



INSTALLATION INSTRUCTIONS

97B0042N05
Rev.: 15 May, 2015

ENERGY RECOVERY VENTILATOR

SERIES WB, WC, WD, WE, WF, & WG

Installation Instructions For Energy Recovery Wheel (Fixed) For Stand Alone Over/Under Indoor Application



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



ETL Certified per UL 1995 and CSA 22.2

Inspection

Upon receipt of shipment at the job site, carefully check the shipment against the bill of lading. Make sure all units have been received. Inspect the carton or crating housing of each Rooftop Unit and inspect each unit for damage. Assure that the carrier makes proper notation of any shortages or damage on all copies of the freight bill and that he completes a Carrier Inspection Report. Concealed damage not discovered during unloading must be reported to the carrier within 15 days of receipt of shipment. **NOTE: It is the responsibility of the purchaser to file all necessary claims with the carrier.**

Storage

Upon the arrival of equipment at the job site, immediately store units in a clean, dry area. Do not stack units. **Do not remove equipment from pallets until equipment is required for installation.**

Unit Protection

Cover rooftop units on the job site. Cap the open ends of pipes. In areas where painting, plastering, roofing, or the spraying of fireproof material has not been completed, all due precautions must be taken to avoid physical damage to the units and contamination by foreign material. **Physical damage and contamination may prevent proper start-up and may result in costly equipment cleanup.**

Application

Field supplied balancing dampers in duct are recommended.

Recovery Wheel Mode

The Recovery Wheel mode is accomplished by two blowers providing continuous exhaust of stale indoor air and replacement by equal amount of outdoor air. Energy recovery is achieved by slowly rotating the energy recovery wheel within the cassette frame work. In winter, the ERV adsorbs heat and moisture from the exhaust air stream during one half of a complete rotation and gives them back to the cold, drier intake air supply during the other half rotation. In summer, the process is automatically reversed. Heat and moisture are absorbed from incoming fresh air supply and transferred to the exhaust air stream. This process allows outdoor air ventilation rates to be increased by factors of three or more without additional energy penalty or increase in size of heating or air conditioning systems.

Rigging Unit For Lifting

1. Maximum weight 300-1200 lbs. See Physical Data Table.
2. Remove crating.
3. All panels must be in place for rigging.
4. Remove barometric exhaust hood from door marked filter access. Install barometric exhaust hood over exhaust blower outlet.
5. Forklift channels must be removed from the base of ERV.
6. Position unit and provide service access to ERV control access door and wheel.
7. Duct work should be installed into roof curb before installing ERV on curb.
8. Roof curb gasket must be applied to all top surfaces of the curb.
9. Position unit on roof curb and provide service access to ERV control access door and wheel.

⚠ CAUTION! ⚠

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

⚠ WARNING! ⚠

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.

⚠ WARNING! ⚠

WARNING! To avoid equipment damage, do not use these units as a source of heat during the construction process. The mechanical components and filters used in these units will quickly become clogged with construction dirt and debris which may cause system damage.

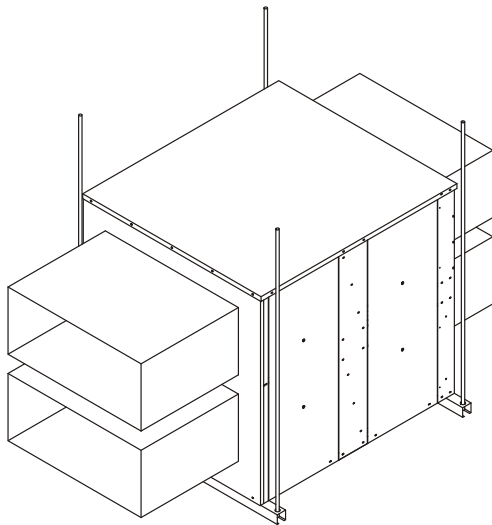
⚠ WARNING! ⚠

WARNING! The installation of water-source heat pumps and all associated components, parts, and accessories which make up the installation shall be in accordance with the regulations of ALL authorities having jurisdiction and MUST conform to all applicable codes. It is the responsibility of the installing contractor to determine and comply with ALL applicable codes, regulations and ANSI/NFPA No. 70

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Installation

1. Attach duct work to duct flanges on ERV.
2. Remove ERV control access panel to connect field wiring.
3. Route class II low voltage wire (3 conductor) from thermostat or energy management through small bushing in end panel of ERV. **See wiring diagram.**
 - a. Thermostat (dependent) - connect in parallel at rooftop unit with "G", "C" and "W". Then connect matching color at terminal 1, 2, and 3 respectively on ERV circuit board.
 - b. Energy Management - provide +24 VAC to "1" and common, 24 VAC to "2" terminals on ERV circuit board.
 - c. Thermostat (dedicated) - splice into +24 vac (blue wire) at (control circuit board) transformer connection run wire to "R" terminal. Then run another wire from "G" terminal to ERV (control circuit board) terminal block #1.
4. All electrical connections must conform to any local codes and current National Electric Codes (NEC) and Canadian Electric Codes (CEC). Refer closely to unit wiring diagram in unit and/or in these instructions for proper wiring connections.
5. Refer to the unit nameplate for minimum circuit ampacity (MCA) and maximum overcurrent protection size (fuse).
6. Electrical data is listed on unit rating plate and motor name plates.
7. Connect line voltage power supply to ERV fuse block in control box of unit from disconnect switch. **See wiring diagram.**

8. Ground unit with a suitable ground connection either through unit supply wiring or an earth ground.

NOTE: Unit voltage entries must be sealed weather tight after wiring is complete.
9. Remove motor access panels. Locate belts fastened to blower assembly. Install belt onto motor and blower pulley. Adjust motor sheave to correct blower RPM for CFM and external static pressure requirements. See charts in this instruction. Multiple pulley arrangements are available to meet the entire range.

⚠ CAUTION! ⚠

CAUTION! Blower speed must be adjusted for the given external static pressure and airflow (CFM) requirements. If blower speed is not adjusted for conditions, possible motor over loading can occur.

10. Replace access panel onto the ERV unit and secure.
11. Restore power to unit.
12. Cleanup once unit is operating properly, caulk any open joints, holes or seams to make the units completely air and water tight.
13. Leave this instruction manual with owner or in an envelope to be kept near unit.

Operation (How It Works)

The unit contains an Energy Recovery Wheel (ERW) that is a new concept in rotary air-to-air heat exchangers. Designed as a packaged unit for ease of installation and maintenance, only the connection of electrical power is required to make the system operational.

When slowly rotating through counter flowing exhaust and fresh air streams the ERW adsorbs sensible heat and latent heat from the warmer air stream and transfer this total energy to the cooler air stream during the second half of its rotating cycle. Rotating at 50-60 revolutions per minute, the wheel provides constant flow of energy from warmer to cooler air stream. The large energy transfer surface and laminar flow through the wheel causes this constant flow of recovered energy to represent up to 85% of the difference in total energy contained within the two air streams.

Sensible and latent heat are the two components of total heat. Sensible heat is energy contained in dry air and latent heat is the energy contained within the moisture of the air. The latent heat load from the outdoor fresh air on an air conditioning system can often be two to three

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times that of the sensible heat load and in the winter it is a significant part of a humidification heat load.

During both the summer and winter, the ERW transfers moisture entirely in the vapor phase. This eliminates wet surfaces that retain dust and promote fungal growth as well as the need for a condensate pan and drain to carry water.

Because it is constantly rotating when in the air stream, the ERV is always being cleaned by air, first in one direction then the other. Because it is always dry, dust or other particles impinging on the surface during one half cycle, are readily removed during the next half cycle.

During the heating season, when outdoor air temperatures are below 15°F, it is recommended to use the (optional) low ambient kit (field installed). Low Ambient Kit is appropriate for climates with limited HVAC system operation when outdoor temperatures are below 10°F.

The frost threshold is the outdoor temperature at which frost will begin to form on the ERV wheel. For Energy Recovery Ventilators, the frost threshold is typically below 10°F. Frost threshold is dependent on indoor temperature and humidity. The table shows how the frost threshold temperatures vary depending on indoor conditions.

FROST THRESHOLD TEMPERATURE	
INDOOR RH AT 70°F	FROST THRESHOLD TEMPERATURE
20%	0°F
30%	5°F
40%	10°F

Because Energy Recovery Ventilators have a low frost threshold, frost control options are not necessary in many climates. Where outdoor temperatures may drop below the frost threshold during the ERV operational hours, exhaust only frost control option is available.

Low Ambient Kit (Optional)

Low Ambient Kit turns off the supply blower when outdoor temperatures fall below the frost threshold. The exhaust only thermostat set points are field adjustable. Supply fan operation is automatically restored when the exhaust air temperature rises above the thermostat set point. Provisions for introducing make-up air into the building when the supply blower is off to avoid depressurization should be considered.

Recovery Wheel Mode

On a thermostat call for blower operation in heating, cooling or continuous blower, the ERW will rotate between fresh air and exhaust air streams. Both the fresh air and exhaust air blowers will also be operating to overcome the air resistance of the ERV.

System Check

1. Disconnect main power.
2. Turn to “Cont” for blower operation on thermostat controlled models.
3. Restore power to unit. Observe ERV wheel rotation and both fresh air and exhaust air blowers will operating.

NOTE: If Low ambient kit is used the jumper between TB37-5 & TB37-6 should be removed. Also if system check out is being conducted at low ambient temperatures, technician should be aware that this kit can cause system not to operate.

4. Verify that the ERV (3) three phase blower motors are phased sequentially ensuring correct rotation and operation.
 - a. Disconnect power.
 - b. Reverse any two field power leads to the ERV.
 - c. Reapply power.
5. Verify that both blower motors are operating under their full load AMP rating (FLA). The FLA can be found on each motor and the unit nameplate.

A. Return Damper Settings

Manually adjust position of field installed dampers to balance air flow.

B. Air Flow / Blower Speed Adjustment

Blower speed selection is accomplished by changing the sheave setting on both fresh air and exhaust air blowers. To set ERV for the required air flow (CFM), the external static pressure applied to the ERV (duct static) must be known. See the CFM vs External Static Pressure chart for the appropriate unit to determine the correct blower RPM for the specified CFM and External Static Pressure.

After blower speed adjustments have been made. Ensure that when the belt is replaced it is tensioned correctly. The motor mounting plate can be adjusted to tension the belt. If using a belt tension checker, adjust the span to the appropriate setting and check the belt deflection force. The belt deflection force should be between 5-8 lbs or the lowest tension at which the belt will not slip under peak

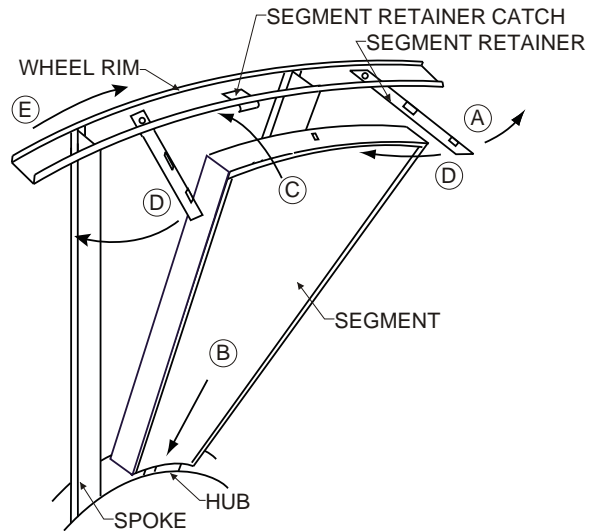
load conditions.

1. Disconnect main power to unit before making adjustment to economizer and/or ERV unit.
2. Replace ERV control access cover.
3. Set thermostat to normal operating position.
4. Restore power to unit.

Maintenance

1. All motors use pre-lubricated sealed bearings; no further lubrication is necessary.
2. Make visual inspection of motors, belts and wheel rotating bearings during routine maintenance.
3. Eight pie-shaped segments, are seated on stops between the segment retainer which pivots on the wheel rim and secured to the hub and rim of wheel. Annual inspection of the self cleaning wheel is recommended. With power disconnected, remove ERV access panels (rear) and unplug [J150 & P150] **(Refer to wiring diagram in this instruction manual)**. Remove segment and wash with water and/or mild detergent.
4. To install wheel segments follow steps A through E . **See Figure 1**. Reverse procedure for segment removal.
 - A. Unlock two segment retainers (one on each side of the selected segment opening).
 - B. With the embedded stiffener facing the motor side, insert the nose of the segment between the hub plates.
 - C. Holding segment by the two outer corners, press the segment towards the center of the wheel and inwards against the spoke flanges. If hand pressure does not fully seat the segment, insert the flat tip of a screw driver between the wheel rim and outer corners of the segment and apply downward force while guiding the segment into place.
 - D. Close and latch each segment retainer under segment retaining catch.
 - E. Slowly rotate the wheel 180°. Install the second segment opposite the first for counterbalance. Rotate the two installed segments 90° to balance the wheel while the third segment is installed. Rotate the wheel 180° again to install the fourth segment opposite the third. Repeat this sequence with the remaining four segments.

Figure 1



static settings. To install a pulley kit.

1. Check content of pulley kit, if pulley kit contains:
 - a. An adjustable sheave and a fixed pitch pulley then remove belt and both motor and blower pulley
 - b. An adjustable sheave then remove the motor pulley.
 - c. A fixed pitch pulley then remove the blower pulley.
2. Replace pulley(s) with the pulley(s) from pulley kit. Make sure each pulley is installed with a key. Tighten the set screw on the pulley(s) to 100 in.lb.
3. Install the belt that came with the pulley kit. Tension belt as explained in the blower speed adjustment section.
4. Check the speed of the blower. Adjust the motor sheave to increase or decrease the speed of the blower. See blower adjustment section.

Pulley Kit Installation

The units are shipped from the factory at the low static setting. Pulley kits are available for the medium and high

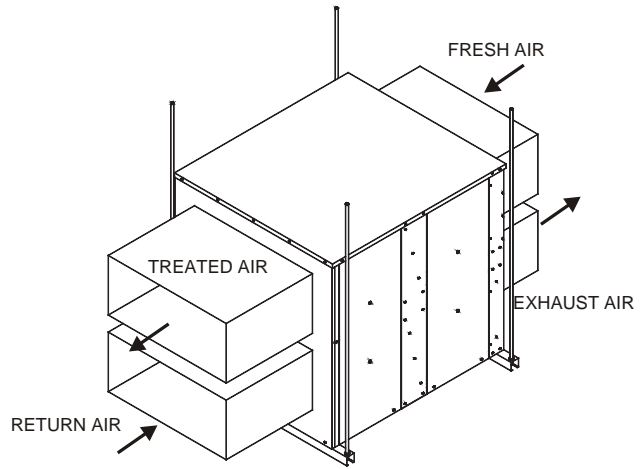
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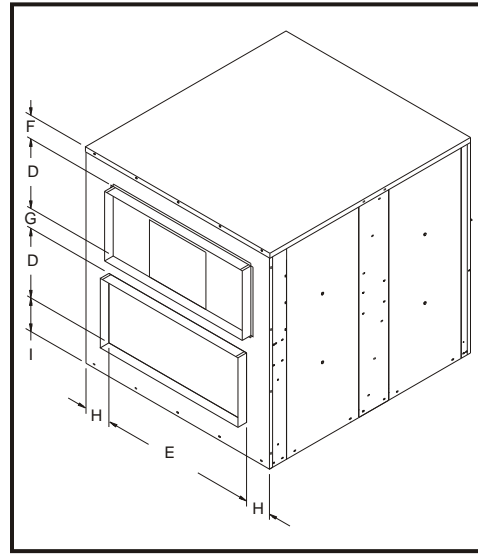
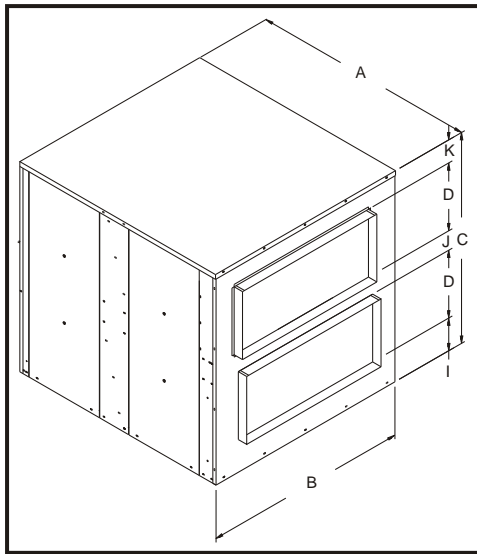
W Series Stand Alone ERV's for Over and Under Indoor Application

Features and Notes:

1. Stand alone design allows higher levels of outdoor air to be introduced into the conditioned space.
2. Static test ports provided to verify intake and exhaust CFM.
3. Balancing damper(s) is field provided when connected to ductwork. System may not operate properly without balancing damper.
4. See blower performance charts for airflow at various E.S.P.
5. Filter rack with 2" pleated filters included.

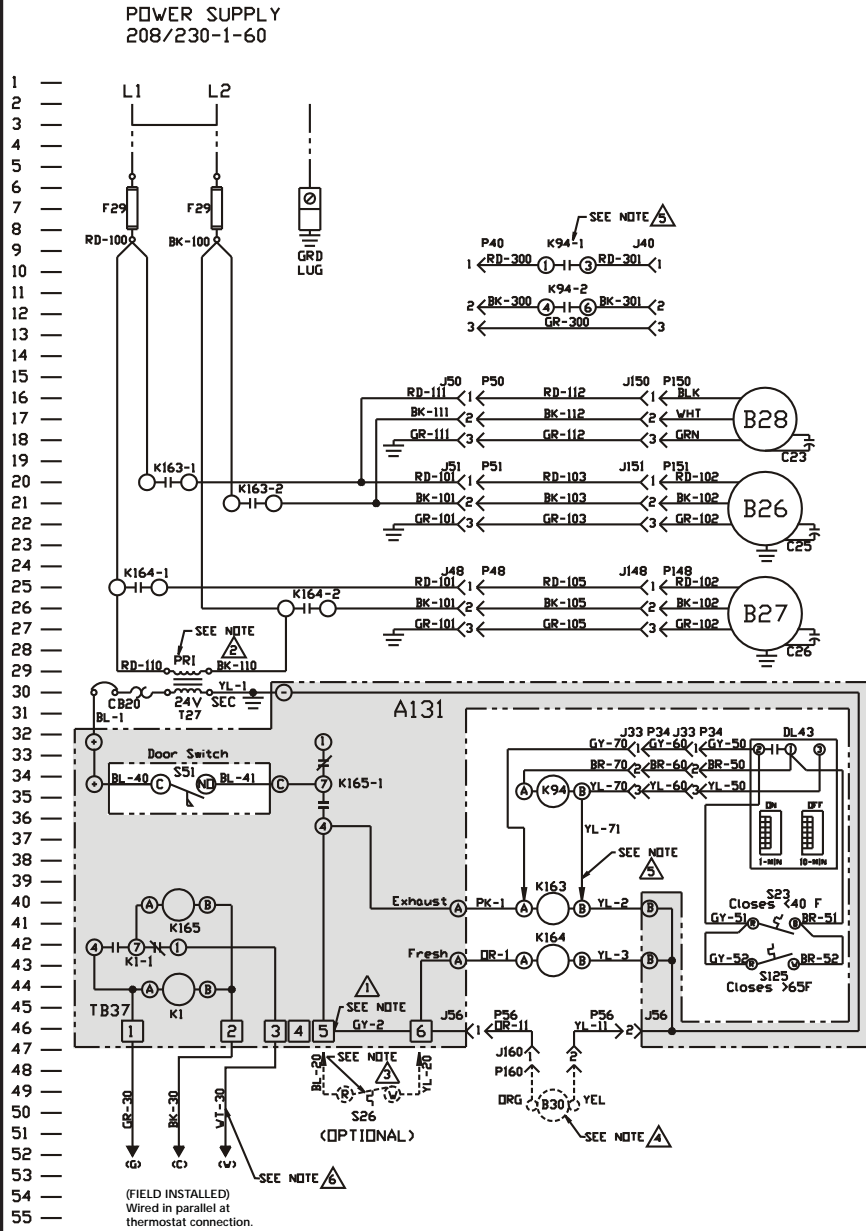


ERV with Horizontal Ductwork
(balancing damper(s) field supplied)



ERV Data		Dimensional Data										
ERV Series	CFM Range	A	B	C	D	E	F	G	H	I	J	K
WB	300-1100	56.75	32.13	39.50	11.00	27.00	4.50	10.00	2.56	1.00	10.00	4.50
WC	1200-2000	54.38	37.25	37.50	12.00	30.00	8.00	4.00	3.63	1.50	7.00	5.00
WD	1200-2800	60.00	42.62	43.56	14.00	32.00	9.56	4.50	5.31	1.50	8.81	5.25
WE	2000-3600	60.00	46.69	57.37	16.50	39.50	12.13	6.38	3.59	5.88	11.75	6.75
WF	3000-4600	60.00	52.69	57.37	16.50	39.50	12.13	6.38	6.59	5.88	11.75	6.75
WG	4600-6200	72.00	70.88	63.63	19.50	39.50	12.13	6.50	15.69	5.88	12.00	6.75

ERV UNIT SCHEMATIC DIAGRAM



COMPONENT CODE	
A131	Fixed Relay Board
B26	Motor, Exhaust Air
B27	Motor, Fresh Air
B28	Motor, Desiccant Wheel
B30	Motor, Damper (Optional)
C23	Capacitor, Wheel Motor
C25	Capacitor, Exhaust Air
C26	Capacitor, Fresh Air
DL43	Delay, Cycle Timer (Optional)
F29	Fuse
J33	Jack, Cycle Control (Optional)
J34	Jack, Cycle Control Harness (Optional)
J40	Jack, Cycle (Optional)
J48	Jack, Control Box (Fresh Air)
J50	Jack, Control Box (Wheel)
J51	Jack, Control Box (Exhaust Air)
J56	Jack, Control Box (Damper)
J148	Jack, Fresh Air Motor Harness
J150	Jack, Wheel Motor Harness
J151	Jack, Exhaust Air Motor Harness
J160	Jack, Damper Motor Harness
K94	Relay, On/O (Optional)
K163	Contactors, Exhaust Air Motor
K164	Contactors, Fresh Air Motor
P33	Plug, Cycle Control (Optional)
P34	Plug, Cycle Control Harness (Optional)
P40	Plug, Wheel Cycle (Optional)
P48	Plug, Fresh Air Motor Harness
P50	Plug, Wheel Motor Harness
P51	Plug, Exhaust Air Motor Harness
P56	Plug, Damper Motor Harness
P148	Plug, Fresh Air Motor
P150	Plug, Wheel Motor
P151	Plug, Exhaust Air Motor
P160	Plug, Damper Motor
S23	Thermostat - Low Ambient (Optional)
S26	Switch, Low Ambient (Optional)
S51	Switch, Door
S125	Switch, Ambient Override (Optional)
T27	T27 Transformer, Control
T28	T28 Transformer, Step-down (Optional)
WIRE COLOR	
BK	Black
BL	Blue
GR	Green
GY	Gray
OR	Orange
PK	Pink
RD	Red
WH	White
YL	Yellow

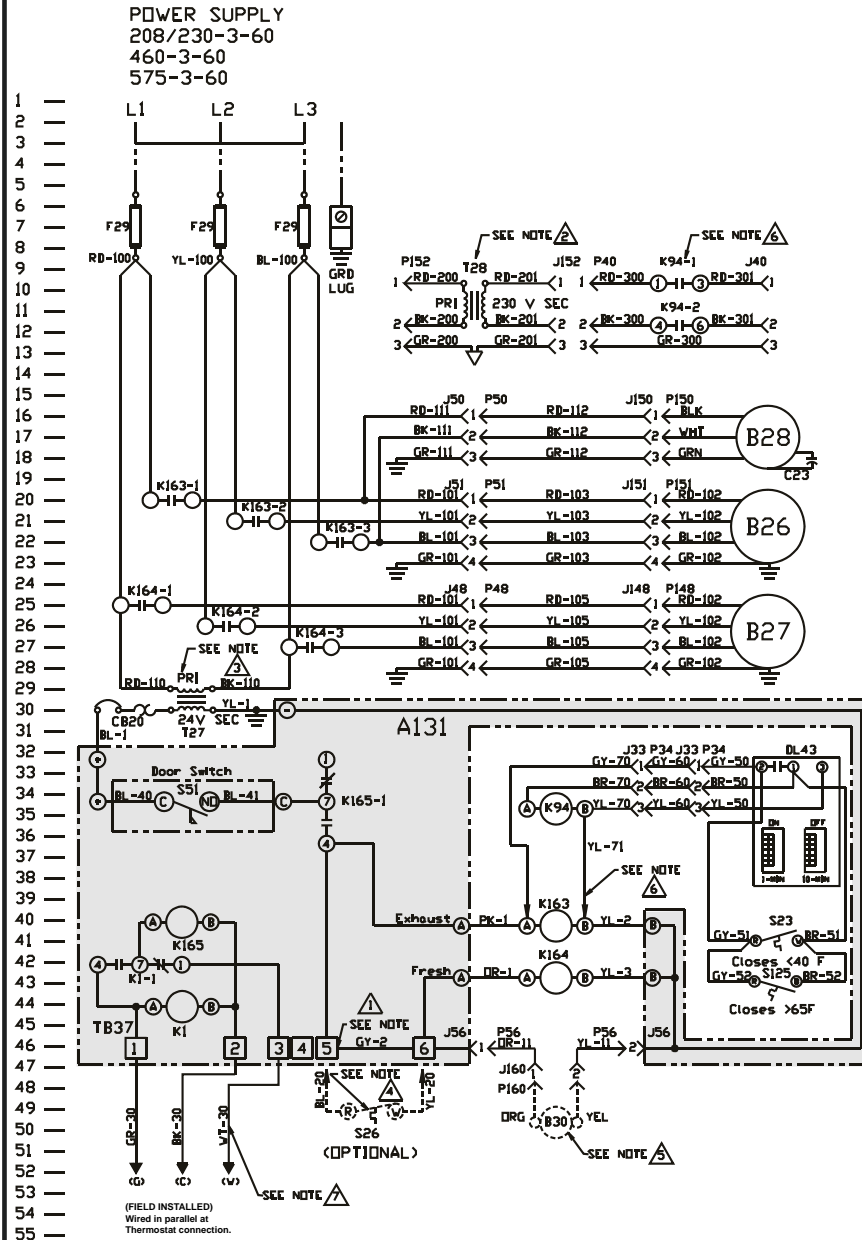
- Notes:
1. Remove jumper to install field optional low ambient switch.
 2. Selective voltage terminals for proper unit voltage.
 3. Optional low ambient switch.
 4. Optional motorized intake damper.
 5. Optional Stop, Start and Jog Control.
 6. For energy management systems connect +24v to "G" and common 24v to "C".

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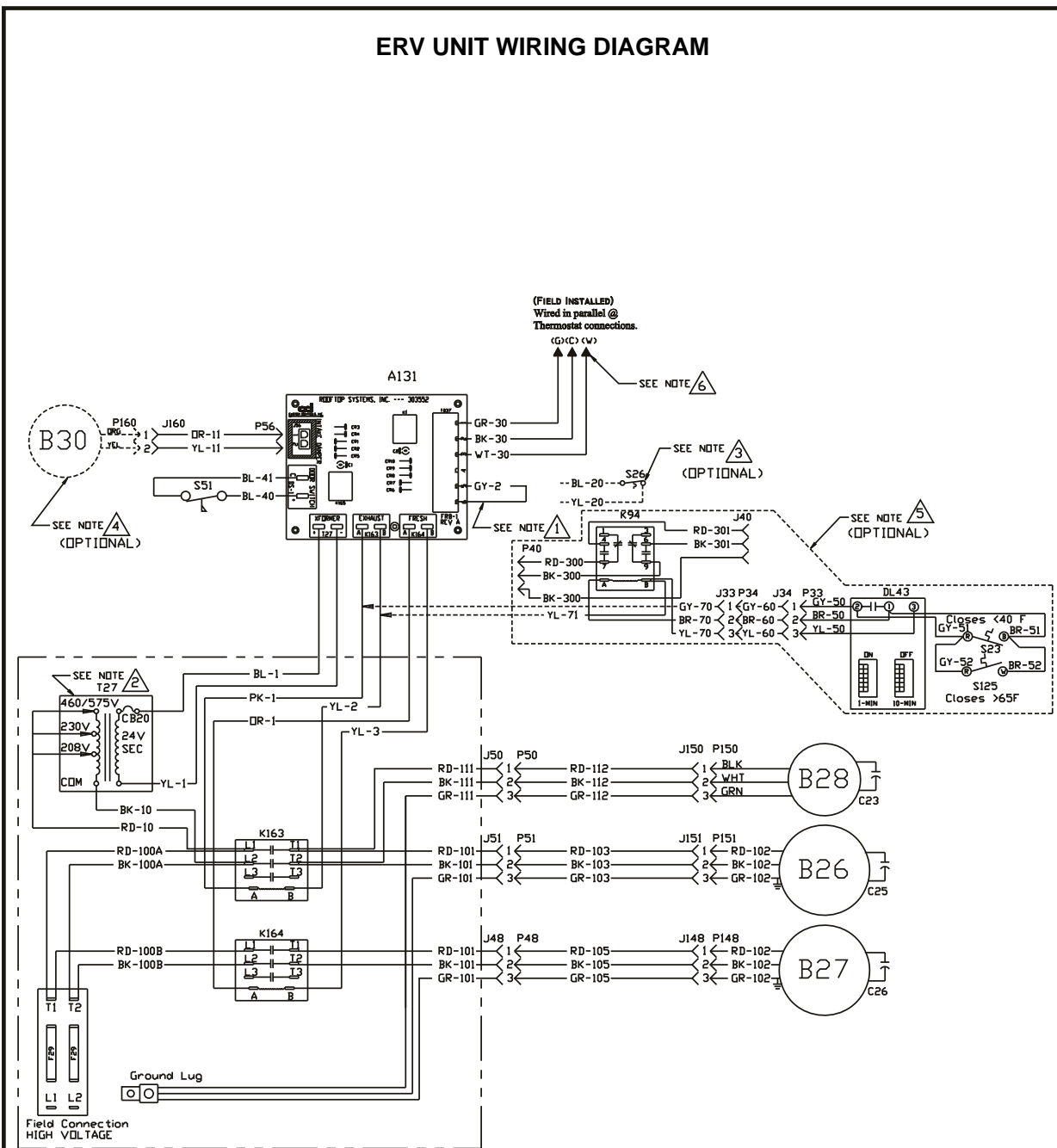
ERV UNIT SCHEMATIC DIAGRAM



COMPONENT CODE	
A131	Fixed Relay Board
B26	Motor, Exhaust Air
B27	Motor, Fresh Air
B28	Motor, Desiccant Wheel
B30	Motor, Damper (Optional)
C23	Capacitor, Wheel Motor
DL43	Delay, Cycle Timer (Optional)
F29	Fuse
J33	Jack, Cycle Control (Optional)
J34	Jack, Cycle Control Harness (Optional)
J40	Jack, Cycle (Optional)
J48	Jack, Control Box (Fresh Air)
J50	Jack, Control Box (Wheel)
J51	Jack, Control Box (Exhaust Air)
J56	Jack, Control Box (Damper)
J148	Jack, Fresh Air Motor Harness
J150	Jack, Wheel Motor Harness
J151	Jack, Exhaust Air Motor Harness
J152	Jack, Transformer (High Voltage)
J160	Jack, Damper Motor Harness
K94	Relay, On/Off (Optional)
K163	Contactors, Exhaust Air Motor
K164	Contactors, Fresh Air Motor
P33	Plug, Cycle Control (Optional)
P34	Plug, Cycle Control Harness (Optional)
P40	Plug, Wheel Cycle (Optional)
P48	Plug, Fresh Air Motor Harness
P50	Plug, Wheel Motor Harness
P51	Plug, Exhaust Air Motor Harness
P56	Plug, Damper Motor Harness
P148	Plug, Fresh Air Motor
P150	Plug, Wheel Motor
P151	Plug, Exhaust Air Motor
P152	Plug, Transformer (High Voltage)
P160	Plug, Damper Motor
S23	Thermostat - Low Ambient (Optional)
S26	Switch, Low Ambient (Optional)
S51	Switch, Door
S125	Switch, Ambient Override (Optional)
T27	Transformer, Control
T28	Transformer, Step-down (Optional)
WIRE COLOR	
BK	Black
BL	Blue
GR	Green
GY	Gray
OR	Orange
PK	Pink
RD	Red
WH	White
YL	Yellow

208/230-3-60
460-3-60
575-3-60

ERV UNIT WIRING DIAGRAM



Notes:

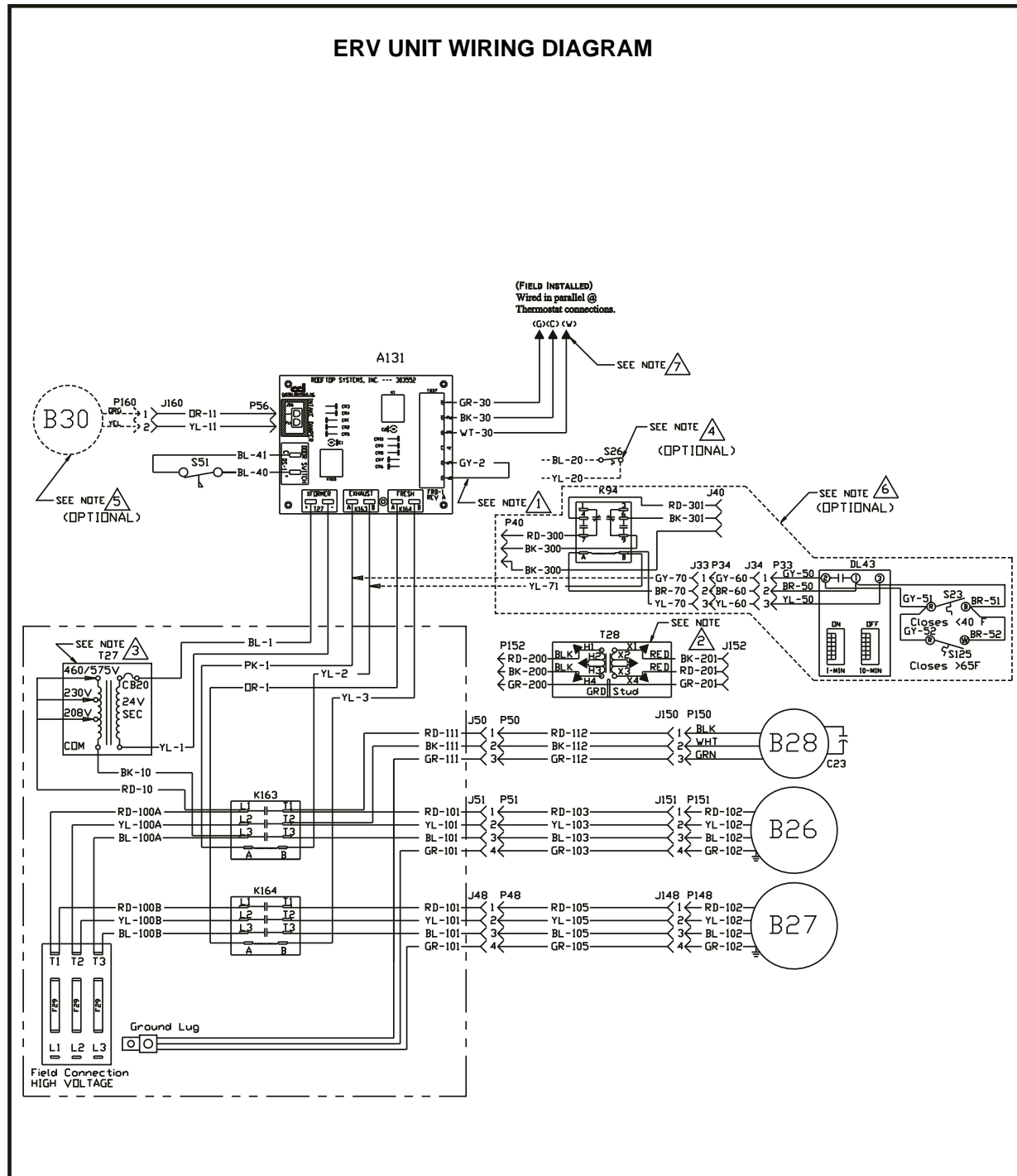
1. Remove jumper to install field optional low ambient switch.
2. Selective voltage terminals for proper unit voltage.
3. Optional low ambient switch.
4. Optional motorized intake damper.
5. Optional Stop, Start and Jog Control.
6. For energy management systems connect +24v to "G" and common 24v to "C".

Desiccant Wheel for Roof top Unit
208-230V (1 PH)

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ERV UNIT WIRING DIAGRAM



- Notes:
1. Remove jumper to install field optional low ambient switch.
 2. Step-down transformer assembly for 460/575 volt units.
 3. Selective voltage terminals for proper unit volt age.
 4. Optional low ambient switch.
 5. Optional motorized intake damper.
 6. Optional Stop, Start and Jog Control.
 7. For energy management systems connect +24v to "G" and common 24v to "C".

Desiccant Wheel for Roof top Unit
208-230/460/575V (3 PH)

Blower RPM for WB

SUPPLY

		Mist Eliminator Filter in Intake Hood (1.5HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	N/A	980	1065	1320	1400	1520
	500	N/A	905	1050	1215	1360	1495	1595
	700	865	1035	1210	1330	1440	1535	1620
	900	1030	1205	1325	1435	1530	1615	1725
	1100	1200	1320	1430	1525	1605	1720	1800

EXHAUST

		Barometric Hood, 2" Pleated Filters (1.5HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	300	N/A	815	1030	1185	1305	1450	1535
	500	N/A	950	1075	1220	1375	1490	1610
	700	810	1070	1195	1295	1445	1510	1645
	900	995	1125	1290	1405	1500	1600	1690
	1100	1120	1280	1400	1495	1595	1685	1770

Notes:

1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions
3. Blower RPMs are for reference only

RPM Range			
	Low	1000-1300	Standard Unit
	Medium	1300-1750	Optional Kit
	High	1750-2200	Optional Kit

Blower RPM for WC

SUPPLY

		Mist Eliminator Filter in Intake Hood (2HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	990	1075	1220	1380	1480	1605	1720
	1400	1030	1165	1280	1410	1520	1620	1740
	1600	1135	1250	1340	1445	1570	1665	1760
	1800	1240	1330	1425	1550	1625	1720	1785
	2000	1295	1405	1540	1615	1705	1760	1830

EXHAUST

		Barometric Hood, 2" Pleated Filters (2HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	900	1085	1235	1380	1495	1585	1680
	1400	1050	1220	1345	1490	1535	1630	1715
	1600	1205	1335	1430	1520	1625	1705	1790
	1800	1315	1425	1510	1580	1655	1775	1850
	2000	1390	1490	1570	1650	1735	1750	N/A

Notes:

1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions
3. Blower RPMs are for reference only

RPM Range			
	Low	1000-1300	Standard Unit
	Medium	1300-1700	Optional Kit
	High	1700-2080	Optional Kit

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Blower RPM for WD

SUPPLY

		Mist Eliminator Filter in Intake Hood (3HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	900	1045	1135	1255	1395	1410
	1600	880	1035	1130	1245	1385	1405	1450
	2000	1045	1145	1235	1325	1400	1440	1555
	2400	1135	1300	1375	1435	1505	1550	1590
	2800	1295	1365	1435	1515	1580	1625	1695

EXHAUST

		Barometric Hood, 2" Pleated Filters (3HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	1200	N/A	955	1075	1185	1285	1355	1495
	1600	945	1055	1175	1265	1335	1445	1635
	2000	1045	1170	1330	1395	1440	1570	1695
	2400	1210	1325	1435	1510	1580	1620	1675
	2800	1315	1475	1500	1595	1710	1755	1790

Notes:

1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions
3. Blower RPMs are for reference only

RPM Range		
Low	950-1320	Standard Unit
Medium	1325-1565	Optional Kit
High	1570-1880	Optional Kit

Blower RPM for WE

SUPPLY

		Mist Eliminator Filter in Intake Hood (3HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	735	860	920	1005	1075	1150	1220
	2400	850	945	1030	1090	1110	1215	1265
	2800	935	1020	1080	1145	1200	1255	1335
	3200	1015	1075	1105	1195	1285	1325	1380
	3600	1065	1125	1220	1305	N/A	N/A	N/A

EXHAUST

		Barometric Hood, 2" Pleated Filters (3HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	2000	740	855	930	970	1080	1155	1240
	2400	800	925	1015	1075	1145	1225	1280
	2800	885	1010	1070	1140	1235	1255	1330
	3200	950	1065	1135	1230	1290	1325	N/A
	3600	1055		1235	1280	1310	N/A	N/A

Notes:

1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions
3. Blower RPMs are for reference only

RPM Range		
Low	700-1025	Standard Unit
Medium	1030-1305	Optional Kit
High	1325-1575	Optional Kit

Blower RPM for WF

SUPPLY

		Mist Eliminator Filter in Intake Hood (5HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	840	990	1065	1135	1215	1265	1335
	3400	875	1060	1130	1205	1255	1320	1385
	3800	1015	1120	1200	1245	1315	1365	1450
	4200	1080	1195	1240	1350	1395	1445	1510
	4600	1120	1200	1315	1380	1460	1515	1560

EXHAUST

		Barometric Hood, 2" Pleated Filters (5HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	3000	850	995	1065	1135	1220	1270	1335
	3400	925	1060	1130	1225	1265	1330	1375
	3800	1020	1120	1220	1285	1325	1370	1430
	4200	1100	1215	1280	1345	1400	1435	1480
	4600	1150	1275	1340	1415	1475	1520	1565

Notes:

1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions
3. Blower RPMs are for reference only

RPM Range			
	Low	780-1020	Standard Unit
	Medium	1000-1315	Optional Kit
	High	1315-1700	Optional Kit

Blower RPM for WG

SUPPLY

		Mist Eliminator Filter in Intake Hood (5HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	795	900	960	1010	1090	1135	1165
	5000	835	945	1000	1060	1135	1155	1230
	5400	895	985	1040	1130	1155	1220	1265
	5800	940	1025	1085	1145	1225	1250	1300
	6200	990	1070	1105	1210	1245	1290	N/A

EXHAUST

		Barometric Hood, 2" Pleated Filters (5HP)						
		External Static Pressure (in water)						
		0	0.25	0.5	0.75	1	1.25	1.5
CFM	4600	780	910	900	1045	1085	1135	1185
	5000	825	945	1015	1075	1125	1180	1230
	5400	890	990	1065	1105	1170	1220	1270
	5800	940	1025	1085	1165	1215	1250	1310
	6200	980	1060	1150	1205	1235	1305	N/A

Notes:

1. Drive losses included in the above tables.
2. Performance can vary depending on ambient conditions
3. Blower RPMs are for reference only

RPM Range			
	Low	700-900	Standard Unit
	Medium	900-1100	Optional Kit
	High	1100-1300	Optional Kit

W (ERV) Series

Rev.: 15 May, 2015



**CLIMATE MASTER, INC.
LIMITED EXPRESS WARRANTY/LIMITATION OF REMEDIES AND LIABILITY**

It is expressly understood that unless a statement is specifically identified as a warranty, statements made by Climate Master, Inc., a Delaware corporation, ("CM") or its representatives, relating to CM's products, whether oral, written or contained in any sales literature, catalog or any other agreement, are not express warranties and do not form a part of the basis of the bargain, but are merely CM's opinion or commendation of CM's products.

EXCEPT AS SPECIFICALLY SET FORTH HEREIN, THERE IS NO EXPRESS WARRANTY AS TO ANY OF CM'S PRODUCTS. CM MAKES NO WARRANTY AGAINST LATENT DEFECTS. CM MAKES NO WARRANTY OF MERCHANTABILITY OF THE GOODS OR OF THE FITNESS OF THE GOODS FOR ANY PARTICULAR PURPOSE.

GRANT OF LIMITED EXPRESS WARRANTY

CM warrants CM products purchased and retained in the United States of America and Canada to be free from defects in material and workmanship under normal use and maintenance as follows: (1) All complete air conditioning, heating and/or heat pump units built or sold by CM for twelve (12) months from date of unit start up or eighteen (18) months from date of shipment (from factory), whichever comes first; (2) Repair and replacement parts, which are not supplied under warranty, for ninety (90) days from date of shipment (from factory). All parts must be returned to CM's factory in Oklahoma City, Oklahoma, freight prepaid, no later than sixty (60) days after the date of the failure of the part; If CM determines the part to be defective and within CM's Limited Express Warranty, CM shall, when such part has been either replaced or repaired, return such to a factory recognized dealer, contractor or service organization, F.O.B. CM's factory, Oklahoma City, Oklahoma, freight prepaid. The warranty on any parts repaired or replaced under warranty expires at the end of the original warranty period.

This warranty does not cover and does not apply to: (1) Air filters, fuses, refrigerant, fluids, oil; (2) Products relocated after initial installation; (3) Any portion or component of any system that is not supplied by CM, regardless of the cause of the failure of such portion or component; (4) Products on which the unit identification tags or labels have been removed or defaced; (5) Products on which payment to CM is or has been in default; (6) Products which have defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, fire, flood, alteration or misapplication of the product; (7) Products which have defects or damage which result from a contaminated or corrosive air or liquid supply, operation at abnormal temperatures, or unauthorized opening of refrigerant circuit; (8) Mold, fungus or bacteria damages; (9) Products subjected to corrosion or abrasion; (10) Products manufactured or supplied by others; (11) Products which have been subjected to misuse, negligence or accidents; (12) Products which have been operated in a manner contrary to CM's printed instructions; or (13) Products which have defects, damage or insufficient performance as a result of insufficient or incorrect system design or the improper application of CM's products.

CM is not responsible for: (1) The costs of any fluids, refrigerant or other system components, or associated labor to repair or replace the same, which is incurred as a result of a defective part covered by CM's Limited Express Warranty; (2) The costs of labor, refrigerant, materials or service incurred in removal of the defective part, or in obtaining and replacing the new or repaired part; or, (3) Transportation costs of the defective part from the installation site to CM or of the return of any part not covered by CM's Limited Express Warranty.

Limitation: This Limited Express Warranty is given in lieu of all other warranties. If, notwithstanding the disclaimers contained herein, it is determined that other warranties exist, any such warranties, including without limitation any express warranties or any implied warranties of fitness for particular purpose and merchantability, shall be limited to the duration of the Limited Express Warranty.

LIMITATION OF REMEDIES

In the event of a breach of the Limited Express Warranty, CM will only be obligated at CM's option to repair the failed part or unit or to furnish a new or rebuilt part or unit in exchange for the part or unit which has failed. If after written notice to CM's factory in Oklahoma City, Oklahoma of each defect, malfunction or other failure and a reasonable number of attempts by CM to correct the defect, malfunction or other failure and the remedy fails of its essential purpose, CM shall refund the purchase price paid to CM in exchange for the return of the sold goods(s). Said refund shall be the maximum liability of CM. **THIS REMEDY IS THE SOLE AND EXCLUSIVE REMEDY OF THE BUYER OR THEIR PURCHASER AGAINST CM FOR BREACH OF CONTRACT, FOR THE BREACH OF ANY WARRANTY OR FOR CM'S NEGLIGENCE OR IN STRICT LIABILITY.**

LIMITATION OF LIABILITY

CM shall have no liability for any damages if CM's performance is delayed for any reason or is prevented to any extent by any event such as, but not limited to: any war, civil unrest, government restrictions or restraints, strikes or work stoppages, fire, flood, accident, shortages of transportation, fuel, material, or labor, acts of God or any other reason beyond the sole control of CM. **CM EXPRESSLY DISCLAIMS AND EXCLUDES ANY LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGE IN CONTRACT, FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, OR IN TORT, WHETHER FOR CM'S NEGLIGENCE OR AS STRICT LIABILITY.**

OBTAINING WARRANTY PERFORMANCE

Normally, the contractor or service organization who installed the products will provide warranty performance for the owner. Should the installer be unavailable, contact any CM recognized dealer, contractor or service organization. If assistance is required in obtaining warranty performance, write or call:

Climate Master, Inc. • Customer Service • 7300 S.W. 44th Street • Oklahoma City, Oklahoma 73179 (405) 745-6000

NOTE: Some states or Canadian provinces do not allow limitations on how long an implied warranty lasts, or the limitation or exclusions of consequential or incidental damages, so the foregoing exclusions and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and from Canadian province to Canadian province.

Please refer to the CM Installation, Operation and Maintenance Manual for operating and maintenance instructions.



LC083

Rev.: 11/09

W (ERV) Series

Rev.: 15 May, 2015

Notes

W (ERV) Series

Rev.: 15 May, 2015

Revision History

Date:	Item:	Action:
05/15/15	All	Changed Series U to W
05/01/15	All	Changed Series N to U
04/04/14	Logos - page 1 & 16	Updated
11/21/13	Created	



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7300 S.W. 44th Street
 Oklahoma City, OK 73179
 Phone: 405-745-6000
 Fax: 405-745-6058
 climatemaster.com

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