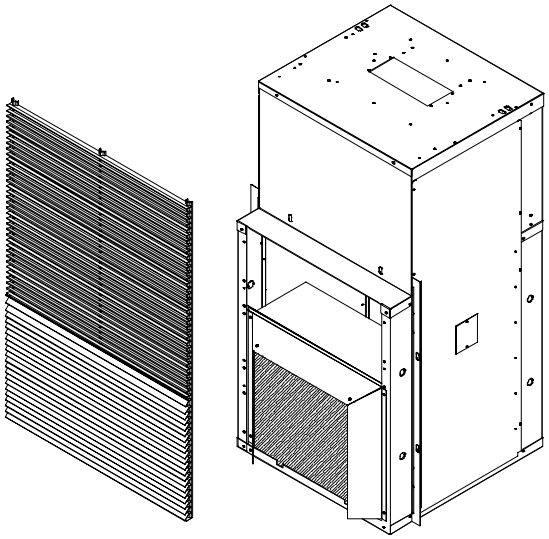
VRAC/VRHP

SINGLE PACKAGE VERTICAL AIR CONDITIONER AND HEAT PUMP FOR REPLACEMENT OF CARRIER 50QT/ET SERIES

9,000 - 12,000 - 15,000 - 17,000 BTU/H
COOLING ONLY/LIMITED RANGE HEAT PUMP
P/N# 240-4157, REV. 1.1 [02/03]

INSTALLATION, OPERATION, AND SPECIFICATION MANUAL



PRODUCT DESCRIPTION

THE VRAC/VRHP SINGLE PACKAGE VERTICAL AIR CONDITIONER/LIMITED RANGE HEAT PUMP (SEE PAGE 5) OFFERS LOW COST OPERATION AND QUIET, COMFORTABLE AIR DISTRIBUTION, ESPECIALLY WHEN USED IN MULTI-ROOM SUITES, APARTMENTS, HEALTHCARE FACILITIES, AND HOMES. FRAMED INTO AN EXISTING CLOSET ENCLOSURE FOR LOW OPERATING SOUND LEVELS, THE UNIT'S VERTICAL DISCHARGE VENT ALLOWS DUCTING TO THE TOP OF THE ROOM(S) FOR SUPERIOR AIR CIRCULATION AND DISTRIBUTION. MULTIPLE AIR SUPPLY GRILLES CAN DISTRIBUTE AIR WHEN USED WITH A SOFFIT AND INTAKE GRILLES CAN BE LOCATED IN FRONT OF THE EVAPORATOR COIL OR RETURN AIR CAN COME THROUGH THE BOTTOM OF THE EXISTING ENCLOSURE IF A MINIMUM OF FOUR INCHES IS MAINTAINED BETWEEN THE EVAPORATOR COIL AND THE ENCLOSURE. THE VRAC/VRHP COMES WITH A FILTER RACK AND A STANDARD REPLACEABLE FIBERGLASS AIR FILTER.

THE VRAC/VRHP OFFERS AN ECONOMIC BENEFIT WHEN USED IN A MULTI-ROOM SUITE BY SUPPLYING CONDITIONED AIR TO MORE THAN ONE ROOM WITHOUT THE NEED TO INSTALL ANOTHER PTAC/PTHP. THIS IS ALSO A DESIGN ADVANTAGE SINCE THE SECOND ROOM DOES NOT NEED AN EXTERIOR WALL FOR A SECOND UNIT.

THE CABINET IS CONSTRUCTED WITH HEAVY GAUGE GALVANIZED STEEL WITH A G-90U CORROSION RESISTANT RATING. THE UNIT IS DESIGNED WITH SERVICEABILITY FROM THE FRONT (EVAP COIL) SIDE. THE INSULATED TOP DISCHARGE EVAPORATOR COMPARTMENT PROVIDES QUIET DUCTED, CONDITIONED AIR DELIVERY TO OTHER ROOM LOCATION(S).

THE VRAC/VRHP CAN BE USED TO REPLACE THE CARRIER 50QT/ET SERIES PTAC AND OLDER VERTICAL PTACS FROM OTHER MANUFACTURERS IF CERTAIN FIELD MODIFICATIONS ARE MADE. SEE INSTALLATION SECTION OR CONSULT FACTORY FOR MORE INFORMATION.

CONDENSER LOUVER REPLACEMENT

WHILE THE EXISTING CARRIER WALL SLEEVE CAN BE RETAINED IN EVERY APPLICATION WHERE THE REPLACEMENT CAPACITY IS 9K-17K, THE CONDENSER LOUVER NEEDS TO BE ADDRESSED.

! WARNING !
IT IS CRITICAL TO IDENTIFY THE EXISTING CONFIGURATION OF YOUR CARRIER SERIES CONDENSER LOUVER!!

THERE ARE THREE CONDENSER LOUVERS THAT EXIST FOR THE CARRIER 50 QT/ET IN THE FIELD TODAY. IF YOU HAVE THE "ALUMINUM VERTICAL BAR" TYPE LOUVER WITHOUT A METAL OR PLASTIC BLOCKOFF *(FIGURE ONE)*, NO MODIFICATION IS REQUIRED.

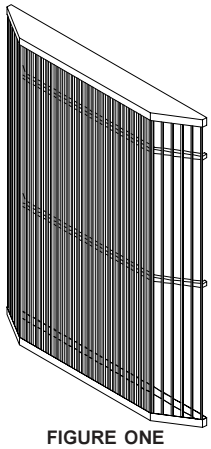
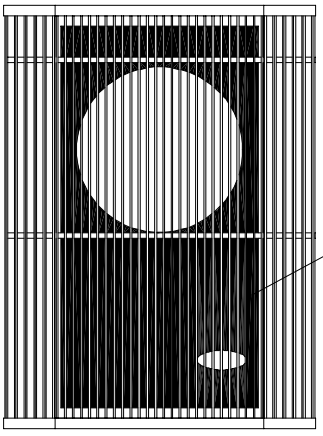


FIGURE ONE

IF YOU HAVE THE "ALUMINUM VERTICAL BAR" TYPE LOUVER WITH A METAL OR PLASTIC BLOCKOFF *(FIGURE TWO)*, THE BLOCKOFF NEEDS TO BE REMOVED IN ORDER FOR THE LOUVER TO FUNCTION WITH THE VRAC/VRHP REPLACEMENT UNIT.



REMOVING THE METAL OR PLASTIC BLOCKOFF USUALLY ONLY REQUIRES DRILLING OUT A FEW POP RIVETS AND IS GENERALLY AN EASY TASK.

FIGURE TWO

IF YOU HAVE THE "STAMPED SHEET METAL" LOUVER *(FIGURE THREE)*, THIS LOUVER MUST BE REMOVED AND REPLACED WITH THE VRAC/VRHP "REPLACEMENT HORIZONTAL BAR" TYPE ARCHITECTURAL LOUVER *(SHOWN ON FRONT PAGE)* OR THE WARRANTY WILL BE VOIDED.

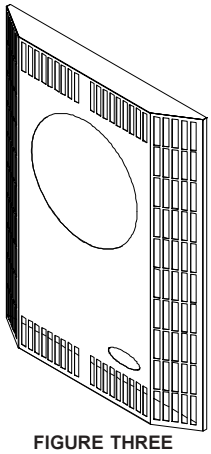


FIGURE THREE

REPLACING THE "STAMPED SHEET METAL" LOUVER IS NECESSARY TO PREVENT CONDENSER DISCHARGE AIR FROM BEING BLOCKED AND CAUSING POSSIBLE DAMAGE TO THE COMPRESSOR. THE VRAC/VRHP REPLACEMENT LOUVER CAN ALSO BE USED IN PLACE OF AN "ALUMINUM VERTICAL BAR" TYPE LOUVER IF DESIRED.

PLEASE ADD THE CONDENSER LOUVER AS A SEPARATE LINE ITEM ON YOUR VRAC/VRHP ORDER. CONTACT YOUR SALES REPRESENTATIVE FOR PRICING AND ANY SPECIFIC LOUVER OPTIONS REQUESTED.

STANDARD CONTROLS AND COMPONENTS

- COOLING OR HEAT PUMP CHASSIS W/HIGH EFFICIENCY ROTARY OR RECIPROCATING TYPE COMPRESSOR
- FRONT MOUNTED CONTROL BOX
- MANUAL FRESH AIR DAMPER (LOCATED ON SERVICE PANEL BELOW EVAPORATOR COIL)
- HOT GAS BYPASS FOR OPERATION IN LOWER AMBIENT CONDITIONS
- MICROPROCESSOR CONTROL BOARD
  - FAN PURGE: FAN REMAINS ON FOR 60 SECONDS AFTER HEAT/COOL CALL IS DROPPED FOR IMPROVED EFFICIENCY (AUTO MODE ONLY)
  - UNIVERSAL CONTROL BOARD: CIRCUIT BOARD CAN BE USED IN EITHER A STRAIGHT COOL ELECTRIC, HYDRONIC HEAT, OR COOLING/HEAT PUMP APPLICATION.
  - ANTI-SHORT CYCLE COMPRESSOR PROTECTION
  - RANDOM START TIMER: PREVENTS MULTIPLE UNITS FROM SIMULTANEOUS START-UPS
  - FREEZE PROTECTION: PREVENTS EVAPORATOR FREEZE UPS
  - LOW AMBIENT LOCKOUT
  - TEST OPERATION: ALLOWS EASE OF TESTING AFTER INSTALLATION (ALL TIMERS ARE ELIMINATED)
  - COMPATIBLE WITH FOSSIL FUEL, ELECTRIC HEAT, MERCURY OR ELECTRONIC THERMOSTATS

OPTIONAL CONTROLS AND COMPONENTS

- HYDRONIC HEAT COIL (CONSULT FACTORY)
- ELECTRIC HEAT COIL
- ANODIZED OR PAINTED OUTDOOR AIR LOUVER
- WALL THERMOSTAT (DIGITAL OR MERCURY BULB)
- POWER DISCONNECT
- EMS MANAGEMENT RELAY

AIR SYSTEMS

MOTORS ARE THERMALLY PROTECTED PSC TYPE. AIR STREAM SURFACES ARE INSULATED WITH 1/4 INCH FIBERGLASS OR 1/8 INCH VOLARA. THE EVAPORATOR FAN IS A FORWARD CURVED TYPE DIRECTLY MOUNTED TO THE MOTOR SHAFT. THE CONDENSER PROPELLER UTILIZES A BLOW-THRU DESIGN FOR IMPROVED EFFICIENCY.

INSPECTION

CAREFULLY CHECK THE SHIPMENT AGAINST THE BILL OF LADING. MAKE SURE THE CHASSIS AND ALL OPTIONS HAVE BEEN RECEIVED. INSPECT EACH COMPONENT FOR DAMAGE. THE CARRIER MUST MAKE PROPER NOTATION ON THE DELIVERY RECEIPT OF ALL DAMAGE IDENTIFIED AND COMPLETE A CARRIER INSPECTION REPORT. CONCEALED DAMAGE MUST BE REPORTED TO THE CARRIER WITHIN 15 DAYS OF RECEIPT OF THE SHIPMENT.

! IMPORTANT !

THE PURCHASER MUST NOTIFY THE EMI TRAFFIC DEPARTMENT OF ALL DAMAGE AND IS RESPONSIBLE FOR FILING ANY NECESSARY CLAIMS WITH THE CARRIER.

INSTALLING THE VRAC/VRHP INTO AN EXISTING WALL SLEEVE/ENCLOSURE

REPLACING ANOTHER MANUFACTURER'S UNIT WITH THE VRAC/VRHP CHASSIS REQUIRES CERTAIN MODIFICATIONS BECAUSE THE UNIT IS BEING INSTALLED INTO AN EXISTING WALL SLEEVE AND ENCLOSURE.

THE INSTALLER IS RESPONSIBLE FOR USING PROPER INSTALLATION PRACTICES WHEN INSTALLING THE VRAC/VRHP IN AN EXISTING WALL SLEEVE AND ENCLOSURE. ENVIROMASTER INTERNATIONAL WILL NOT BE RESPONSIBLE FOR THE INSTALLATION WHEN ACCESSORIES NOT NORMALLY INCLUDED IN OUR INSTALLATION PACKAGE ARE USED .

! IMPORTANT !

FOR PROPER INSTALLATION INTO AN EXISTING WALL SLEEVE/ENCLOSURE, THE FOLLOWING STEPS MUST BE COMPLETED CORRECTLY.

1. ATTACH THE THREE BAFFLES INCLUDED IN THE CHASSIS KIT TO THE BACK OF THE CONDENSER COIL AS SHOWN IN FIGURE FOUR *(BELOW)*.

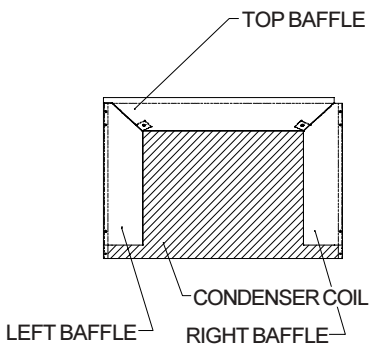


FIGURE FOUR

IF THIS IS NOT DONE AIR RECIRCULATION BETWEEN THE CONDENSER DISCHARGE AND INTAKE CAN RESULT IN PREMATURE COMPRESSOR FAILURE DUE TO CONTINUED OPERATION AT HIGH PRESSURES, AS WELL AS DRAMATICALLY DECREASING THE UNIT'S CAPACITY AND EFFICIENCY FROM RATED VALUES.

2. THE VRAC/VRHP CHASSIS MUST BE LEVEL OR SLIGHTLY PITCHED TO THE OUTDOORS. THIS IS IMPORTANT BECAUSE CONDENSATE MAY CAUSE DAMAGE BY ACCUMULATING AND OVERFLOWING INTO INTERIOR SPACE. FIND THE PROPER POSITION AND KEEP IT PERMANENT BY MECHANICAL MEANS (SCREWING IN PLACE WITH BRACKETS, ETC.). IF MECHANICAL MEANS ARE IMPRACTICAL, SHIMMING THE CHASSIS INTO POSITION (I.E., BY USING A WOODEN PLATFORM) IS ACCEPTABLE. IF THE UNIT IS COMPLETELY REMOVED, IT WILL NEED TO BE RE-LEVELED TO PREVENT FUTURE PROBLEMS.

! IMPORTANT !

CARRIER SERIES APPLICATIONS UTILIZE AN INTERNAL DRAIN SYSTEM DUE TO THE DESIGN OF THE UNIT AND MATCHING WALL SLEEVE. MAKE CERTAIN THAT THE EXISTING DRAIN SYSTEM IS IN WORKING CONDITION AND ABLE TO MOVE CONDENSATE FREELY. THE DESIGN OF THE CARRIER UNIT WAS TO OPERATE A "DRY" CONDENSER AND THAT IS THE DESIGN OF THE RETROAIRE VRAC/VRHP AS WELL.

THE VRAC/VRHP COMES EQUIPPED, AS STANDARD, WITH A CONDENSER BASE PAN THAT HAS A DRAIN STUB OUT THE REAR OF THE BASE PAN AND IT DIRECTS CONDENSATE TO THE DRAIN IN THE EXISTING WALL SLEEVE. IF THE DRAIN IN THE EXISTING WALL SLEEVE IS PLUGGED OR IF YOU WISH TO BYPASS THE DRAIN AND TIE IN SOMEWHERE ELSE (I.E., ALONG THE INSIDE WALL), THE FACTORY MUST BE CONTACTED AND A DIFFERENT BASE PAN MUST BE USED.

AGAIN, IT IS EXTREMELY IMPORTANT THAT THE CHASSIS IS LEVEL OR SLIGHTLY PITCHED TO THE OUTDOORS SO CONDENSATE WILL POSITIVELY FLOW AFTER DRAINING FROM THE PAN. THE INSTALLER IS REQUIRED TO TEST AND CONFIRM THAT CONDENSATE FLOWS INTO THE WALL SLEEVE AND CONTINUES TO FLOW INTO AN INTERNAL DRAIN SYSTEM AS OPPOSED TO GOING BACK INTO THE ROOM. THERE MUST BE AN OPENING IN THE WALL SLEEVE TO ALLOW CONDENSATE TO FLOW INTO AN INTERNAL DRAIN SYSTEM. ENVIROMASTER INTERNATIONAL SUGGESTS POURING WATER IN THE BASE PAN AREA TO CONFIRM HOW IT NATURALLY FLOWS.

3. THERE NEEDS TO BE AN AIRTIGHT SEAL BETWEEN THE CHASSIS AND THE EXISTING WALL SLEEVE ALL THE WAY AROUND THE CONDENSER SECTION. SINCE EVERY APPLICATION MAY BE DIFFERENT, ENVIROMASTER INTERNATIONAL CAN SUGGEST THE PROPER SEALING METHOD FOR THE APPLICATION (EX.- EXPANDABLE FOAM OR CLOSED CELL FOAM). THIS PREVENTS AIR BYPASS AROUND THE CHASSIS THAT WILL EFFECT THE EFFICIENCY, OPERATION, AND RELIABILITY OF THE UNIT. THIS SEAL IS ALSO IMPORTANT TO PREVENT INCLEMENT WEATHER FROM ENTERING THE WALL SLEEVE/INTERIOR OF THE BUILDING.

ELECTRICAL WIRING

! WARNING !

BEFORE ACCESSING THE CONTROL COMPARTMENT, DISCONNECT POWER TO THE UNIT. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR ELECTRICAL SHOCK.

ALL FIELD WIRING MUST BE DONE IN ACCORDANCE TO NEC AND LOCAL CODES. CHECK THE UNIT RATING PLATE FOR CIRCUIT AMPACITY AND BREAKER OR FUSE SIZE. USE ONLY HACR TYPE BREAKERS. SELECT THE PROPER WIRE FOR THE AMPACITY RATING. IF A PLUG AND RECEPTACLE ARE USED CHECK THE PROPER FIT. **THE UNIT IS WIRED FOR 230V PRIMARY VOLTAGE FROM THE FACTORY. THE TRANSFORMER MUST BE REWIRED BY THE INSTALLER IF THE JOBSITE VOLTAGE IS 208V.** EACH VERTICAL STACK UNIT IS EQUIPPED FOR A 24V WALL THERMOSTAT CONNECTION. UNITS ARE SHIPPED WITH A TWENTY FOOT PLENUM RATED THERMOSTAT WIRE UTILIZING A QUICK CONNECT PLUG TO THE UNIT.

INDOOR MOTOR SPEED TAP SELECTION

FOR INFORMATION ON INDOOR MOTOR SPEED TAP SELECTION, PLEASE REFER TO THE "INDOOR MOTOR SPEED TAP SELECTION CHART" LABEL ATTACHED TO THE CHASSIS OF THE VRAC/VRHP.

FIGURE 4- INDOOR MOTOR SPEED TAP SELECTION CHART FOR VRAC/VRHP

UNIT SIZE	ESP	230V	208V	197V
9	0.1	RED	RED	RED
	0.2	RED	RED	BLU
	0.3	RED	BLU	BLU
12	0.1	BLU	BLU	BLU
	0.2	BLU	BLU	BLK
	0.3	BLU	BLK	BLK
15	0.1	BLK	BLK	BLK
	0.2	BLK	BLK	BLK
	0.3	BLK	BLK	BLK
17	0.1	RED	RED	RED
	0.2	RED	BLK	BLK
	0.3	BLK	BLK	BLK

TAP KEY
RED- LOW
BLU- MEDIUM
BLK- HIGH

THE MOTOR COMES FACTORY WIRED FOR THE CORRESPONDING UNITS (9, 12, 15, OR 17) AS DESCRIBED IN THE 230V COLUMN. PLEASE MAKE SPEED TAP CHANGES AS REQUIRED BY JOB SITE VOLTAGE AND/OR EXTERNAL STATIC PRESSURE (E.S.P.) SPEED TAP CHANGES MAY NEED TO BE CHANGED FROM FACTORY SETTINGS AND ENVIROMASTER INTERNATIONAL WILL NOT BE LIABLE FOR ANY SYSTEM PROBLEMS THAT COULD ARISE IF MOTOR SPEED IS NOT CHANGED TO MATCH APPLICATION.

FINAL INSPECTION AND START UP

1. PLUG OR HARD WIRE LINE VOLTAGE POWER TO UNIT.

NOTE: REFER TO UNIT'S RATING PLATE FOR PROPER VOLTAGE AND AMPERAGE/FUSE SIZE.

2. CONNECT LOW VOLTAGE PLUG FROM T'STAT TO UNIT.

3. TURN POWER ON AND CHECK FOR PROPER OPERATION.

! WARNING !

MOVING PARTS CAN CAUSE INJURY SO EXERCISE CAUTION WHEN TESTING THE UNIT!!

HEATING: SET THE WALL THERMOSTAT TO HEAT MODE. SET THE THERMOSTAT ABOVE THE ROOM SETTING. ALLOW SOME TIME FOR HEAT TO COME FROM THE DISCHARGE GRILLES. DO NOT OPERATE UNIT WHEN THE PANELS ARE REMOVED.

COOLING: SET THE WALL THERMOSTAT TO COOL MODE. SET THE THERMOSTAT BELOW THE ROOM TEMPERATURE SETTING AND ALLOW TIME FOR COOL AIR TO COME FROM THE DISCHARGE GRILLES. THE THERMOSTAT CAN BE SET AT THE MOST DESIRED SETTING WITH THE SELECTOR SWITCH IN THE HEAT OR COOL POSITION.

4. WITH THE UNIT LEVEL OR PITCHED TO THE OUTDOORS, CHECK CONDENSATE REMOVAL BY POURING WATER INTO THE BASE PAN AND PUTTING THE UNIT IN COOLING MODE.

5. MAKE SURE THAT THERE IS NOTHING TO INTERFERE WITH THE ROOM DISCHARGE AIR OR THE RETURN AIR.

! WARNING !
DO NOT OPERATE UNIT WITHOUT FILTER IN PLACE OR USE AS A TEMPORARY HEAT/COOLING SOURCE DURING CONSTRUCTION.

MANUAL FRESH AIR DAMPER

THE FRESH AIR MANUAL DAMPER ALLOWS THE USER TO MOVE FRESH AIR INTO THE SPACE TO BE CONDITIONED. THE DAMPER HANDLE IS LOCATED BELOW THE EVAPORATOR COIL ON THE SERVICE PANEL.

SEQUENCE OF OPERATION

CHOOSING A THERMOSTAT: EMI OFFERS A THERMOSTAT THAT IS COMPATIBLE WITH THE VERTICAL PACKAGE TERMINAL UNIT. THIS IS A SINGLE STAGE COOL/HEAT, MERCURY BULB THERMOSTAT THAT CAN BE USED IN ALL RETROAIRE COOLING, HEATING OR HEAT PUMP APPLICATIONS. THE THERMOSTAT HAS AN ADJUSTABLE SET-POINT RANGE OF BETWEEN 55°F AND 95°F. THERE ARE TWO INDEPENDENT, ADJUSTABLE STOPS THAT CAN LIMIT THE HEATING OR COOLING RANGE OF THE THERMOSTAT. A NON-MERCURY, ELECTRONIC THERMOSTAT IS AVAILABLE IF NEEDED. PLEASE CONTACT THE FACTORY FOR MORE INFORMATION.

SELECTING A COMPATIBLE THERMOSTAT: WHEN SELECTING A THERMOSTAT OTHER THAN THOSE OFFERED BY ENVIROMASTER INTERNATIONAL, IT IS IMPORTANT TO CHOOSE A SINGLE STAGE HEAT/COOL, 24V THERMOSTAT. FOR MODELS 09-17, DO NOT SELECT A THERMOSTAT THAT REQUIRES CONNECTION TO A “C” TERMINAL SINCE THESE UNITS DO NOT HAVE PROVISIONS FOR CONNECTING TO A “C” TERMINAL. ONLY MODELS 19 AND 24 HAVE PROVISIONS FOR CONNECTING A “C” TERMINAL TO THE UNIT. IF A THERMOSTAT WITHOUT A “C” TERMINAL IS USED IN A MODELS 19 OR 24, THEN IT IS IMPORTANT TO INSULATE THE UNUSED BROWN “C” LOW VOLT WIRE TO PREVENT IT FROM SHORTING AT THE THERMOSTAT.

COOLING ONLY WITH ELECTRIC OR HYDRONIC HEAT (VRAC ONLY): SELECT A THERMOSTAT THAT IS COMPATIBLE WITH A COOLING - ELECTRIC HEAT SYSTEM. THE THERMOSTAT SHOULD HAVE “R”, “Y”, “W” AND “G” TERMINALS.

HEAT PUMP WITH ELECTRIC HEAT (VRHP ONLY): SELECT A THERMOSTAT THAT IS COMPATIBLE WITH A COOLING - SINGLE STAGE HEAT - HEAT PUMP SYSTEM. THE THERMOSTAT SHOULD HAVE “R”, “Y”, “O” AND “G” TERMINALS. RETROAIRE UNITS ARE SINGLE STAGE HEATING ONLY. THE ELECTRIC HEAT AND HEAT PUMP WILL NOT OPERATE SIMULTANEOUSLY.

FAN OPERATION: SOME THERMOSTATS ARE EQUIPPED WITH AN AUTO/ON FAN SWITCH. WHEN THIS SWITCH IS PLACED IN THE ON POSITION THE INDOOR FAN WILL RUN CONTINUOUS. WHEN THE SWITCH IS IN THE AUTO POSITION THE INDOOR FAN WILL CYCLE WITH THE CALL FOR HEATING OR COOLING.

FAN PURGE (AUTO MODE ONLY): AFTER THE ROOM THERMOSTAT HAS BEEN SATISFIED, THE PURGE FEATURE ALLOWS THE INDOOR FAN TO REMAIN ON FOR AN ADDITIONAL 60 SECONDS. THIS INCREASES EFFICIENCY BY PULLING THE REMAINING ENERGY FROM THE UNIT.

COOLING OPERATION: AFTER CONNECTING THE THERMOSTAT TO THE UNIT PLACE THE SYSTEM SWITCH IN COOL MODE. ADJUST THE SET-POINT TEMPERATURE BELOW THE ROOM TEMPERATURE. THE COMPRESSOR AND FAN MOTORS WILL START AND COOLING WILL BEGIN. PLACE THE SET-POINT TEMPERATURE ABOVE THE ROOM TEMPERATURE. THE COMPRESSOR AND CONDENSER FAN WILL STOP AND THE INDOOR FAN WILL REMAIN ON FOR AN ADDITIONAL SIXTY SECONDS.

NOTE: THE START OF THE COMPRESSOR WILL NOT TAKE PLACE UNTIL THE ANTI-SHORT/RANDOM START TIME PERIOD HAS ELAPSED.

ELECTRIC HEAT OPERATION: PLACE THE THERMOSTAT SYSTEM SWITCH IN HEAT MODE. ADJUST THE SET-POINT TEMPERATURE ABOVE THE ROOM TEMPERATURE. THE ELECTRIC HEAT WILL ENERGIZE ALONG WITH THE INDOOR FAN MOTOR. HEATING WILL CONTINUE SO LONG AS THE SET-POINT REMAINS ABOVE ROOM TEMPERATURE. NEXT PLACE THE SET-POINT TEMPERATURE BELOW ROOM TEMPERATURE. THE ELECTRIC HEATER WILL SWITCH OFF AND THE INDOOR FAN WILL REMAIN ON FOR AN ADDITIONAL SIXTY SECONDS.

HYDRONIC HEAT OPERATION (OPTIONAL): AN OPTIONAL HYDRONIC HEAT PACKAGE MAY BE SELECTED IN LIEU OF ELECTRIC HEAT. HEATING OPERATION IS ESSENTIALLY THE SAME AS THAT OF UNITS WITH ELECTRIC HEAT. WITH THE THERMOSTAT SYSTEM SWITCH SET TO HEAT AND THE SET-POINT TEMPERATURE ABOVE ROOM TEMPERATURE, THE HYDRONIC VALVE WILL OPEN ALLOWING WATER TO FLOW THROUGH THE COIL. THE INDOOR FAN WILL ALSO SWITCH ON AND WARM AIR WILL FLOW FROM THE UNIT. HEATING WILL CONTINUE SO LONG AS THE SET-POINT REMAINS ABOVE ROOM TEMPERATURE. PLACE THE SET-POINT TEMPERATURE BELOW ROOM TEMPERATURE. THE HYDRONIC VALVE WILL CLOSE AND INDOOR FAN WILL SWITCH OFF AFTER THE SIXTY-SECOND PURGE TIME HAS ELAPSED. THE HYDRONIC VALVE IS A 24VAC NORMALLY OPEN VALVE. SHOULD POWER BE LOST TO THE UNIT, THE VALVE WILL DEFAULT TO THE OPEN POSITION.

HYDRONIC COIL FREEZE PROTECTION: THE HYDRONIC PACKAGE IS EQUIPPED WITH A THERMOSTAT (FREEZE-STAT) THAT IS DESIGNED TO PREVENT THE HYDRONIC COIL FROM FREEZING. AT 35°F THE THERMOSTAT WILL SWITCH OPEN THE HOT WATER VALVE TO PREVENT THE COIL FROM FREEZING. AT 50°F THE THERMOSTAT WILL RESET. IF THE ROOM THERMOSTAT IS NOT CALLING FOR HEAT, THE VALVE WILL CLOSE. THE FREEZE STAT IS FACTORY PRE-SET AND SHOULD NEVER NEED ADJUSTING. HOWEVER, IF THE ADJUSTMENT SCREW IS TAMPERED WITH IT WILL BE NECESSARY TO RESET THE FREEZE-STAT. TO SET THE FREEZE STAT YOU WILL NEED A MEDIUM FLAT BLADED SCREWDRIVER. TURN THE ADJUSTING SCREW COUNTER-CLOCKWISE UNTIL IT STOPS. THEN SLOWLY TURN THE ADJUSTING SCREW CLOCKWISE APPROXIMATLY 1/8 TURN UNTIL A CLICK IS DETECTED. THE FREEZE STAT IS NOW SET.

HEAT PUMP COOLING OPERATION (HEAT PUMPS ONLY): COOLING OPERATION IN A HEAT PUMP UNIT IS DESCRIBED IN "COOLING OPERATION" ABOVE. THE UNIT IS EQUIPPED WITH A REVERSING VALVE THAT IS ENERGIZED FOR COOLING AND DE-ENERGIZED IN HEATING MODE.

HEAT PUMP HEATING OPERATION (HEAT PUMPS ONLY): HEAT PUMP UNITS ARE "LIMITED RANGE" EQUIPPED WITH BACK-UP ELECTRIC RESISTANCE HEAT. LIMITED RANGE HEAT PUMPS ARE DESIGNED TO OPERATE WHEN OUTDOOR TEMPERATURES ARE BETWEEN 75°F AND 40°F AND WITH A MAXIMUM INDOOR TEMPERATURE OF 80°F. WHEN THE OUTDOOR TEMPERATURE FALLS BELOW APPROXIMATELY 40°F THE UNIT WILL SWITCH FROM HEAT PUMP TO ELECTRIC RESISTANCE HEAT. ELECTRIC HEAT WILL THEN REMAIN AS THE HEAT SOURCE UNTIL THE OUTDOOR TEMPERATURES RISE ABOVE 50°F. THE VRHP IS A SINGLE-STAGE HEATING UNIT. THE ELECTRIC HEAT AND HEAT PUMP WILL NOT OPERATE SIMULTANEOUSLY.

TO OPERATE THE UNIT IN HEATING MODE, IT MUST FIRST BE CONNECTED TO AN APPROPRIATE HEAT PUMP THERMOSTAT. (SEE CHOOSING A THERMOSTAT). SELECT HEAT ON THE THERMOSTAT SYSTEM SWITCH. THEN, ADJUST THE SET-POINT TEMPERATURE ABOVE THE ROOM TEMPERATURE. THE COMPRESSOR AND FAN MOTORS WILL START AND HEATING WILL BEGIN. IF THE OUTDOOR TEMPERATURE IS BELOW APPROXIMATELY 40°F THE HEAT PUMP SYSTEM WILL NOT OPERATE. ELECTRIC HEAT WILL THEN TAKE OVER THE HEATING DEMAND. HEATING WILL CONTINUE SO LONG AS THE SET-POINT TEMPERATURE REMAINS ABOVE THE ROOM TEMPERATURE. PLACE THE SET-POINT TEMPERATURE BELOW THE ROOM TEMPERATURE. THE HEATING MODE WILL CEASE AND THE INDOOR FAN WILL REMAIN ON FOR AN ADDITIONAL SIXTY SECONDS.

NOTE: THE START OF THE COMPRESSOR WILL NOT TAKE PLACE UNTIL THE ANTI-SHORT/RANDOM START TIME PERIOD HAS ELAPSED.

EMERGENCY HEAT (HEAT PUMPS ONLY)

! WARNING !

BEFORE ACCESSING THE CONTROL COMPARTMENT, DISCONNECT POWER TO THE UNIT. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR ELECTRICAL SHOCK.

SHOULD THE HEAT PUMP SYSTEM FAIL, IT IS POSSIBLE TO FORCE THE CONTROL BOARD INTO ELECTRIC HEAT MODE. THIS IS A TEMPORARY SOLUTION UNTIL THE HEAT PUMP SYSTEM CAN BE REPAIRED. LOCATE THE CIRCUIT BOARD IN THE CONTROL SECTION OF THE UNIT. LOCATE THE TERMINALS WHERE THE OUTDOOR SENSOR CONNECTS TO THE CIRCUIT BOARD. USING A SMALL NEEDLE NOSE TYPE PLIERS, DISCONNECT ONE SIDE OF THE SENSOR FROM THE CIRCUIT BOARD. THIS WILL APPEAR TO THE CIRCUIT BOARD AS AN OUTDOOR COIL FREEZE CONDITION, THEREBY ENERGIZING THE ELECTRIC RESISTANCE HEATER ON THE CALL FOR HEAT.

CHANGEOVER THERMOSTAT (HEAT PUMPS ONLY): THIS FEATURE HAS BEEN REPLACED BY A CIRCUIT BOARD HOWEVER IS STILL USED ON SOME UNITS. THE CHANGEOVER THERMOSTAT MONITORS OUTDOOR TEMPERATURE FOR EFFICIENT HEAT PUMP OPERATION. IN HEATING, THE THERMOSTAT WILL DETERMINE WEATHER TO USE HEAT PUMP OR ELECTRIC RESISTANCE HEAT. WHEN OUTDOOR TEMPERATURES FALL BELOW APPROXIMATELY 35°F, THE CHANGEOVER THERMOSTAT (COT) WILL SWITCH FROM HEAT PUMP OPERATION TO ELECTRIC RESISTANCE HEAT. ELECTRIC HEAT WILL REMAIN THE PRIMARY HEAT SOURCE UNTIL OUTDOOR TEMPERATURE RISES ABOVE 50°F. THE COT IS FACTORY PRE-SET AND SHOULD NEVER NEED ADJUSTING. IF THE ADJUSTMENT SCREW IS TAMPERED WITH IT WILL BE NECESSARY TO RESET THE FREEZE-STAT. TO SET THE FREEZE STAT YOU WILL NEED A MEDIUM FLAT BLADED SCREWDRIVER. TURN THE ADJUSTING SCREW COUNTER-CLOCKWISE UNTIL IT STOPS. THEN SLOWLY TURN THE ADJUSTING SCREW CLOCKWISE APPROXIMATELY 1/8 TURN UNTIL A CLICK IS DETECTED. THE FREEZE STAT IS NOW SET.

ANTI-SHORT CYCLE TIMER RANDOM START FEATURE: THIS FEATURE WILL PREVENT COMPRESSOR SHORT CYCLING AND ALSO PREVENT MULTIPLE UNITS IN A SINGLE FACILITY FROM SIMULTANEOUSLY STARTING FOLLOWING A POWER OUTAGE. THIS DELAY ON BREAK FEATURE ENSURES THAT THE COMPRESSOR REMAINS OFF BETWEEN CYCLES UNTIL THE THREE-MINUTE TIME DELAY PERIOD HAS ELAPSED, ALLOWING SYSTEM PRESSURES TO EQUALIZE BEFORE RESTARTING.

THE RANDOM START FEATURE, INITIATED AFTER A POWER FAILURE, WILL ADD A RANDOM TIME DELAY (BETWEEN 5-120 SECONDS) TO THE THREE-MINUTE ANTI SHORT CYCLE TIME FOLLOWING A POWER OUTAGE. THIS WILL STAGGER THE STARTING OF MULTIPLE UNITS IN A SINGLE FACILITY ALLOWING A BUILDING TO SLOWLY GO BACK ON LINE WHEN POWER IS RESTORED.

INDOOR COIL FREEZE PROTECTION: THIS FEATURE WILL PREVENT THE INDOOR COIL FROM FREEZE UP IN THE COOLING MODE. INDOOR COIL FREEZE UP CAN OCCUR DUE TO A DIRTY AIR FILTER, LOW REFRIGERANT CHARGE OR LOW ROOM OR OUTDOOR TEMPERATURES. THIS IN TURN CAN CAUSE COMPRESSOR DAMAGE. SHOULD A FREEZE CONDITION BE DETECTED, THE COMPRESSOR AND CONDENSER FAN WILL SWITCH OFF FOR A MINIMUM OF 3 MINUTES AND UNTIL THE FREEZE CONDITION IS SATISFIED. DURING THIS TIME THE INDOOR FAN WILL CONTINUE TO RUN TO AID IN THE DEFROST PROCESS.

DISCONNECT SWITCH (OPTIONAL): THE DISCONNECT SWITCH ENSURE THAT ALL POWER TO THE CONTROL BOX IS DISCONNECTED FOR SERVICING.

MAINTENANCE

! WARNING !

BEFORE SERVICING THE VRAC/VRHP, DISCONNECT POWER TO THE UNIT. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR ELECTRICAL SHOCK

VRAC/VRHP UNITS ARE DESIGNED AND CONSTRUCTED FOR RELIABILITY AND LONG LIFE MINIMAL MAINTENANCE. SCHEDULED MAINTENANCE INSPECTIONS SHOULD BE PERFORMED 4 TIMES A YEAR. AT THE BEGINNING OF THE COOLING SEASON, A COMPLETE MECHANICAL COOLING CHECK SHOULD BE PERFORMED AND PERIODIC MINOR INSPECTIONS MAY BE NECESSARY DURING THE COOLING SEASON TO ADJUST FOR VARIATIONS IN CLIMATE. AT THE BEGINNING OF THE HEATING SEASON, A COMPLETE MECHANICAL HEATING CHECK SHOULD BE PERFORMED AND, AGAIN, PERIODIC MINOR INSPECTIONS MAY BE NECESSARY TO ADJUST FOR CLIMATIC CHANGES.

! WARNING !

IT IS ILLEGAL TO DISCHARGE REFRIGERANT INTO THE ATMOSPHERE. USE PROPER RECLAIMING METHODS AND EQUIPMENT WHEN REPAIRING THIS UNIT. SERVICE SHOULD BE PERFORMED BY A QUALIFIED SERVICE AGENCY.

1. DISCONNECT POWER TO THE UNIT.

2. REMOVE THE ACCESS PANEL AND DO A VISUAL CHECK OF THE EQUIPMENT. LOOK FOR OBVIOUS CHANGES IN THE UNIT SUCH AS DAMAGED COILS OR EVIDENCE OF EXTENDED WEAR ON ANY MOVING PARTS. CHECK FOR UNUSUAL ODORS OR LEAKS (EX: BURNT MOTOR WINDINGS, WATER, OR REFRIGERANT) AND MAKE SURE THE BASE PAN IS CLEAN.

3. REGULAR CLEANING/CHANGING OF THE FILTER IS REQUIRED. ALLOWING DUST TO COLLECT ON THE FILTER WILL CAUSE THE UNIT TO LOSE EFFICIENCY AND EVENTUALLY MALFUNCTION. CHECK FILTER ONCE A MONTH.

4. INSPECT ALL ELECTRICAL CONNECTIONS FOR FRAYED WIRES AND POOR CONNECTIONS. TERMINAL ENDS THAT ARE LOOSE WILL EVENTUALLY FAIL, CAUSING A LOSS OF PERFORMANCE OR WORSE.

5. CHECK FAN MOTORS AND BLOWER ASSEMBLIES. SOME UNITS MAY REQUIRE A DROP OF LIGHT OIL TO MOTORS AND/OR BEARING ASSEMBLIES (LOOK FOR OIL CUPS). CHECK SETSCREWS AND MOTOR MOUNTING HARDWARE, MAKING SURE THESE ARE TIGHT.

6. CENTRIFUGAL FAN BLADES AND BLOWER CAGE ASSEMBLIES MUST BE CLEAN TO OPERATE EFFICIENTLY. BRUSH AND/OR VACUUM AS NECESSARY.

7. INSPECT BOTH INDOOR AND OUTDOOR COILS. USE A FIN COMB TO STRAIGHTEN OUT ANY DAMAGED FINS. THESE COILS MUST BE CLEAN FOR PROPER OPERATION. DO NOT USE A SOLVENT-BASED CLEANER FOR THIS AS SOME SOLVENTS PRODUCE A NOXIOUS ODOR WHEN YOU START THE FAN OR ELECTRIC HEAT.

8. LOOK FOR OIL LEAKS OR STAINS ON OR AROUND THE COIL AND REFRIGERANT LINES. THE PRESENCE OF OIL HERE INDICATES A POTENTIALLY SERIOUS PROBLEM (SUCH AS A REFRIGERANT LEAK).

9. INSPECT AND CLEAN THE DRAIN PAN AND DRAIN LINE(S). A GOOD IDEA HERE IS TO USE AN ANTI-FUNGICIDE TABLET TO KEEP THE CONDENSATE SYSTEM FREE FROM BACTERIAL CONTAMINANTS.

10. CHECK THE “PITCH” OF THE UNIT. OVER TIME, THE BUILDING AND EQUIPMENT MAY SETTLE, CAUSING A SHIFT IN THE DIRECTION THE CONDENSATE FLOWS. IDEALLY, THE UNIT SHOULD PITCH DOWNWARDS FROM FRONT TO BACK TO ALLOW FOR PROPER DRAINAGE.

11. CHECK WEEP HOLES ALONG REAR FLANGE OF THE BASE PAN, MAKING SURE THEY ARE FREE OF DEBRIS.

12. CHECK THE SEAL AROUND THE UNIT. AIR LEAKS MAY MAKE THE CONDITIONED AREA UNCOMFORTABLY DRAFTY OR PRODUCE NOISES. VISUALLY INSPECT THE FOAM GASKET BETWEEN THE WALL AND THE UNIT.

IF YOU EXPERIENCE POOR COOLING OPERATION OR ERRATIC OPERATION CHECK FOR AIR RECIRCULATION AT THE CONDENSER COIL.

THE BAFFLES SENT IN THE CHASSIS KIT MUST BE ATTACHED TO THE CONDENSER COIL TO PREVENT AIR RECIRCULATION. THIS SHOULD HAVE BEEN DONE PRIOR TO INSTALLING THE UNIT AS DESCRIBED IN *“INSTALLING THE VRAC/VRHP INTO AN EXISTING WALL SLEEVES/ENCLOSURES.”*

13. REPLACE PANELS AND RECONNECT THE ELECTRICAL POWER.

TROUBLESHOOTING

NO HEAT OR COOLING: CHECK TO SEE IF THE UNIT HAS POWER AND IF THE THERMOSTAT IS SATISFIED. IF THE THERMOSTAT IS NOT SATISFIED, CALL YOUR INSTALLING CONTRACTOR OR SERVICE CONTRACTOR.

SPECIFICATIONS AND PERFORMANCE

IMPORTANT: DUE TO ONGOING PRODUCT DEVELOPMENT, DESIGNS, SPECIFICATIONS, AND PERFORMANCE ARE SUBJECT TO CHANGE WITHOUT NOTICE. PLEASE CONSULT FACTORY FOR FURTHER INFORMATION.

VRAC/VRHP PERFORMANCE DATA

UNIT SIZE	COOLING BTU/H	SENSIBLE HEAT RATIO	EER	HEAT PUMP BTU/H	COP	CFM			OUTSIDE AIR W/MANUAL DAMPER
						MAX 0.10	EXTERNAL 0.20	STATIC 0.30	
9	9,000	0.74	8.8	8,800	2.7	330	300	250	30
12	12,000	0.71	8.8	11,500	3.0	440	385	350	35
15	14,500	0.72	8.5	13,500	2.8	525	490	460	45
17	17,000	0.70	8.2	16,000	2.7	525	490	460	50

VRAC/VRHP ELECTRICAL SPECIFICATIONS

UNIT SIZE	VOLTS/HZ/PH	COND FAN		COMPRESSOR		EVAP FAN		TOTAL AMPS	MIN VOLT	MCA	MAX FUSE	LINE CORD
		AMPS	HP	RLA	LRA	AMPS	HP					
9	208/230/60/1	0.71	0.10	4.10	20	0.80	0.07	5.61	197	6.6	15	6-15P
	265/60/1	0.71	0.10	3.35	18	0.67	0.08	4.73	240	5.6	15	H-WIRE
12	208/230/60/1	0.71	0.10	5.10	28	0.80	0.07	6.61	197	7.9	15	6-15P
	265/60/1	0.71	0.10	4.25	26	0.67	0.08	5.63	240	6.7	15	H-WIRE
15	208/230/60/1	1.20	0.25	6.40	35	0.80	0.07	8.4	197	10.0	15	6-15P
	265/60/1	1.30	0.25	5.40	32	0.67	0.08	7.37	240	8.7	15	H-WIRE
17	208/230/60/1	1.20	0.25	7.40	48	1.00	0.15	9.6	197	11.5	15	6-15P
	265/60/1	1.30	0.25	6.50	44	0.67	0.08	8.5	240	10.1	15	H-WIRE

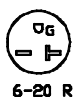
VRAC/VRHP OPTIONAL ELECTRIC HEAT SPECIFICATIONS

MODEL	HEATER NO.	VOLTAGE	WATTS	BTU/h	AMPS	TOTAL	MCA	FUSE	LINE CORD
9-12	3	208	2,454	8,400	11.8	12.6	15.5	20	6-20P
		230	3,000	10,300	13.0	13.8	17.1	20	6-20P
		265	3,983	13,600	15.0	15.7	19.5	20	H-WIRE
	4	208	3,271	11,200	15.7	16.5	20.5	25	6-30P
		230	4,000	13,700	17.4	18.2	22.5	25	6-30P
		265	5,310	18,200	20.0	20.7	25.7	30	H-WIRE
	5	208	4,089	14,000	19.7	20.5	25.4	30	6-30P
		230	5,000	17,100	21.7	22.5	28.0	30	6-30P
15-17	3	208	2,454	8,400	11.8	12.8	15.7	20	6-20P
		230	3,000	10,300	13.0	14.0	17.3	20	6-20P
		265	3,983	13,600	15.0	15.7	19.5	20	H-WIRE
	4	208	3,271	11,200	15.7	16.7	20.7	25	6-30P
		230	4,000	13,700	17.4	18.4	22.7	25	6-30P
		265	5,310	18,200	20.0	20.7	25.7	30	H-WIRE
	5	208	4,089	14,000	19.7	20.7	25.6	30	6-30P
		230	5,000	17,100	21.7	22.7	28.2	30	6-30P

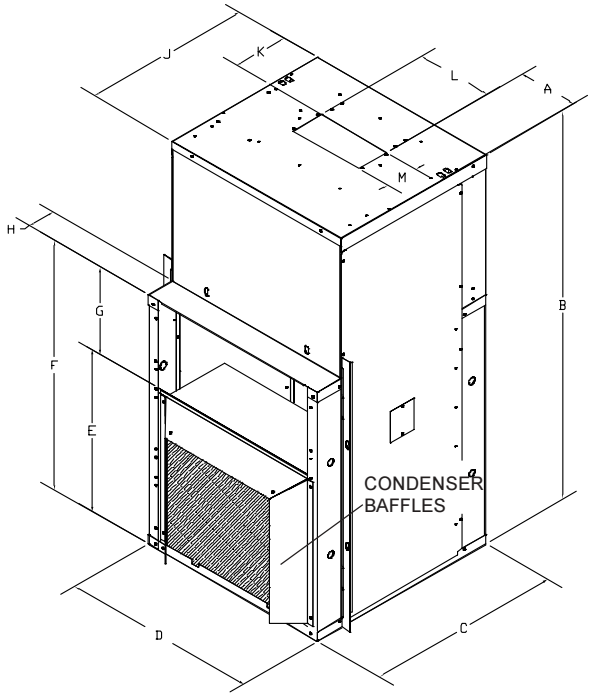
NOTE: FOR COMPLETE INFORMATION ON MCA AND TOTAL AMPS, REFER TO THE UNIT RATING PLATE FOR YOUR SPECIFIC UNIT SIZE.

NEMA SPECIFICATIONS

[NON-LOCKING RECEPTACLES]

VOLTAGE	250V		
	15(A)	20(A)	30(A)
PLUG	 6-15 P	 6-20 P	 6-30 P
RECEPTACLE	 6-15 R	 6-20 R	 6-30 R

RATED IN ACCORDANCE WITH ARI STANDARD 390



DIMENSION	9-15	17
A	7.625"	7.625"
B	40"	40"
C	21.438"	21.438"
D	25"	25"
E	15"	20.125"
F	25"	25.5"
G	10"	5.375"
H	3.5"	3.5"
J	16.5"	16.5"
K	5.5"	5.5"
L	9.625"	9.625"
M	4.125	4.125

VRAC/VRHP HYDROCOIL SPECIFICATIONS (AIR ON 70/58°F)

UNIT SIZE	CFM	GPM	H20 TEMP	BTU/H	PD (FT/H20)
9	300	1	180	11,100	1.0
		2		11,200	4.0
		3		11,700	8.7
12	300	1	180	11,500	1.0
		2		13,000	4.0
		3		13,600	8.7
15	400	1	180	12,700	1.0
		2		14,500	4.0
		3		15,300	8.7
17	500	2	160	24,115	0.9
		4		28,610	3.3
		6		30,480	7.2
		2	180	29,740	0.9
		4		35,190	3.3
		6		37,440	7.0

ALL PRODUCT LIMITED WARRANTY

ENVIROMASTER INTERNATIONAL LLC (EMI) WARRANTS TO THE PURCHASER/OWNER THAT EMI PRODUCTS WILL BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER THE NORMAL USE AND MAINTENANCE FOR A PERIOD OF TWELVE MONTHS FOR ALL COMPONENTS AND SIXTY MONTHS ON UNIT COMPRESSORS FROM DATE OF THE ORIGINAL INSTALLATION, OR FIFTEEN MONTHS FOR ALL COMPONENTS AND SIXTY-THREE MONTHS ON UNIT COMPRESSORS FROM THE DATE OF ORIGINAL SALE, WHICHEVER COMES FIRST.

WHAT WE WILL COVER

EMI WILL REPLACE ANY DEFECTIVE PART RETURNED TO EMI'S APPROVED SERVICE ORGANIZATION WITH A NEW OR REBUILT PART AT NO CHARGE. THE REPLACEMENT PART ASSUMES THAT UNUSED PORTION OF THIS WARRANTY.

WHAT WE DON'T COVER

THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS INCURRED FOR REPAIRING, REMOVING, INSTALLING, SHIPPING, SERVICING, OR HANDLING OF EITHER DEFECTIVE OR REPLACEMENT PARTS.

EMI IS NOT RESPONSIBLE FOR

- NORMAL MAINTENANCE
- DAMAGE OR REPAIRS REQUIRED AS A CONSEQUENCE OF FAULTY INSTALLATION OR APPLICATION BY OTHER.
- FAILURE TO START DUE TO VOLTAGE CONDITIONS, BLOWN FUSES, OPEN CIRCUIT BREAKERS, OR OTHER DAMAGES DUE TO THE INADEQUACY OR INTERRUPTION OF ELECTRICAL SERVICE.
- DAMAGE OR REPAIRS NEEDED AS A CONSEQUENCE OF ANY MISAPPLICATION, ABUSE, IMPROPER SERVICING, UNAUTHORIZED ALTERATION, OR IMPROPER OPERATION.
- DAMAGE AS A RESULT OF FLOODS, WINDS, FIRES, LIGHTENING, ACCIDENTS, CORROSIVE ATMOSPHERE, OR OTHER CONDITIONS BEYOND THE CONTROL OF EMI.
- PARTS NOT SUPPLIED OR DESIGNATED BY EMI.
- PRODUCTS INSTALLED OUTSIDE THE UNITED STATES OR CANADA.
- ANY DAMAGES TO PERSON OR PROPERTY OF WHATEVER KIND, DIRECT OR INDIRECT, SPECIAL OR CONSEQUENTIAL, WHETHER RESULTING FROM USE OR LOSS OF USE OF THE PRODUCT.

LIMITATION OF WARRANTIES

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED. THE REMEDIES PROVIDED FOR IN THIS WARRANTY ARE EXCLUSIVE AND SHALL CONSTITUTE THE ONLY LIABILITIES ON THE PART OF EMI INCLUDING ANY STATEMENTS MADE BY ANY INDIVIDUAL WHICH SHALL BE OF NO EFFECT.

FOR SERVICE OR REPAIR:

- CONTACT THE INSTALLER OF THE UNIT
- CONTACT YOUR NEAREST DISTRIBUTOR
- CALL OR WRITE:

5780 SUCCESS DRIVE, ROME, NY 13440
PHONE: 1-800-228-9364
FAX: 1-800-232-9364
EMAIL: EMI@ENVIROMASTER.COM