Marvair®
ISO 9001:2015 REGISTERED COMPANY
AIRXCEL™, Inc.

CLASSIC

PRODUCT DATA SHEET

2 to 5 Ton Vertical Packaged Wall Mount Heat Pumps

Models AVPA24 (Single Stage Cooling) • HVPA24-30-36-42-49-60 (Single Stage Cooling) • HVPSA24-30-36-42-49-60 (2-Stage Cooling)

General Description

The Marvair® Classic wall mounted heat pumps are the ideal HVAC system for a wide variety of applications. The exterior mounting means that no valuable interior space is required. The Classic heat pumps are packaged units – the refrigerant piping and internal wiring are factory assembled and thoroughly tested. All components are readily accessible for easy service and maintenance. The energy efficient operation keeps operating costs to a minimum and makes the Marvair heat pumps ideal problem solvers for a wide variety of applications, including offices, classrooms and telecommunication shelters.

➤ **Classic Heat Pumps Are Available To Meet Any Budget Or Efficiency Requirement:**

- **AVPA Standard Efficiency Models**
  Marvair's most cost effective model with an Energy Efficiency Ratio (EER) of 9.3. The Classic AVPA is available in a cooling capacity of 2 tons (24,000 BTUH).
- **HVPA High Efficiency Models**
  Marvair's most efficient wall mount heat pumps with highly efficient scroll compressors result in Energy Efficiency Ratios (EER's) of up to 11.50. Available in the same cooling capacities of 2, 2½, 3, 3½, 4 and 5 tons (24,000 to 60,000 BTUH) as AVPA models. No other wall mount heat pump is more efficient
- **HVPSA 2-Stage Compressor Models**
  Classic HVPSA models feature a 2-stage compressor which can reduce energy costs by more precisely matching the cooling capacity to the heat load with first stage cooling approximately 65% of the total cooling capacity. This results in Energy Efficiency Ratios (EER's) of up to 11.00 and an Integrated Part Load Value (IPLV) of up to 15.00. HVPSA models are available in cooling capacities of 2, 2½, 3, 3½, 4 and 5 tons (24,000 to 60,000 BTUH).

➤ **Outside Air for Ventilation or Free Cooling**
A full range of accessories and options allows the Classic heat pumps to be optimized for each application. For classrooms, a complete range of ventilation options are available to meet the fresh air requirements of the ASHRAE 62 standard, "Ventilation for Acceptable Indoor Air Quality", including the exclusive Marvair GreenWheel® Energy Recovery Ventilator. Where cooling is required during cool or cold weather, e.g., telecommunications shelters, a factory installed economizer should be used. To insure proper operation and optimum performance, all outside air ventilation packages are non-removable, factory installed and factory calibrated.

Designed, Engineered & Assembled In the USA

AVPA36HPA

AHRI CERTIFIED® www.ahridirectory.org · CE · ETL Intertek · NSF Registered to ISO 9001

Features and Benefits

GreenWheel® and GreenCube® Energy Recovery Ventilators

- *Total Energy (Sensible and Latent) Recovery Ventilators*
- *Recover Both Sensible and Latent Heat*
- *Independent Ventilation Blower Motors*

R-410A Refrigerant

- *Efficient Heat Release*
- *Non-Ozone Depleting Refrigerant*
- *Synthetic Lubricant*
- *Reduced Compressor Wear*

High Efficiency and Reliability

- *EER up to 11.50 - No Wall Mount Heat Pump is More Efficient*
- *Optional Economizer Reduces Energy Usage*
- *High Efficiency Compressor and Lanced Coil Fins*
- *High/Low Pressure Switches with Lockout & Short Cycle Protection*

Ease of Installation and Service

- *Single Point Power Entry*
- *Built-In Mounting Flanges and Internal Disconnect*
- *Standard Access Valves and Filters, Status LEDs*

➤ 2-Stage Compressor

The HVPSA models feature a two stage compressor with a first stage capacity of 65% of the total capacity. The two stage compressor offers better comfort by maintaining more precise temperature and relative humidity levels with improved overall energy efficiency. During mild days, the first stage can satisfy the load, minimizing temperature fluctuations providing steady, even comfort. With Integrated Part Load Performance Values (IPLV) of up to 15.00, the Classic heat pump with the two stage, high efficiency compressor can provide significant energy savings compared to older, less efficient systems. The cooling mode has two stage operation; heating is single stage.

➤ Quiet in the Classroom

In addition to high efficiency, the HVPA and HVPSA models minimize sound levels in the classroom. A high efficiency axial fan moves air silently through the outdoor coils. A low vibration, scroll compressor ensures quiet operation as well as energy efficiency. The indoor air mover utilizes a revolutionary electronically commutated motor (ECM). This motor consumes a minimum of power with whisper quiet operation. The ECM automatically adjusts its speed to maintain the proper air flow at various external static pressures.

➤ Safety Listed and Energy Certified

All Classic heat pumps are built to UL standard 1995, 4th edition and CAN/CSA C22.2, No. 236-11. For energy efficiency and performance, the units are tested and rated in accordance to the ANSI/AHRI (Air-Conditioning Heating and Refrigeration Institute) Standard 390 (Single Package Vertical Units). All units meet or exceed the efficiency requirements of ANSI/ASHRAE/IESNA 90.1.2007. The Classic heat pumps are commercial units and are not intended for use in residential applications.

➤ Dehumidification

The introduction of outside air can cause humidity levels to rise to unacceptable levels. To reduce humidity, the Classic heat pumps can be ordered with a Hot Gas Reheat (HGR) coil. The HGR coil allows the heat pump to dehumidify without adversely lowering the temperature in the classroom and uses less energy than electric reheat. When used in conjunction with the GreenWheel® ERV, humidity levels can be controlled at a minimum of expense. See page 4 for a detailed description of the operation of the Hot Gas Reheat Coil.

Classic™ Heat Pump Features

➤ High Efficiency

- Scroll compressors are standard on all units.
- Lanced fins and rifled tubing on the indoor & outdoor coils maximize heat transfer.
- Electronically commutated indoor blower motor on the HVPA & HVPSA models and two speed indoor blower motor on the AVPA models.

➤ Engineered Reliability

- PC board simplifies wiring, consolidates several of the electrical functions in one device.
- High refrigerant pressure switch with lockout relay protects the compressor in the event of insufficient condenser air flow.
- Loss of charge pressure switch with lockout relay protects the compressor in the event of a loss of refrigerant or inadequate evaporator air flow.
- Time delay for short cycle protection.

➤ Ease of Installation

- Sloped top with flashing eliminates need of rain hood.
- Built-in mounting flanges facilitate installation and minimize chance of water leaks.
- Factory installed disconnect on all units, including 460v. models.
- Outside air hood included with each unit.
- Single Point Power Entry complies with latest edition of U.L. Standard 1995.

➤ Rugged Construction

- Baked on beige finish over galvaneel steel on exterior sheet metal.
- Copper tube, aluminum fin evaporator and condenser coils.
- Corrosion resistant Dacromet® external fasteners.

➤ Ease of Service

- LED's on the control board indicate operational status and fault conditions.
- Refrigerant access valves are standard
- All major components are readily accessible
- Front control panel allows easy access and complies with NEC clearance codes on side by side units.
- Major components accessible from either side.

Options for Outside Air for Ventilation

ASHRAE standard 62 requires 30 cfm of outside air per occupant of a classroom. To meet this requirement, Marvair offers seven ventilation packages for every budget and requirement.

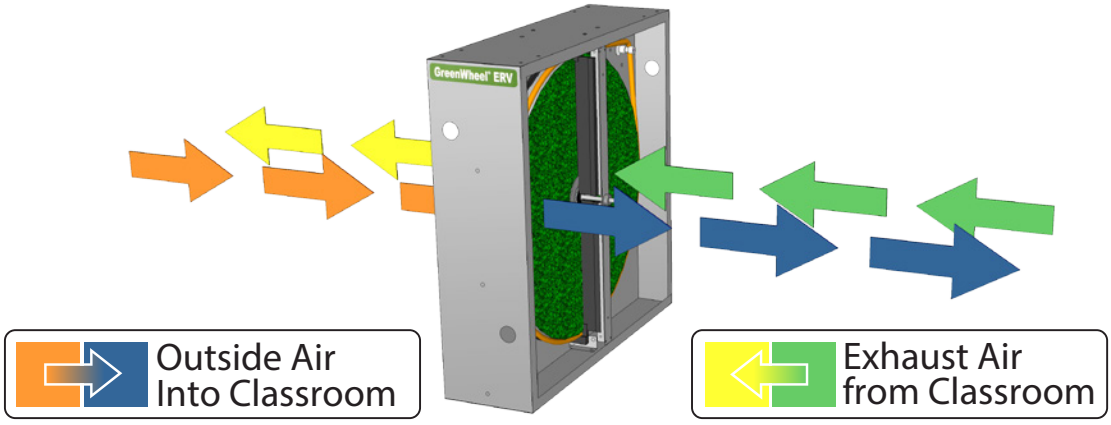
- **Configuration "N": Manual Fresh Air Damper *(Standard)***
  Manual damper capable of up to 15% of rated airflow of outside air; field adjustable, no pressure relief.
- **Configuration "Y": Field Adjustable Manual Damper *(Optional)***
  Manually field adjustable to allow up to 450 cfm, or 40% of the heat pump's total rated airflow of outside air.
- **Configuration "Z": Field Adjustable Manual Damper with Pressure Relief *(Optional)***
  Manually adjustable to allow up to 450 cfm, or 40% of the heat pump's total rated airflow of outside air and includes pressure relief.
- **Configuration "B": Motorized Fresh Air Damper with Pressure Relief Ventilation *(Optional)***
  Manual, two position damper (open and closed) capable of 0 to 450 cfm of outside air; includes pressure relief. A 24-volt actuated motor controls the damper from an external input such as a time clock, CO_2 sensor, energy management system or a manual switch.
- **Configuration "C": Economizer *(Optional)***
  The economizer reduces the cost of air conditioning by using outside air when acceptable to cool the room. The factory installed Marvair® economizer has integral pressure relief. On a signal from a thermostat that cooling is required, either mechanical cooling with the compressor or free cooling with the economizer is provided. The Marvair economizer is capable of bringing in outside air equal to 100% of the rated cooling capacity of the unit and has built in pressure relief.

  An internal enthalpy controller determines whether the outside air is sufficiently cool and dry to be used with cooling. If suitable, the compressor is locked out and the economizer damper opens to bring in outside air. The temperature at which the economizer opens is adjustable from approximately 55°F (13°C) to 73°F (23°C) at 50% RH. If the outside air becomes too hot or humid, the economizer damper closes completely or to a minimum position and mechanical cooling is activated. When used with minimum position potentiometer (optional), the Marvair® economizer can meet requirements of ASHRAE Std. 62.
- **Configuration "H": GreenWheel® ERV Energy Recovery Ventilator *(Optional)***
  Allows independent control of the exhaust and intake blowers. When used, the standard speed controller operates the intake blower and the optional second controller, the exhaust blower. Individual blower control allows positive pressurization of the classroom. Field or factory installed.

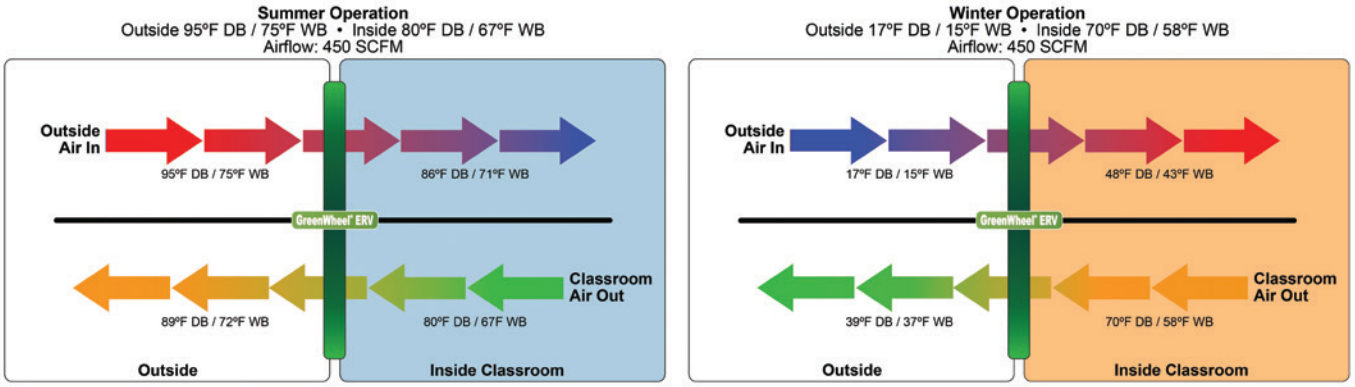
  The Marvair GreenWheel® ERV is a total energy (both sensible and latent) wheel that reduces both construction and operating cost while ventilating the classroom to ASHRAE 62-1999 requirements. The use of the GreenWheel ERV reduces the energy load of the outside air. Exhausting stale, inside air keeps indoor pollutants and harmful gases to a minimum. The Marvair GreenWheel ERV has been tested and certified according to ARI Standard 1060.

  How It Works - During the summer, cool dry air from the classroom is exhausted through the GreenWheel ERV to the outside. As the air passes through the rotating wheel, the desiccant becomes cooler and drier. Simultaneously, hot humid air is being pulled across the rotating wheel. The cool, dry desiccant absorbs moisture and heat from the incoming air. The cooler, drier air is mixed with the return air from the classroom and distributed throughout the room.

  In the winter, warm moist air is exhausted through the GreenWheel ERV to the outside. As the air passes through the rotating wheel, the desiccant becomes warmer and absorbs moisture. Simultaneously, cold dry air is being pulled across the rotating wheel. The cold, dry air absorbs heat and moisture from the desiccant. The warmed air is mixed with the return air from the classroom and distributed throughout the room.



Quality Components - The GreenWheel ERV Ventilation package consists of the GreenWheel cassette, an incoming air blower, an exhaust air blower, an air filter for the incoming air and one fan speed controller that controls the speed of both blower motors simultaneously. As an option, a second fan speed controller can be factory installed for independent control of the exhaust air motor and positive pressurization of the classroom. Also, an optional filter on the exhaust air is available on selected models. Please consult your Marvair representative for details. The two blowers simultaneously pull fresh air from outside and exhaust air from the classroom through the rotating wheel. The air streams are separated by an insulated partition so that the incoming fresh air is not mixed with the exhaust air. Two variable speed blowers ensure that up to 450 CFM of outside air can be brought into the room and the indoor air is properly exhausted. Variable speed blowers permit that the desired quantity of outside air is delivered into the room. Optional independent exhaust air blower control allows positive pressurization of the classroom, i.e., more outside air can be introduced through the GreenWheel ERV than is exhausted.



GreenWheel® Energy Recovery Ventilator Performance

SCFM* of Outside Air	Energy Conserved, BTUH					
	95° DB/73° WB Outside • 80° DB/67° WB Inside			95° DB/80° WB Outside • 80° DB/67° WB Inside		
	Sensible	Latent	Total	Sensible	Latent	Total
225	2,900	1,100	4,000	2,900	6,400	9,300
250	3,100	1,200	4,300	3,100	6,900	10,000
325	3,700	1,400	5,100	3,700	8,100	11,800
400	4,200	1,500	5,700	4,200	9,100	13,300
450	4,500	1,600	6,100	4,500	9,700	14,200

SCFM* of Outside Air	Energy Conserved, BTUH								
	90° DB/74° WB Outside • 75° DB/64° WB Inside			80° DB/70° WB Outside • 75° DB/64° WB Inside			60° DB/54° WB Outside • 70° DB/58° WB Inside		
	Sensible	Latent	Total	Sensible	Latent	Total	Sensible	Latent	Total
225	2800	3600	6400	900	2800	2700	1900	200	2100
250	3000	3800	6800	1000	3000	4000	2000	200	2200
325	3600	4500	8100	1200	3500	4700	2400	200	2600
400	4100	4900	9000	1400	3800	5200	2700	300	3000
450	4300	5200	9500	1400	4000	5400	2900	300	3200

SCFM* of Outside Air	Energy Conserved, BTUH								
	40° DB/36° WB Outside • 70° DB/58° WB Inside			20° DB/18° WB Outside • 70° DB/58° WB Inside			0° DB/7° WB Outside • 70° DB/58° WB Inside		
	Sensible	Latent	Total	Sensible	Latent	Total	Sensible	Latent	Total
225	5600	3300	8900	9300	4900	14200	13000	5700	18700
250	6000	3600	9600	10000	5300	15300	14000	6100	14100
325	7200	4200	11400	12000	6200	18200	16700	7100	23800
400	8100	4600	12700	13500	6800	20300	18900	7900	26800
450	8600	4800	13400	14400	7100	21500	20100	8200	28300

*SCFM = Standard Cubic Feet per Minute

For performance of the GreenWheel® ERV at conditions other than those shown, please contact your Marvair® representative or the factory.

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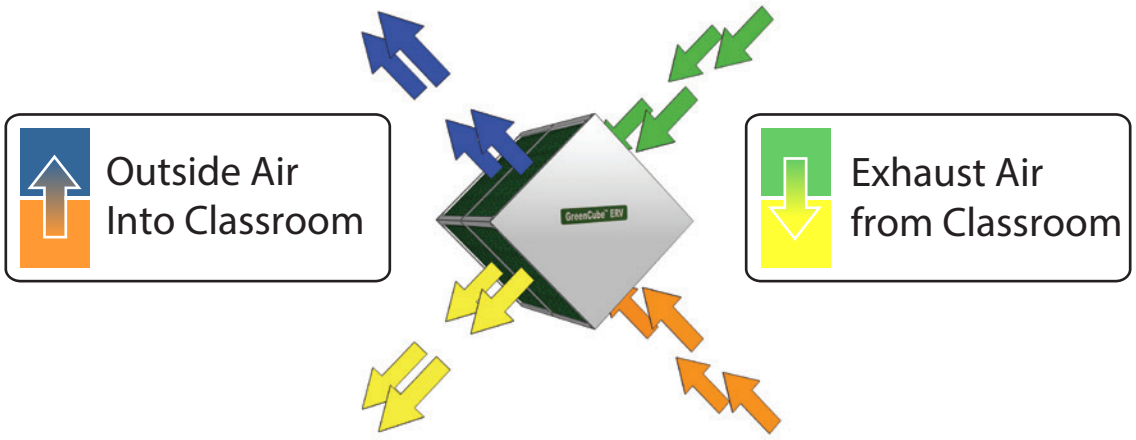
➤ Configuration "Q": GreenCube® ERV Ventilation Configuration "Q" *(Optional)*

The Marvair GreenCube® ERV is an enthalpy plate heat exchanger that transfers both sensible and latent energies between outgoing and incoming air streams in a cross flow arrangement. Except for two air movers, it has no moving parts. It can introduce up to a maximum of 350 cfm of outside air into the classroom. Two MERV 6 type filters are used on both sides of the enthalpy core. The fresh air and exhaust motors have independent speed controllers to permit each of the motors to be regulated independently.

The media is impregnated with a RC134 polymeric desiccant that exchanges water by direct vapor transfer using molecular transport without the need of condensation. The GreenCube® ERV will operate at temperatures as low as 10°F with no defrost mechanism. In addition, the desiccant is a bactericide.



The GreenCube® ERV is only available on HVPSA units (2-stage compressor). **All HVPSA units with the GreenCube® ERV, including the HVPSA36 and HVPSA42, are in the HVPSA49/60 cabinet (see page 28).**

Outside Air Ventilation Schedule

Ventilation Package Designator*	Description	Outside Air Capability	Pressure Relief
N	Manual, fixed position damper	0-15% of rated air flow	No
Y	Manual damper, field adjustable	Up to 450 cfm, but not to exceed 40% of the rated air flow of the heat pump.	No
Z	Manual damper, field adjustable	Up to 450 cfm, but not to exceed 40% of the rated air flow of the heat pump.	Yes
B	Motorized, two position damper (open and closed) includes pressure relief. A 24-volt actuated motor controls the damper from an external input such as a time clock, CO2 sensor, energy management system or a manual switch.	Up to 450 cfm, but not to exceed 40% of the rated air flow of the heat pump.	Yes
C	Economizer	100% of rated air flow of outside air	Yes
H	GreenWheel® ERV. Includes a ventilation intake air blower, a ventilation intake air filter, a ventilation exhaust blower and a single fan speed controller for both motors. Optional second fan speed controller for the exhaust air. This second controller allows independent control of the exhaust air motor and positive pressurization of the classroom.	0-450 CFM	Yes
Q	GreenCube® ERV total Energy Recovery Ventilator that can recover both sensible and latent heat. Includes two ventilation motors- one for intake air and a second for the exhaust air and two controllers to allow independent control of each motor.	0-350 cfm of outside air	Yes

Hot Gas Reheat Operation

Marvair® heat pumps equipped with Hot Gas Reheat (HGR) allow the indoor humidity of the controlled environment to be maintained at or below a certain humidity set point. These units do not have the ability to add humidity to the classroom. Dehumidification is achieved by operating mechanical cooling in conjunction with a hot gas reheat coil.

Operation - If the humidity rises above the set point on the humidity controller and the temperature in the classroom is satisfied, both mechanical cooling and the HGR coil operate to temper the air and lower the humidity. If the temperature in the classroom rises above (or falls below) the set point of the thermostat and the unit is operating in the dehumidification mode, the call for cooling (or heating) will override the call for dehumidification and the coil is disengaged until the thermostat is satisfied. This assures the environment temperature is maintained as first priority and humidity control is second.

Heat Pump PC Board

Each Classic heat pump has a PC board that controls the operation of the indoor blower, the compressor and the reversing valve while providing high refrigerant pressure and loss of refrigerant protection with an integral defrost function. In addition, the board has user selectable pins and potentiometers for multi-function control.

- **High & Loss of Refrigerant Protection**
  If either of these fault conditions occur twice within an one hour, the control board will enter into and indicate the lockout mode. In the lockout mode, the compressor will not operate, the alarm output is energized and the red LED will blink to indicate which fault has occurred. The user can select either Normally Open or Normally Closed contacts.
- **Compressor Anti-Short Cycle Protection**
  An integral three minute delay prevents compressor from destructive short cycling.
- **Loss of Refrigerant By-pass Timer**
  To prevent nuisance fault alarms, the board ignores a loss of charge fault for three minutes on start-up of the compressor.
- **Defrost Control**
  The defrost cycle removes ice build-up on the outdoor coil during the heating cycle. If the defrost sensor senses a coil temperature of 32°F while in the heat mode, a 30, 60 or 90 minute (user selectable) delay period will begin. After the delay period if the sensor is still calling for a defrost cycle, the outdoor fan will be stopped and the reversing valve energized. The defrost cycle will stop if the defrost sensor registers a temperature of 50°F or after 10 minutes. By moving a pin on the board, the user can have electric heat operating during the defrost cycle or not operate.
- **S-Circuit**
  The user can move a pin on the board to control whether the electric heat will operate simultaneously with the compressor.
- **Indoor Blower Speed Control**
  A speed control potentiometer mounted on the board allows the user to vary the blower speed on the AVPA heat pumps from 40% to 100% of rated air flow. (Not applicable to the HVPA and HVPSA units with the electronically commutated indoor blower motor).
- **Ventilation Damper Relay**
  The board has a dedicated relay to control a two position – Open & Closed - motorized fresh air damper (Ventilation Configuration “B”).

Protection of the Refrigerant Components

- **High Refrigerant Pressure Switch**
  The high pressure switch is located on the liquid line. It is electrically connected to the PC board and will turn the compressor off if the pressure rises above the set point twice within one hour. This protects the compressor if airflow is significantly reduced or lost through the coil performing the condenser function.
- **Loss of Charge Switch**
  The loss of charge switch is located on the liquid line. It is electrically connected to the PC board and will turn the compressor off if the pressure drops below the set point twice within one hour. This protects the compressor if airflow is significantly reduced or lost through the coil performing the evaporator function or there is a loss of refrigerant.

Classic Heat Pump Options

Marvair® options can be used to provide optimum performance over a full range of operating conditions.

- **Adjustable Outdoor Thermostat**
  Will not allow electric resistance heat to be energized unless the outdoor temperature is below the desired set point. Field or factory installed. Available on all Classic™ units.
- **Energy Management System (EMS) Relay Kit**
  Relay to control the unit. Available in 24, 120 or 240 VAC. Field or factory installed.
- **Electric Reheat**
  Control provides simultaneous operation of compressor when in cooling mode and the electric elements to provide dehumidification without over cooling the room. The electric element (kW) must be properly sized for each model for proper operation. Factory installed. Available on all Classic™ units. Consult factory for details.
- **Phase Monitor**
  Monitors power supply on 3Ø units and will turn the air conditioner off if power supply is not phased properly.
- **Compressor Sound Jackets**
  Reduces sound of compressor.

➤ Marvair Coil Cop® Theft Deterrent System

The Marvair Coil Cop® is a factory installed, multi-layered theft deterrent system designed for use in Marvair wall mounted air conditioners and heat pumps. It provides visual and audio warnings and remote notification in the event of an attempted theft or vandalism of the unit and can eliminate bulky and expensive cages. For a complete description of the components and operation of the Coil Cop system, please see the Coil Cop brochure (available for download at *www.marvair.com*).

Two variations of the Coil Cop theft deterrent system are available:

- **Coil Cop Variation T1** is the complete Coil Cop Package. Includes stainless steel channels to secure both the condenser and evaporator coils, warning labels, a speaker, tamper resistant fasteners, loss of charge switch, tri-axis accelerometer and operator panel with status lights.
- **Coil Cop Variation T2** includes stainless steel channels to secure the condenser coil, warning labels, a speaker, tamper resistant fasteners, loss of charge switch, tri-axis accelerometer and operator panel with status lights. Variation T2 does not include stainless steel channel on the evaporator coil.

Special Application Packages and Coil Coatings

➤ Protective Coating Packages

Two corrosion protection packages are offered - one for the condenser section (Coastal Environmental Package) and the other for the entire unit (Coat-All Package).

The Coastal Environmental Package includes:

- Corrosion resistant fasteners
- Sealed or partially sealed condenser fan motor
- Protective coating applied to all exposed internal copper and metal in the condenser section
- Protective coating on the condenser coil (Luvata Insitu®) contains ES2 (embedded stainless steel pigment) technology

The Coat all Package includes all of the above, plus:

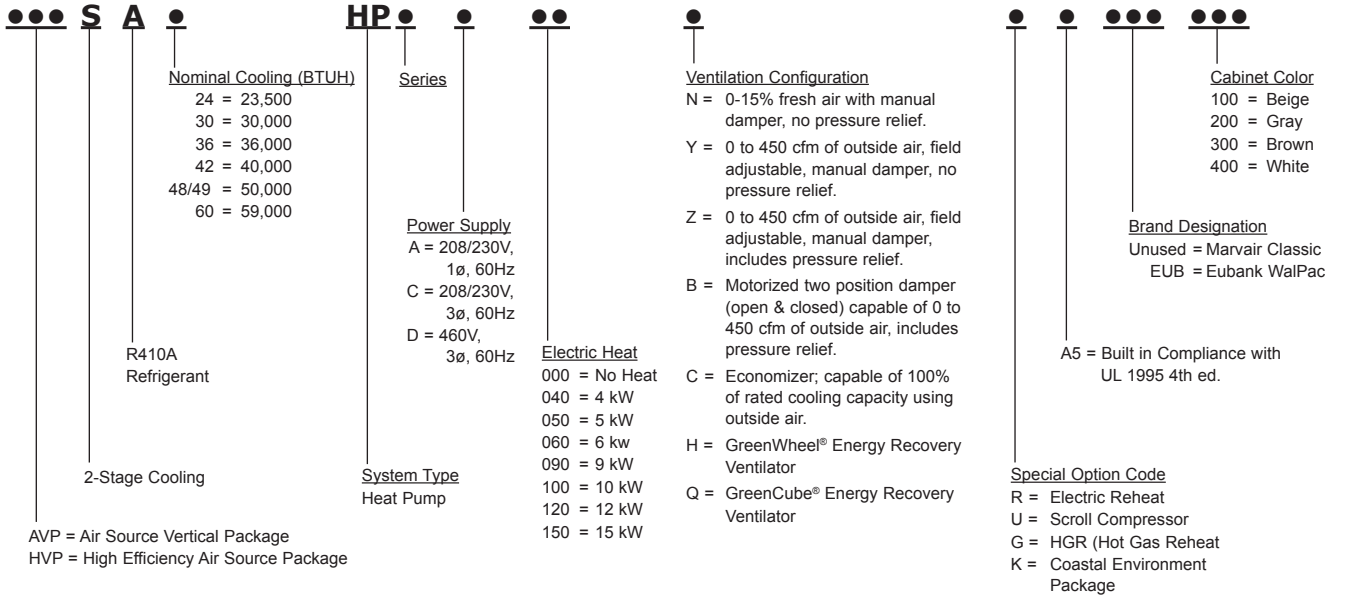
- Protective coating on the evaporator coil (Luvata Insitu®) contains ES2 (embedded stainless steel pigment) technology
- Protective coating on exterior and interior components and sheet metal. (***Note:*** the internal sheet metal which is insulated and the internal control box are not coated)

➤ Protective Coil Coatings

The Condenser Coil or the Evaporator Coil or Both can be coated. Coating the Evaporator Coil in not common. For harsh conditions, e.g., power plants, paper mills or sites where the unit will be exposed to salt water, the coils should be protected by a protective coating.

Note: Cooling capacity may be reduced by up to 5% on units with coated coils.

Classic Heat Pump Model Identification



Accessories

➤ Thermostats for Single Stage Heat Pumps (no electric heat)

Digital, Non-Programmable Thermostat ..... *P/N 50121*
1 stage heat, 1 stage cool. Fan switch: Auto & On. Manual changeover system switch: Cool-Off-Heat. Low temperature protection. °F or °C selectable. Thirty minute power loss memory retention.

Digital, Seven Day Programmable Thermostat ..... *P/N 50123*
1 stage heat, 1 stage cool. Fan switch: Auto & On. Auto-changeover. Keypad lockout. Non-volatile program memory. Title 24 compliant.

Digital, Non-Programmable Thermostat ..... *P/N 50186*
One stage cool/One stage heat. Manual or auto changeover. Fan mode: Auto or On. Permanent retention of settings upon power loss. Field adjustable temperature calibration. Max heat and minimum cool set points. Adjustable temperature differential. Remote sensor capable. Keypad lock out. Status LED. °F or °C selectable.

➤ Thermostats for Heat Pumps with 2-Stage Heat

Digital, 7 Day, 5-2 and 5-1-1 Day Programmable Thermostat ..... *P/N 50107*
Two stage heat/Two stage cool. Manual or auto changeover. Fan: Auto & On. Permanent retention of setting on power loss. Field adjustable temperature calibration. Adjustable max. setpoint for heating and min. adjustable setpoints for cooling. Adjustable temperature differential. Keypad lockout. Status LED. °F or °C selectable. Title 24 compliant.

Digital, 7 Day, 2 Occupied & 2 Unoccupied Periods for Each Day of the Week Programmable Thermostat ..... *P/N 50248*
Three stage heat/Three stage cool. Manual or auto changeover. Fan: Auto & On. Ten year retention of programming settings and 48 hour clock and day settings on power loss. Adjustable max. setpoint for heating and min. adjustable setpoints for cooling. Adjustable temperature differential. Keypad lockout. Status LED. °F or °C selectable. Optional remote sensors for outdoor air, supply air and humidity. Title 24 compliant.

Digital, Non-Programmable Thermostat ..... *P/N 50252*
Two stage heat/Two stage cool. Manual or auto changeover. Fan: Auto & On. Permanent retention of setting on power loss. Field adjustable temperature calibration. Adjustable max. setpoint for heating and min. adjustable setpoints for cooling. Adjustable temperature differential. Keypad lockout. Status LED. °F or °C selectable.

➤ MAR7000 Thermostat/Controller

The MAR7000 thermostat/controller is a stand alone, self-programming HVAC controller designed to optimize performance of Marvair's heat pumps and air conditioners. It can function as an independent controller or used in conjunction with a BACnet network.

With built-in temperature and humidity sensors, motion sensing and an optional CO2 detection sensor, the MAR7000 can control:

- Single or 2-stage air conditioners or heat pumps with supplemental hot water or electric heat,
- Hot gas dehumidification operation,
- An economizer cycle, and
- Marvair's various ventilation options including the Marvair GreenWheel® Energy Recovery Ventilator.

The intelligent occupancy anticipation feature of the MAR7000 automatically programs occupied and unoccupied settings for temperature, humidity, and ventilation requirements. The ventilation control can be based on occupancy, demand, time, or a combination of these features. When vacant, the thermostat automatically reduces the run time of the unit and adjusts ventilation to save energy. The intelligent occupancy feature can be turned off, and the MAR7000 can be connected to a BACnet control system for remote control and operation of Marvair heat pumps or air conditioners. The MAR7000 thermostat includes a precise, real time clock with capacitor back up to maintain the program and set points for extended power outages.

Features include:

- User-friendly English-language menus (no obscure numeric codes) on a 64 x 128 pixel, dot-matrix LCD display with 5 buttons for data selection and entry,
- Built-in, factory-tested libraries of configurable application control sequences,
- Schedules that can easily be set uniquely by weekdays (Mon.–Fri.), weekend (Sat.–Sun.), entire week (Mon.–Sun.), individual days, and/or holidays,
- Six On/Off and independent heating and cooling set point periods are available per day, and
- Three levels of password-protected access (user/operator/administrator) prevent disruption of operation and configuration

➤ Thermostat Guards

Clear Thermostat Guard with Keylock & Clear Plastic Cover & Base.....*P/N 50092*
For use with 50121, 50123, 50186, 50107 and 50252 thermostats.

Clear Thermostat Guard with Keylock & Clear Plastic Cover & Base.....*P/N 50119*
For use with 50248 thermostat.

➤ Humidity Controller

Digital Humidity Controller.....*P/N 50254*
To be used with units with Hot Gas or electric reheat. Programmable dehumidistat, ventilation control. Permanent memory retention of set points. Humidity sensor can be field calibrated. High & low dehumidification set points. Outdoor temperature and humidity sensor included. ºF or ºC selectable.

➤ Grilles

Description	Size	Marvair P/N
For the AVPA24		
Double Deflection, Aluminum Supply Grille	20" x 8" (509mm x 203mm)	80674
Aluminum Return Grille	20" x 12" (509mm x 305mm)	80677
Return Filter Grille	20" x 12" (509mm x 305mm)	80671
*For the AVPA30/36 & HVPA24**		
Double Deflection, Aluminum Supply Grille	28" x 8" (711mm x 203mm)	80675
Aluminum Return Grille	28" x 14" (711mm x 356mm)	80678
Return Filter Grille*	28" x 14" (711mm x 356mm	80672
**A return air filter grille is required on all AVPA24/30/36 & HVPA24 equipped with the GreenWheel® ERV.*		
For the AVPA42, 48, 60, & 72; HVPA30, 36, 42, 49 & 60 and HVPSA 36, 42, 49 & 60		
Double Deflection, Aluminum Supply Grille	30" x 10" (762mm x 254mm)	80676
Aluminum Return Grille	30" x 16" (762mm x 406mm)	80679
Return Filter Grille	30" x 16" (762mm x 406mm)	80673
Note: Return filter grilles should be used when the 2" (51mm) filter in the Classic unit is not accessible from the exterior of the building. Filter used in the return filter grille is a 1" (25mm) thick filter. The return filter grille is not recommended for use with the Classic II heat pumps with economizers.		

EER Comparison by Model

Nominal Cooling Capacity (BTUH)	Basic Model	EER
24,000	AVPA24	9.30
	HVPA24	11.00
	HVPSA24	11.00
30,000	HVPA30	11.50
	HVPSA30	11.00
36,000	HVPA36	11.00
	HVPSA36	11.00
42,000	HVPA42	11.00
	HVPSA42	11.00
48,000/49,000	HVPA49	11.50
	HVPSA49	11.00
60,000	HVPA60	11.00
	HVPSA60	11.00
Note: HVPSA models have 2-stage compressors.		

Classic AVPA Standard Efficiency Heat Pumps

Certified Efficiency and Capacity Ratings at ANSI/ARI Standard 390 - AVPA Heat Pumps

Model Number	AVPA24		
	HPA	HPC	HPD
Cooling BTUH[1]	24,000		
EER[2]	9.30		
High Temperature Heating[3]	24,000		
High Temperature COP[4]	3.00		
Rated Air Flow (CFM[5])	820		

[1]Cooling is rated at 95°F (35°C) outdoor and 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.
[2]EER = Energy Efficiency Ratio
[3]High Temperature Heating & COP are rated at 47°F DB/43°WB (8.3°C DB/6.1°C WB) outdoor and 70°F (21.1°C) return air.
[4]COP = Coefficient of Performance
[5]CFM = Cubic Feet per Minute
Ratings are with no outside air. Performance will be affected by altitude. Ratings are at 230 volts for 208/230 volt units ("A" & "C" models) and 460 volts for "D" models. Operation of units at a different voltage from that of the rating point will affect performance and air flow.

Sensible Total Heat Ratio @ 95°F (35°C) Outside Air DB - AVPA Heat Pumps

Model Number	AVPA24		
	HPA	HPC	HPD
Total Capacity	24,000		
Sensible Heat Ratio	0.78		
Sensible Capacity	18,770		
Rated Air Flow (CFM[1])	820		

[1]CFM=Cubic Feet per Minute
Sensible Heat Ratios based upon ANSI/AHRI std. 390 outdoor conditions of 95°F (35°C) outdoor and 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.

Cooling Performance (BTUH) at Various Outdoor Temperatures - AVPA Heat Pumps

Model Number	Outdoor Temperature								
	75°F/24°C	80°F/26.5°C	85°F/29°C	90°F/32°C	95°F/35°C	100°F/38°C	105°F/40.5°C	110°F/43.3°C	115°F/46°C
AVPA24HP	27,840	26,880	25,920	24,960	24,000	23,040	22,080	21,120	20,640

Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67°F WB (26.5°C DB/19.5°C WB). Return air at rated air flow.

Heating Performance (BTUH) at Various Outdoor Temperatures - AVPA Heat Pumps

Model Number	Outdoor Temperature								
	10°F/-12.2°C	17°F/-8.3°C	20°F/-6.7°C	30°F/-1.1°C	40°F/4.4°C	47°F/8.3°C	50°F/10°C	60°F/15.6°C	70°F/21.1°C
AVPA24HP	11,560	13,600	14,640	18,280	21,400	24,000	24,720	25,800	27,000

Based upon ANSI/AHRI std. 390 return air conditions of 70°F DB (21.1°C DB). Return air at rated air flow.

Air Flow (Cubic Feet per Minute)

Model Number	External Static Pressure (WET COIL)					
	0.10	0.20	0.25	0.30	0.40	0.50
AVPA24	860	810	740	670		

Air flow ratings of 208-230v. Units are at 230v. Air flow ratings of 480 v. units are at 460 volts. Operation of units at a different voltage from the rating point will affect air flow.

Electrical Characteristics - Compressor, Fan, Ventilation & Blower Motors - AVPA Heat Pumps

Model Number	COMPRESSOR			OTHER MOTORS	OUTDOOR FAN MOTOR			INDOOR BLOWER MOTOR			VENTILATION GREENWHEEL® ERV AMPS		
	VOLTS-HZ-PH	RLA[1]	LRA[2]	VOLTS-HZ-PH	RPM[3]	FLA[4]	HP[5]	RPM[3]	FLA[4]	HP[5]	OAM[6]	EXM[7]	WD[8]
AVPA24HPA	208/230-60-1	12.8	64.0	208/230-60-1	1075	1.5	1/5	1075	1.5	1/5	1.0	1.0	0.2
AVPA24HPC	208/230-60-3	8.3	61.0	208/230-60-1	1075	1.5	1/5	1075	1.5	1/5	1.0	1.0	0.2
AVPA24HPD	460-60-3	5.1	28.0	208/230-60-1	1075	1.5	1/5	1075	1.5	1/5	1.0	1.0	0.2

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]RPM = Revolutions per Minute [4]FLA = Full Load Amps

[5]HP = Horsepower [6]OAM = Outside Air Mover [7]EXM = Exhaust Air Mover [8]WD = Wheel Drive Motor

The 460 volt units have a step down transformer for the 230 volt motors.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - AVPA Heat Pumps with Ventilation Configurations: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized 2-Position Damper, up to 450 cfm of outside air w/Pressure Relief ("B") Economizer, Outside air with Pressure Relief ("C")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
AVPA24HPA	208/230-1-60	19.0	30	39.9	40	45.0	50	50.3	60	60.6	70			71.1	80				
AVPA24HPC	208/230-3-60	13.4	20					31.4	35			40.5	45						
AVPA24HPD	460-3-60	7.9	15					16.9	20			21.4	25			25.9	30	30.4	35

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry

MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - AVPA Heat Pumps with the "S" Circuit and Ventilation Configuration: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized 2-Position Damper, up to 450 cfm of outside air w/Pressure Relief ("B") Economizer, Outside air with Pressure Relief ("C")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
AVPA24HPA	208/230-1-60	19.0	30	20.3	30	27.5	30	32.8	35					53.6	60				
AVPA24HPC	208/230-3-60	13.4	20					19.5	20			28.6	30			37.6	40	46.6	50
AVPA24HPD	460-3-60	7.9	15					9.8	15			14.3	15			18.8	20	23.3	25

"S" Circuit - Compressor and electric heat can NOT operate simultaneously.

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry

MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - AVPA Heat Pumps Ratings and GreenWheel® Energy Recovery Ventilator - Ventilation Configuration ("H")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
AVPA24HPA	208/230-1-60	21.2	30	42.1	45	47.2	50	52.5	60	62.8	70			73.3	80				
AVPA24HPC	208/230-3-60	15.6	20					33.6	35			42.7	45						
AVPA24HPD	460-3-60	9.0	15					18.0	20			22.5	25			27.0	30	31.5	35

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - AVPA Heat Pumps with the "S" Circuit and GreenWheel® Energy Recovery Ventilator - Ventilation Configuration ("H")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
AVPA24HPA	208/230-1-60	21.2	30	22.5	30	29.7	30	35.0	35					55.8	60				
AVPA24HPC	208/230-3-60	15.6	20					21.7	25			30.8	35			39.8	40	46.6	50
AVPA24HPD	460-3-60	9.0	15					10.9	15			15.4	20			19.9	20	24.4	25

"S" Circuit - Compressor and electric heat can NOT operate simultaneously.
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Unit Load Amps (Heating) - AVPA Heat Pumps with Ventilation Configurations: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized 2-Position Damper, up to 450 cfm of outside air w/Pressure Relief ("B") Economizer, Outside air with Pressure Relief ("C")

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)		LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS *(1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS*								TOTAL MAXIMUM HEATING AMPS *INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS*							
		HP[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
AVPA24HPA	208-230/1/60	15.8	1.5	16.7	20.8	25.0	33.3		41.7			32.5	36.6	40.8	49.1		57.5		
AVPA24HPC	208-230/3/60	11.2	1.5			14.4		21.7		28.9	36.1			25.6		32.9		40.1	47.3
AVPA24HPD	460/3/60	6.6	0.8			7.2		10.8		14.4	18.0			13.8		17.4		21.0	24.6

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor
Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.
Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

Unit Load Amps (Heating) - AVPA Heat Pumps with GreenWheel® Energy Recovery Ventilator - Ventilation Configuration ("H")

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)			LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS *(1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS*								TOTAL MAXIMUM HEATING AMPS *INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS*							
		HP[1]	IBM[2]	H[3]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
AVPA24HPA	208-230/1/60	18.0	1.5	2.2	16.7	20.8	25.0	33.3		41.7			18.2	38.8	43.0	51.3		59.7		
AVPA24HPC	208-230/3/60	13.4	1.5	2.2			14.4		21.7		28.9	36.1			27.8		35.1		42.3	49.5
AVPA24HPD	460/3/60	7.7	0.8	1.1			7.2		10.8		14.4	18.0			14.9		18.5		22.1	25.7

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor [3]H = GreenWheel ERV
Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.
Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

Classic HVPA High Efficiency Heat Pumps

Certified Efficiency and Capacity Ratings at ANSI/ARI Standard 390 - for HVPA Heat Pumps with Single Stage Compressor

Model Number	HVPA24HP1			HVPA30			HVPA36			HVPA42HP2			HVPA49			HVPA60HP1		
	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD
Cooling BTUH[1]	23,600			28,000			34,600			40,500			47,000			56,500		
EER[2]	11.00			11.50			11.00			11.00			11.50			11.00		
High Temperature Heating[3]	23,000			26,000			33,000			39,000			42,000			51,000		
High Temperature COP[3,4]	3.25			3.00			3.25			3.25			3.25			3.00		
Rated Air Flow (CFM[5])	800			1,000			1,200			1,300			1,750			1,750		

[1]Cooling is rated at 95°F (35°C) outdoor and 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.
[2]EER = Energy Efficiency Ratio
[3]High Temperature Heating & COP is rated at 47°F DB/43°WB (8.3°C DB/6.1°C WB) outdoor and 70°F (21.1°C) return air.
[4]COP = Coefficient of Performance
[5]CFM = Cubic Feet per Minute
Ratings are with no outside air. Performance will be affected by altitude. Ratings are at 230 volts for 208/230 volt units ("A" & "C" models) and 460 volts for "D" models. Operation of units at a different voltage from that of the rating point will affect performance and air flow.

Sensible Total Heat Ratio @ 95°F (35°C) Outside Air DB - HVPA Heat Pumps with Single Stage Compressor

Model Number	HVPA24HP1			HVPA30			HVPA36			HVPA42HP2			HVPA49			HVPA60HP1		
	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD
Total Capacity	23,600			28,000			34,600			40,500			47,000			56,500		
Sensible Heat Ratio	0.74			0.73			0.74			0.70			0.75			0.71		
Sensible Capacity	17,435			20,460			25,490			28,415			35,200			40,295		
Rated Air Flow (CFM[1])	800			1,000			1,200			1,300			1,750			1,750		

[1]CFM = Cubic Feet per Minute
Sensible Heat Ratios based upon ANSI/AHRI std. 390 outdoor conditions of 95°F (35°C) outdoor and 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.

Cooling Performance (BTUH) at Various Outdoor Temperatures - HVPA Heat Pumps with Single Stage Compressor

Model Number	Outdoor Temperature								
	75°F/24°C	80°F/26.5°C	85°F/29°C	90°F/32°C	95°F/35°C	100°F/38°C	105°F/40.5°C	110°F/43.3°C	115°F/46°C
HVPA24HP1	27,375	26,430	25,490	24,545	23,600	22,655	21,710	20,770	20,295
HVPA30HP	32,480	31,360	30,240	29,120	28,000	26,880	25,760	24,640	24,080
HVPA36HP	40,135	38,750	37,370	35,985	34,600	33,215	31,830	30,450	29,755
HVPA42HP2	46,980	45,360	43,740	42,120	40,500	38,880	37,260	35,640	34,830
HVPA49HP	54,520	52,640	50,760	48,880	47,000	45,120	43,240	41,360	40,420
HVPA60HP1	65,540	63,280	61,020	58,760	56,500	54,240	51,980	49,720	48,590

Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67°F WB (26.5°C DB/19.5°C WB). Return air at rated air flow.

Heating Performance (BTUH) at Various Outdoor Temperatures - HVPA Heat Pumps with Single Stage Compressor

Model Number	Outdoor Temperature								
	10°F / -12.2°C	17°F / -8.3°C	20°F / -6.7°C	30°F / -1.1°C	40°F / 4.4°C	47°F / 8.3°C	50°F / 10°C	60°F / 15.6°C	70°F / 21.1°C
HVPA24HP1	9,775	11,500	12,650	16,675	20,125	23,000	23,690	24,725	25,875
HVPA30HP	12,410	14,600	15,740	19,730	23,150	26,000	26,780	27,950	29,250
HVPA36HP	14,110	16,600	18,240	23,980	28,900	33,000	33,990	35,475	37,125
HVPA42HP2	16,150	19,000	21,000	28,000	34,000	39,000	40,170	41,925	43,875
HVPA49HP	20,060	23,600	25,440	31,880	37,400	42,000	43,260	45,150	47,250
HVPA60HP1	23,800	28,000	30,300	38,350	45,250	51,000	52,530	54,825	57,375

Based upon ANSI/AHRI std. 390 return air conditions of 70°F DB (21.1°C DB). Return air at rated air flow.

Electrical Characteristics - Compressor, Fan, Ventilation & Blower Motors - HVPA Heat Pumps with Single Stage Compressor

Model Number	COMPRESSOR			OTHER MOTORS	OUTDOOR FAN MOTOR			INDOOR BLOWER MOTOR (ECM)			VENTILATION GREENWHEEL® ERV AMPS		
	VOLTS-HZ-PH	RLA[1]	LRA[2]	VOLTS-HZ-PH	RPM[3]	FLA[4]	HP[5]	RPM[3]	FLA[4]	HP[5]	OAM[6]	EXM[7]	WD[8]
HVPA24HP1A	208/230-60-1	12.8	64.0	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	1.0	1.0	0.2
HVPA30HPA	208/230-60-1	12.8	77.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA36HPA	208/230-60-1	16.6	112.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA42HP2A	208/230-60-1	19.8	109.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA49HPA	208/230-60-1	21.8	117.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPA60HP1A	208/230-60-1	26.2	134.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPA24HP1C	208/230-60-3	7.7	61.0	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	1.0	1.0	0.2
HVPA30HPC	208/230-60-3	8.3	71.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA36HPC	208/230-60-3	10.4	88.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA42HP2C	208/230-60-3	13.6	83.1	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA49HPC	208/230-60-3	13.7	83.1	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPA60HP1C	208/230-60-3	15.6	111.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPA24HP1D	460-60-3	4.0	28.0	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	1.0	1.0	0.2
HVPA30HPD	460-60-3	5.1	38.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA36HPD	460-60-3	5.8	44.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA42HP2D	460-60-3	6.1	41.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPA49HPD	460-60-3	6.2	41.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPA60HP1D	460-60-3	7.7	52.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]RPM = Revolutions per Minute [4]FLA = Full Load Amps
[5]HP = Horsepower [6]OAM = Outside Air Mover [7]EXM = Exhaust Air Mover [8]WD = Wheel Drive Motor
The 460 volt units have a step down transformer for the 230 volt motors.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPA Heat Pumps w/Single Stage Compressor & Ventilation Configuration: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized, 2-Position Damper, up to 450 CFM of Outside Air w/Pressure Relief ("B") Economizer, Outside Air ("C")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPA24HP1A	208/230-1-60	20.6	30	41.5	45	46.6	50	51.9	60	62.2	70			72.7	80				
HVPA30HPA	208/230-1-60	21.6	30			47.6	50	52.9	60	63.2	70			73.7	80	84.1	90	99.7	100
HVPA36HPA	208/230-1-60	26.4	40			52.4	60	57.7	60	68.0	70			78.5	80	88.9	90	104.5	110
HVPA42HP2A	208/230-1-60	30.4	50			56.4	60							82.5	90	92.9	100	108.5	110
HVPA49HPA	208/230-1-60	34.4	50			60.4	70							86.5	90	96.9	100	112.5	120
HVPA60HP1A	208/230-1-60	39.9	60			65.9	70							92.0	100	102.4	110	118.0	120
HVPA24HP1C	208/230-3-60	14.2	20					32.2	35			41.3	45						
HVPA30HPC	208/230-3-60	16.0	20					34.0	35			43.1	45			52.1	60	61.1	70
HVPA36HPC	208/230-3-60	18.6	25					36.6	40			45.7	50			54.7	60	63.7	70
HVPA42HP2C	208/230-3-60	22.6	35					40.6	45			49.7	50			58.7	60	67.7	70
HVPA49HPC	208/230-3-60	24.2	35					42.2	45			51.3	60			60.3	70	69.3	70
HVPA60HP1C	208/230-3-60	26.6	40					44.6	45			53.7	60			62.7	70	71.7	80
HVPA24HP1D	460-3-60	7.3	15					16.3	20			20.8	25			25.3	30	29.8	30
HVPA30HPD	460-3-60	9.2	15					18.2	20			22.7	25			27.2	30	31.7	35
HVPA36HPD	460-3-60	10.1	15					19.1	20			23.6	25			28.1	30	32.6	35
HVPA42HP2D	460-3-60	10.4	15					19.4	20			23.9	25			28.4	30	32.9	35
HVPA49HPD	460-3-60	11.3	15					20.3	25			24.8	25			29.3	30	33.8	35
HVPA60HP1D	460-3-60	13.2	20					22.2	25			26.7	30			31.2	35	35.7	40

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPA Heat Pumps with Single Stage Compressor and "S" Circuit and Ventilation Configurations: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized, 2-Position Damper, up to 450 CFM of Outside Air w/Pressure Relief ("B") Economizer, Outside Air ("C")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPA24HP1A	208/230-1-60	20.6	30	23.7	30	28.8	30	34.1	35	44.4	50			54.9	60				
HVPA30HPA	208/230-1-60	21.6	30			28.8	30	34.1	35	44.4	50			54.9	60	65.3	70	80.9	90
HVPA36HPA	208/230-1-60	26.4	40			28.8	40	34.1	40	44.4	50			54.9	60	65.3	70	80.9	90
HVPA42HP2A	208/230-1-60	30.4	50			30.4	50			44.4	50			54.9	60	65.3	70	80.9	90
HVPA49HPA	208/230-1-60	34.4	50			34.4	50			45.9	50			56.4	60	66.8	70	82.4	90
HVPA60HP1A	208/230-1-60	39.9	60			39.9	60			45.9	60			56.4	60	66.8	70	82.4	90
HVPA24HP1C	208/230-3-60	14.2	20					20.8	25			29.9	30			38.9	40	47.9	50
HVPA30HPC	208/230-3-60	16.0	20					20.8	25			29.9	30			38.9	40	47.9	50
HVPA36HPC	208/230-3-60	18.6	25					20.8	25			29.9	30			38.9	40	47.9	50
HVPA42HP2C	208/230-3-60	22.6	35					20.8	35			29.9	35			38.9	40	47.9	50
HVPA49HPC	208/230-3-60	24.2	35					24.2	35			31.4	35			40.4	45	49.4	50
HVPA60HP1C	208/230-3-60	26.6	40					26.6	40			31.4	40			40.4	45	49.4	50
HVPA24HP1D	460-3-60	7.3	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPA30HPD	460-3-60	9.2	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPA36HPD	460-3-60	10.1	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPA42HP2D	460-3-60	10.4	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPA49HPD	460-3-60	11.3	15					11.3	15			15.7	20			20.2	25	24.7	25
HVPA60HP1D	460-3-60	13.2	20					13.2	20			15.7	20			20.2	25	24.7	25

S-Circuit - Compressor and electric heat do NOT operate simultaneously.
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPA Heat Pumps with Single Stage Compressor and GreenWheel® ERV - Ventilation Configuration ("H")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPA24HP1A	208/230-1-60	22.8	35	43.7	45	48.8	50	54.1	60	64.4	70			74.9	80				
HVPA30HPA	208/230-1-60	23.8	35			49.8	50	55.1	60	65.1	70			75.9	80	86.3	90	101.9	110
HVPA36HPA	208/230-1-60	28.6	40			54.6	60	59.9	60	70.2	80			80.7	90	91.1	100	106.7	110
HVPA42HP2A	208/230-1-60	32.6	50			58.6	60							84.7	90	95.1	100	110.7	120
HVPA49HPA	208/230-1-60	36.6	50			62.6	70							88.7	90	99.1	100	114.7	120
HVPA60HP1A	208/230-1-60	42.1	60			68.1	70							94.2	100	104.6	110	120.2	130
HVPA24HP1C	208/230-3-60	16.4	20					34.4	35			43.5	45						
HVPA30HPC	208/230-3-60	18.2	25					36.2	40			45.3	50			54.3	60	63.3	70
HVPA36HPC	208/230-3-60	20.8	25					38.8	40			47.9	50			56.9	60	65.9	70
HVPA42HP2C	208/230-3-60	24.8	35					42.8	45			51.9	60			60.9	70	69.9	70
HVPA49HPC	208/230-3-60	26.4	35					44.4	45			53.5	60			62.5	70	71.5	80
HVPA60HP1C	208/230-3-60	28.8	40					46.8	50			55.9	60			64.9	70	73.9	80
HVPA24HP1D	460-3-60	8.4	15					17.4	20			21.9	25			26.4	30	30.9	35
HVPA30HPD	460-3-60	10.3	15					19.3	20			23.8	25			28.3	30	32.8	35
HVPA36HPD	460-3-60	11.2	15					20.2	25			24.7	25			29.2	30	33.7	35
HVPA42HP2D	460-3-60	11.5	15					20.5	25			25.0	25			29.5	30	34.0	35
HVPA49HPD	460-3-60	12.4	15					21.4	25			25.9	30			30.4	35	34.9	35
HVPA60HP1D	460-3-60	14.3	20					23.3	25			27.8	30			32.3	35	36.8	40

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPA Heat Pumps w/Single Stage Compressor & "S" Circuit & GreenWheel® ERV - Ventilation Configuration ("H")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPA24HP1A	208/230-1-60	22.8	35	25.9	30	31.0	35	36.3	40					57.1	60				
HVPA30HPA	208/230-1-60	23.8	35			31.0	35	36.3	40					57.1	60	67.5	70	83.1	90
HVPA36HPA	208/230-1-60	28.6	40			31.0	45	36.3	45					57.1	60	67.5	70	83.1	90
HVPA42HP2A	208/230-1-60	32.6	50			32.6	50							57.1	60	67.5	70	83.1	90
HVPA49HPA	208/230-1-60	36.6	50			36.6	50							58.6	60	69.0	70	84.6	90
HVPA60HP1A	208/230-1-60	42.1	60			42.1	60							58.6	60	69.0	70	84.6	90
HVPA24HP1C	208/230-3-60	16.4	20					23.0	25			32.1	35			41.1	45	50.1	60
HVPA30HPC	208/230-3-60	18.2	25					23.0	25			32.1	35			41.1	45	50.1	60
HVPA36HPC	208/230-3-60	20.8	25					23.0	30			32.1	35			41.1	45	50.1	60
HVPA42HP2C	208/230-3-60	24.8	35					24.8	35			32.1	35			41.1	45	50.1	60
HVPA49HPC	208/230-3-60	26.4	35					26.4	35			33.6	35			42.6	45	51.6	60
HVPA60HP1C	208/230-3-60	28.8	40					28.8	40			33.6	40			42.6	45	51.6	60
HVPA24HP1D	460-3-60	8.4	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPA30HPD	460-3-60	10.3	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPA36HPD	460-3-60	11.2	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPA42HP2D	460-3-60	11.5	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPA49HPD	460-3-60	12.4	15					12.4	15			16.8	20			21.3	25	25.8	30
HVPA60HP1D	460-3-60	14.3	20					14.3	20			16.8	20			21.3	25	25.8	30

S-Circuit - Compressor and electric heat do NOT operate simultaneously.
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Unit Load Amps (Heating) - HVPA Heat Pumps w/Single Stage Compressor & Ventilation Configuration: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized 2-Position Damper, up to 450 cfm of outside air w/Pressure Relief ("B") Economizer, Outside Air ("C")

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)		LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS (1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS								TOTAL MAXIMUM HEATING AMPS INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS							
		HP[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
HVPA24HP1A	208-230/1/60	17.4	2.8	16.7	20.8	25.0	33.3		41.7			34.1	38.2	42.4	50.7		59.1		
HVPA30HPA	208-230/1/60	18.4	2.8	16.7	20.8	25.0	33.3		41.7	50.0	62.5	35.1	39.2	43.4	51.7		60.1	68.4	80.9
HVPA36HPA	208-230/1/60	22.2	2.8	16.7	20.8	25.0	33.3		41.7	50.0	62.5	38.9	43.0	47.2	55.5		63.9	72.2	84.7
HVPA42HP2A	208-230/1/60	25.4	2.8		20.8				41.7	50.0	62.5		46.2				67.1	75.4	87.9
HVPA49HPA	208-230/1/60	28.9	4.3		20.8				41.7	50.0	62.5		49.7				70.6	78.9	91.4
HVPA60HP1A	208-230/1/60	33.3	4.3		20.8				41.7	50.0	62.5		54.1				75.0	83.3	95.8
HVPA24HP1C	208-230/3/60	12.3	2.8			14.4		21.7		28.9	36.1			26.7		34.0		41.2	48.4
HVPA30HPC	208-230/3/60	13.9	2.8			14.4		21.7		28.9	36.1			28.3		35.6		42.8	50.0
HVPA36HPC	208-230/3/60	17.5	2.8			14.4		21.7		28.9	36.1			31.9		39.2		46.4	53.6
HVPA42HP2C	208-230/3/60	19.2	2.8			14.4		21.7		28.9	36.1			33.6		40.9		48.1	55.3
HVPA49HPC	208-230/3/60	20.8	4.3			14.4		21.7		28.9	36.1			35.2		42.5		49.7	56.9
HVPA60HP1C	208-230/3/60	22.7	4.3			14.4		21.7		28.9	36.1			37.1		44.4		51.6	58.8
HVPA24HP1D	460/3/60	6.3	1.4			7.2		10.8		14.4	18.0			13.5		17.1		20.7	24.3
HVPA30HPD	460/3/60	7.9	1.4			7.2		10.8		14.4	18.0			15.1		18.7		22.3	25.9
HVPA36HPD	460/3/60	8.6	1.4			7.2		10.8		14.4	18.0			15.8		19.4		23.0	26.6
HVPA42HP2D	460/3/60	8.9	1.4			7.2		10.8		14.4	18.0			16.1		19.7		23.3	26.9
HVPA49HPD	460/3/60	9.8	2.2			7.2		10.8		14.4	18.0			17.0		20.6		24.2	27.8
HVPA60HP1D	460/3/60	11.3	2.2			7.2		10.8		14.4	18.0			18.5		22.1		25.7	29.3

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor
Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.
Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

Unit Load Amps (Heating) - HVPA Heat Pumps with Single Stage Compressor and GreenWheel® ERV - Ventilation Configuration ("H")

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)			LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS *(1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS*								TOTAL MAXIMUM HEATING AMPS *INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS*							
		HP[1]	IBM[2]	H[3]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
HVPA24HP1A	208-230/1/60	19.6	2.8	2.2	16.7	20.8	25.0	33.3		41.7			19.5	40.4	44.6	52.9		61.3		
HVPA30HPA	208-230/1/60	20.6	2.8	2.2	16.7	20.8	25.0	33.3		41.7	**50.0**	**62.5**	19.5	41.4	45.6	53.9		62.3	**70.6**	**83.1**
HVPA36HPA	208-230/1/60	24.4	2.8	2.2	16.7	20.8	25.0	33.3		41.7	**50.0**	**62.5**	19.5	45.2	49.4	57.7		66.1	**74.4**	**86.9**
HVPA42HP2A	208-230/1/60	27.6	2.8	2.2		20.8				41.7	**50.0**	**62.5**		48.4				69.3	**77.6**	**90.1**
HVPA49HPA	208-230/1/60	31.1	4.3	2.2		20.8				41.7	**50.0**	**62.5**		51.9				72.8	**81.1**	**93.6**
HVPA60HP1A	208-230/1/60	35.5	4.3	2.2		20.8				41.7	**50.0**	**62.5**		56.3				77.2	**85.5**	**98.0**
HVPA24HP1C	208-230/3/60	14.5	2.8	2.2			14.4		21.7		28.9	36.1			28.9		36.2		43.4	50.6
HVPA30HPC	208-230/3/60	16.1	2.8	2.2			14.4		21.7		28.9	36.1			30.5		37.8		45.0	52.2
HVPA36HPC	208-230/3/60	19.7	2.8	2.2			14.4		21.7		28.9	36.1			34.1		41.4		48.6	55.8
HVPA42HP2C	208-230/3/60	21.4	2.8	2.2			14.4		21.7		28.9	36.1			35.8		43.1		50.3	57.5
HVPA49HPC	208-230/3/60	23.0	4.3	2.2			14.4		21.7		28.9	36.1			37.4		44.7		51.9	59.1
HVPA60HP1C	208-230/3/60	24.9	4.3	2.2			14.4		21.7		28.9	36.1			39.3		46.6		53.8	61.0
HVPA24HP1D	460/3/60	7.4	1.4	1.1			7.2		10.8		14.4	18.0			14.6		18.2		21.8	25.4
HVPA30HPD	460/3/60	9.0	1.4	1.1			7.2		10.8		14.4	18.0			16.2		19.8		23.4	27.0
HVPA36HPD	460/3/60	9.7	1.4	1.1			7.2		10.8		14.4	18.0			16.9		20.5		24.1	27.7
HVPA42HP2D	460/3/60	10.0	1.4	1.1			7.2		10.8		14.4	18.0			17.2		20.8		24.4	28.0
HVPA49HPD	460/3/60	10.9	2.2	1.1			7.2		10.8		14.4	18.0			18.1		21.7		25.3	28.9
HVPA60HP1D	460/3/60	12.4	2.2	1.1			7.2		10.8		14.4	18.0			19.6		23.2		26.8	30.4

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor [3]H = GreenWheel ERV

Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.

Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

Classic HVPSA Heat Pumps with 2-Stage Compressor

Certified Efficiency and Capacity Ratings at ANSI/ARI Standard 390 - for HVPSA Heat Pumps with 2-Stage Compressor

Model Number	HVPSA24HP1			HVPSA30HP1			HVPSA36HP2			HVPSA42HP2			HVPSA49HP1			HVPSA60HP1		
	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD
Cooling BTUH[1] - 2nd Stage	23,000			29,000			35,000			39,000			47,000			57,000		
EER[2] - 2nd Stage	11.00			11.00			11.00			11.00			11.00			11.00		
Integrated Part Load Value[3]	14.0			14.0			14.00			14.00			15.00			14.80		
High Temperature Heating[4]	22,000			26,000			31,400			37,600			39,000			50,500		
High Temperature COP[5]	3.00			3.00			3.20			3.15			3.00			3.00		
Rated Air Flow (CFM[6])	800			1,000			1,200			1,300			1,750			1,750		

[1]Cooling is rated at 95°F (35°C) outdoor and 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.
[2]EER = Energy Efficiency Ratio
[3]Integrated Part Load Value is an integrated efficiency measure from 1st and 2nd stage capacity modulation.
[4]High Temperature Heating & COP is rated at 47°F DB/43°WB (8.3°C DB/6.1°C WB) outdoor and 70°F (21.1°C) return air.
[5]COP = Coefficient of Performance
[6]CFM = Cubic Feet per Minute
Ratings are with no outside air. Performance will be affected by altitude. Ratings are at 230 volts for 208/230 volt units ("A" & "C" models) and 460 volts for "D" models.
Operation of units at a different voltage from that of the rating point will affect performance and air flow.

Sensible Total Heat Ratio @ 95ºF (35ºC) Outside Air DB - HVPSA Heat Pumps - Stage 2

Model Number	HVPSA24HP1			HVPSA30HP1			HVPSA36HP2			HVPSA42HP2			HVPSA49HP1			HVPSA60HP1		
	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD	HPA	HPC	HPD
Total Capacity	23,000			29,000			35,000			39,000			47,000			57,000		
Sensible Heat Ratio	0.75			0.78			0.72			0.70			0.74			0.71		
Sensible Capacity	17,315			22,525			25,485			27,460			34,710			40,605		
Rated Air Flow (CFM)	800			1,000			1,200			1,300			1,750			1,750		

[1]CFM=Cubic Feet per Minute
Sensible Heat Ratios based upon ANSI/AHRI std. 390 outdoor conditions of 95°F (35°C) outdoor and 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.

Cooling Performance (BTUH) at Various Outdoor Temperatures - HVPSA Heat Pumps - Stage 2

Model Number	Outdoor Temperature								
	75ºF/24ºC	80ºF/26.5ºC	85ºF/29ºC	90ºF/32ºC	95ºF/35ºC	100ºF/38ºC	105ºF/40.5ºC	110ºF/43.3ºC	115ºF/46ºC
HVPSA24HP1	26,680	25,760	24,840	23,920	23,000	22,080	21,160	20,240	19,780
HVPSA30HP1	33,640	32,480	31,320	30,160	29,000	27,840	26,680	25,520	24,940
HVPSA36HP2	40,600	39,200	37,800	36,400	35,000	33,600	32,200	30,800	30,100
HVPSA42HP2	45,240	43,680	42,120	40,560	39,000	37,440	35,880	34,320	33,540
HVPSA49HP1	54,520	52,640	50,760	48,880	47,000	45,120	43,240	41,360	40,420
HVPSA60HP1	66,120	63,840	61,560	59,280	57,000	54,720	52,440	50,160	49,020

Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67°F WB (26.5°C DB/19.5°C WB). Return air at rated air flow.

Heating Performance (BTUH) at Various Outdoor Temperatures - HVPSA Heat Pumps with 2-Stage Compressor

Model Number	Outdoor Temperature								
	10ºF/-12.2ºC	17ºF/-8.3ºC	20ºF/-6.7ºC	30ºF/-1.1ºC	40ºF/4.4ºC	47ºF/8.3ºC	50ºF/10ºC	60ºF/15.6ºC	70ºF/21.1ºC
HVPSA24HP1	10,285	12,100	13,090	16,555	19,525	22,000	22,660	23,650	24,750
HVPSA30HP1	12,155	14,300	15,470	19,565	23,075	26,000	26,780	27,950	29,250
HVPSA36HP2	14,620	17,200	18,620	23,590	27,850	31,400	32,342	33,755	35,325
HVPSA42HP2	17,680	20,800	22,420	28,090	32,950	37,000	38,110	39,775	41,625
HVPSA49HP1	18,700	22,000	23,700	29,650	34,750	39,000	40,170	41,925	43,875
HVPSA60HP1	25,500	30,000	32,050	39,225	45,375	50,500	52,015	54,288	56,813

Based upon ANSI/AHRI std. 390 return air conditions of 70°F DB (21.1°C DB). Return air at rated air flow.

Electrical Characteristics - HVPSA Heat Pumps - 2-Stage Compressor
Manual Damper, up to 15% outside air ("N")
Manual Damper, up to 450 cfm of outside air ("Y")
Manual Damper, up to 450 cfm of outside air with pressure relief ("Z")
Motorized 2-Position Damper, up to 450 cfm of outside air w/Pressure Relief ("B")
Economizer, Outside air with Pressure Relief ("C")
GreenWheel® Energy Recovery Ventilator ("H")
Compressor, Fan, Ventilation & Blower Motors -

Model Number	COMPRESSOR			OTHER MOTORS	OUTDOOR FAN MOTOR			INDOOR BLOWER MOTOR (ECM)			VENTILATION GREENWHEEL® ERV AMPS		
	VOLTS-HZ-PH	RLA[1]	LRA[2]	VOLTS-HZ-PH	RPM[3]	FLA[4]	HP[5]	RPM[3]	FLA[4]	HP[5]	OAM[6]	EXM[7]	WD[8]
HVPSA24HP1A	208/230-60-1	11.6	58.3	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	1.0	1.0	0.2
HVPSA30HP1A	208/230-60-1	13.1	73.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA36HP2A	208/230-60-1	15.2	83.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA42HP2A	208/230-60-1	17.9	96.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA49HP1A	208/230-60-1	21.1	104.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPSA60HP1A	208/230-60-1	27.1	152.9	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPSA24HP1C	208/230-60-3	6.5	55.4	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	1.0	1.0	0.2
HVPSA30HP1C	208/230-60-3	8.6	58.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA36HP2C	208/230-60-3	11.6	73.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA42HP2C	208/230-60-3	14.1	88.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA49HP1C	208/230-60-3	14.0	83.1	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPSA60HP1C	208/230-60-3	16.5	110.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPSA24HP1D	460-60-3	3.5	28.0	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	1.0	1.0	0.2
HVPSA30HP1D	460-60-3	4.3	28.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA36HP2D	460-60-3	5.7	38.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA42HP2D	460-60-3	6.2	44.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	1.0	1.0	0.2
HVPSA49HP1D	460-60-3	6.4	41.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2
HVPSA60HP1D	460-60-3	7.2	52.0	208/230-60-1	825	2.8	1/2	1500	4.3	3/4	1.0	1.0	0.2

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]RPM = Revolutions per Minute [4]FLA = Full Load Amps
[5]HP = Horsepower [6]OAM = Outside Air Mover [7]EXM = Exhaust Air Mover [8]WD = Wheel Drive Motor
The 460 volt units have a step down transformer for the 230 volt motors.

Electrical Characteristics - HVPSA Heat Pumps - 2-Stage Compressor
GreenCube® Energy Recovery Ventilator ("Q")
Compressor, Fan, Ventilation & Blower Motors-

Model Number	COMPRESSOR			OTHER MOTORS	OUTDOOR FAN MOTOR			INDOOR BLOWER MOTOR (ECM)			VENTILATION GREENCUBE® ERV AMPS	
	VOLTS-HZ-PH	RLA[1]	LRA[2]	VOLTS-HZ-PH	RPM[3]	FLA[4]	HP[5]	RPM[3]	FLA[4]	HP[5]	OAM[6]	EXM[7]
HVPSA24HP1A	208/230-60-1	11.6	58.3	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	0.7	0.4
HVPSA30HP1A	208/230-60-1	13.1	73.0	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	0.7	0.4
HVPSA36HP2A	208/230-60-1	15.2	83.0	208/230-60-1	825	2.0	1/4	1500	2.8	1/2	0.7	0.4
HVPSA42HP2A	208/230-60-1	17.9	96.0	208/230-60-1	825	2.0	1/4	1500	2.8	1/2	0.7	0.4
HVPSA49HP1A	208/230-60-1	21.1	104.0	208/230-60-1	825	2.9	1/2	1500	4.3	3/4	0.7	0.4
HVPSA60HP1A	208/230-60-1	27.1	152.9	208/230-60-1	825	2.9	1/2	1500	4.3	3/4	0.7	0.4
HVPSA24HP1C	208/230-60-3	6.5	55.4	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	0.7	0.4
HVPSA30HP1C	208/230-60-3	8.6	58	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	0.7	0.4
HVPSA36HP2C	208/230-60-3	11.6	73.0	208/230-60-1	825	2.0	1/4	1500	2.8	1/2	0.7	0.4
HVPSA42HP2C	208/230-60-3	14.1	88.0	208/230-60-1	825	2.0	1/4	1500	2.8	1/2	0.7	0.4
HVPSA49HP1C	208/230-60-3	14.0	83.1	208/230-60-1	825	2.9	1/2	1500	4.3	3/4	0.7	0.4
HVPSA60HP1C	208/230-60-3	16.5	110.0	208/230-60-1	825	2.9	1/2	1500	4.3	3/4	0.7	0.4
HVPSA24HP1D	460-60-3	3.5	28	208/230-60-1	825	1.8	1/4	1500	2.8	1/3	0.7	0.4
HVPSA30HP1D	460-60-3	4.3	28	208/230-60-1	825	2.8	1/3	1500	2.8	1/2	0.7	0.4
HVPSA36HP2D	460-60-3	5.7	38.0	208/230-60-1	825	2.0	1/4	1500	2.8	1/2	0.7	0.4
HVPSA42HP2D	460-60-3	6.2	44.0	208/230-60-1	825	2.0	1/4	1500	2.8	1/2	0.7	0.4
HVPSA49HP1D	460-60-3	6.4	41.0	208/230-60-1	825	2.9	1/2	1500	4.3	3/4	0.7	0.4
HVPSA60HP1D	460-60-3	7.2	52.0	208/230-60-1	825	2.9	1/2	1500	4.3	3/4	0.7	0.4

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]RPM = Revolutions per Minute [4]FLA = Full Load Amps
[5]HP = Horsepower [6]OAM = Outside Air Mover [7]EXM = Exhaust Air Mover
The 460 volt units have a step down transformer for the 230 volt motors.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPSA Heat Pumps w/2-Stage Compressor and Ventilation Configurations: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized, 2-Position Damper, up to 450 CFM of Outside Air w/Pressure Relief ("B") Economizer, Outside Air ("C")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPSA24HP1A	208/230-1-60	19.1	30	40.0	40	45.1	50	50.4	60	60.7	70			71.2	80				
HVPSA30HP1A	208/230-1-60	22.0	35			48.0	50	53.3	60	63.6	70			74.1	80	84.5	90	100.1	110
HVPSA36HP2A	208/230-1-60	24.6	35			50.6	60	55.9	60	66.2	70			76.7	80	87.1	90	102.7	110
HVPSA42HP2A	208/230-1-60	28.0	45			54.0	60							80.1	90	90.5	100	106.1	110
HVPSA49HP1A	208/230-1-60	33.5	50			59.5	60							85.6	90	96.0	100	111.6	120
HVPSA60HP1A	208/230-1-60	41.0	60			67.0	70							93.1	100	103.5	110	119.1	120
HVPSA24HP1C	208/230-3-60	12.7	15					30.7	35			40.0	40						
HVPSA30HP1C	208/230-3-60	16.4	20					34.4	35			43.7	45			52.5	60	61.5	70
HVPSA36HP2C	208/230-3-60	20.1	30					38.1	40			47.4	50			56.2	60	65.2	70
HVPSA42HP2C	208/230-3-60	23.2	35					41.2	45			50.5	60			59.3	60	68.3	70
HVPSA49HP1C	208/230-3-60	24.6	35					42.6	45			51.9	60			60.7	70	69.7	70
HVPSA60HP1C	208/230-3-60	27.7	40					45.7	50			55.0	60			63.8	70	72.8	80
HVPSA24HP1D	460-3-60	6.7	15					15.7	20			20.2	25			24.7	25	28.9	30
HVPSA30HP1D	460-3-60	8.2	15					17.2	20			21.7	25			26.2	30	30.7	35
HVPSA36HP2D	460-3-60	9.9	15					18.9	20			23.4	25			27.9	30	32.4	35
HVPSA42HP2D	460-3-60	10.6	15					19.6	20			24.1	25			28.6	30	33.1	35
HVPSA49HP1D	460-3-60	11.6	15					20.6	25			25.1	30			29.6	30	34.1	35
HVPSA60HP1D	460-3-60	12.6	15					21.6	25			26.1	30			30.6	35	35.1	40

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPSA Heat Pumps with 2-Stage Compressor and "S" Circuit and Ventilation Configurations: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized, 2-Position Damper, up to 450 CFM of Outside Air w/Pressure Relief ("B") Economizer, Outside Air ("C")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPSA24HP1A	208/230-1-60	19.1	30	23.7	30	28.8	30	34.1	35					54.9	60				
HVPSA30HP1A	208/230-1-60	22.0	35			28.8	35	34.1	35					54.9	60	65.3	70	80.9	90
HVPSA36HP2A	208/230-1-60	24.6	35			28.8	35	34.1	35					54.9	60	65.3	70	80.9	90
HVPSA42HP2A	208/230-1-60	28.0	45			28.8	45							54.9	60	65.3	70	80.9	90
HVPSA49HP1A	208/230-1-60	33.5	50			33.5	50							56.4	60	66.8	70	82.4	90
HVPSA60HP1A	208/230-1-60	41.0	60			41.0	60							56.4	60	66.8	70	82.4	90
HVPSA24HP1C	208/230-3-60	12.7	15					20.8	25			29.9	30			38.9	40	47.9	50
HVPSA30HP1C	208/230-3-60	16.4	20					20.8	25			29.9	30			38.9	40	47.9	50
HVPSA36HP2C	208/230-3-60	20.1	30					20.8	30			29.9	30			38.9	40	47.9	50
HVPSA42HP2C	208/230-3-60	23.2	35					23.2	35			29.9	35			38.9	40	47.9	50
HVPSA49HP1C	208/230-3-60	24.6	35					24.6	35			31.4	35			40.4	45	49.4	50
HVPSA60HP1C	208/230-3-60	27.7	40					27.7	40			31.4	40			40.4	45	49.4	50
HVPSA24HP1D	460-3-60	6.7	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPSA30HP1D	460-3-60	8.2	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPSA36HP2D	460-3-60	9.9	15					10.4	15			14.9	15			19.4	20	23.9	25
HVPSA42HP2D	460-3-60	10.6	15					10.6	15			14.9	15			19.4	20	23.9	25
HVPSA49HP1D	460-3-60	11.6	15					11.6	15			15.7	20			20.2	25	24.7	25
HVPSA60HP1D	460-3-60	12.6	15					12.6	15			15.7	20			20.2	25	24.7	25

S-Circuit - Compressor and electric heat do NOT operate simultaneously.
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPSA Heat Pumps with 2-Stage Compressor and GreenWheel® Energy Recovery Ventilator - Ventilation Configuration ("H")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPSA24HP1A	208/230-1-60	21.3	30	42.2	45	47.3	50	52.6	60	62.9	70			73.4	80				
HVPSA30HP1A	208/230-1-60	24.2	35			50.2	60	55.5	60	65.8	70			76.3	80	86.7	90	102.3	110
HVPSA36HP2A	208/230-1-60	26.8	40			52.8	60	58.1	60	68.4	70			78.9	80	89.3	90	104.9	110
HVPSA42HP2A	208/230-1-60	30.2	45			56.2	60							82.3	90	92.7	100	108.3	120
HVPSA49HP1A	208/230-1-60	35.7	50			61.7	70							87.8	90	98.2	100	113.8	120
HVPSA60HP1A	208/230-1-60	43.2	60			69.2	70							95.3	100	105.7	110	121.3	130
HVPSA24HP1C	208/230-3-60	14.9	20					32.9	35			42.0	45						
HVPSA30HP1C	208/230-3-60	18.6	25					36.6	40			45.7	50			54.7	60	63.7	70
HVPSA36HP2C	208/230-3-60	22.3	30					40.3	45			49.4	50			58.4	60	67.4	70
HVPSA42HP2C	208/230-3-60	25.4	35					43.4	45			52.5	60			61.5	70	70.5	80
HVPSA49HP1C	208/230-3-60	26.8	40					44.8	45			53.9	60			62.9	70	71.9	80
HVPSA60HP1C	208/230-3-60	29.9	45					47.9	50			57.0	60			66.0	70	75.0	80
HVPSA24HP1D	460-3-60	7.8	15					16.8	20			21.3	25			25.8	30	30.3	35
HVPSA30HP1D	460-3-60	9.3	15					18.3	20			22.8	25			27.3	30	31.8	35
HVPSA36HP2D	460-3-60	11.0	15					20.0	20			24.5	25			29.0	30	33.5	35
HVPSA42HP2D	460-3-60	11.7	15					20.7	25			25.2	30			29.7	30	34.2	35
HVPSA49HP1D	460-3-60	12.7	15					21.7	25			26.2	30			30.7	35	35.2	40
HVPSA60HP1D	460-3-60	13.7	20					22.7	25			27.2	30			31.7	35	36.2	40

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPSA Heat Pumps with 2-Stage Compressor and "S" Circuit GreenWheel® Energy Recovery Ventilator - Ventilation Configuration ("H")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPSA24HP1A	208/230-1-60	21.3	30	25.9	30	31.0	35	36.3	40					57.1	60				
HVPSA30HP1A	208/230-1-60	24.2	35			31.0	35	36.3	40					57.1	60	67.5	70	83.1	90
HVPSA36HP2A	208/230-1-60	26.8	40			31.0	40	36.3	40					57.1	60	67.5	70	83.1	90
HVPSA42HP2A	208/230-1-60	30.2	45			31.0	45							57.1	60	67.5	70	83.1	90
HVPSA49HP1A	208/230-1-60	35.7	50			35.7	50							58.6	60	69.0	70	84.6	90
HVPSA60HP1A	208/230-1-60	43.2	60			43.2	60							58.6	60	69.0	70	84.6	90
HVPSA24HP1C	208/230-3-60	14.9	20					23.0	25			32.1	35			41.1	45	50.1	60
HVPSA30HP1C	208/230-3-60	18.6	25					23.0	25			32.1	35			41.1	45	50.1	60
HVPSA36HP2C	208/230-3-60	22.3	30					23.0	30			32.1	35			41.1	45	50.1	60
HVPSA42HP2C	208/230-3-60	25.4	35					25.4	35			32.1	35			41.1	45	50.1	60
HVPSA49HP1C	208/230-3-60	26.8	40					26.8	40			33.6	40			42.6	45	51.6	60
HVPSA60HP1C	208/230-3-60	29.9	45					29.9	45			33.6	45			42.6	45	51.6	60
HVPSA24HP1D	460-3-60	7.8	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPSA30HP1D	460-3-60	9.3	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPSA36HP2D	460-3-60	11.0	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPSA42HP2D	460-3-60	11.7	15					11.5	15			16.0	20			20.5	25	25.0	25
HVPSA49HP1D	460-3-60	12.7	15					12.7	15			16.8	20			21.3	25	25.8	30
HVPSA60HP1D	460-3-60	13.7	20					13.7	20			16.8	20			21.3	25	25.8	30

S-Circuit - Compressor and electric heat do NOT operate simultaneously.
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPSA Heat Pump with 2- Stage Compressor & Ventilation Configuration: GreenCube® ERV - Ventilation Configuration ("Q")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPSA24HP1A	208/230-1-60	20.2	30			46.2	50	51.5	60	61.8	70			72.3	80	82.7	90	98.3	100
HVPSA30HP1A	208/230-1-60	23.1	35			49.1	50	54.4	60	64.7	70			75.2	80	85.6	90	101.2	110
HVPSA36HP2A	208/230-1-60	24.9	40			50.9	60	56.2	60	66.5	70			77.0	80	87.4	90	103.0	110
HVPSA42HP2A	208/230-1-60	28.3	45			54.3	60							80.4	90	90.8	100	106.4	110
HVPSA49HP1A	208/230-1-60	34.7	50			60.7	70							86.8	90	97.2	100	112.8	120
HVPSA60HP1A	208/230-1-60	42.2	60			68.2	70							94.3	100	104.7	110	120.3	130
HVPSA24HP1C	208/230-3-60	13.8	20					31.8	45			40.9	45			50	50	58.9	60
HVPSA30HP1C	208/230-3-60	17.5	25					35.5	45			44.6	45			53.6	60	62.6	70
HVPSA36HP2C	208/230-3-60	20.4	30					38.4	45			47.5	50			56.5	60	65.5	70
HVPSA42HP2C	208/230-3-60	23.5	35					41.5	45			50.6	60			59.6	60	68.6	70
HVPSA49HP1C	208/230-3-60	25.8	35					43.8	45			52.9	60			61.9	70	70.9	80
HVPSA60HP1C	208/230-3-60	28.9	45					46.9	50			56.0	60			65.0	70	74.0	80
HVPSA24HP1D	460-3-60	7.2	15					14.4	15			20.7	25			25.2	30	29.7	30
HVPSA30HP1D	460-3-60	8.7	15					17.2	20			22.2	25			26.7	30	31.2	35
HVPSA36HP2D	460-3-60	10.1	15					19.1	20			23.6	25			28.1	30	32.6	35
HVPSA42HP2D	460-3-60	10.7	15					19.7	20			24.2	30			28.7	30	33.2	35
HVPSA49HP1D	460-3-60	12.2	15					21.2	25			25.7	30			30.2	35	34.7	35
HVPSA60HP1D	460-3-60	13.2	20					22.2	25			26.7	30			31.2	35	35.7	40

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Summary Electrical Ratings (Wire and HACR Circuit Breaker Sizing) - HVPSA Heat Pumps with 2-Stage Compressor and "S" Circuit and Ventilation Configurations: GreenCube® ERV - Ventilation Configuration ("Q")

ELECTRIC HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw		150 = 15 kw	
		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]		SPPE[3]	
BASIC MODEL	VOLTS-HZ-PH	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
HVPSA24HP1A	208/230-1-60	20.2	30			29.9	30	35.2	40					56.0	60	66.4	70	82	90
HVPSA30HP1A	208/230-1-60	23.1	35			29.9	35	35.2	40					56.0	60	66.4	70	82	90
HVPSA36HP2A	208/230-1-60	24.9	40			29.9	40	35.2	40					56.0	60	66.4	70	82.0	90
HVPSA42HP2A	208/230-1-60	28.3	45			29.9	45							56.0	60	66.4	70	82.0	90
HVPSA49HP1A	208/230-1-60	34.7	50			34.7	50							57.5	60	67.9	70	83.5	90
HVPSA60HP1A	208/230-1-60	42.2	60			42.2	60							57.5	60	67.9	70	83.5	90
HVPSA24HP1C	208/230-3-60	13.8	20					21.9	30			31	35			40.0	40	49.0	50
HVPSA30HP1C	208/230-3-60	17.5	25					21.9	30			31	35			40.0	40	49.0	50
HVPSA36HP2C	208/230-3-60	20.4	30					21.9	30			31.0	35			40.0	40	49.0	50
HVPSA42HP2C	208/230-3-60	23.5	35					23.5	35			31.0	35			40.0	40	49.0	50
HVPSA49HP1C	208/230-3-60	25.8	35					25.8	35			32.5	35			41.5	45	50.5	60
HVPSA60HP1C	208/230-3-60	28.9	45					28.9	45			32.5	45			41.5	45	50.5	60
HVPSA24HP1D	460-3-60	7.2	15					11.0	15			15.5	20			20.0	20	24.5	25
HVPSA30HP1D	460-3-60	8.7	15					11.0	15			15.5	20			20.0	20	24.5	25
HVPSA36HP2D	460-3-60	10.1	15					11.0	15			15.5	20			20.0	20	24.5	25
HVPSA42HP2D	460-3-60	10.7	15					11.0	15			15.5	20			20.0	20	24.5	25
HVPSA49HP1D	460-3-60	12.2	15					12.2	15			16.2	20			20.7	25	25.2	30
HVPSA60HP1D	460-3-60	13.2	20					13.2	20			16.2	20			20.7	25	25.2	30

S-Circuit - Compressor and electric heat do NOT operate simultaneously.
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the 208-230v. (HPA & HPC) models. The 460 volt HPD models are calculated at 460 volts. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Unit Load Amps (Heating) - HVPSA Heat Pumps w/2-Stage Compressor & Ventilation Configuration: Manual Damper, up to 15% outside air ("N") Manual Damper, up to 450 cfm of outside air ("Y") Manual Damper, up to 450 cfm of outside air with pressure relief ("Z") Motorized 2-Position Damper, up to 450 cfm of outside air w/Pressure Relief ("B") Economizer, Outside Air ("C")

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)		LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS (1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS								TOTAL MAXIMUM HEATING AMPS INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS							
		HP[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
HVPSA24HP1A	208-230/1/60	16.2	2.8	16.7	20.8	25.0	33.3		41.7			32.9	37.0	41.2	49.5		57.9		
HVPSA30HP1A	208-230/1/60	18.7	2.8	16.7	20.8	25.0	33.3		41.7	50.0	62.5	35.4	39.5	43.7	52.0		60.4	68.7	81.2
HVPSA36HP2A	208-230/1/60	20.8	2.8	16.7	20.8	25.0	33.3		41.7	50.0	62.5	37.5	41.6	45.8	54.1		62.5	70.8	83.3
HVPSA42HP2A	208-230/1/60	23.5	2.8		20.8				41.7	50.0	62.5		44.3				65.2	73.5	86.0
HVPSA49HP1A	208-230/1/60	28.2	4.3		20.8				41.7	50.0	62.5		49.0				69.9	78.2	90.7
HVPSA60HP1A	208-230/1/60	34.2	4.3		20.8				41.7	50.0	62.5		55.0				75.9	84.2	96.7
HVPSA24HP1C	208-230/3/60	11.1	2.8			14.4		21.7		28.9	36.1			25.5		32.8		40.0	47.2
HVPSA30HP1C	208-230/3/60	14.2	2.8			14.4		21.7		28.9	36.1			28.6		35.9		43.1	50.3
HVPSA36HP2C	208-230/3/60	17.2	2.8			14.4		21.7		28.9	36.1			31.6		38.9		46.1	53.3
HVPSA42HP2C	208-230/3/60	19.7	2.8			14.4		21.7		28.9	36.1			34.1		41.4		48.6	55.8
HVPSA49HP1C	208-230/3/60	21.1	4.3			14.4		21.7		28.9	36.1			35.5		42.8		50.0	57.2
HVPSA60HP1C	208-230/3/60	23.6	4.3			14.4		21.7		28.9	36.1			38.0		45.3		52.5	59.7
HVPSA24HP1D	460/3/60	5.8	1.4			7.2		10.8		14.4	18.0			13.0		16.6		20.2	23.8
HVPSA30HP1D	460/3/60	7.1	1.4			7.2		10.8		14.4	18.0			14.3		17.9		21.5	25.1
HVPSA36HP2D	460/3/60	8.5	1.4			7.2		10.8		14.4	18.0			15.7		19.3		22.9	26.5
HVPSA42HP2D	460/3/60	9.0	1.4			7.2		10.8		14.4	18.0			16.2		19.8		23.4	27.0
HVPSA49HP1D	460/3/60	10.0	2.2			7.2		10.8		14.4	18.0			17.2		20.8		24.4	28.0
HVPSA60HP1D	460/3/60	10.8	2.2			7.2		10.8		14.4	18.0			18.0		21.6		25.2	28.8

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor
Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.
Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

Unit Load Amps (Heating) - HVPSA Heat Pumps with 2-Stage Compressor and GreenWheel® Energy Recovery Ventilator - Ventilation Configuration ("H")

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)			LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS (1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS								TOTAL MAXIMUM HEATING AMPS INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS							
		HP[1]	IBM[2]	H[3]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
HVPSA24HP1A	208-230/1/60	18.4	2.8	2.2	16.7	20.8	25.0	33.3		41.7			19.5	39.2	43.4	51.7		60.1		
HVPSA30HP1A	208-230/1/60	20.9	2.8	2.2	16.7	20.8	25.0	33.3		41.7	50.0	62.5	19.5	41.7	45.9	54.2		62.6	70.9	83.4
HVPSA36HP2A	208-230/1/60	23.0	2.8	2.2	16.7	20.8	25.0	33.3		41.7	50.0	62.5	19.5	43.8	48.0	56.3		64.7	73.0	85.5
HVPSA42HP2A	208-230/1/60	25.7	2.8	2.2		20.8				41.7	50.0	62.5		46.5				67.4	75.7	88.2
HVPSA49HP1A	208-230/1/60	30.4	4.3	2.2		20.8				41.7	50.0	62.5		51.2				72.1	80.4	92.9
HVPSA60HP1A	208-230/1/60	36.4	4.3	2.2		20.8				41.7	50.0	62.5		57.2				78.1	86.4	98.9
HVPSA24HP1C	208-230/3/60	13.3	2.8	2.2			14.4		21.7		28.9	36.1			27.7		35.0		42.2	49.4
HVPSA30HP1C	208-230/3/60	16.4	2.8	2.2			14.4		21.7		28.9	36.1			30.8		38.1		45.3	52.5
HVPSA36HP2C	208-230/3/60	19.4	2.8	2.2			14.4		21.7		28.9	36.1			33.8		41.1		48.3	55.5
HVPSA42HP2C	208-230/3/60	21.9	2.8	2.2			14.4		21.7		28.9	36.1			36.3		43.6		50.8	58.0
HVPSA49HP1C	208-230/3/60	23.3	4.3	2.2			14.4		21.7		28.9	36.1			37.7		45.0		52.2	59.4
HVPSA60HP1C	208-230/3/60	25.8	4.3	2.2			14.4		21.7		28.9	36.1			40.2		47.5		54.7	61.9
HVPSA24HP1D	460/3/60	6.9	1.4	1.1			7.2		10.8		14.4	18.0			14.1		17.7		21.3	24.9
HVPSA30HP1D	460/3/60	8.2	1.4	1.1			7.2		10.8		14.4	18.0			15.4		19.0		22.6	26.2
HVPSA36HP2D	460/3/60	9.6	1.4	1.1			7.2		10.8		14.4	18.0			16.8		20.4		24.0	27.6
HVPSA42HP2D	460/3/60	10.1	1.4	1.1			7.2		10.8		14.4	18.0			17.3		20.9		24.5	28.1
HVPSA49HP1D	460/3/60	11.1	2.2	1.1			7.2		10.8		14.4	18.0			18.3		21.9		25.5	29.1
HVPSA60HP1D	460/3/60	11.9	2.2	1.1			7.2		10.8		14.4	18.0			19.1		22.7		26.3	29.9

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor [3]H = GreenWheel ERV
Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.
Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

Unit Load Amps (Heating) - HVPSA Heat Pump with 2-Stage Compressor and GreenCube® Energy Recovery Ventilator - Ventilation Configuration "Q"

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT (AMPS)			LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS (1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT (2) SHADED VALUES (12 & 15 kW) UTILIZE TWO CIRCUITS								TOTAL MAXIMUM HEATING AMPS INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS							
		HP[1]	IBM[2]	Q[3]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 Kw	05 Kw	06 Kw	08 Kw	09 Kw	10 Kw	12 Kw	15 Kw
HVPSA24HP1A	208-230/1/60	17.3	2.8	1.1	16.7	20.8	25.0	33.3		41.7			34.0	41.9	42.3	50.6		59.0		
HVPSA30HP1A	208-230/1/60	19.8	2.8	1.1	16.7	20.8	25.0	33.3		41.7			36.5	41.9	44.8	53.1		61.5		
HVPSA36HP2A	208-230/1/60	21.1	2.8	1.1	16.7	20.8	25.0	33.3		41.7	50.0	62.5	37.8	41.9	46.1	54.4		62.8	71.1	83.6
HVPSA42HP2A	208-230/1/60	23.8	2.8	1.1		20.8				41.7	50.0	62.5		44.6				65.5	73.8	86.3
HVPSA49HP1A	208-230/1/60	29.4	4.3	1.1		20.8				41.7	50.0	62.5		50.2				71.1	79.4	91.9
HVPSA60HP1A	208-230/1/60	35.4	4.3	1.1		20.8				41.7	50.0	62.5		56.2				77.1	85.4	97.9
HVPSA24HP1C	208-230/3/60	12.2	2.8	1.1			14.4		21.7		28.9	36.1			26.6		39.2		46.4	53.6
HVPSA30HP1C	208-230/3/60	15.3	2.8	1.1			14.4		21.7		28.9	36.1			29.7		39.2		46.4	53.6
HVPSA36HP2C	208-230/3/60	17.5	2.8	1.1			14.4		21.7		28.9	36.1			31.9		39.2		46.4	53.6
HVPSA42HP2C	208-230/3/60	20.0	2.8	1.1			14.4		21.7		28.9	36.1			34.4		41.7		48.9	56.1
HVPSA49HP1C	208-230/3/60	22.3	4.3	1.1			14.4		21.7		28.9	36.1			36.7		44.0		51.2	58.4
HVPSA60HP1C	208-230/3/60	24.8	4.3	1.1			14.4		21.7		28.9	36.1			39.2		46.5		53.7	60.9
HVPSA24HP1D	460/3/60	6.4	2.8	1.1			7.2		10.8		14.4	18.0			13.6		17.2		20.8	24.4
HVPSA30HP1D	460/3/60	7.7	2.8	1.1			7.2		10.8		14.8	18.0			14.9		18.5		22.6	25.7
HVPSA36HP2D	460/3/60	8.7	1.4	0.6			7.2		10.8		14.4	18.0			15.9		19.5		23.1	26.7
HVPSA42HP2D	460/3/60	9.2	1.4	0.6			7.2		10.8		14.4	18.0			16.4		20.0		23.6	27.2
HVPSA49HP1D	460/3/60	10.6	2.2	0.6			7.2		10.8		14.4	18.0			17.8		21.4		25.0	28.6
HVPSA60HP1D	460/3/60	11.4	2.2	0.6			7.2		10.8		14.4	18.0			18.6		22.2		25.8	29.4

[1]HP = Heat Pump Unit Amps (includes Indoor Motor amps) [2]IBM = Indoor Blower Motor [3]Q = GreenCube® ERV
Heating kW is rated at 240 volts on the 208-230v. (HPA & HPC) models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the HPD models.
Total heating amps for single phase units with two circuits (#1 and #2) includes both circuits. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase.

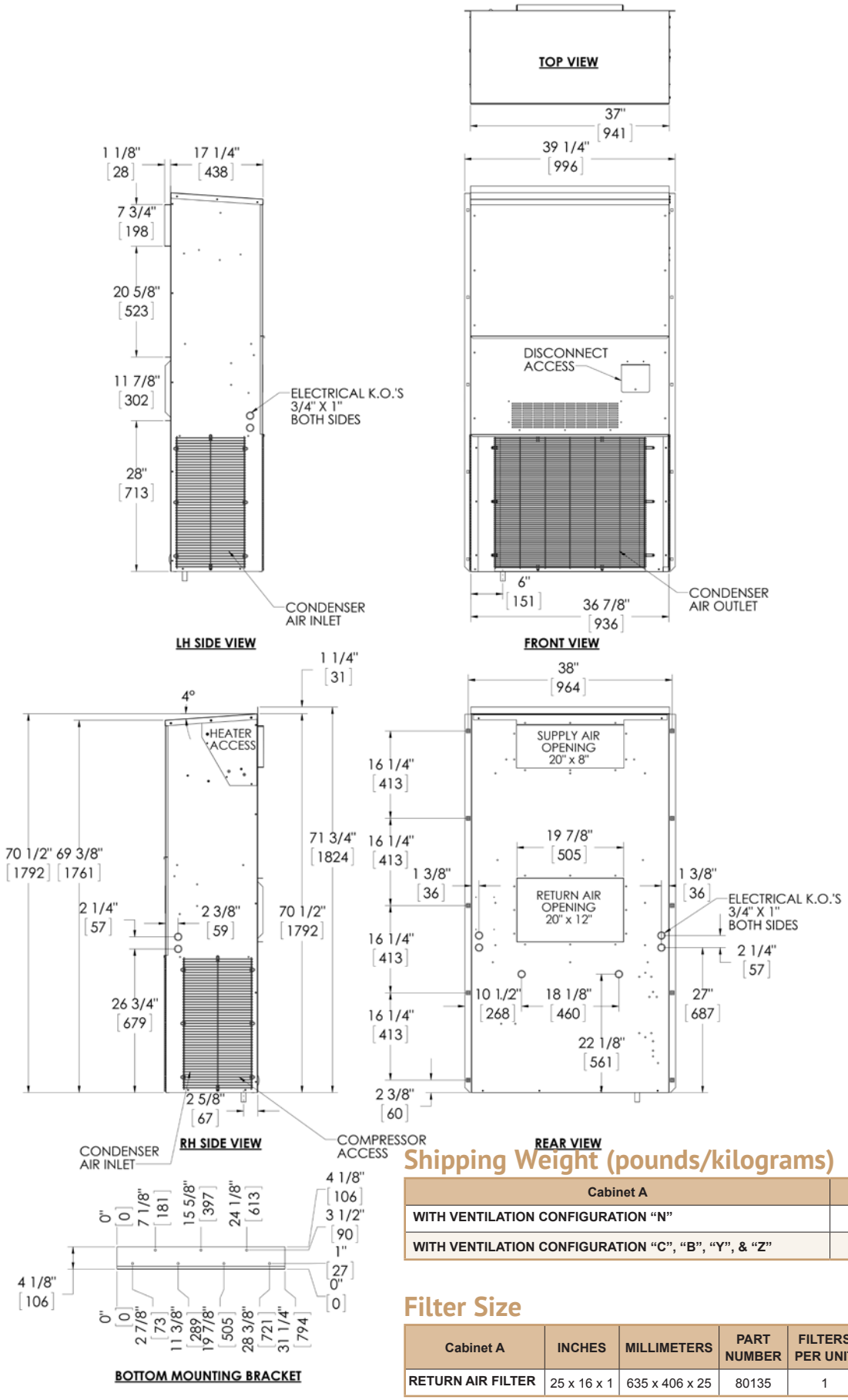
HVPA & HVPSA Air Flow (CFM) at Various Static Pressures

MODEL	0.10	0.20	0.25	0.30	0.40	0.50
24	800	770	725	680	600	500
30	1200	1100	1050	1000	900	800
36	1290	1170	1115	1060	1000	920
42	1500	1360	1295	1230	1160	1070
49	1900	1800	1700	1600	1500	1350
60	2200	2100	2000	1900	1800	1650

Marvair Classic Model & Cabinet Designation

MODEL	CABINET DESIGNATION					
	A	B	C	D	E	F
AVPA24	✓					
HVPA24		✓				
HVPSA24		✓				
HVPA30/36/42			✓			
HVPSA30/36/42			✓			
HVPA49/60				✓		
HVPSA49/60				✓		
HVPA24/30/36/42/49/60 w/GreenCube				✓		
HVPSA24/30/36/42/49/60 w/GreenCube				✓		
HVPA49/60 w/GreenWheel ERV				✓		
HVPSA49/60 w/GreenWheel ERV				✓		
AVPA24/30/36 w/GreenWheel ERV					✓	
HVPA24 w/GreenWheel ERV					✓	
HVPSA24 w/GreenWheel ERV					✓	
AVPA42/48/60 w/GreenWheel ERV						✓
HVPA30/36/42 w/GreenWheel ERV						✓
HVPSA30/36/42 w/GreenWheel ERV						✓

Dimensional Data for Cabinet A (inches and mm)



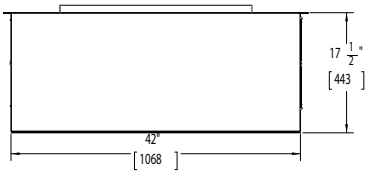
Shipping Weight (pounds/kilograms)

Cabinet A	LBS/KGS
WITH VENTILATION CONFIGURATION "N"	350/159
WITH VENTILATION CONFIGURATION "C", "B", "Y", & "Z"	375/170.5

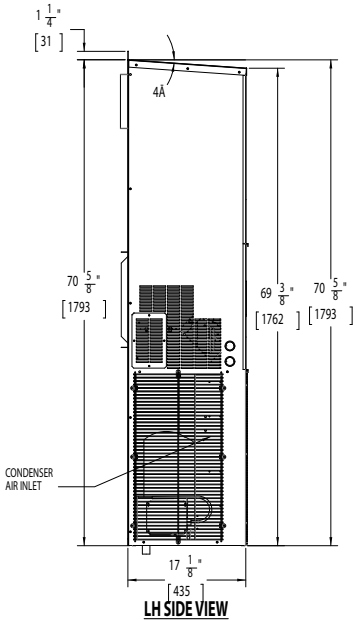
Filter Size

Cabinet A	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	25 x 16 x 1	635 x 406 x 25	80135	1	7

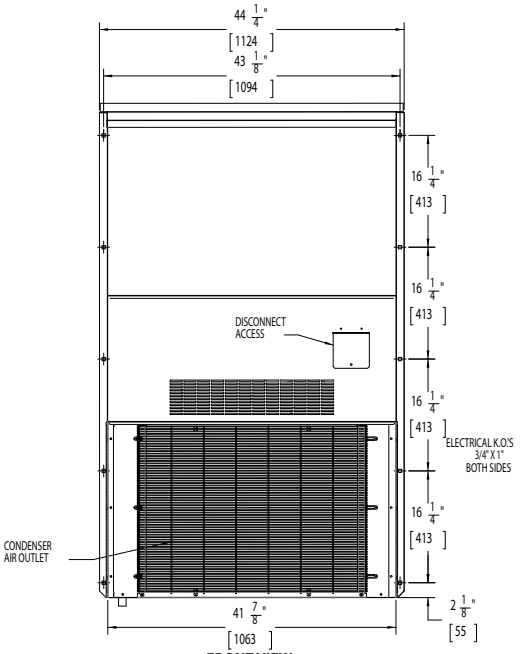
Dimensional Data for Cabinet B (inches and mm)



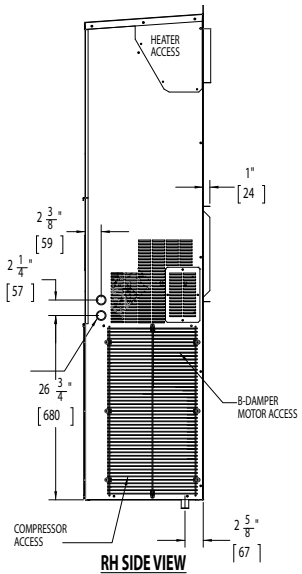
TOP VIEW



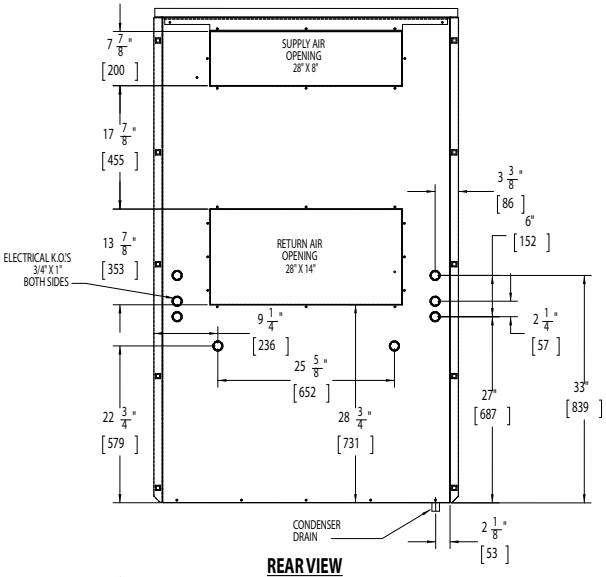
LH SIDE VIEW



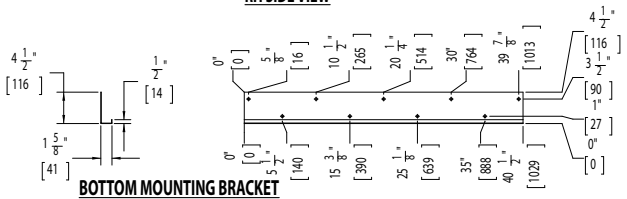
FRONT VIEW



RH SIDE VIEW



REAR VIEW



BOTTOM MOUNTING BRACKET

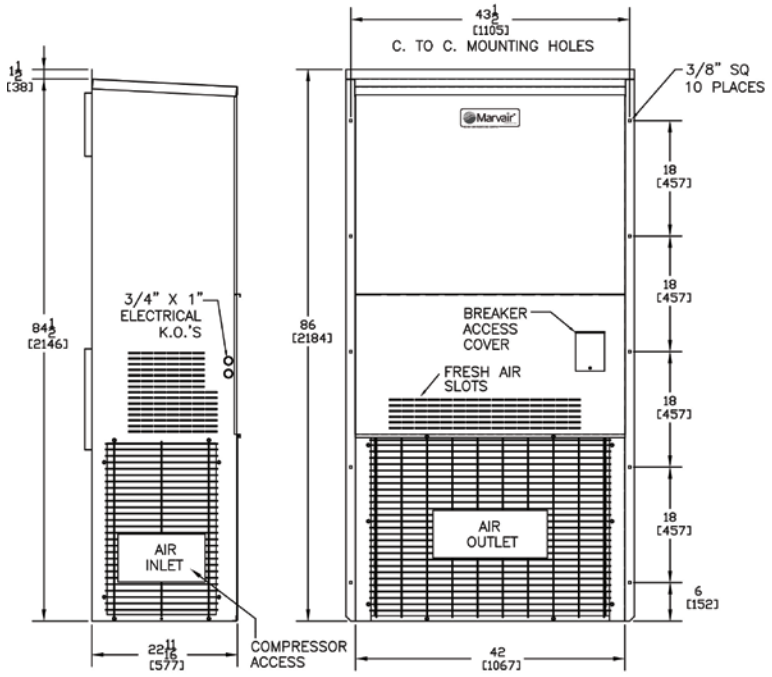
Shipping Weight (pounds/kilograms)

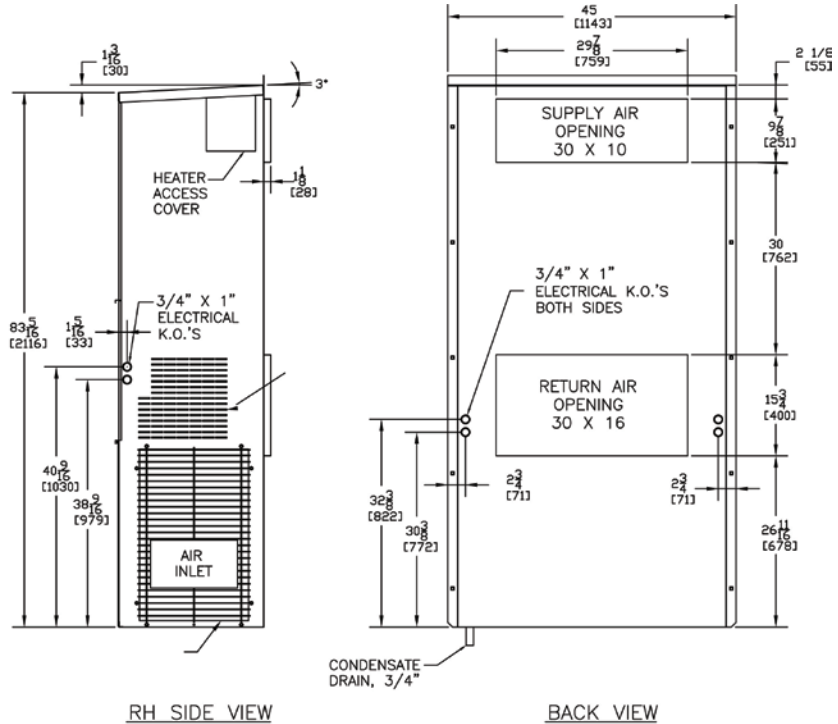
Cabinet B	LBS/KGS
WITH VENTILATION CONFIGURATION "N"	420/191
WITH VENTILATION CONFIGURATION "C", "B", "Y", & "Z"	445/202.5

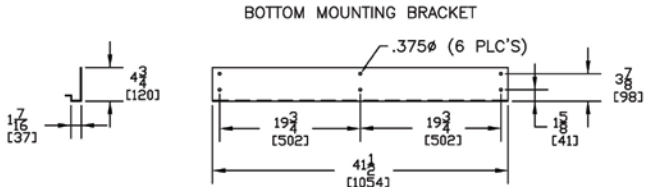
Filter Size

Cabinet B	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	30 x 16 x 1	762 x 406 x 25	80136	1	7

Dimensional Data for Cabinet C (inches and mm)







The GreenCube® ERV is only available on HVPSA units (2-stage compressor).

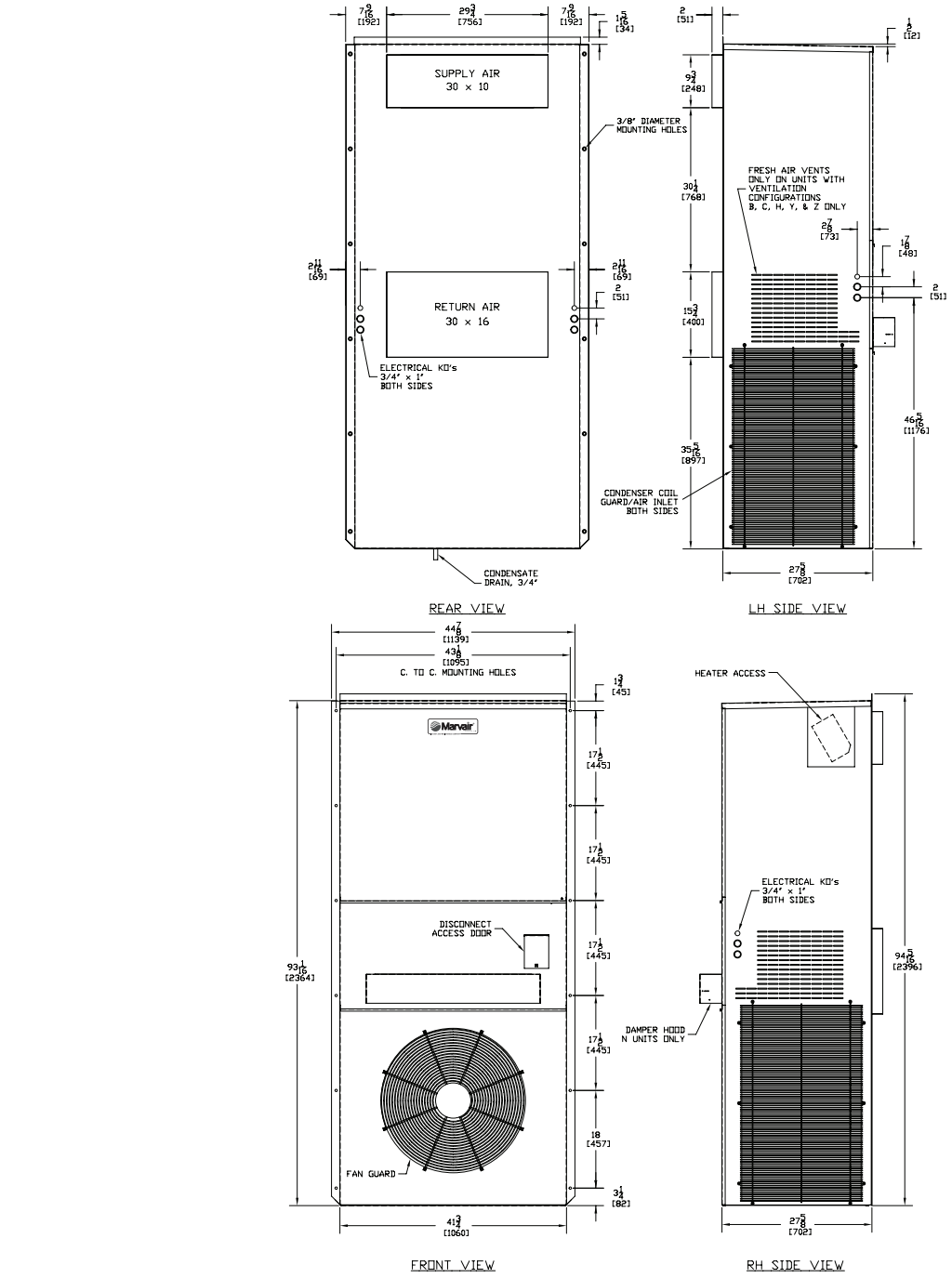
Shipping Weight (pounds/kilograms)

Cabinet C	LBS/KGS
WITH VENTILATION CONFIGURATION "N"	540/246
WITH VENTILATION CONFIGURATION "C", "B", "Y", & "Z"	495/224.5

Filter Size

Cabinet C	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	36½ x 22 x 1	927 x 559 x 25	80139	1	7

Dimensional Data for Cabinet D (inches and mm)



NOTE: HEAT PUMPS WITH THE GREENCUBE® ERV (Q VENTILATION CONFIGURATION) HAVE IDENTICAL MOUNTINGS HOLES, THE SAME SUPPLY & RETURN AIR OPENINGS AND THE SAME OVERALL DIMENSIONS. THE CONTROL BOX ON UNITS WITH THE GREENCUBE® ERV IS ON THE RIGHT SIDE OF THE UNIT.

Shipping Weight (pounds/kilograms)

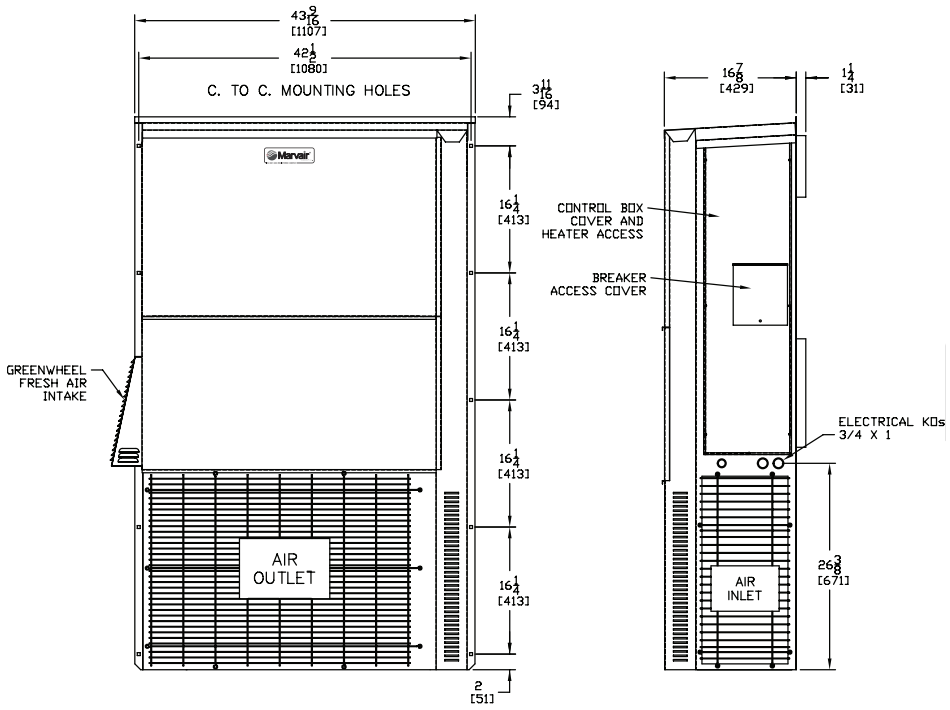
Cabinet D	LBS/KGS
WITH VENTILATION CONFIGURATION "N"	680/309
WITH VENTILATION CONFIGURATION "C", "B", "Y", & "Z"	659/298.9
WITH EITHER GREENWHEEL ERV OR GREENCUBE® ERV	810/369

Filter Size

Cabinet D	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	18 x 24 x1	457 x 610 x 25	81199	2	7
INTAKE AIR FILTER*	14 x 14 x 1	356 x 356 x 25	80192	1	N/A
RETURN AIR FILTER (STD)**	16 x 24 x 1	406 x 635 x 25	92367	2	7
RETURN AIR FILTER (OPT)**	16 x 24 x 2	406 x 635 x 51	91968	2	8
INTAKE AIR FILTER**	9¾ x 22¾ x ¾	248 x 222 x 19	92113	1	N/A
EXHAUST AIR FILTER**	9¾ x 22¾ x ¾	248 x 222 x 19	92113	1	N/A

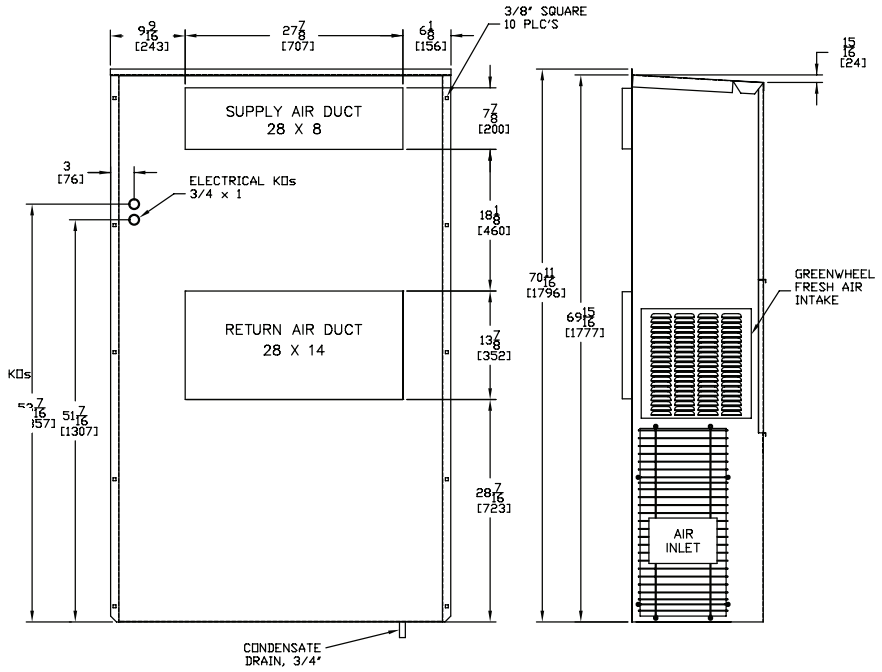
*Units with the GreenWheel ERV **Units with the GreenCube® ERV

Dimensional Data for Cabinet E (inches and mm)



FRONT VIEW

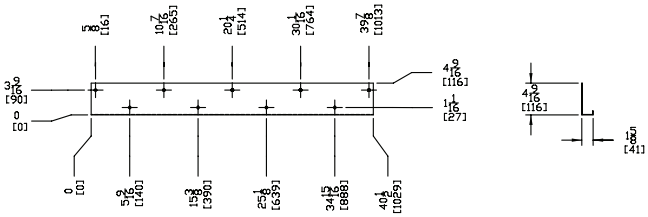
RH SIDE VIEW



BACK VIEW

LH SIDE VIEW

BOTTOM MOUNTING BRACKET



Shipping Weight (pounds/kilograms)

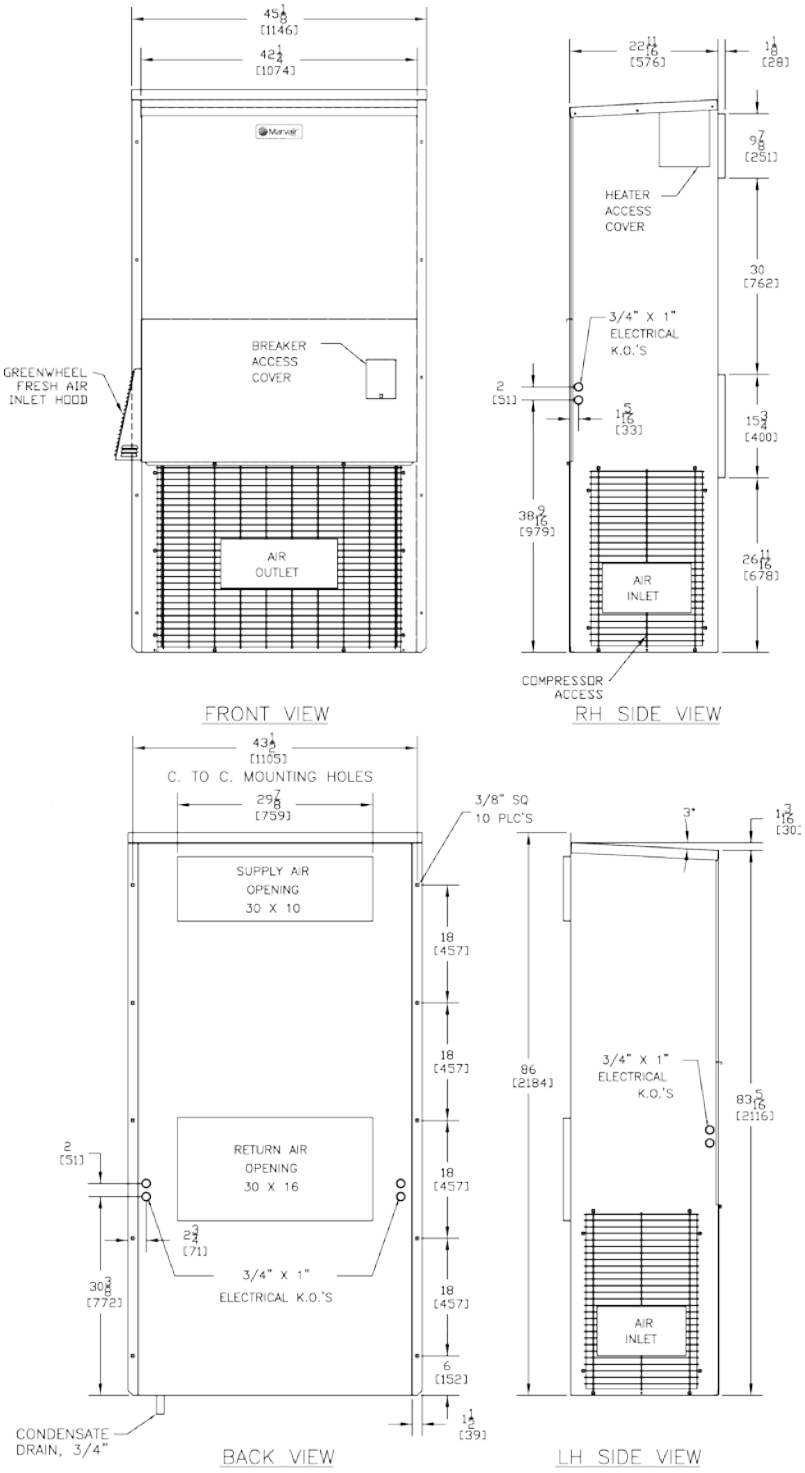
Cabinet E	LBS/KGS
With GreenWheel ERV	375/161

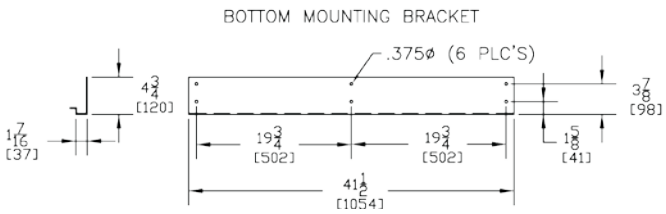
Filter Size

Cabinet E	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER*	27½ x 13½ x 1	699 x 343 x 25	80769	1	7
INTAKE AIR FILTER	14 x 14 x 1	356 x 356 x 25	80192	1	N/A

*These units require a return filter grille. The filter shown is the filter in the return filter grille.

Dimensional Data for Cabinet F (inches and mm)





Shipping Weight (pounds/kilograms)

Cabinet F	LBS/KGS
With GreenWheel ERV	590/268

Filter Size

Cabinet F	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	36 x 22 x 1	927 x 559 x 25	80139	1	7
INTAKE AIR FILTER*	14 x 14 x 1	356 x 356 x 25	80192	1	N/A

*Units with the GreenWheel ERV

Notes

Please consult the Marvair® website at www.marvair.com for the latest product literature. Detailed dimensional data is available upon request. A complete warranty statement can be found in each product's Installation/Operation Manual, on our website or by contacting Marvair at 229-273-3636. As part of the Marvair continuous improvement program, specifications are subject to change without notice.

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