Figure 6

B - Remote Display Panel (PT # 300001210)

When using the features of this control kit (frost control, demand ventilation, etc.) but not using a building management system you can interface with the BAS Controls kit by using the optional remote display panel. Plug the display panel com wire into the plug labeled sensor on the bottom of the FAC controller. You will then have access to the controller's points and settings. The Panel can be permanently mounted to the unit or moved from unit to unit on a job.

C - MAP Gateway (PT# 300001418)

The Mobile Access Portal (MAP) Gateway provides a wireless, intuitive, mobile-optimized user interface acting as a WiFi access point to FEC family programmable controllers. Techs can access features of the BAS controller through their mobile device.

D - CO2 Sensor (PT# 01KITCO2)

Used to register CO2 in the space when using a demand ventilation control method. Duct mounted or wall mounted options are available.

E - Motorized Outdoor Air and Exhaust Air Dampers

24V open spring close motorized dampers that are installed over the Outside Air and Exhaust Air openings of the Minvent or Minicore ventilator. The low voltage wiring can be hooked to the supply and exhaust air enable terminals and common of the TB-38 terminal strip (see Fig 3).

F - Dirty Filter Sensors (PT# 01FKTDFS)

A pressure differential sensor and relay that can be wired into the BMS Controls kit or into an analog alarm. Pressure adjustable up to 1.2"wc, pressure sensing tubes are inserted before and after filter rack and alert you when the filters need to be replaced.

G - Speed Controller (PSC) (PT# 01FKTSCM)

A potentiometer used to lower speed on PSC motors after speed tap is selected in order to balance CFM. One needed per motor.

H - Speed Controller (ECM) (PT# 01FKTSME)

A 24V AC 0-10 DC control used to set speed on ECM motors once speed tap is removed in order to balance CFM. One Controller can be used to set two motors at the same speed, or two controls can be used to individually adjust blowers CFM.

I - 7 Day Programmable Timer (PT# 01FKT7PT)

A battery operated time clock that mounts in a single gang (light switch) box. A dry contact is used to turn on the MiniVent / MiniCore Ventilator during occupied hours.

J - Motion Sensor (PT # 01FKTMDS)

A motion sensor that is mounted in a busy area of the space needing ventilation. A dry contact is used to turn on the MiniVent / MiniCore Ventilator during occupied hours when movement is present.

Fan PSC Blower Performance for MC500												
Supply Fan												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	726	675	618	553	485	409	332	239	145	NA	
	Medium	849	820	783	739	686	627	561	493	417	337	239
	High	NA					810	766	716	655	590	521
Exhaust Fan												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	496	438	376	311	247	176	98	51		NA	
	Medium	651	605	554	501	442	382	318	260	196	134	70
	High	791	757	716	673	626	576	523	465	406	348	285
Fan PSC Blower Performance for MC1000												
Supply Fan												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	1057	1013	967	917	865	808	746	684	612	533	461
	Medium	1198	1159	1118	1075	1031	982	932	878	822	760	695
	High	NA					1149	1105	1060	1013	964	910
Exhaust Fan												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	899	848	793	737	676	614	550	479	402	348	252
	Medium	1059	1013	965	914	861	806	749	688	624	563	493
	High	NA			1091	1044	995	945	892	837	779	722

Table #1

Fan ECM Blower Performance for MCV500											
Supply Fan											
ESP	**0**	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1**
CFM	**Signal Voltage (VDC)**										
850	8.51	8.69	8.87	NA							
800	8.19	8.38	8.57	8.76	8.93	9.11	NA				
750	7.93	8.13	8.34	8.52	8.71	8.89	9.08	9.26	**9.43**	NA	
700	7.71	7.93	8.13	8.34	8.53	8.73	8.92	9.09	9.27	9.45	9.62
650	7.52	7.74	7.95	8.16	8.37	8.57	8.76	8.95	9.13	9.31	9.49
600	7.32	7.55	7.77	7.99	8.21	8.42	8.61	8.81	9.00	9.18	9.37
550	7.12	7.37	7.60	7.83	8.05	8.26	8.46	8.66	8.86	9.04	9.23
500	6.92	7.17	7.42	7.65	7.88	8.09	8.31	8.51	8.71	8.91	9.09
450	6.72	6.99	7.24	7.49	7.71	7.95	8.16	8.37	8.58	8.78	8.97
400	6.52	6.80	7.07	7.32	7.56	7.80	8.02	8.23	8.44	8.65	8.84
350	6.35	6.63	6.91	7.17	7.42	7.66	7.89	8.11	8.32	8.53	8.72

Exhaust Fan											
ESP	**0**	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1**
CFM	**Signal Voltage (VDC)**										
850	NA										
800	**9.21**	NA									
750	8.94	9.13	9.31	**9.48**	NA						
700	8.70	8.89	9.08	9.26	9.44	9.61	**9.78**	NA			
650	8.48	8.67	8.86	9.04	9.23	9.41	9.58	9.76	**9.92**	NA	
600	8.26	8.46	8.67	8.85	9.04	9.22	9.40	9.59	9.76	**9.93**	NA
550	8.05	8.27	8.47	8.67	8.87	9.06	9.24	9.42	9.60	9.77	**9.94**
500	7.85	8.07	8.29	8.50	8.70	8.89	9.08	9.26	9.45	9.63	9.79
450	7.66	7.88	8.11	8.31	8.53	8.72	8.92	9.11	9.29	9.46	9.64
400	7.45	7.69	7.92	8.14	8.35	8.56	8.76	8.94	9.14	9.32	9.50
350	7.24	7.49	7.72	7.94	8.16	8.38	8.58	8.78	8.97	9.15	9.34

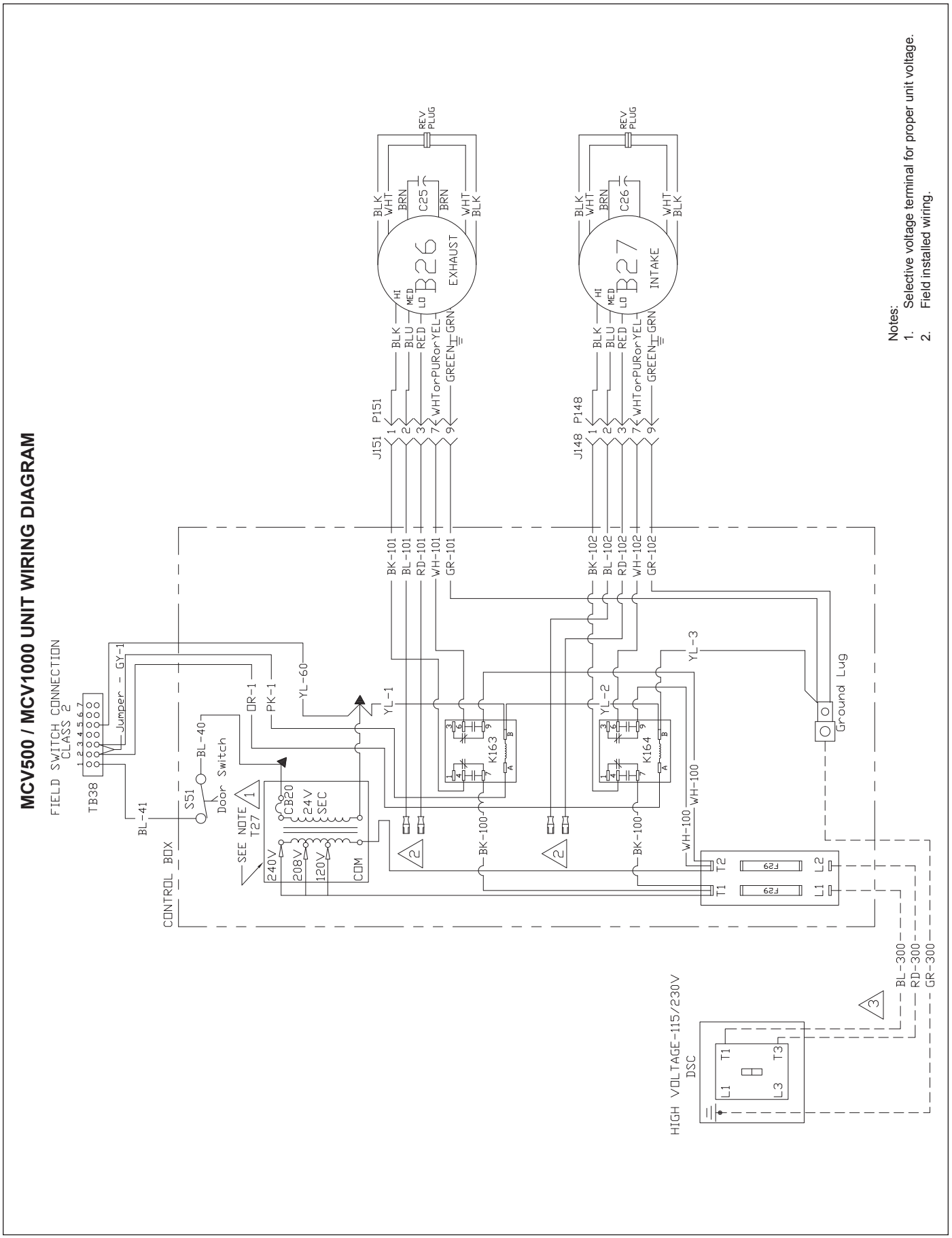
CRITICAL | HIGH SPEED | LOW SPEED

Fan ECM Blower Performance for MCV1000											
Supply Fan											
ESP	**0**	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1**
CFM	**Signal Voltage (VDC)**										
1250	**8.74**	NA									
1200	8.50	8.68	**8.86**	NA							
1150	8.26	8.45	8.63	8.81	8.99	**9.15**	NA				
1100	8.03	8.22	8.41	8.60	8.78	8.95	9.13	**9.30**	NA		
1050	7.79	8.00	8.20	8.38	8.57	8.75	8.94	9.11	9.29	**9.45**	NA
1000	7.56	7.77	7.98	8.17	8.37	8.56	8.75	8.93	9.10	9.28	9.44
950	7.33	7.55	7.76	7.97	8.16	8.37	8.55	8.75	8.93	9.10	9.28
900	7.10	7.32	7.54	7.76	7.97	8.17	8.37	8.57	8.75	8.93	9.11
850	6.86	7.10	7.33	7.56	7.77	7.99	8.19	8.39	8.59	8.77	8.96
800	6.62	6.88	7.12	7.35	7.58	7.80	8.01	8.22	8.42	8.61	8.81
750	6.39	6.66	6.91	7.16	7.39	7.62	7.84	8.05	8.26	8.46	8.65

Exhaust Fan											
ESP	**0**	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1**
CFM	**Signal Voltage (VDC)**										
1175	**8.96**	NA									
1150	8.86	**9.04**	NA								
1100	8.66	8.84	9.01	9.19	**9.36**	NA					
1050	8.45	8.64	8.82	9.00	9.17	9.34	**9.51**	NA			
1000	8.24	8.44	8.63	8.81	8.99	9.16	9.33	9.51	**9.67**	NA	
950	8.04	8.24	8.43	8.63	8.81	8.99	9.17	9.34	9.51	9.67	**9.85**
900	7.83	8.04	8.24	8.44	8.63	8.82	9.00	9.18	9.35	9.52	9.68
850	7.63	7.84	8.05	8.25	8.45	8.64	8.82	9.01	9.19	9.37	9.53
800	7.42	7.64	7.86	8.06	8.27	8.47	8.66	8.85	9.04	9.22	9.38
750	7.21	7.44	7.66	7.88	8.09	8.30	8.50	8.69	8.88	9.06	9.24
700	6.99	7.23	7.47	7.69	7.91	8.12	8.33	8.53	8.72	8.91	9.08
650	6.77	7.03	7.28	7.51	7.74	7.95	8.16	8.37	8.57	8.75	8.94

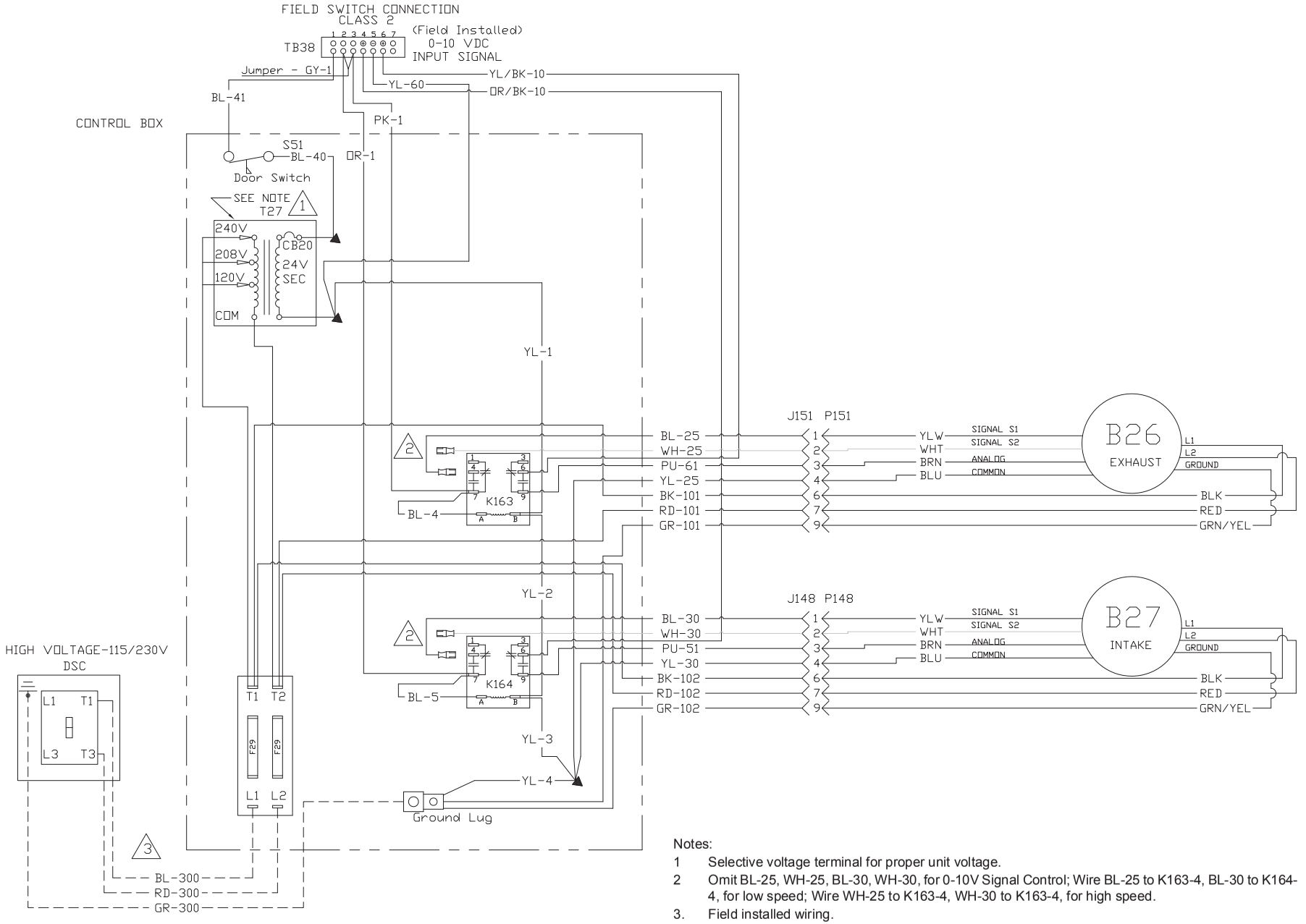
CRITICAL | HIGH SPEED | LOW SPEED

MCV500 / MCV1000 UNIT WIRING DIAGRAM



Notes:
1. Selective voltage terminal for proper unit voltage.
2. Field installed wiring.

MCV500E / MCV1000E UNIT WIRING DIAGRAM



Notes:

1 Selective voltage terminal for proper unit voltage.

2 Omit BL-25, WH-25, BL-30, WH-30, for 0-10V Signal Control; Wire BL-25 to K163-4, BL-30 to K164-4, for low speed; Wire WH-25 to K163-4, WH-30 to K163-4, for high speed.

3. Field installed wiring.

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XIV - START UP INFORMATION SHEET

VOLTAGE - UMV UNIT

Incoming Voltage L1-L2_____ Running Voltage L1-L2_____ Secondary Voltage_____

AMPERAGE - MV MOTORS

Intake Motor: Nominal HP_____ Rated Amps_____ Running Amps_____

Exhaust Motor: Nominal HP_____ Rated Amps_____ Running Amps_____

Wheel Motor: Nominal HP_____ Rated Amps_____ Running Amps_____

AIRFLOW

Intake Design CFM_____ Pressure Drop_____ Calculated CFM_____

Exhaust Design CFM_____ Pressure Drop_____ Calculated CFM_____

Amb. db Temp_____ Return Air db Temp*_____ Tempered Air db Temp*_____

Amb. wb Temp_____ Return Air wb Temp*_____ Tempered Air wbTemp*_____

*** Measure after 15 minutes of run time**

INSTALLATION CHECK LIST

MiniVent Model #_____ Serial # _____

Owner_____ Owner Phone #_____

Owner Address _____

Installing Contractor_____ Start Up Mechanic_____

- ❑ Inspect the unit for transit damage and report any damage on the carrier's freight bill.
- ❑ Check model number to insure it matches the job requirements.
- ❑ Install field accessories and unit adapter panels as required. Follow accessory and unit installation manuals.
- ❑ Verify field wiring, including the wiring to any accessories.
- ❑ Check all multi-tap transformers, to insure they are set to the proper incoming voltage.
- ❑ Verify blower wheels are centered. Realign if needed.
- ❑ Prior to energizing the unit, inspect all the electrical connections.
- ❑ Power the unit. Bump the motor relay to check rotation. If blower motor fans are running backwards, de-energize power to the unit, then swap reversing plug on motors to change direction. Re-check.
- ❑ Perform all start up procedures outlined in the installation manual shipped with the unit.
- ❑ Fill in the Start Up Information as outlined on the opposite side of this sheet.
- ❑ Provide owner with information packet. Explain the thermostat and unit operation.

Maintenance Log						
Date	**Technician**	**Changed Filter**	**Checked Supply Blower**	**Checked Return Blower**	**Checked Wheel**	**Notes**