Marvair®
AIRXCEL®, Inc.
ISO 9001 2000 REGISTERED COMPANY

SCHOLAR III
PRODUCT DATA SHEET

Scholar III™ Heat Pumps & Air Conditioners 2 to 5 Tons

Models VAIA24-30-36-40-48-60 (1-Stage Compressor) and VAISA36-40-48-60 (2-Stage Compressor)

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General Description

The Scholar III heat pumps and air conditioners are self-contained HVAC systems designed to provide heating, cooling, and outside fresh air for school classrooms. The units are installed in the classroom against an exterior wall. The vertical configuration minimizes the floor space occupied by the HVAC unit. This unique design makes it ideal for both new schools and for renovation of existing classrooms.

A full range of ventilation options – from two energy recovery ventilators, the Greenwheel® ERV or the GreenCube™ ERV, to a mechanical damper - are offered to meet any climate or budget. A wide selection of architectural louvers provides the designer with unlimited styles and configurations to compliment the exterior of the school. (For a complete description of the architectural louvers, please refer to the Marvair brochure entitled, "Architectural Extruded Aluminum Louvers".) Marvair offers a full range of thermostats to meet virtually every requirement. The unit can be controlled by a wall mounted thermostat, an internal thermostat or interfaced with a energy management system.

Scholar III without Free Blow Plenum

Scholar III heat pumps and air conditioners are available in cooling capacities from 2 to 5 tons with 1-stage compressor and 3 to 5 tons with the 2-stage compressor. Electric resistance or hot water is available as primary heat on the air conditioners and as second stage heat on the heat pump. All sizes are available for operation on 208/230 V. 1Ø or 3Ø and 460 V. electrical supply. All models comply with UL standard 1995, 2nd edition and listed by ETL.

Scholar III Advantages

Since its introduction in 1991, Scholar heat pumps and air conditioners have been the undisputed leader in interior, self-contained classroom HVAC systems. Students in tens of thousands of classrooms across the USA have benefited from the environment provided by Scholar heat pumps and air conditioners.

The Scholar III builds on this history with unique design innovations and features.

- **Quiet Operation for better learning.** The Scholar III minimizes sound levels in the classroom; in many non-ducted applications sound levels of 45 dbA and less can be expected. A high efficiency axial fan moves air silently through the condenser coils. Specially designed interior panels convert sound to heat energy, resulting in the sound being absorbed. A low vibration, scroll compressor insures 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. Throughout this Data Sheet features, options and components that minimize sound levels are designated by Quiet Marv. 
- **High efficiency means lower operating costs.** The latest in scroll compressor technology with ultra high efficiency indoor and outdoor air movers, generous lanced fin with rifled tube evaporator and condenser coils combine for EERs of 10.3 to 12.2.
- **Designed for the future with R-410A refrigerant.** Scholar III heat pumps and air conditioners utilize R-410A, a non-ozone depleting refrigerant, with a synthetic lubricant. Since R-410A can release heat more efficiently than R-22, compressors with R-410A have less risk of burnout due to over heating. The synthetic lubricant and R-410A mix and circulate more efficiently to lubricate the compressor, reducing wear and extending its life. Finally, by selecting a heat pump that uses R-410A, you will avoid the risk associated with purchasing a product that is destined to become obsolete.
- **Humidity Control.** The control of humidity is essential for a positive learning environment. Scholar III heat pumps and air conditioners actively control humidity with both standard controls and several optional accessories for schools where control of humidity is an everyday concern. The electronically commutated motor optimizes moisture removal by automatically controlling the air flow across the indoor coil. Raw outdoor air for ventilation is not brought directly into the classroom. Ventilation air first passes through the indoor coil to temper the air and remove moisture. It then is mixed with classroom air before being introduced into the classroom.
- **Optional 2-Stage Compressor.** The VAISA models of Scholar III heat pumps and air conditioners are available with a two stage compressor with a first stage capacity of 65% of the total capacity. The two stage compressor provides better comfort and improved energy efficiency compared to many older, single stage compressors. See page 4 for a complete description of the operation and performance of the two stage compressor units. 
- **GreenWheel® and GreenCube Enegy Recovery Ventilators (ERV). T**he optional GreenWheel® ERV and GreenCube™ ERV's are total energy recovery ventilators, i.e., during the summer they remove both moisture and heat from the incoming air stream. With an outdoor wet bulb of 74°F and an indoor dry bulb of 72°F and 450 cfm of outside air, the ERV's will remove 8 pints per hour of moisture from the incoming fresh air stream. See page 6 for a complete description of the performance and operation of the Marvair GreenWheel and GreenCube ERV's.

  For optimum control of the humidity, the GreenWheel and GreenCube ERV's should be used should be used in conjunction with Hot Gas Reheat. This complete, factory assembled optional coil and controls economically maintains the temperature and humidity in the classroom. See page 5 for a complete description of the performance and operation of the Hot Gas Reheat Coil.

Ease of Installation

Scholar III heat pumps and air conditioners are installed in the classroom against an exterior wall. The outdoor air box slides into an opening in the exterior wall. The outdoor air box provides for the ingress and egress of the condenser air as well as the intake and exhaust for the ventilation air. The bottom of the outdoor air box is 33" from the base of the unit, enabling it to clear the sills of windows. For existing schools this greatly facilitates installation since expensive structural changes to exterior walls are not required. By having the fresh air intake three feet above grade, stagnant, moisture laden air is not introduced into the classroom.

Scholar III heat pumps and air conditioners can be installed as a free blow or ducted system. Free blow and ducted plenums are built in various heights to match the color and appearance of Scholar III units.

Scholar III units are available with a full range of accessories for customizing the installation including, base stands, decorative trim panels, and outdoor louvers.

The outdoor air box is designed to be quickly removed and reinstalled in the field. With the box removed, Scholar III heat pumps and air conditioners will slide comfortably through a three foot wide door.

Rugged Cabinet Construction

The exterior cabinet is constructed of 16 gage galvanized steel with a mark and scratch resistant polyester finish. Grey is the standard cabinet color, but other colors are available.

The hinged doors permit easy access to the filters and components for service and maintenance.

The drain pans under each indoor coil are sloped to ensure condensate does not sit in pan.

Service and Maintenance

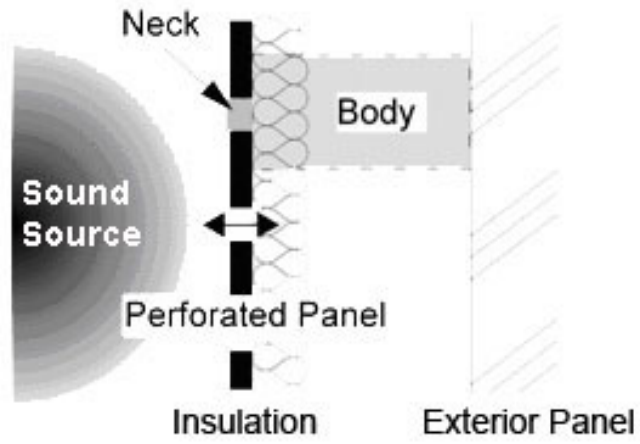
All service and maintenance is performed from the front or side of the unit – no need to slide the unit away from the wall. The heavy duty hinged front panels open 180° to facilitate access to parts, air filters and controls. Both the indoor and outdoor coils are easily accessible for cleaning.

Quiet and High Efficiency

The Scholar III was designed from the onset for unsurpassed quiet operation and high efficiency. With the proper installation, sound levels of 45 dBA or less in a free blow can be obtained. With duct, sound levels can be greatly reduced. In addition, many of the same components that enable the Scholar III to have such quiet operation, contribute to its high efficiency.

a. Cabinet Construction

All exterior cabinet panels are double wall construction with a perforated interior panel and the finished exterior panel. Between the two sheet metal panels is a 1-1/4" thick, acoustical and thermal insulation. The perforation pattern and the insulation are designed to optimize the reduction of sound. The absorption mechanism of these panels is a combination of the perforated panels and insulation acting together as an array of Helmholtz Resonators. The columns of air in each perforation correspond to the "neck" of the Resonator and the layer of air at the back side of the panel including insulation correspond to the "body" of the Resonator. As sound passes through a perforation, it causes the air of the "neck" to vibrate. When the vibrations meet the resistance of the panel material surrounding the perforation or the resistance of the insulation attached to the back of the perforated panel, the resistance causes the sound to convert to heat energy, the heat is absorbed by the insulation & sound levels are reduced.



b. Scroll Compressor and R-410A Refrigerant

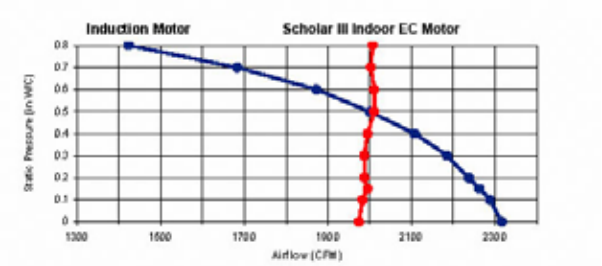
The heart of every air conditioner or heat pump is the compressor and the Scholar III utilizes a scroll compressor specifically designed to use R-410A refrigerant. The heavy duty scroll compressor is quieter and operates with less damaging vibration than older compressors that operate on R-22. Since R-410A can absorb and release heat more efficiently than R-22, compressors with R-410A run cooler than R-22 systems, reducing the risk of burnout due to overheating.

Quiet and High Efficiency

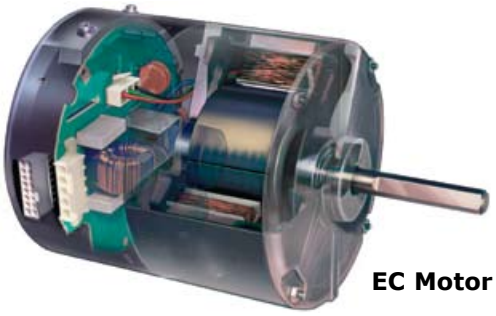
c. Electronically Commutated (EC) Indoor Motor

The Scholar III heat pump uses an Electronically Commutated (EC) motor for the indoor air mover and provides a number of advantages over conventional induction motors.

- Constant air flow. The EC motor automatically adjusts its speed to maintain proper air flow over a wide variety of external static pressures in an air distribution system. Benefits of constant air flow include improved air distribution throughout the static pressure range, improved indoor air quality with the use of high efficiency air filters and low speed constant fan operation which not only saves money but lessens temperature stratification.
- Quiet. The three phase motor construction results in a very low torque ripple and the rotor construction effectively eliminates noise transmission through the shaft. Unlike a conventional induction motor that repeatedly cycles on & off, the EC motor is programmed to slowly ramp up to speed, eliminating the abrupt sound at start–up.
- Ultra-high efficiency. On constant fan speed, the motor consumes 60-80 watts compared to 400 watts for an induction motor.
- Reliable. The motor's control is fully encapsulated to prevent harmful moisture from damaging the sensitive electronics.



The unregulated airflow output of an induction motor decreases as the static pressure of the system increases. In contrast, the indoor motor in the Scholar III remains constant over the same range of static pressure.

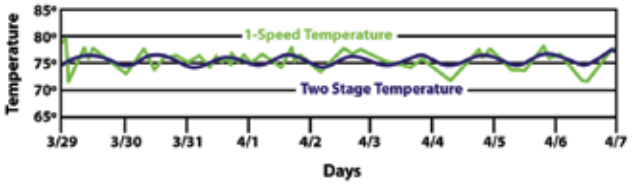


EC Motor

d. Two Stage Compressor

As an option, selected models of the Scholar III heat pump and air conditioner are available with a two stage compressor. Please refer to page 18 for the performance at ARI rating points. The two stage compressor offers better comfort and improved overall energy efficiency. The second stage is only functional in the cooling mode. Heating and dehumidification are single stage.

- Better Comfort. The two stage compressor is able to maintain more precise temperature and relative humidity levels. During mild days, the first stage can satisfy the load, minimizing temperature fluctuations providing steady, even comfort.

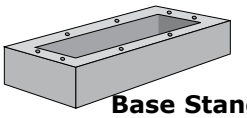


- Energy Efficiency. The Scholar III heat pump with the two stage high efficiency compressor can provide significant energy savings compared to older, less efficient systems.
- Hot gas reheat for humidity control.

The outside air requirements of classrooms require a special emphasis on control of humidity. The Scholar III with hot gas reheat and the two speed compressor provide a comprehensive, yet affordable solution. It is a complete factory assembled unit designed to provide dehumidification of fresh air and room air. See page 5 for a complete description of Hot Gas Reheat for dehumidification.

Field Installed Accessories

Trim Piece. The trim piece provides a color coordinated panel between the cabinet and the wall. Built in the same color as the cabinet and in various widths. Trim pieces provide a finished appearance and cover any space between the back of the cabinet and the wall.



Base Stand

Base Stand. A 2" or 4" (standard, with other heights available) high base is the same dimension as the Scholar III™ cabinet and raises the cabinet off the floor for custodial purposes. The base stand is available in several colors to match the color of the Scholar III unit.

1ø or 3ø Single Point Power Entry. Dual circuit units connect to a single power entry.

Louver and Collar Options

See the brochure, *Architectural Extruded Aluminum Louvers*, for complete description of the various styles and configurations of louvers.

Louver/Collar Assembly. Aluminum louver and collar, preassembled at the factory to cover outside wall opening. The louver with 2" collar assembly is to be used when the louver is flush with the outside wall and is the preferred method of filling and sealing the outside wall. Standard colors are dark bronze or clear anodized. Exterior louver includes 1/2" x 1/2" bird screen. Note: Louvers are available in a variety of styles to meet architectural needs and various colors for aesthetic considerations. Contact your Marvair® representative for custom louvers.

Louver Collar. Aluminum louver collar to enclose the louver and provide finished appearance over wall opening. Fits flush with outer wall surface. Available in dark bronze or clear anodized. Normally used when wall depth is less than 14" and louver is not flush with the outside wall.

Louver. Aluminum louver for covering the outside wall opening. Available in dark bronze or clear anodized. Used with collar when louver is not flush with the outside wall. Exterior louver includes 1/2" x 1/2" bird screen.

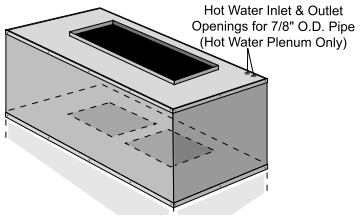
Air Distribution Options

Freeblow Air Distribution is provided with the freeblow plenum. The front grille has individually adjustable vertical louvers that provide a full range of airflow direction. Two side supply grilles with vertical louvers enhance the air flow in the classroom. All grilles have a clear brushed aluminum finish to be used with Scholar III™ unit's with no heat or electric resistance heat. The plenum is 12-1/2" high.

Supply Grilles. The frame and blades are 6063 extruded aluminum alloy with a 2000-R1 satin anodized finish. To eliminate corrosion and vibration, the frame is separated from the blade with injection molded bushings. All blades are air foil in design, individually adjustable and spaced 3/4" on center. A specially engineered channel on the outside of the frame holds an extruded flexible vinyl bulb gasket that produces a positive air seal at the mounting surface.

Ducted Air Distribution is provided with the ducted plenum. The plenum is 12-1/2" high. Duct can be easily installed to the flanged rectangular opening on the top. The table on page 24 shows the cfm for the various units.

Plenum Extenders. In order to provide a finished appearance, plenum extenders may be ordered. The plenum extender rests on top of the either the free blow or ducted plenum and may be ordered in various heights in 1" increments.



Dehumidification

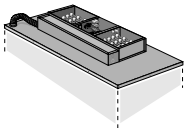
Reheat Dehumidification. Scholar III heat pumps and air conditioners with hot gas reheat are complete factory assembled units designed to provide dehumidification of fresh air and room air. Hot gas reheat can be used with the single stage or two stage compressor and with any supplemental heat and the GreenWheel® ERV or motorized damper ventilation options. Hot gas reheat is controlled by an external humidity controller or BAS control. For optimum performance, hot gas reheat should be used in conjunction with the GreenWheel® ERV. When used with the motorized damper, hot gas reheat alone may not maintain satisfactory control of the humidity in the classroom over all outdoor conditions.

As an option to the standard HGR control, a modulating valve, a PC board and temperature sensor can be used. The modulating valve maintains a constant discharge temperature during reheat operation. This temperature can be adjusted after installation.

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. Note: Scholar III™ units with the hot gas reheat coil require a humidity controller for proper operation. (See Optional Controls.)

Heat Options

All heat options are available for the Scholar III heat pumps and air conditioners. Electric resistance or hot water heat is used as heat on air conditioners and to supplement, where required, the heat pump cycle.



Electric Resistance Heat is installed above the indoor air blowers. Each Scholar™ III unit is available with 5, 7.5, 10 or 15 kW of electric heat. Electric heat can be used with the freeblow plenum or with ducted air distribution options.

Heat Options (cont'd)

Hot Water Heat is installed above the indoor air blowers. Hot water coil capacities for the Scholar III™ models are shown on page 24. Hot water heat is factory installed in the freeblow or the ducted plenums. Hot water heat is plumbed from the top right side of the plenum. As a standard safety feature, each hot water coil has a protective 24 volt thermostat embedded within it to shut off air flow across the coil if the coil temperature drops to 32°F. The hot water plenum is 12-1/2" high.

Cabinet Construction Options

Coastal Installations. For installation in coastal areas where salt corrosion may be a problem, the Scholar III heat pumps and air conditioners may be ordered with a stainless steel drain pan for the outdoor coil and a corrosion resistant coating on the coil.

Tamper Resistant Door Latches. Requires access tool to open the front doors.

Ventilation Options

Manual Fresh Air Damper with Pressure Relief (Standard). Ventilation Configuration "N". Manually adjustable to a fixed position up to 40% outside air, with a maximum of 450 cfm. Includes fresh air filter and exhaust air filters, fresh air intake blower, fan speed controller and pressure relief.

Motorized Fresh Air Damper with Pressure Relief (Optional). Ventilation Configuration "B". A 24 volt actuated motor allows fresh air to enter, as a function of an external input; e.g., time clock, CO2 sensor, energy management system, or manual switch. Includes fresh air and exhaust air filters, a ventilation intake blower and a fan speed controller for the blower. Pressure relief is standard.

Power Vent with Motorized Damper (Optional). Ventilation Configuration "J". A 24 volt actuated motor allows fresh air to enter, as a function of an external input; e.g., time clock, CO2 sensor, energy management system, or manual switch. Includes fresh air filter and exhaust air filters, a ventilation intake blower, a fan speed controller for the intake blower, a ventilation exhaust blower and pressure relief. An optional fan speed controller for the exhaust air blower may be ordered. Vents up to 40% of classroom air, with a maximum of 450 cfm, to assure fresh air circulation.

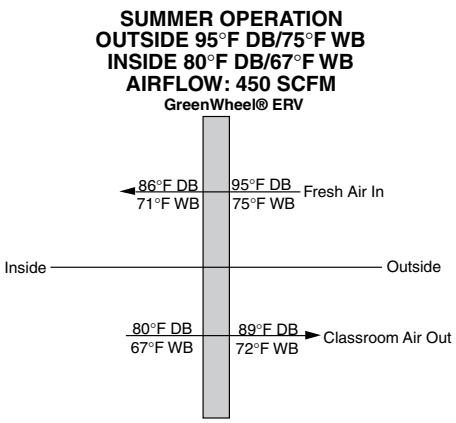
GreenCube™ ERV Ventilation Configuration "Q". The Marvair GreenCube ERV is an enthalpy plate heat exchanger that transfers both sensible and latent energies between outgoing and incoming air streams in a cross flow arrangement. Except for two air movers, it has no moving parts. The media is impregnated 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 -40°F. In addition, the desiccant is a bactericide. 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.

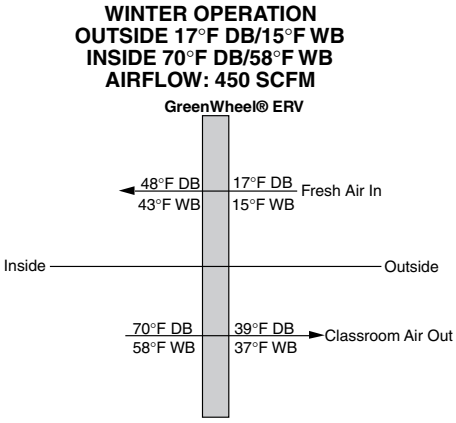
GreenWheel® ERV Ventilation (Optional). Ventilation Configuration "H". The Marvair® GreenWheel® ERV is a total energy (both sensible and latent) wheel that reduces both construction and operating cost while ventilating the classroom to ASHRAE 62-1999 requirements. The use of the GreenWheel ERV reduces 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 cassette consists of the wheel, two blowers and the drive motor and belt. 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	95° DB/73° WB Outside 80° DB/67° WB Inside Energy Conserved, BTUH			95° DB/80° WB Outside 80° DB/67° WB Inside Energy Conserved, BTUH		
	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	90° DB/74° WB Outside 75° DB/64° WB Inside Energy Conserved, BTUH			80° DB/70° WB Outside 75° DB/64° WB Inside Energy Conserved, BTUH			60° DB/54° WB Outside 70° DB/58° WB Inside Energy Conserved, BTUH		
	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	40° DB/36° WB Outside 70° DB/58° WB Inside Energy Conserved, BTUH			20° DB/18° WB Outside 70° DB/58° WB Inside Energy Conserved, BTUH			0° DB/7° WB Outside 70° DB/58° WB Inside Energy Conserved, BTUH		
	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.

Optional Ventilation Controls and Grilles

Demand Control Ventilation. A field or factory installed carbon dioxide sensor controls the ventilation damper and only opens the damper when CO_2 levels exceed a specified level. Demand control ventilation saves energy and utility costs by ventilating the classroom based upon occupancy. Note: Not available on the manual fresh air damper ("B") configuration.

Exhaust Air Controller. The motorized fresh air damper with PowerVent (option J) and GreenWheel® ERV (option H) ventilation options are equipped with an exhaust air fan speed control which controls the ventilation exhaust blower independent of the fresh air intake blower. An 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.

Ventilation Backdraft Damper. A factory installed flapper type damper that prevents outside air from entering the Scholar III unit when it is not operating. The damper opens whenever the ventilation fan is on and automatically shuts when the ventilation fan turns off. The damper should be used in areas where outside air infiltration is a concern. Can be used on all ventilation packages.

Side Return Air Grilles. Aluminum grille replaces stamped slots on left and right side of the unit.

GreenWheel® and GreenCube™ ERV Exhaust Air Grille. Aluminum grille replaces slots in cabinet.

Thermostats

Digital A/C Thermostat (p/n 50121) **-** 1 stage heat, 1 stage cool. Non-programmable. Fan switch: Auto & On. Manual changeover system switch: Cool-Off-Heat. Low temperature protection. °F or °C selectable.

Digital A/C Thermostat (p/n 50123) **-** 1 stage heat, 1 stage cool. 7 day programmable. Fan switch: Auto & On. Auto-changeover. Keypad lockout. Non-volatile program memory. Title 24 compliant - no batteries needed.

Digital A/C Thermostat (p/n 50186) Digital, non-programmable thermostat. 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.

Thermostat Guard (p/n 50092) Clear thermostat guard with key lock and clear plastic cover and base For use with 50121, 50123, 50186, 50107 & 50252 thermostats.

Thermostat Guard (p/n 50119) Clear, thermostat guard with key lock and clear plastic cover for use with 50248 thermostat.

Digital Heat Pump Thermostat (p/n 50107) **-** two stage heat, two stage cool. Seven day programmable. Programmable fan. Auto-On Fan switch. Auto-changeover. Non-volatile program memory. Status LED's.

Digital Heat Pump Thermostat (p/n 50248) - Digital, 7 day, 2 occupied & 2 unoccupied periods for each day of the week programmable thermostat. 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.

Internal Electronic Programmable Heat Pump Thermostat (p/n S/02792) (factory installed) with automatic changeover, has two stages of heating and one stage of cooling and a fan switch. System mode switch has OFF, COOL, AUTO, HEAT, and EM.HT. settings. Fan mode switch has OFF and AUTO settings. This thermostat may be used with systems that have no heat, electric resistance, a hot water coil or a steam coil.

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.

MAR5000 Energy Management System (for use with both heat pumps and air conditioners) provides a number of functions while remaining extremely cost sensitive. For a complete description of the operation and features of the MAR5000 EMS, please see the MAR5000 Product Data Sheet. The MAR5000 features:

- Temperature control.
- Dynamic recovery time.
- Run time limitation of heat pump to minimize energy costs.
- Humidity measurement and direct control of the dehumidification function.
- Seven relays for interfacing with the HVAC system or external devices.
- Ventilation control.
- One dry contact set of inputs enables data feed from any dry contact output device, e.g., a door switch.
- Support for peak load shedding.
- A precise time clock that will keep accurate time for lengthy power outages (at least 2 1/2 weeks).
- Intelligent occupancy and departure anticipation.

Options include:

- Unoccupied continuous fan shutoff.

Standard Controls

High Pressure and Loss of Charge (HP) or Low Pressure (A/C) Switches with lockout relay.

PLC Controller. The PLC is a factory installed microprocessor. LED indicator lights show operational status and provide assistance with diagnosis if troubleshooting is ever required. The controller can perform extensive self diagnosis to assess the operational status and indicate a fault when detected. The controller can be programmed remotely or with a removable program storage device. Pertinent statistical data regarding the history of the refrigerant system is also stored.

The controller in the Scholar III™ heat pumps and air conditioners improves reliability due to a reduction of components and simplification of control panel wiring and can control a Building Automation System (BAS) and various ventilation operations.

Defrost Control: Based upon time and temperature. The time interval can be adjustable from 30 to 90 minutes in one minute increments. The control system initiates a defrost cycle only if the outdoor coil temperature is 28°F or below. (heat pump only)

Anti-short Cycle Timer: Prevents the compressor's motor windings and starting controls from destructive overheating. The time interval is adjustable from three to eight minutes.

BAS Control Relay (24V only): Provides a 24 VAC coil to control operation from a Building Automation System. Note: An additional BAS control relay can be added when 120 or 240 VAC coils are required.

Outdoor Thermostat. Prevents second stage heat (electric or wet heat) from operating above desired outdoor temperature set point and can be set to activate second stage heat while disabling the compressor below desired outdoor temperature. (heat pump only)

Electric Heat Control. Controls operation of electric heat and allows either simultaneous or non-simultaneous operation of electric heat and the compressor. (heat pump only)

Ventilation Control. The motorized fresh air damper with PowerVent and GreenWheel® ERV ventilation options are equipped with a Fresh Air Fan Speed Control. The fresh air fan controls both the ventilation intake and exhaust blowers together, automatically balancing the intake exhaust cfm up to 450 cfm.

Optional Controls

Spring Wound Timer. Used to enable operation of the heat pump or air conditioner or override building automation system. Field installed.

Humidity Controller. Wall mounted type humidity controller controls operation of the hot gas reheat coil for dehumidification. Adjustable dehumidification range. Required for Scholar III™ heat pumps and air conditioners with hot gas reheat.

Other

Condensate Pans and Freeze Protection. To prevent freezing of water in the condensate lines and in the drain pans, this kit should be installed in locales subject to freezing temperatures. The kit includes heaters for both the pans and condensate line.

Anti-microbial light. A germicidal UV light destroys toxic bacteria, viruses and mold on the indoor air coil. A field or factory installed option.

Model Identification

VAI S A • • • • • • III

- **VAI** — Vertical Air Indoor Source
- **S** — 2-Stage Compressor
- **A** — Refrigerant: R-410A
- **•** Nominal Cooling: 24 = 24,000 BTUH; 30 = 29,000 BTUH; 36 = 35,000 BTUH; 40 = 40,500 BTUH; 48 = 48,000 BTUH; 60 = 59,000 BTUH
- **•** System Type: HP = Heat Pump; AC = Air Conditioner
- **•** Power Supply: A = 208/230V,1,60Hz; C = 208/230V,3,60Hz; D = 460V,3,60Hz
- **•** Heat – kW: 000 - No Heat; 050 = 5 kW; 075 = 7.5 kW; 100 = 10 kW; 150 = 15 kW; 099 = 99 (Hot Water)
- **•** Configuration: N = Manual Damper (std); H = GreenWheel® ERV; Q = GreenCube™ ERV; B = Motorized Damper; J = Power Vent with Motorized Damper
- **•** Special Options: G = Hot Gas Reheat/Dehumidification
- **III** — Configuration: III = Scholar III

SCHOLAR III HEAT PUMPS WITH 1-STAGE COMPRESSOR

Certified Performance Ratings @ ARI Standard 390 - Heat Pumps with 1-Stage Compressor

BASIC MODEL	Cooling Capacity (BTUH)	Rated Airflow[2] (WET COIL, CFM)	Cooling EER[1] (BTUH/Watt)	Rated Heating[3] (BTUH 47°F)	Rated COP[3] (47°F)[4]	Rated Heating[3] (BTUH 17°F)	Rated Heating COP[3] (17°F)	Sensible Heat Ratio
VAIA24	24,000	800	12.5	23,000	3.25	13,000	2.30	.75
VAIA30	29,000	1000	12.5	26,800	3.40	15,600	2.40	.75
VAIS36	35,000	1200	11.0	36,000	3.40	22,000	2.50	.75
VAIA40	40,500	1300	11.0	40,000	3.60	23,000	2.50	.74
VAIA48	48,000	1550	11.2	44,000	3.40	28,000	2.55	.72
VAIA60	59,000	1650	10.7	51,000	3.05	33,600	2.25	.68

Cooling rated at 95° outdoor, and 80°/67°F indoor. Heating rated at 70°F indoor and 47°/43°F outdoor. Rated Heating for Heat Pumps only.
Sensible heat ratio rated at 95°F outdoor, and 80°/67°F indoor.
[1]Highest efficiency ratings obtained with blank-off plate in place (no outside air).
[2]Airflow ratings shown are for standard unit configuration (N-option) with or without electric heat. All ratings are at 230v. for 208-230v. units and 460v. for 460v. units. Operation of units at a voltage different from the rating point will affect performance and air flow.
[3]Heat pumps only.

Electrical Characteristics - Compressor, Fan & Blower Motors - Heat Pumps with 1-Stage Compressor

BASIC MODEL	COMPRESSOR				OTHER MOTORS	OUTDOOR FAN				INDOOR BLOWER (ECM)			VENTILATION				
													GREENWHEEL® ERV AMPS			GREENCUBE™ ERV AMPS	
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS-HZ-PH	QTY	RPM	FLA	HP	RPM	FLA	HP	OAM	EXM	WD	OAM	EXM
VAIA24HPA	208/230-60-1	13.4	58.3	21.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA30HPA	208/230-60-1	12.8	64.0	20.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA36HPA	208/230-60-1	16.6	79.0	26.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA40HPA	208/230-60-1	17.9	112.0	28.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA48HPA	208/230-60-1	21.8	117.0	34.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA60HPA	208/230-60-1	26.2	134.0	41.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA24HPC	208/230-60-3	7.7	55.0	12.1	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA30HPC	208/230-60-3	8.3	61.0	13.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA36HPC	208/230-60-3	10.4	88.0	16.3	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA40HPC	208/230-60-3	13.5	88.0	21.1	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA48HPC	208/230-60-3	13.7	83.1	21.4	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA60HPC	208/230-60-3	15.6	111.0	24.4	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA24HPD	460-60-3	4.0	22.4	6.2	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA30HPD	460-60-3	5.1	28.0	8.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA36HPD	460-60-3	5.8	38.0	9.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA40HPD	460-60-3	6.0	44.0	9.3	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA48HPD	460-60-3	6.2	41.0	9.7	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA60HPD	460-60-3	7.7	52.0	12.1	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current RPM = Revolutions per Minute
460v. units have a step down transformer for 230v. motors.

Electrical Characteristics - Ventilation System Motors - Heat Pumps with 1-Stage Compressor

Configuration	Option	Exhaust Air Motor (EXM)				Outdoor Air Motor (OAM)				Wheel Drive Motor			
		Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP
Motorized Damper	**B**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
Manual Damper (Standard)	**N**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
PowerVent with Motorized Damper	**J**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
GreenWheel® ERV	**H**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	230	60/1	0.2	0.01
GreenCube™ ERV	**Q**	230	60/1	0.4	0.12	230	60/1	3.2	1/2	n/a	n/a	n/a	n/a

n/a = Not Applicable FLA = Full Load Amps Watts = Power Consumption Hz/Ph = Hertz (Frequency)/Number of Phases. 460v. units have step down transformer for 230v. motors.

Unit Load Amps - Heat Pumps with 1-Stage Compressor and Ventilation Options B & N

BASIC MODEL	VOLTAGE PH-HZ	HEAT PUMP AMPS (MAX) OPTIONS B, N	LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX) OPTIONS B, N			
			5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAIA24HPA	208-230/1/60	18.6	20.8	31.3	41.7	n/a	39.4	49.9	60.3	n/a
VAIA30HPA	208-230/1/60	18.0	20.8	31.3	41.7	n/a	38.8	49.3	59.7	n/a
VAIA36HPA	208-230/1/60	21.8	20.8	31.3	41.7	n/a	42.6	53.1	63.5	n/a
VAIA40HPA	208-230/1/60	24.6	20.8	31.3	41.7	n/a	45.4	55.9	66.3	n/a
VAIA48HPA	208-230/1/60	32.7	20.8	31.3	41.7	n/a	53.5	64.0	74.4	n/a
VAIA60HPA	208-230/1/60	37.1	20.8	31.3	41.7	n/a	57.9	68.4	78.8	n/a
VAIA24HPC	208-230/3/60	12.8	12.0	18.0	24.1	36.1	24.8	30.8	36.9	48.9
VAIA30HPC	208-230/3/60	13.4	12.0	18.0	24.1	36.1	25.4	31.4	37.5	49.5
VAIA36HPC	208-230/3/60	15.5	12.0	18.0	24.1	36.1	27.5	33.5	39.6	51.6
VAIA40HPC	208-230/3/60	20.2	12.0	18.0	24.1	36.1	32.2	38.2	44.3	56.3
VAIA48HPC	208-230/3/60	24.6	12.0	18.0	24.1	36.1	36.6	42.6	48.7	60.7
VAIA60HPC	208-230/3/60	26.5	12.0	18.0	24.1	36.1	38.5	44.5	50.6	62.6
VAIA24HPD	460/3/60	6.6	6.0	9.0	12.0	18.0	12.6	15.6	18.6	24.6
VAIA30HPD	460/3/60	7.7	6.0	9.0	12.0	18.0	13.7	16.7	19.7	25.7
VAIA36HPD	460/3/60	8.4	6.0	9.0	12.0	18.0	14.4	17.4	20.4	26.4
VAIA40HPD	460/3/60	9.4	6.0	9.0	12.0	18.0	15.4	18.4	21.4	27.4
VAIA48HPD	460/3/60	11.7	6.0	9.0	12.0	18.0	17.7	20.7	23.7	29.7
VAIA60HPD	460/3/60	13.2	6.0	9.0	12.0	18.0	19.2	22.2	25.2	31.2

Option B = Motorized Damper Option N = Manual Damper (Std)

Unit Load Amps - Heat Pumps with 1-Stage Compressor and Ventilation Options J, H & Q

BASIC MODEL	VOLTAGE PH-HZ	HEAT PUMP AMPS (MAX) OPTIONS			LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX)											
									OPTION J				OPTION H				OPTION Q			
		J	H	Q	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAIA24HPA	208-230/1/60	19.0	19.2	21.2	20.8	31.3	41.7	n/a	39.8	50.3	60.7	n/a	40.0	50.5	60.9	n/a	42.0	52.5	62.9	n/a
VAIA30HPA	208-230/1/60	18.4	18.6	20.6	20.8	31.3	41.7	n/a	39.2	49.7	60.1	n/a	39.4	49.9	60.3	n/a	41.4	51.9	62.3	n/a
VAIA36HPA	208-230/1/60	22.2	22.4	24.4	20.8	31.3	41.7	n/a	43.0	53.5	63.9	n/a	43.2	53.7	64.1	n/a	45.2	55.7	66.1	n/a
VAIA40HPA	208-230/1/60	25.0	25.2	27.2	20.8	31.3	41.7	n/a	45.8	56.3	66.7	n/a	46.0	56.5	66.9	n/a	48.0	58.5	68.9	n/a
VAIA48HPA	208-230/1/60	33.1	33.3	35.3	20.8	31.3	41.7	n/a	53.9	64.4	74.8	n/a	54.1	64.6	75.0	n/a	56.1	66.6	77.0	n/a
VAIA60HPA	208-230/1/60	37.5	37.7	39.7	20.8	31.3	41.7	n/a	58.3	68.8	79.2	n/a	58.5	69.0	79.4	n/a	60.5	71.0	81.4	n/a
VAIA24HPC	208-230/3/60	13.2	13.4	15.4	12.0	18.0	24.1	36.1	25.2	31.2	37.3	49.3	25.4	31.4	37.5	49.5	27.4	33.4	39.5	51.5
VAIA30HPC	208-230/3/60	13.8	14.0	16.0	12.0	18.0	24.1	36.1	25.8	31.8	37.9	49.9	26.0	32.0	38.1	50.1	28.0	34.0	40.1	52.1
VAIA36HPC	208-230/3/60	15.9	16.1	18.1	12.0	18.0	24.1	36.1	27.9	33.9	40.0	52.0	28.1	34.1	40.2	52.2	30.1	36.1	42.2	54.2
VAIA40HPC	208-230/3/60	20.6	20.8	22.8	12.0	18.0	24.1	36.1	32.6	38.6	44.7	56.7	32.8	38.8	44.9	56.9	34.8	40.8	46.9	58.9
VAIA48HPC	208-230/3/60	25.0	25.2	27.2	12.0	18.0	24.1	36.1	37.0	43.0	49.1	61.1	37.2	43.2	49.3	61.3	39.2	45.2	51.3	63.3
VAIA60HPC	208-230/3/60	26.9	27.1	29.1	12.0	18.0	24.1	36.1	38.9	44.9	51.0	63.0	39.1	45.1	51.2	63.2	41.1	47.1	53.2	65.2
VAIA24HPD	460/3/60	6.8	6.9	7.9	6.0	9.0	12.0	18.0	12.8	15.8	18.8	24.8	12.9	15.9	18.9	24.9	13.9	16.9	19.9	25.9
VAIA30HPD	460/3/60	7.9	8.0	9.0	6.0	9.0	12.0	18.0	13.9	16.9	19.9	25.9	14.0	17.0	20.0	26.0	15.0	18.0	21.0	27.0
VAIA36HPD	460/3/60	8.6	8.7	9.7	6.0	9.0	12.0	18.0	14.6	17.6	20.6	26.6	14.7	17.7	20.7	26.7	15.7	18.7	21.7	27.7
VAIA40HPD	460/3/60	9.6	9.7	10.7	6.0	9.0	12.0	18.0	15.6	18.6	21.6	27.6	15.7	18.7	21.7	27.7	16.7	19.7	22.7	28.7
VAIA48HPD	460/3/60	11.9	12.0	13.0	6.0	9.0	12.0	18.0	17.9	20.9	23.9	29.9	18.0	21.0	24.0	30.0	19.0	22.0	25.0	31.0
VAIA60HPD	460/3/60	13.2	13.4	14.5	6.0	9.0	12.0	18.0	19.4	22.4	25.4	31.4	19.5	22.5	25.5	31.5	20.5	23.5	26.5	32.5

Option J = PowerVent Option H = GreenWheel® ERV Option Q = GreenCube™ ERV

Summary Electrical Ratings - Heat Pumps with 1-Stage Compressor and Ventilation Options B & N

Manual Damper with Fresh Air Intake Blower ("N") or Motorized Damper with Fresh Air Intake Blower ("B") Fresh Air ventilation System																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
	VOLTAGE	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24HPA	230-208/60/1	22.0	30	48.0	50	n/a	n/a	41.5	45	19.6	20	48.0	50	26.0	30	n/a	n/a	n/a	n/a
VAIA30HPA	230-208/60/1	21.2	30	47.2	50	n/a	n/a	40.8	45	19.6	20	47.2	50	26.0	30	n/a	n/a	n/a	n/a
VAIA36HPA	230-208/60/1	26.0	40	52.0	60	n/a	n/a	45.5	50	19.6	20	52.0	60	26.0	30	n/a	n/a	n/a	n/a
VAIA40HPA	230-208/60/1	29.1	45	55.1	60	n/a	n/a	47.1	50	19.6	20	55.1	60	26.0	30	n/a	n/a	n/a	n/a
VAIA48HPA	230-208/60/1	38.2	50	38.2	50	26.0	30	38.2	50	39.1	40	38.2	50	52.1	60	n/a	n/a	n/a	n/a
VAIA60HPA	230-208/60/1	43.7	60	43.7	60	26.0	30	43.7	60	39.1	40	43.7	60	52.1	60	n/a	n/a	n/a	n/a
VAIA24HPC	230-208/60/3	14.8	20	29.8	30	n/a	n/a	37.3	40	n/a	n/a	45.0	50	n/a	n/a	37.3	40	22.5	25
VAIA30HPC	230-208/60/3	15.6	20	30.6	35	n/a	n/a	38.1	40	n/a	n/a	45.7	50	n/a	n/a	38.1	40	22.5	25
VAIA36HPC	230-208/60/3	18.2	25	33.2	35	n/a	n/a	40.7	45	n/a	n/a	48.3	50	n/a	n/a	40.7	45	22.5	25
VAIA40HPC	230-208/60/3	23.6	35	38.6	40	n/a	n/a	46.1	50	n/a	n/a	53.7	60	n/a	n/a	46.1	50	22.5	25
VAIA48HPC	230-208/60/3	28.0	40	43.0	45	n/a	n/a	50.5	60	n/a	n/a	58.2	60	n/a	n/a	28.0	40	45.1	50
VAIA60HPC	230-208/60/3	30.4	45	45.4	50	n/a	n/a	52.9	60	n/a	n/a	30.4	45	30.1	35	30.4	45	45.1	50
VAIA24HPD	460/60/3	7.6	15	15.1	20	n/a	n/a	18.9	20	n/a	n/a	22.6	25	n/a	n/a	30.1	35	n/a	n/a
VAIA30HPD	460/60/3	9.0	15	16.5	20	n/a	n/a	20.2	25	n/a	n/a	24.0	25	n/a	n/a	31.5	35	n/a	n/a
VAIA36HPD	460/60/3	9.9	15	17.4	20	n/a	n/a	21.1	25	n/a	n/a	24.9	25	n/a	n/a	32.4	35	n/a	n/a
VAIA40HPD	460/60/3	10.9	15	18.4	20	n/a	n/a	22.1	25	n/a	n/a	25.9	30	n/a	n/a	33.4	35	n/a	n/a
VAIA48HPD	460/60/3	13.2	15	20.7	25	n/a	n/a	24.5	25	n/a	n/a	28.2	30	n/a	n/a	35.7	40	n/a	n/a
VAIA60HPD	460/60/3	15.1	20	22.6	25	n/a	n/a	26.3	30	n/a	n/a	30.1	35	n/a	n/a	37.6	40	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit. .
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Heat Pumps with 1-Stage Compressor and Ventilation Option J

PowerVent ("J") Fresh Air Ventilation System																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
BASIC MODEL	VOLTAGE HZ-PH	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
		MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24HPA	230-208/60/1	22.4	30	48.4	50	n/a	n/a	41.9	45	19.6	20	48.4	50	26.0	30	n/a	n/a	n/a	n/a
VAIA30HPA	230-208/60/1	21.6	30	47.6	50	n/a	n/a	41.2	45	19.6	20	47.6	50	26.0	30	n/a	n/a	n/a	n/a
VAIA36HPA	230-208/60/1	26.4	40	52.4	60	n/a	n/a	45.9	50	19.6	20	52.4	60	26.0	30	n/a	n/a	n/a	n/a
VAIA40HPA	230-208/60/1	29.5	45	55.5	60	n/a	n/a	47.5	50	19.6	20	55.5	60	26.0	30	n/a	n/a	n/a	n/a
VAIA48HPA	230-208/60/1	38.6	50	38.6	50	26.0	30	38.6	50	39.1	40	38.6	50	52.1	60	n/a	n/a	n/a	n/a
VAIA60HPA	230-208/60/1	44.1	60	44.1	60	26.0	30	44.1	60	39.1	40	44.1	60	52.1	60	n/a	n/a	n/a	n/a
VAIA24HPC	230-208/60/3	15.2	20	30.2	35	n/a	n/a	37.7	40	n/a	n/a	45.4	50	n/a	n/a	37.7	40	22.5	25
VAIA30HPC	230-208/60/3	16.0	20	31.0	35	n/a	n/a	38.5	40	n/a	n/a	46.1	50	n/a	n/a	38.5	40	22.5	25
VAIA36HPC	230-208/60/3	18.6	25	33.6	35	n/a	n/a	41.1	45	n/a	n/a	48.7	50	n/a	n/a	41.1	45	22.5	25
VAIA40HPC	230-208/60/3	24.0	35	39.0	40	n/a	n/a	46.5	50	n/a	n/a	54.1	60	n/a	n/a	46.5	50	22.5	25
VAIA48HPC	230-208/60/3	28.4	40	43.4	45	n/a	n/a	50.9	60	n/a	n/a	58.6	60	n/a	n/a	28.0	40	45.1	50
VAIA60HPC	230-208/60/3	30.8	45	45.8	50	n/a	n/a	53.3	60	n/a	n/a	30.4	45	30.1	35	30.4	45	45.1	50
VAIA24HPD	460/60/3	7.8	15	15.3	20	n/a	n/a	19.1	20	n/a	n/a	22.8	25	n/a	n/a	30.3	35	n/a	n/a
VAIA30HPD	460/60/3	9.2	15	16.7	20	n/a	n/a	20.4	25	n/a	n/a	24.2	25	n/a	n/a	31.7	35	n/a	n/a
VAIA36HPD	460/60/3	10.1	15	17.6	20	n/a	n/a	21.3	25	n/a	n/a	25.1	30	n/a	n/a	32.6	35	n/a	n/a
VAIA40HPD	460/60/3	11.1	15	18.6	20	n/a	n/a	22.3	25	n/a	n/a	26.1	30	n/a	n/a	33.6	35	n/a	n/a
VAIA48HPD	460/60/3	13.4	15	20.9	25	n/a	n/a	24.7	25	n/a	n/a	28.4	30	n/a	n/a	35.9	40	n/a	n/a
VAIA60HPD	460/60/3	15.3	20	22.8	25	n/a	n/a	26.5	30	n/a	n/a	30.3	35	n/a	n/a	37.8	40	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Heat Pumps with 1-Stage Compressor and Ventilation Option H

GreenWheel® ERV (Energy Recovery Ventilator) (“H”)																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
BASIC MODEL	VOLTAGE HZ-PH	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
		MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24HPA	230-208/60/1	22.6	30	48.6	50	n/a	n/a	42.1	45	19.6	20	48.6	50	26.0	30	n/a	n/a	n/a	n/a
VAIA30HPA	230-208/60/1	21.8	30	47.8	50	n/a	n/a	41.4	45	19.6	20	47.8	50	26.0	30	n/a	n/a	n/a	n/a
VAIA36HPA	230-208/60/1	26.6	40	52.6	60	n/a	n/a	46.1	50	19.6	20	52.6	60	26.0	30	n/a	n/a	n/a	n/a
VAIA40HPA	230-208/60/1	29.7	45	55.7	60	n/a	n/a	47.7	50	19.6	20	55.7	60	26.0	30	n/a	n/a	n/a	n/a
VAIA48HPA	230-208/60/1	38.8	60	38.8	60	26.0	30	38.8	60	39.1	40	38.8	60	52.1	60	n/a	n/a	n/a	n/a
VAIA60HPA	230-208/60/1	44.3	60	44.3	60	26.0	30	44.3	60	39.1	40	44.3	60	52.1	60	n/a	n/a	n/a	n/a
VAIA24HPC	230-208/60/3	15.4	20	30.4	35	n/a	n/a	37.9	40	n/a	n/a	45.6	50	n/a	n/a	37.9	40	22.5	25
VAIA30HPC	230-208/60/3	16.2	20	31.2	35	n/a	n/a	38.7	40	n/a	n/a	46.3	50	n/a	n/a	38.7	40	22.5	25
VAIA36HPC	230-208/60/3	18.8	25	33.8	35	n/a	n/a	41.3	45	n/a	n/a	48.9	50	n/a	n/a	41.3	45	22.5	25
VAIA40HPC	230-208/60/3	24.2	35	39.2	40	n/a	n/a	46.7	50	n/a	n/a	54.3	60	n/a	n/a	46.7	50	22.5	25
VAIA48HPC	230-208/60/3	28.6	40	43.6	45	n/a	n/a	51.1	60	n/a	n/a	58.6	60	n/a	n/a	28.6	40	45.1	50
VAIA60HPC	230-208/60/3	31.0	45	46.0	50	n/a	n/a	53.5	60	n/a	n/a	31.0	45	30.1	35	31.0	45	45.1	50
VAIA24HPD	460/60/3	7.9	15	15.4	20	n/a	n/a	19.2	20	n/a	n/a	22.9	25	n/a	n/a	30.4	35	n/a	n/a
VAIA30HPD	460/60/3	9.3	15	16.8	20	n/a	n/a	20.5	25	n/a	n/a	24.3	25	n/a	n/a	31.8	35	n/a	n/a
VAIA36HPD	460/60/3	10.2	15	17.7	20	n/a	n/a	21.4	25	n/a	n/a	25.2	30	n/a	n/a	32.7	35	n/a	n/a
VAIA40HPD	460/60/3	11.2	15	18.7	20	n/a	n/a	22.4	25	n/a	n/a	26.2	30	n/a	n/a	33.7	35	n/a	n/a
VAIA48HPD	460/60/3	13.5	15	21.0	25	n/a	n/a	24.8	25	n/a	n/a	28.5	30	n/a	n/a	36.0	40	n/a	n/a
VAIA60HPD	460/60/3	15.4	20	22.9	25	n/a	n/a	26.6	30	n/a	n/a	30.4	35	n/a	n/a	37.9	40	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

Summary Electrical Ratings - Heat Pumps with 1-Stage Compressor and Ventilation Option Q

GreenCube™ ERV (Energy Recovery Ventilator) (“Q”)																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
BASIC MODEL	VOLTAGE HZ-PH	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
		MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24HPA	230-208/60/1	24.6	35	50.6	60	n/a	n/a	44.1	45	19.6	20	50.6	50	26.0	30	n/a	n/a	n/a	n/a
VAIA30HPA	230-208/60/1	23.8	35	49.8	50	n/a	n/a	43.4	45	19.6	20	49.8	50	26.0	30	n/a	n/a	n/a	n/a
VAIA36HPA	230-208/60/1	28.6	45	54.6	60	n/a	n/a	48.1	50	19.6	20	54.6	60	26.0	30	n/a	n/a	n/a	n/a
VAIA40HPA	230-208/60/1	31.7	45	57.7	60	n/a	n/a	51.2	60	19.6	20	57.7	60	26.0	30	n/a	n/a	n/a	n/a
VAIA48HPA	230-208/60/1	40.8	60	40.8	60	26.0	30	40.8	60	39.1	40	40.8	60	52.1	60	n/a	n/a	n/a	n/a
VAIA60HPA	230-208/60/1	46.3	60	46.3	60	26.0	30	46.3	60	39.1	40	46.3	60	52.1	60	n/a	n/a	n/a	n/a
VAIA24HPC	230-208/60/3	17.4	25	32.4	35	n/a	n/a	39.9	40	n/a	n/a	47.6	50	n/a	n/a	39.9	40	22.5	25
VAIA30HPC	230-208/60/3	18.2	25	33.2	35	n/a	n/a	40.7	45	n/a	n/a	48.3	50	n/a	n/a	40.7	45	22.5	25
VAIA36HPC	230-208/60/3	20.8	30	35.8	40	n/a	n/a	43.3	45	n/a	n/a	50.9	60	n/a	n/a	43.3	45	22.5	25
VAIA40HPC	230-208/60/3	26.2	35	41.2	45	n/a	n/a	48.7	50	n/a	n/a	56.3	60	n/a	n/a	48.7	50	22.5	25
VAIA48HPC	230-208/60/3	30.6	40	45.6	50	n/a	n/a	53.1	60	n/a	n/a	30.6	40	30.1	35	30.6	40	45.1	50
VAIA60HPC	230-208/60/3	33.0	45	48.0	50	n/a	n/a	55.5	60	n/a	n/a	33.0	45	30.1	35	33.0	45	45.1	50
VAIA24HPD	460/60/3	8.9	15	16.4	20	n/a	n/a	20.2	25	n/a	n/a	23.9	25	n/a	n/a	31.4	35	n/a	n/a
VAIA30HPD	460/60/3	10.3	15	17.8	20	n/a	n/a	21.5	25	n/a	n/a	25.3	30	n/a	n/a	32.8	35	n/a	n/a
VAIA36HPD	460/60/3	11.2	15	18.7	20	n/a	n/a	22.4	25	n/a	n/a	26.2	30	n/a	n/a	33.4	35	n/a	n/a
VAIA40HPD	460/60/3	12.2	15	19.7	20	n/a	n/a	23.4	25	n/a	n/a	27.2	30	n/a	n/a	34.7	35	n/a	n/a
VAIA48HPD	460/60/3	14.5	20	22.0	25	n/a	n/a	25.8	30	n/a	n/a	29.5	30	n/a	n/a	37.0	40	n/a	n/a
VAIA60HPD	460/60/3	16.4	20	23.9	25	n/a	n/a	27.6	30	n/a	n/a	31.4	35	n/a	n/a	38.9	40	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

SCHOLAR III AIR CONDITIONERS WITH 1-STAGE COMPRESSOR

Certified Performance Ratings @ ARI Standard 390 - Air Conditioners with 1-Stage Compressor

BASIC MODEL	Cooling Capacity (BTUH)	Rated Airflow[2] (WET COIL, CFM)	Cooling EER[1] (BTUH/Watt)	Sensible Heat Ratio
VAIA24	24,000	800	12.5	.75
VAIA30	29,000	1000	12.5	.75
VAIS36	35,000	1200	11.0	.75
VAIA40	40,500	1300	11.0	.74
VAIA48	48,000	1550	11.2	.72
VAIA60	59,000	1650	10.7	.68

Cooling rated at 95° outdoor, and 80°/67°F indoor.
Sensible heat ratio rated at 95°F outdoor, and 80°/67°F indoor.
[1]Highest efficiency ratings obtained with blank-off plate in place (no outside air).
[2]Airflow ratings shown are for standard unit configuration (N-option) with or without electric heat. All ratings are at 230v. for 208-230v. units and 460v. for 460v. units. Operation of units at a voltage different from the rating point will affect performance and air flow.

Electrical Characteristics - Compressor, Fan & Blower Motors - Air Conditioners with 1-Stage Compressor

BASIC MODEL	COMPRESSOR				OTHER MOTORS	OUTDOOR FAN				INDOOR BLOWER (ECM)			VENTILATION				
													GREENWHEEL® ERV AMPS			GREENCUBE™ ERV AMPS	
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS-HZ-PH	QTY	RPM	FLA	HP	RPM	FLA	HP	OAM	EXM	WD	OAM	EXM
VAIA24ACA	208/230-60-1	13.4	58.3	21.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA30ACA	208/230-60-1	12.8	64.0	20.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIS36ACA	208/230-60-1	16.6	79.0	26.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA40ACA	208/230-60-1	17.9	112.0	28.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA48ACA	208/230-60-1	21.8	117.0	34.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA60ACA	208/230-60-1	26.2	134.0	41.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA24ACC	208/230-60-3	7.7	55.0	12.1	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA30ACC	208/230-60-3	8.3	61.0	13.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA36ACC	208/230-60-3	10.4	88.0	16.3	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA40ACC	208/230-60-3	13.5	88.0	21.1	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA48ACC	208/230-60-3	13.7	83.1	21.4	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA60ACC	208/230-60-3	15.6	111.0	24.4	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA24ACD	460-60-3	4.0	22.4	6.2	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA30ACD	460-60-3	5.1	28.0	8.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA36ACD	460-60-3	5.8	38.0	9.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAIA40ACD	460-60-3	6.0	44.0	9.3	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA48ACD	460-60-3	6.2	41.0	9.7	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAIA60ACD	460-60-3	7.7	52.0	12.1	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current RPM = Revolutions per Minute
460v. units have a step down transformer for 230v. motors.

Electrical Characteristics - Ventilation System Motors - Heat Pumps with 1-Stage Compressor

Configuration	Option	Exhaust Air Motor (EXM)				Outdoor Air Motor (OAM)				Wheel Drive Motor			
		Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP
Motorized Damper	**B**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
Manual Damper (Standard)	**N**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
PowerVent with Motorized Damper	**J**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
GreenWheel® ERV	**H**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	230	60/1	0.2	0.01
GreenCube™ ERV	**Q**	230	60/1	0.4	0.12	230	60/1	3.2	1/2	n/a	n/a	n/a	n/a

n/a = Not Applicable FLA = Full Load Amps Watts = Power Consumption Hz/Ph = Hertz (Frequency)/Number of Phases. 460v. units have step down transformer for 230v. motors.

Unit Load Amps - Air Conditioners with 1-Stage Compressor and Ventilation Options B & N

BASIC MODEL	VOLTAGE PH-HZ	AIR CONDITIONER AMPS (MAX) OPTIONS B, N	LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX) OPTIONS B, N			
			5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAIA24ACA	208-230/1/60	3.8	20.8	31.3	41.7	n/a	24.6	35.1	45.5	n/a
VAIA30ACA	208-230/1/60	3.8	20.8	31.3	41.7	n/a	24.6	35.1	45.5	n/a
VAIS36ACA	208-230/1/60	3.8	20.8	31.3	41.7	n/a	24.6	35.1	45.5	n/a
VAIA40ACA	208-230/1/60	5.3	20.8	31.3	41.7	n/a	26.1	36.6	47.0	n/a
VAIA48ACA	208-230/1/60	5.3	20.8	31.3	41.7	n/a	26.1	36.6	47.0	n/a
VAIA60ACA	208-230/1/60	5.3	20.8	31.3	41.7	n/a	26.1	36.6	47.0	n/a
VAIA24ACC	208-230/3/60	3.8	12.0	18.0	24.1	36.1	15.8	21.8	27.9	39.9
VAIA30ACC	208-230/3/60	3.8	12.0	18.0	24.1	36.1	15.8	21.8	27.9	39.9
VAIA36ACC	208-230/3/60	3.8	12.0	18.0	24.1	36.1	15.8	21.8	27.9	39.9
VAIA40ACC	208-230/3/60	5.3	12.0	18.0	24.1	36.1	17.3	23.3	29.4	41.4
VAIA48ACC	208-230/3/60	5.3	12.0	18.0	24.1	36.1	17.3	23.3	29.4	41.4
VAIA60ACC	208-230/3/60	5.3	12.0	18.0	24.1	36.1	17.3	23.3	29.4	41.4
VAIA24ACD	460/3/60	1.9	6.0	9.0	12.0	18.0	7.9	10.9	13.9	19.9
VAIA30ACD	460/3/60	1.9	6.0	9.0	12.0	18.0	7.9	10.9	13.9	19.9
VAIA36ACD	460/3/60	1.9	6.0	9.0	12.0	18.0	7.9	10.9	13.9	19.9
VAIA40ACD	460/3/60	2.7	6.0	9.0	12.0	18.0	8.7	11.7	14.7	20.7
VAIA48ACD	460/3/60	2.7	6.0	9.0	12.0	18.0	8.7	11.7	14.7	20.7
VAIA60ACD	460/3/60	2.7	6.0	9.0	12.0	18.0	8.7	11.7	14.7	20.7

Option B = Motorized Damper Option N = Manual Damper (Std)

Unit Load Amps - Air Conditioners with 1-Stage Compressor and Ventilation Options J, H & Q

BASIC MODEL	VOLTAGE PH-HZ	AIR CONDITIONER AMPS (MAX) OPTIONS			LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX) OPTION J				OPTION H				OPTION Q			
		J	H	Q	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAIA24ACA	208-230/1/60	4.2	4.4	6.4	20.8	31.3	41.7	n/a	25.0	35.5	45.9	n/a	25.2	35.7	46.1	n/a	27.2	37.7	48.1	n/a
VAIA30ACA	208-230/1/60	4.2	4.4	6.4	20.8	31.3	41.7	n/a	25.0	35.5	45.9	n/a	25.2	35.7	46.1	n/a	27.2	37.7	48.1	n/a
VAIA36ACA	208-230/1/60	4.2	4.4	6.4	20.8	31.3	41.7	n/a	25.0	35.5	45.9	n/a	25.2	35.7	46.1	n/a	27.2	37.7	48.1	n/a
VAIA40ACA	208-230/1/60	5.7	5.9	7.9	20.8	31.3	41.7	n/a	26.5	37.0	47.4	n/a	26.7	37.2	47.6	n/a	27.2	37.7	48.1	n/a
VAIA48ACA	208-230/1/60	5.7	5.9	7.9	20.8	31.3	41.7	n/a	26.5	37.0	47.4	n/a	26.7	37.2	47.6	n/a	27.2	37.7	48.1	n/a
VAIA60ACA	208-230/1/60	5.7	5.9	7.9	20.8	31.3	41.7	n/a	26.5	37.0	47.4	n/a	26.7	37.2	47.6	n/a	27.2	37.7	48.1	n/a
VAIA24ACC	208-230/3/60	4.2	4.4	6.4	12.0	18.0	24.1	36.1	16.2	22.2	28.3	40.3	16.4	22.4	28.5	40.5	18.4	24.4	30.5	42.5
VAIA30ACC	208-230/3/60	4.2	4.4	6.4	12.0	18.0	24.1	36.1	16.2	22.2	28.3	40.3	16.4	22.4	28.5	40.5	18.4	24.4	30.5	42.5
VAIA36ACC	208-230/3/60	4.2	4.4	6.4	12.0	18.0	24.1	36.1	16.2	22.2	28.3	40.3	16.4	22.4	28.5	40.5	18.4	24.4	30.5	42.5
VAIA40ACC	208-230/3/60	5.7	5.9	7.9	12.0	18.0	24.1	36.1	17.7	23.7	29.8	41.8	17.9	23.9	30.0	42.0	18.4	24.4	30.5	42.5
VAIA48ACC	208-230/3/60	5.7	5.9	7.9	12.0	18.0	24.1	36.1	17.7	23.7	29.8	41.8	17.9	23.9	30.0	42.0	18.4	24.4	30.5	42.5
VAIA60ACC	208-230/3/60	5.7	5.9	7.9	12.0	18.0	24.1	36.1	17.7	23.7	29.8	41.8	17.9	23.9	30.0	42.0	18.4	24.4	30.5	42.5
VAIA24ACD	460/3/60	2.1	2.2	3.2	6.0	9.0	12.0	18.0	8.1	11.1	14.1	20.1	8.2	11.2	14.2	20.2	9.2	12.2	15.2	21.2
VAIA30ACD	460/3/60	2.1	2.2	3.2	6.0	9.0	12.0	18.0	8.1	11.1	14.1	20.1	8.2	11.2	14.2	20.2	9.2	12.2	15.2	21.2
VAIA36ACD	460/3/60	2.1	2.2	3.2	6.0	9.0	12.0	18.0	8.1	11.1	14.1	20.1	8.2	11.2	14.2	20.2	9.2	12.2	15.2	21.2
VAIA40ACD	460/3/60	2.9	3.0	4.0	6.0	9.0	12.0	18.0	8.9	11.9	14.9	20.9	9.0	12.0	15.0	21.0	9.2	12.2	15.2	21.2
VAIA48ACD	460/3/60	2.9	3.0	4.0	6.0	9.0	12.0	18.0	8.9	11.9	14.9	20.9	9.0	12.0	15.0	21.0	9.2	12.2	15.2	21.2
VAIA60ACD	460/3/60	2.9	3.0	4.0	6.0	9.0	12.0	18.0	8.9	11.9	14.9	20.9	9.0	12.0	15.0	21.0	9.2	12.2	15.2	21.2

Option J = PowerVent Option H = GreenWheel® ERV Option Q = GreenCube™ ERV

Summary Electrical Ratings - Air Conditioners with 1-Stage Compressor and Ventilation Options B & N

Manual Damper with Fresh Air Intake Blower ("N") or Motorized Damper with Fresh Air Intake Blower ("B") Fresh Air ventilation System											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24ACA	230-208/60/1	22.0	30	29.8	30	42.9	45	55.9	60	n/a	n/a
VAIA30ACA	230-208/60/1	21.2	30	29.8	30	42.9	45	55.9	60	n/a	n/a
VAIA36ACA	230-208/60/1	26.0	40	29.8	40	42.9	45	55.9	60	n/a	n/a
VAIA40ACA	230-208/60/1	29.1	45	31.3	45	44.4	45	57.4	60	n/a	n/a
VAIA48ACA	230-208/60/1	34.0	50	34.0	50	44.4	50	57.4	60	n/a	n/a
VAIA60ACA	230-208/60/1	39.5	60	39.5	60	44.4	60	57.4	60	n/a	n/a
VAIA24ACC	230-208/60/3	14.8	20	18.8	20	26.3	30	33.9	35	48.9	50
VAIA30ACC	230-208/60/3	15.6	20	18.8	20	26.3	30	33.9	35	48.9	50
VAIA36ACC	230-208/60/3	18.2	25	18.8	25	26.3	30	33.9	35	48.9	50
VAIA40ACC	230-208/60/3	23.6	35	23.6	35	27.8	35	35.4	40	50.4	60
VAIA48ACC	230-208/60/3	23.8	35	23.8	35	27.8	35	35.4	40	50.4	60
VAIA60ACC	230-208/60/3	26.2	40	26.2	40	27.8	40	35.4	40	50.4	60
VAIA24ACD	460/60/3	7.6	15	9.4	15	13.2	15	16.9	20	24.4	25
VAIA30ACD	460/60/3	9.0	15	9.4	15	13.2	15	16.9	20	24.4	25
VAIA36ACD	460/60/3	9.9	15	9.9	15	13.2	15	16.9	20	24.4	25
VAIA40ACD	460/60/3	10.9	15	10.9	15	13.9	15	17.7	20	25.2	30
VAIA48ACD	460/60/3	11.1	15	11.1	15	13.9	15	17.7	20	25.2	30
VAIA60ACD	460/60/3	13.0	20	13.0	20	13.9	20	17.7	20	25.2	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Air Conditioners with 1-Stage Compressor and Ventilation Option J

PowerVent ("J") Fresh Air ventilation System											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24ACA	230-208/60/1	22.4	30	30.2	35	43.3	45	56.3	60	n/a	n/a
VAIA30ACA	230-208/60/1	21.6	30	30.2	35	43.3	45	56.3	60	n/a	n/a
VAIA36ACA	230-208/60/1	26.4	40	30.2	40	43.3	45	56.3	60	n/a	n/a
VAIA40ACA	230-208/60/1	29.5	45	31.7	45	44.8	45	57.8	60	n/a	n/a
VAIA48ACA	230-208/60/1	34.4	50	34.4	50	44.8	50	57.8	60	n/a	n/a
VAIA60ACA	230-208/60/1	39.9	60	39.9	60	44.8	60	57.8	60	n/a	n/a
VAIA24ACC	230-208/60/3	15.2	20	19.2	20	26.7	30	34.3	35	49.3	50
VAIA30ACC	230-208/60/3	16.0	20	19.2	20	26.7	30	34.3	35	49.3	50
VAIA36ACC	230-208/60/3	18.6	25	19.2	25	26.7	30	34.3	35	49.3	50
VAIA40ACC	230-208/60/3	24.0	35	24.0	35	28.2	35	35.8	40	50.8	60
VAIA48ACC	230-208/60/3	24.2	35	24.2	35	28.2	35	35.8	40	50.8	60
VAIA60ACC	230-208/60/3	26.6	40	26.6	40	28.2	40	35.8	40	50.8	60
VAIA24ACD	460/60/3	7.8	15	9.6	15	13.4	15	17.1	20	24.6	25
VAIA30ACD	460/60/3	9.2	15	9.6	15	13.4	15	17.1	20	24.6	25
VAIA36ACD	460/60/3	10.1	15	10.1	15	13.4	15	17.1	20	24.6	25
VAIA40ACD	460/60/3	11.1	15	11.1	15	14.1	15	17.9	20	25.4	30
VAIA48ACD	460/60/3	11.3	15	11.3	15	14.1	15	17.9	20	25.4	30
VAIA60ACD	460/60/3	13.2	20	13.2	20	14.1	20	17.9	20	25.4	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Air Conditioners with 1-Stage Compressor and Ventilation Option H

GreenWheel® ERV (Energy Recovery Ventilator) (“H”)											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24ACA	230-208/60/1	22.6	30	30.4	35	43.5	45	56.5	60	n/a	n/a
VAIA30ACA	230-208/60/1	21.8	30	30.4	35	43.5	45	56.5	60	n/a	n/a
VAIA36ACA	230-208/60/1	26.6	40	30.4	40	43.5	45	56.5	60	n/a	n/a
VAIA40ACA	230-208/60/1	29.7	45	31.9	45	45.0	50	58.0	60	n/a	n/a
VAIA48ACA	230-208/60/1	34.6	50	34.6	50	45.0	50	58.0	60	n/a	n/a
VAIA60ACA	230-208/60/1	40.1	60	40.1	60	45.0	60	58.0	60	n/a	n/a
VAIA24ACC	230-208/60/3	15.4	20	19.4	20	26.9	30	34.5	35	49.5	50
VAIA30ACC	230-208/60/3	16.2	20	19.4	20	26.9	30	34.5	35	49.5	50
VAIA36ACC	230-208/60/3	18.8	25	19.4	25	26.9	30	34.5	35	49.5	50
VAIA40ACC	230-208/60/3	24.2	35	24.2	35	28.4	35	36.0	40	51.0	60
VAIA48ACC	230-208/60/3	24.4	35	24.4	35	28.4	35	36.0	40	51.0	60
VAIA60ACC	230-208/60/3	26.8	40	26.8	40	28.4	40	36.0	40	51.0	60
VAIA24ACD	460/60/3	7.9	15	9.7	15	13.5	15	17.2	20	24.7	25
VAIA30ACD	460/60/3	9.3	15	9.7	15	13.5	15	17.2	20	24.7	25
VAIA36ACD	460/60/3	10.2	15	10.2	15	13.5	15	17.2	20	24.7	25
VAIA40ACD	460/60/3	11.2	15	11.2	15	14.2	15	18.0	20	25.5	30
VAIA48ACD	460/60/3	11.4	15	11.4	15	14.2	15	18.0	20	25.5	30
VAIA60ACD	460/60/3	13.3	20	13.3	20	14.2	20	18.0	20	25.5	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

Summary Electrical Ratings - Air Conditioners with 1-Stage Compressor and Ventilation Option Q

GreenCube™ ERV (Energy Recovery Ventilator) (“Q”)											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAIA24ACA	230-208/60/1	24.6	35	32.4	35	45.5	50	58.5	60	n/a	n/a
VAIA30ACA	230-208/60/1	23.8	35	32.4	35	45.5	50	58.5	60	n/a	n/a
VAIA36ACA	230-208/60/1	28.6	45	32.4	45	45.5	50	58.5	60	n/a	n/a
VAIA40ACA	230-208/60/1	31.7	45	33.9	45	47.0	50	60.0	60	n/a	n/a
VAIA48ACA	230-208/60/1	36.6	50	36.6	50	47.0	50	60.0	60	n/a	n/a
VAIA60ACA	230-208/60/1	42.1	60	42.1	60	47.0	60	60.0	60	n/a	n/a
VAIA24ACC	230-208/60/3	17.4	25	21.4	25	28.9	30	36.5	40	51.5	60
VAIA30ACC	230-208/60/3	18.2	25	21.4	25	28.9	30	36.5	40	51.5	60
VAIA36ACC	230-208/60/3	20.8	30	21.4	25	28.9	30	36.5	40	51.5	60
VAIA40ACC	230-208/60/3	26.2	35	26.2	35	30.4	35	38.0	40	53.0	60
VAIA48ACC	230-208/60/3	26.4	40	26.4	40	30.4	40	38.0	40	53.0	60
VAIA60ACC	230-208/60/3	28.8	40	28.8	40	30.4	40	38.0	40	53.0	60
VAIA24ACD	460/60/3	8.9	15	11.4	15	14.5	15	18.2	20	25.7	30
VAIA30ACD	460/60/3	10.3	15	11.4	15	14.5	15	18.2	20	25.7	30
VAIA36ACD	460/60/3	11.2	15	11.4	15	14.5	15	18.2	20	25.7	30
VAIA40ACD	460/60/3	12.2	15	12.2	15	15.2	20	19.0	20	26.5	30
VAIA48ACD	460/60/3	12.4	15	12.4	15	15.2	20	19.0	20	26.5	30
VAIA60ACD	460/60/3	14.3	20	14.3	20	15.2	20	19.0	20	26.5	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAIA24-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

SCHOLAR III HEAT PUMPS WITH 2-STAGE COMPRESSOR

Certified Performance Ratings @ ARI Standard 390 - Heat Pumps with 2-Stage Compressor

BASIC MODEL	Rated Cooling[1] (BTUH) (95°F Outdoor, 80°/67° Indoor)	Rated Airflow[2] (WET COIL, CFM)	Cooling EER (BTUH/Watt)	IPLV	1st Stage Cooling (BTUH) (80°F Outdoor, 80/67°F Indoor)	Rated Heating[3] (BTUH) (47°F Outdoor, 70°F Indoor)	Rated COP[3] (BTUH) (47°F Outdoor, 70°F Indoor)	Rated Heating[3] (BTUH) (17°F Outdoor, 70°F Indoor)	Rated COP[3] (BTUH) (17°F Outdoor, 70°F Indoor)	Sensible Heat Ratio
VAISA36	35,000	1200	11.55	16.10	28,800	34,000	3.5	19,000	2.5	.75
VAISA40	41,000	1300	11.55	16.00	34,000	36,600	3.3	21,000	2.4	.74
VAISA48	49,000	1550	11.55	16.10	42,000	39,000	3.4	20,500	2.45	.72
VAISA60	58,000	1650	10.80	14.90	51,000	51,000	3.15	30,000	2.15	.68

Total cooling capacity is rated at 95° outdoor and 80°/67° (DB/WB) indoor. First stage or partial capacity is rated at 80° outdoor and 80°/67° indoor. Heating rated at 70° indoor and 47° and 17° outdoor.
Sensible heat ratio rated at 95°F outdoor, and 80°/67°F indoor.
[1]Highest efficiency ratings obtained with blank-off plate in place (no outside air).
[2]Airflow ratings shown are for standard unit configuration (N-option) with or without electric heat. All ratings are at 230v. for 208-230v. units and 460v. for 460v. units. Operation of units at a voltage different from the rating point will affect performance and air flow.
[3]Heat pumps only.
[4]IPVL = Integrated Part Load Value

Electrical Characteristics - Compressor, Fan & Blower Motors - Heat Pumps with 2-Stage Compressor

BASIC MODEL	COMPRESSOR				OTHER MOTORS	OUTDOOR FAN				INDOOR BLOWER (ECM)			VENTILATION				
													GREENWHEEL® ERV AMPS			GREENCUBE™ ERV AMPS	
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS-HZ-PH	QTY	RPM	FLA	HP	RPM	FLA	HP	OAM	EXM	WD	OAM	EXM
VAISA36HPA	208/230-60-1	16.6	82.0	26.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAISA40HPA	208/230-60-1	16.6	96.0	26.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA48HPA	208/230-60-1	21.1	96.0	33.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA60HPA	208/230-60-1	25.6	118.0	40.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA36HPC	208/230-60-3	11.1	58.0	17.4	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAISA40HPC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA48HPC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA60HPC	208/230-60-3	17.6	123.0	27.5	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA36HPD	460-60-3	4.5	29.0	7.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAISA40HPD	460-60-3	6.1	44.0	9.5	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA48HPD	460-60-3	6.4	41.0	10.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA60HPD	460-60-3	9.0	62.0	14.0	208/230-60-1	2	1500	2.8	1/2	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current RPM = Revolutions per Minute
460v. units have a step down transformer for 230v. motors.

Electrical Characteristics - Ventilation System Motors - Air Conditioners with 1-Stage Compressor

Configuration	Option	Exhaust Air Motor (EXM)				Outdoor Air Motor (OAM)				Wheel Drive Motor			
		Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP
Motorized Damper	**B**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
Manual Damper (Standard)	**N**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
PowerVent with Motorized Damper	**J**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
GreenWheel® ERV	**H**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	230	60/1	0.2	0.01
GreenCube™ ERV	**Q**	230	60/1	0.4	0.12	230	60/1	3.2	1/2	n/a	n/a	n/a	n/a

n/a = Not Applicable FLA = Full Load Amps Watts = Power Consumption Hz/Ph = Hertz (Frequency)/Number of Phases. 460v. units have step down transformer for 230v. motors.

Unit Load Amps - Heat Pumps with 2-Stage Compressor and Ventilation Options B & N

BASIC MODEL	VOLTAGE PH-HZ	HEAT PUMP AMPS (MAX) OPTIONS B, N	LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX) OPTIONS B, N			
			5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAISA36HPA	208-230/1/60	21.8	20.8	31.3	41.7	n/a	42.6	53.1	63.5	n/a
VAISA40HPA	208-230/1/60	23.3	20.8	31.3	41.7	n/a	44.1	54.6	65.0	n/a
VAISA48HPA	208-230/1/60	32.0	20.8	31.3	41.7	n/a	52.8	63.3	73.7	n/a
VAISA60HPA	208-230/1/60	36.5	20.8	31.3	41.7	n/a	57.3	67.8	78.2	n/a
VAISA36HPC	208-230/3/60	16.3	12.0	18.0	24.1	36.1	28.3	34.3	40.4	52.4
VAISA40HPC	208-230/3/60	19.1	12.0	18.0	24.1	36.1	31.1	37.1	43.2	55.2
VAISA48HPC	208-230/3/60	24.3	12.0	18.0	24.1	36.1	36.3	42.3	48.4	60.4
VAISA60HPC	208-230/3/60	28.5	12.0	18.0	24.1	36.1	40.5	46.5	52.6	64.6
VAISA36HPD	460/3/60	7.1	6.0	9.0	12.0	18.0	13.1	16.1	19.1	25.1
VAISA40HPD	460/3/60	9.6	6.0	9.0	12.0	18.0	15.6	18.6	21.6	27.6
VAISA48HPD	460/3/60	11.9	6.0	9.0	12.0	18.0	17.9	20.9	23.9	29.9
VAISA60HPD	460/3/60	14.5	6.0	9.0	12.0	18.0	20.5	23.5	26.5	32.5

Option B = Motorized Damper Option N = Manual Damper (Std)

Unit Load Amps - Heat Pumps with 2-Stage Compressor and Ventilation Options J, H & Q

BASIC MODEL	VOLTAGE PH-HZ	HEAT PUMP AMPS (MAX) OPTIONS			LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX)											
									OPTION J				OPTION H				OPTION Q			
		J	H	Q	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAISA36HPA	208-230/1/60	22.2	22.4	24.4	20.8	31.3	41.7	n/a	43.0	53.5	63.9	n/a	43.2	53.7	64.1	n/a	45.2	55.7	66.1	n/a
VAISA40HPA	208-230/1/60	23.7	23.9	25.9	20.8	31.3	41.7	n/a	44.5	55.0	65.4	n/a	44.7	55.2	65.6	n/a	46.7	57.2	67.6	n/a
VAISA48HPA	208-230/1/60	32.4	32.6	34.6	20.8	31.3	41.7	n/a	53.2	63.7	74.1	n/a	53.4	63.9	74.3	n/a	55.4	65.9	76.3	n/a
VAISA60HPA	208-230/1/60	36.9	37.1	39.1	20.8	31.3	41.7	n/a	57.7	68.2	78.6	n/a	57.9	68.4	78.8	n/a	59.9	70.4	80.8	n/a
VAISA36HPC	208-230/3/60	16.7	16.9	18.9	12.0	18.0	24.1	36.1	28.7	34.7	40.8	52.8	28.9	34.9	41.0	53.0	30.9	36.9	43.0	55.0
VAISA40HPC	208-230/3/60	19.5	19.7	21.7	12.0	18.0	24.1	36.1	31.5	37.5	43.6	55.6	31.7	37.7	43.8	55.8	33.7	39.7	45.8	57.8
VAISA48HPC	208-230/3/60	24.7	24.9	26.9	12.0	18.0	24.1	36.1	36.7	42.7	48.8	60.8	36.9	42.9	49.0	61.0	38.9	44.9	51.0	63.0
VAISA60HPC	208-230/3/60	28.9	29.1	31.1	12.0	18.0	24.1	36.1	40.9	46.9	53.0	65.0	41.1	47.1	53.2	65.2	43.1	49.1	55.2	67.2
VAISA36HPD	460/3/60	7.3	7.4	8.4	6.0	9.0	12.0	18.0	13.3	16.3	19.3	25.3	13.4	16.4	19.4	25.4	14.4	17.4	20.4	26.4
VAISA40HPD	460/3/60	9.8	9.9	10.9	6.0	9.0	12.0	18.0	15.8	18.8	21.8	27.8	15.9	18.9	21.9	27.9	16.9	19.9	22.9	28.9
VAISA48HPD	460/3/60	12.1	12.2	13.2	6.0	9.0	12.0	18.0	18.1	21.1	24.1	30.1	18.2	21.2	24.2	30.2	19.2	22.2	25.2	31.2
VAISA60HPD	460/3/60	14.7	14.8	15.8	6.0	9.0	12.0	18.0	20.7	23.7	26.7	32.7	20.8	23.8	26.8	32.8	21.8	24.8	27.8	33.8

Option J = PowerVent Option H = GreenWheel® ERV Option Q = GreenCube™ ERV

Summary Electrical Ratings - Heat Pumps with 2-Stage Compressor and Ventilation Options B & N

Manual Damper with Fresh Air Intake Blower ("N") or Motorized Damper with Fresh Air Intake Blower ("B") Fresh Air ventilation System																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
	VOLTAGE	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36HPA	230-208/60/1	26.0	40	52.0	60	n/a	n/a	45.5	50	19.6	20	52.0	60	26.0	30	n/a	n/a	n/a	n/a
VAISA40HPA	230-208/60/1	27.5	40	53.5	60	n/a	n/a	47.0	50	19.6	20	53.5	60	26.0	30	n/a	n/a	n/a	n/a
VAISA48HPA	230-208/60/1	37.3	50	37.3	50	26.0	30	37.3	50	39.1	40	37.3	50	52.1	60	n/a	n/a	n/a	n/a
VAISA60HPA	230-208/60/1	42.9	60	42.9	60	26.0	30	42.9	60	39.1	40	42.9	60	52.1	60	n/a	n/a	n/a	n/a
VAISA36HPC	230-208/60/3	19.1	30	34.1	35	n/a	n/a	41.6	45	n/a	n/a	49.2	50	n/a	n/a	41.6	45	22.5	25
VAISA40HPC	230-208/60/3	23.5	35	38.5	40	n/a	n/a	46.0	50	n/a	n/a	53.6	60	n/a	n/a	46.0	50	22.5	25
VAISA48HPC	230-208/60/3	27.7	40	42.7	45	n/a	n/a	50.2	60	n/a	n/a	27.7	40	30.1	35	27.7	40	45.1	50
VAISA60HPC	230-208/60/3	32.9	50	47.9	50	n/a	n/a	55.4	60	n/a	n/a	32.9	45	30.1	35	32.9	45	45.1	50
VAISA36HPD	460/60/3	8.2	15	15.7	20	n/a	n/a	19.5	20	n/a	n/a	23.2	25	n/a	n/a	30.7	35	n/a	n/a
VAISA40HPD	460/60/3	11.0	15	18.5	20	n/a	n/a	22.2	25	n/a	n/a	26.0	30	n/a	n/a	33.5	40	n/a	n/a
VAISA48HPD	460/60/3	13.5	15	21.0	25	n/a	n/a	24.7	25	n/a	n/a	28.5	30	n/a	n/a	36.0	40	n/a	n/a
VAISA60HPD	460/60/3	17.5	25	25.0	30	n/a	n/a	28.7	30	n/a	n/a	32.5	35	n/a	n/a	40.0	45	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit. .
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA36-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Heat Pumps with 2-Stage Compressor and Ventilation Option J

PowerVent ("J") Fresh Air Ventilation System																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
BASIC	VOLTAGE	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36HPA	230-208/60/1	26.4	40	52.4	60	n/a	n/a	45.9	50	19.6	20	52.4	60	26.0	30	n/a	n/a	n/a	n/a
VAISA40HPA	230-208/60/1	27.9	40	53.9	60	n/a	n/a	47.4	50	19.6	20	53.9	60	26.0	30	n/a	n/a	n/a	n/a
VAISA48HPA	230-208/60/1	37.7	50	37.7	50	26.0	30	37.7	50	39.1	40	37.7	50	52.1	60	n/a	n/a	n/a	n/a
VAISA60HPA	230-208/60/1	43.3	60	43.3	60	26.0	30	43.3	60	39.1	40	43.3	60	52.1	60	n/a	n/a	n/a	n/a
VAISA36HPC	230-208/60/3	19.5	30	34.5	35	n/a	n/a	42.0	45	n/a	n/a	49.6	50	n/a	n/a	42.0	45	22.5	25
VAISA40HPC	230-208/60/3	23.9	35	38.9	40	n/a	n/a	46.4	50	n/a	n/a	54.0	60	n/a	n/a	46.4	50	22.5	25
VAISA48HPC	230-208/60/3	28.1	40	43.1	45	n/a	n/a	50.6	60	n/a	n/a	28.1	40	30.1	35	28.1	40	45.1	50
VAISA60HPC	230-208/60/3	33.1	50	48.3	50	n/a	n/a	55.8	60	n/a	n/a	33.1	45	30.1	35	33.1	45	45.1	50
VAISA36HPD	460/60/3	8.4	15	15.9	20	n/a	n/a	19.7	20	n/a	n/a	23.4	25	n/a	n/a	30.9	35	n/a	n/a
VAISA40HPD	460/60/3	11.2	15	18.7	20	n/a	n/a	22.4	25	n/a	n/a	26.2	30	n/a	n/a	33.7	40	n/a	n/a
VAISA48HPD	460/60/3	13.7	20	21.2	25	n/a	n/a	24.9	25	n/a	n/a	28.7	30	n/a	n/a	36.2	40	n/a	n/a
VAISA60HPD	460/60/3	17.7	25	25.2	30	n/a	n/a	28.9	30	n/a	n/a	32.7	35	n/a	n/a	40.2	45	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA36-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Heat Pumps with 2-Stage Compressor and Ventilation Option H

GreenWheel® ERV (Energy Recovery Ventilator) (“H”)																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
BASIC MODEL	VOLTAGE HZ-PH	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
		MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36HPA	230-208/60/1	26.6	40	52.6	60	n/a	n/a	46.1	45	19.6	20	52.6	60	26.0	30	n/a	n/a	n/a	n/a
VAISA40HPA	230-208/60/1	28.1	40	54.1	60	n/a	n/a	47.6	50	19.6	20	54.1	60	26.0	30	n/a	n/a	n/a	n/a
VAISA48HPA	230-208/60/1	37.9	50	37.9	50	26.0	30	37.9	50	39.1	40	37.9	50	52.1	60	n/a	n/a	n/a	n/a
VAISA60HPA	230-208/60/1	43.5	60	43.5	60	26.0	30	43.5	60	39.1	40	43.5	60	52.1	60	n/a	n/a	n/a	n/a
VAISA36HPC	230-208/60/3	19.7	30	34.7	35	n/a	n/a	42.2	45	n/a	n/a	49.8	50	n/a	n/a	42.2	45	22.5	25
VAISA40HPC	230-208/60/3	24.1	35	39.1	40	n/a	n/a	46.6	50	n/a	n/a	54.2	60	n/a	n/a	46.6	50	22.5	25
VAISA48HPC	230-208/60/3	28.3	40	43.3	45	n/a	n/a	50.8	60	n/a	n/a	28.3	40	30.1	35	28.3	40	45.1	50
VAISA60HPC	230-208/60/3	33.3	50	48.5	50	n/a	n/a	56.0	60	n/a	n/a	33.3	45	30.1	35	33.3	45	45.1	50
VAISA36HPD	460/60/3	8.5	15	16.0	20	n/a	n/a	19.8	20	n/a	n/a	23.5	25	n/a	n/a	31.0	35	n/a	n/a
VAISA40HPD	460/60/3	11.3	15	18.8	20	n/a	n/a	22.5	25	n/a	n/a	26.3	30	n/a	n/a	33.8	40	n/a	n/a
VAISA48HPD	460/60/3	13.8	20	21.3	25	n/a	n/a	25.0	25	n/a	n/a	28.8	30	n/a	n/a	36.3	40	n/a	n/a
VAISA60HPD	460/60/3	17.8	25	25.3	30	n/a	n/a	29.0	30	n/a	n/a	32.8	35	n/a	n/a	40.3	45	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA36-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

Summary Electrical Ratings - Heat Pumps with 2-Stage Compressor and Ventilation Option Q

GreenCube™ ERV (Energy Recovery Ventilator) (“Q”)																			
ELECT. HEAT		00 = NONE		05 = 5 kW				7.5 = 7.5 kW				10 = 10 kW				15 = 15 kW			
BASIC MODEL	VOLTAGE HZ-PH	CKT #1		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2		CKT #1		CKT #2	
		MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36HPA	230-208/60/1	28.6	45	54.6	60	n/a	n/a	48.1	50	19.6	20	54.6	60	26.0	30	n/a	n/a	n/a	n/a
VAISA40HPA	230-208/60/1	30.1	45	56.1	60	n/a	n/a	49.6	50	19.6	20	56.1	60	26.0	30	n/a	n/a	n/a	n/a
VAISA48HPA	230-208/60/1	39.9	60	39.9	60	26.0	30	39.9	60	39.1	40	39.9	60	52.1	60	n/a	n/a	n/a	n/a
VAISA60HPA	230-208/60/1	45.5	60	45.5	60	26.0	30	45.5	60	39.1	40	45.5	60	52.1	60	n/a	n/a	n/a	n/a
VAISA36HPC	230-208/60/3	21.7	30	36.7	40	n/a	n/a	44.2	45	n/a	n/a	51.8	60	n/a	n/a	44.2	45	22.5	25
VAISA40HPC	230-208/60/3	26.1	35	41.1	45	n/a	n/a	48.6	50	n/a	n/a	56.2	60	n/a	n/a	48.6	50	22.5	25
VAISA48HPC	230-208/60/3	30.3	40	45.3	50	n/a	n/a	52.8	60	n/a	n/a	30.3	40	30.1	35	30.3	40	45.1	50
VAISA60HPC	230-208/60/3	35.3	50	50.5	60	n/a	n/a	58.0	60	n/a	n/a	35.3	50	30.1	35	35.3	50	45.1	50
VAISA36HPD	460/60/3	9.5	15	17.0	20	n/a	n/a	20.8	20	n/a	n/a	24.5	25	n/a	n/a	32.0	35	n/a	n/a
VAISA40HPD	460/60/3	12.3	15	19.8	20	n/a	n/a	23.5	25	n/a	n/a	27.3	30	n/a	n/a	34.8	40	n/a	n/a
VAISA48HPD	460/60/3	14.8	20	22.3	25	n/a	n/a	26.0	30	n/a	n/a	29.8	30	n/a	n/a	37.3	40	n/a	n/a
VAISA60HPD	460/60/3	18.8	25	26.3	30	n/a	n/a	30.0	35	n/a	n/a	33.8	35	n/a	n/a	41.3	45	n/a	n/a

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAIA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA36-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

SCHOLAR III AIR CONDITIONERS WITH 2-STAGE COMPRESSOR

Certified Performance Ratings @ ARI Standard 390 - Air Conditioners with 2-Stage Compressor

BASIC MODEL	Cooling Capacity (BTUH)	Rated Airflow[2] (WET COIL, CFM)	Cooling EER[1] (BTUH/Watt)	Sensible Heat Ratio
VAISA24	24,000	800	12.5	.75
VAISA30	29,000	1000	12.5	.75
VAIS36	35,000	1200	11.0	.75
VAISA40	40,500	1300	11.0	.74
VAISA48	48,000	1550	11.2	.72
VAISA60	59,000	1650	10.7	.68

Cooling rated at 95° outdoor, and 80°/67°F indoor.
Sensible heat ratio rated at 95°F outdoor, and 80°/67°F indoor.
[1]Highest efficiency ratings obtained with blank-off plate in place (no outside air).
[2]Airflow ratings shown are for standard unit configuration (N-option) with or without electric heat. All ratings are at 230v. for 208-230v. units and 460v. for 460v. units. Operation of units at a voltage different from the rating point will affect performance and air flow.

Electrical Characteristics - Compressor, Fan & Blower Motors - Air Conditioners with 2-Stage Compressor

BASIC MODEL	COMPRESSOR				OTHER MOTORS	OUTDOOR FAN				INDOOR BLOWER (ECM)			VENTILATION				
													GREENWHEEL® ERV AMPS			GREENCUBE™ ERV AMPS	
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS-HZ-PH	QTY	RPM	FLA	HP	RPM	FLA	HP	OAM	EXM	WD	OAM	EXM
VAISA36ACA	208/230-60-1	16.6	82.0	26.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAISA40ACA	208/230-60-1	16.6	96.0	26.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA48ACA	208/230-60-1	21.1	96.0	33.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA60ACA	208/230-60-1	25.6	118.0	40.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA36ACC	208/230-60-3	11.1	58.0	17.4	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAISA40ACC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA48ACC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA60ACC	208/230-60-3	17.6	123.0	27.5	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA36ACD	460-60-3	4.5	29.0	7.0	208/230-60-1	1	1030	1.4	1/3	1500	2.8	1/2	1.0	0.4	0.2	3.2	0.4
VAISA40ACD	460-60-3	6.1	44.0	9.5	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA48ACD	460-60-3	6.4	41.0	10.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4
VAISA60ACD	460-60-3	9.0	62.0	14.0	208/230-60-1	1	1030	1.4	1/3	1500	4.3	3/4	1.0	0.4	0.2	3.2	0.4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current RPM = Revolutions per Minute
460v. units have a step down transformer for 230v. motors.

Electrical Characteristics - Ventilation System Motors - Heat Pumps with 2-Stage Compressor

Configuration	Option	Exhaust Air Motor (EXM)				Outdoor Air Motor (OAM)				Wheel Drive Motor			
		Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP	Volts	Hz/Ph	FLA	HP
Motorized Damper	**B**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
Manual Damper (Standard)	**N**	n/a	n/a	n/a	n/a	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
PowerVent with Motorized Damper	**J**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	n/a	n/a	n/a	n/a
GreenWheel® ERV	**H**	230	60/1	0.4	0.12	230	60/1	1.0	0.17	230	60/1	0.2	0.01
GreenCube™ ERV	**Q**	230	60/1	0.4	0.12	230	60/1	3.2	1/2	n/a	n/a	n/a	n/a

n/a = Not Applicable FLA = Full Load Amps Watts = Power Consumption Hz/Ph = Hertz (Frequency)/Number of Phases. 460v. units have step down transformer for 230v. motors.

Unit Load Amps - Air Conditioners with 2-Stage Compressor and Ventilation Options B & N

BASIC MODEL	VOLTAGE PH-HZ	AIR CONDITIONER AMPS (MAX) OPTIONS B, N	LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX) OPTIONS B, N			
			5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAISA36ACA	208-230/1/60	3.8	20.8	31.3	41.7	n/a	24.6	35.1	45.5	n/a
VAISA40ACA	208-230/1/60	5.3	20.8	31.3	41.7	n/a	26.1	36.6	47.0	n/a
VAISA48ACA	208-230/1/60	5.3	20.8	31.3	41.7	n/a	26.1	36.6	47.0	n/a
VAISA60ACA	208-230/1/60	5.3	20.8	31.3	41.7	n/a	26.1	36.6	47.0	n/a
VAISA36ACC	208-230/3/60	3.8	12.0	18.0	24.1	36.1	15.8	21.8	27.9	39.9
VAISA40ACC	208-230/3/60	5.3	12.0	18.0	24.1	36.1	17.3	23.3	29.4	41.4
VAISA48ACC	208-230/3/60	5.3	12.0	18.0	24.1	36.1	17.3	23.3	29.4	41.4
VAISA60ACC	208-230/3/60	5.3	12.0	18.0	24.1	36.1	17.3	23.3	29.4	41.4
VAISA36ACD	460/3/60	1.9	6.0	9.0	12.0	18.0	7.9	10.9	13.9	19.9
VAISA40ACD	460/3/60	2.7	6.0	9.0	12.0	18.0	8.7	11.7	14.7	20.7
VAISA48ACD	460/3/60	2.7	6.0	9.0	12.0	18.0	8.7	11.7	14.7	20.7
VAISA60ACD	460/3/60	2.7	6.0	9.0	12.0	18.0	8.7	11.7	14.7	20.7

Option B = Motorized Damper Option C = Economizer Option N = Manual Damper (Std)

Unit Load Amps - Air Conditioners with 2-Stage Compressor and Ventilation Options J, H & Q

BASIC MODEL	VOLTAGE PH-HZ	AIR CONDITIONER AMPS (MAX) OPTIONS			LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)				TOTAL HEATING AMPS (MAX)											
									OPTION J				OPTION H				OPTION Q			
		J	H	Q	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW	5 kW	7.5 kW	10 kW	15 kW
VAISA36ACA	208-230/1/60	4.2	4.4	6.4	20.8	31.3	41.7	n/a	25.0	35.5	45.9	n/a	25.2	35.7	46.1	n/a	27.2	37.7	48.1	n/a
VAISA40ACA	208-230/1/60	5.7	5.9	7.9	20.8	31.3	41.7	n/a	26.5	37.0	47.4	n/a	26.7	37.2	47.6	n/a	28.7	39.2	49.6	n/a
VAISA48ACA	208-230/1/60	5.7	5.9	7.9	20.8	31.3	41.7	n/a	26.5	37.0	47.4	n/a	26.7	37.2	47.6	n/a	28.7	39.2	49.6	n/a
VAISA60ACA	208-230/1/60	5.7	5.9	7.9	20.8	31.3	41.7	n/a	26.5	37.0	47.4	n/a	26.7	37.2	47.6	n/a	28.7	39.2	49.6	n/a
VAISA36ACC	208-230/3/60	4.2	4.4	6.4	12.0	18.0	24.1	36.1	16.2	22.2	28.3	40.3	16.4	22.4	28.5	40.5	18.4	24.4	30.5	42.5
VAISA40ACC	208-230/3/60	5.7	5.9	7.9	12.0	18.0	24.1	36.1	17.7	23.7	29.8	41.8	17.9	23.9	30.0	42.0	19.9	25.9	32.0	44.0
VAISA48ACC	208-230/3/60	5.7	5.9	7.9	12.0	18.0	24.1	36.1	17.7	23.7	29.8	41.8	17.9	23.9	30.0	42.0	19.9	25.9	32.0	44.0
VAISA60ACC	208-230/3/60	5.7	5.9	7.9	12.0	18.0	24.1	36.1	17.7	23.7	29.8	41.8	17.9	23.9	30.0	42.0	19.9	25.9	32.0	44.0
VAISA36ACD	460/3/60	2.1	2.2	3.2	6.0	9.0	12.0	18.0	8.1	11.1	14.1	20.1	8.2	11.2	14.2	20.2	9.2	12.2	15.2	21.2
VAISA40ACD	460/3/60	2.9	3.0	4.0	6.0	9.0	12.0	18.0	8.9	11.9	14.9	20.9	9.0	12.0	15.0	21.0	10.0	13.0	16.0	22.0
VAISA48ACD	460/3/60	2.9	3.0	4.0	6.0	9.0	12.0	18.0	8.9	11.9	14.9	20.9	9.0	12.0	15.0	21.0	10.0	13.0	16.0	22.0
VAISA60ACD	460/3/60	2.9	3.0	4.0	6.0	9.0	12.0	18.0	8.9	11.9	14.9	20.9	9.0	12.0	15.0	21.0	10.0	13.0	16.0	22.0

Option J = PowerVent Option H = GreenWheel® ERV Option Q = GreenCube™ ERV

Summary Electrical Ratings - Air Conditioners with 2-Stage Compressor and Ventilation Options B & N

Manual Damper with Fresh Air Intake Blower ("N") or Motorized Damper with Fresh Air Intake Blower ("B") Fresh Air ventilation System											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36ACA	230-208/60/1	26.0	40	29.8	40	42.9	45	55.9	60	n/a	n/a
VAISA40ACA	230-208/60/1	27.5	40	31.3	40	44.4	45	57.4	60	n/a	n/a
VAISA48ACA	230-208/60/1	33.1	50	33.1	50	44.4	45	57.4	60	n/a	n/a
VAISA60ACA	230-208/60/1	38.7	60	38.7	60	44.4	45	57.4	60	n/a	n/a
VAISA36ACC	230-208/60/3	19.1	30	19.1	30	26.3	30	33.9	35	48.9	50
VAISA40ACC	230-208/60/3	23.5	35	23.5	35	27.8	35	35.4	40	50.4	60
VAISA48ACC	230-208/60/3	23.5	35	23.5	35	27.8	35	35.4	40	50.4	60
VAISA60ACC	230-208/60/3	26.7	45	26.7	45	27.8	45	35.4	45	50.4	60
VAISA36ACD	460/60/3	8.2	15	9.4	15	13.2	15	16.9	20	24.4	25
VAISA40ACD	460/60/3	11.0	15	11.0	15	13.9	15	17.7	20	25.2	30
VAISA48ACD	460/60/3	11.4	15	11.4	15	13.9	15	17.7	20	25.2	30
VAISA60ACD	460/60/3	14.9	20	14.9	20	14.9	15	17.7	20	25.2	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAISA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA24-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Air Conditioners with 2-Stage Compressor and Ventilation Option J

PowerVent ("J") Fresh Air ventilation System											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36ACA	230-208/60/1	26.4	40	30.2	40	43.3	45	56.3	60	n/a	n/a
VAISA40ACA	230-208/60/1	27.9	40	31.7	40	44.8	45	57.8	60	n/a	n/a
VAISA48ACA	230-208/60/1	33.5	50	33.5	50	44.8	45	57.8	60	n/a	n/a
VAISA60ACA	230-208/60/1	39.1	60	39.1	60	44.8	45	57.8	60	n/a	n/a
VAISA36ACC	230-208/60/3	19.5	30	19.5	30	26.7	30	34.3	35	49.3	50
VAISA40ACC	230-208/60/3	23.9	35	23.9	35	28.2	35	35.8	40	50.8	60
VAISA48ACC	230-208/60/3	23.9	35	23.9	35	28.2	35	35.8	40	50.8	60
VAISA60ACC	230-208/60/3	27.1	45	27.1	45	28.2	45	35.8	45	50.8	60
VAISA36ACD	460/60/3	8.4	15	9.6	15	13.4	15	17.1	20	24.6	25
VAISA40ACD	460/60/3	11.2	15	11.2	15	14.1	15	17.9	20	25.4	30
VAISA48ACD	460/60/3	11.6	15	11.6	15	14.1	15	17.9	20	25.4	30
VAISA60ACD	460/60/3	15.1	20	15.1	20	14.1	15	17.9	20	25.4	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAISA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA24-60 units with no electric heat. 15 kW only operates during "S" circuit or emergency heat modes.

Summary Electrical Ratings - Air Conditioners with 2-Stage Compressor and Ventilation Option H

GreenWheel® ERV (Energy Recovery Ventilator) (“H”)											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36ACA	230-208/60/1	26.6	40	30.4	40	43.5	45	56.4	60	n/a	n/a
VAISA40ACA	230-208/60/1	28.1	40	31.9	40	45.0	50	57.9	60	n/a	n/a
VAISA48ACA	230-208/60/1	33.7	50	33.7	50	45.0	50	57.9	60	n/a	n/a
VAISA60ACA	230-208/60/1	39.3	60	39.3	60	45.0	50	57.9	60	n/a	n/a
VAISA36ACC	230-208/60/3	19.7	30	19.7	30	26.9	30	34.5	35	49.5	50
VAISA40ACC	230-208/60/3	24.1	35	24.1	35	28.4	35	36.0	40	51.0	60
VAISA48ACC	230-208/60/3	24.1	35	24.1	35	28.4	35	36.0	40	51.0	60
VAISA60ACC	230-208/60/3	27.3	45	27.3	45	28.4	45	36.0	45	51.0	60
VAISA36ACD	460/60/3	8.5	15	9.7	15	13.5	15	17.2	20	24.7	25
VAISA40ACD	460/60/3	11.3	15	11.3	15	14.2	15	18.0	20	25.5	30
VAISA48ACD	460/60/3	11.7	15	11.7	15	14.2	15	18.0	20	25.5	30
VAISA60ACD	460/60/3	15.2	20	15.2	20	14.2	15	18.0	20	25.5	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAISA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA24-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

Summary Electrical Ratings - Air Conditioners with 2-Stage Compressor and Ventilation Option Q

GreenCube™ ERV (Energy Recovery Ventilator) (“Q”)											
ELECT. HEAT		00 = NONE		05 = 5 kW		7.5 = 7.5 kW		10 = 10 kW		15 = 15 kW	
	VOLTAGE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1	
BASIC MODEL	HZ-PH	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
VAISA36ACA	230-208/60/1	28.6	45	33.8	45	46.9	50	59.9	60	n/a	n/a
VAISA40ACA	230-208/60/1	30.1	45	35.3	45	48.4	50	n/a	n/a	n/a	n/a
VAISA48ACA	230-208/60/1	35.7	50	35.7	50	48.4	50	n/a	n/a	n/a	n/a
VAISA60ACA	230-208/60/1	41.3	60	41.3	60	48.4	60	n/a	n/a	n/a	n/a
VAISA36ACC	230-208/60/3	21.7	30	21.7	30	28.9	30	36.5	40	51.5	60
VAISA40ACC	230-208/60/3	26.1	35	26.1	35	30.4	35	38.0	40	53.0	60
VAISA48ACC	230-208/60/3	26.1	35	26.1	35	30.4	35	38.0	40	53.0	60
VAISA60ACC	230-208/60/3	31.3	45	31.3	45	31.3	45	38.0	45	53.0	60
VAISA36ACD	460/60/3	9.5	15	10.7	15	14.5	15	18.2	20	25.7	30
VAISA40ACD	460/60/3	12.3	15	12.3	15	15.2	20	19.0	20	26.5	30
VAISA48ACD	460/60/3	12.7	15	12.7	15	15.2	20	19.0	20	26.5	30
VAISA60ACD	460/60/3	15.9	20	15.9	20	15.9	20	19.0	20	26.5	30

This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For specific models, refer to the data label on the unit.
NA = Not Applicable MCA = Minimum Circuit Ampacity (Wire Size Amps) MFS = Maximum Fuse or HACR Circuit.
The minimum circuit ampacity and maximum fuse size for the VAISA24-60 units with hot water plenums are the same as the minimum circuit ampacities and maximum overcurrent values of VAISA24-60 units with no electric heat. 15 kW only operates during “S” circuit or emergency heat modes.

Dehumidification - Model VAIA

Dehumidification - Scholar III Model VAIA24 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	25,650	19,200	6,450	800	51.2	6.1	5.8	Cooling
75 / 62.5	50	75	6,450	0	6,450	800	73.4	6.1	5.8	Dehumid.
75 / 65.5	60	75	27,102	16,818	10,284	800	54.3	9.7	9.3	Cooling
75 / 65.5	60	75	10,284	0	10,284	800	73.8	9.7	9.3	Dehumid.
75 / 68	70	75	28,332	14,797	13,535	800	57.0	12.8	12.3	Cooling
75 / 68	70	75	13,535	0	13,535	800	74.1	12.8	12.3	Dehumid.
65 / 63	90	75	25,896	11,121	14,775	800	51.9	13.9	13.4	Cooling
65 / 63	90	75	14,775	0	14,775	800	64.8	13.9	13.4	Dehumid.
80 / 67	50	95	24,000	18,022	5,978	800	57.6	5.6	5.4	Cooling
80 / 67	50	95	5,978	0	5,978	800	78.5	5.6	5.4	Dehumid.
Dehumidification - Scholar III Model VAIA30 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	30,994	23,698	7,296	1000	51.7	6.9	6.6	Cooling
75 / 62.5	50	75	7,296	0	7,296	1000	73.6	6.9	6.6	Dehumid.
75 / 65.5	60	75	32,748	20,687	12,061	1000	54.8	11.4	10.9	Cooling
75 / 65.5	60	75	12,061	0	12,061	1000	74.0	11.4	10.9	Dehumid.
75 / 68	70	75	34,235	18,134	16,101	1000	57.4	15.2	14.6	Cooling
75 / 68	70	75	16,101	0	16,101	1000	74.2	15.2	14.6	Dehumid.
65 / 63	90	75	31,291	13,485	17,806	1000	52.3	16.8	16.1	Cooling
65 / 63	90	75	17,806	0	17,806	1000	64.8	16.8	16.1	Dehumid.
80 / 67	50	95	29,000	22,300	6,700	1000	57.9	6.3	6.1	Cooling
80 / 67	50	95	6,700	0	6,700	1000	78.5	6.3	6.1	Dehumid.
Dehumidification - Scholar III Model VAIA36 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	37,406	26,904	10,502	1200	51.6	9.9	9.5	Cooling
75 / 62.5	50	75	10,502	0	10,502	1200	72.4	9.9	9.5	Dehumid.
75 / 65.5	60	75	39,524	23,680	15,844	1200	54.7	15.0	14.3	Cooling
75 / 65.5	60	75	15,844	0	15,844	1200	73.0	15.0	14.3	Dehumid.
75 / 68	70	75	41,318	20,411	20,907	1200	57.3	19.7	18.9	Cooling
75 / 68	70	75	20,907	0	20,907	1200	73.0	19.7	18.9	Dehumid.
65 / 63	90	75	37,765	16,028	21,737	1200	52.2	20.5	19.7	Cooling
65 / 63	90	75	21,737	0	21,737	1200	64.6	20.5	19.7	Dehumid.
80 / 67	50	95	35,000	25,148	9,852	1200	57.9	9.3	8.9	Cooling
80 / 67	50	95	9,852	0	9,852	1200	77.3	9.3	8.9	Dehumid.

Dehumidification - Model VAIA

Dehumidification - Scholar III Model VAIA40 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	43,285	31,949	11,336	1300	50.8	10.7	10.3	Cooling
75 / 62.5	50	75	11,336	0	11,336	1300	73.5	10.7	10.3	Dehumid.
75 / 65.5	60	75	45,735	28,059	17,676	1300	53.9	16.7	16.0	Cooling
75 / 65.5	60	75	17,676	0	17,676	1300	73.9	16.7	16.0	Dehumid.
75 / 68	70	75	47,810	24,757	23,053	1300	56.6	21.8	20.9	Cooling
75 / 68	70	75	23,053	0	23,053	1300	74.2	21.8	20.9	Dehumid.
65 / 63	90	75	43,700	18,744	24,956	1300	51.4	23.6	22.6	Cooling
65 / 63	90	75	20,556	0	24,956	1300	67.9	23.6	22.6	Dehumid.
80 / 67	50	95	40,500	29,932	10,068	1300	57.2	9.5	9.1	Cooling
80 / 67	50	95	10,068	0	10,068	1300	78.5	9.5	9.1	Dehumid.
Dehumidification - Scholar III Model VAIA48 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	51,300	37,107	14,193	1550	50.9	13.4	12.9	Cooling
75 / 62.5	50	75	14,193	0	14,193	1550	73.1	13.4	12.9	Dehumid.
75 / 65.5	60	75	54,204	32,675	21,529	1550	54.0	20.3	19.5	Cooling
75 / 65.5	60	75	21,529	0	21,529	1550	73.5	20.3	19.5	Dehumid.
75 / 68	70	75	56,664	28,910	27,754	1550	56.6	26.2	25.1	Cooling
75 / 68	70	75	27,754	0	27,754	1550	73.9	26.2	25.1	Dehumid.
65 / 63	90	75	51,792	22,084	29,708	1550	51.5	28.1	26.9	Cooling
65 / 63	90	75	29,708	0	29,708	1550	64.7	28.1	26.9	Dehumid.
80 / 67	50	95	48,000	34,689	13,311	1550	57.2	12.6	12.1	Cooling
80 / 67	50	95	13,311	0	13,311	1550	77.9	12.6	12.1	Dehumid.
Dehumidification - Scholar III Model VAIA60 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	63,056	44,296	18,760	1650	50.0	17.7	17.0	Cooling
75 / 62.5	50	75	18,760	0	18,760	1650	74.8	17.7	17.0	Dehumid.
75 / 65.5	60	75	66,626	39,294	27,332	1650	52.9	25.8	24.7	Cooling
75 / 65.5	60	75	27,332	0	27,332	1650	75.0	25.8	24.7	Dehumid.
75 / 68	70	75	69,650	35,035	34,915	1650	55.4	33.0	31.6	Cooling
75 / 68	70	75	34,915	0	34,915	1650	75.1	33.0	31.6	Dehumid.
65 / 63	90	75	63,661	27,262	36,399	1650	50.8	34.4	33.0	Cooling
65 / 63	90	75	36,399	0	36,399	1650	66.1	34.4	33.0	Dehumid.
80 / 67	50	95	59,000	41,199	17,801	1650	55.8	16.8	16.1	Cooling
80 / 67	50	95	17,801	0	17,801	1650	78.9	16.8	16.1	Dehumid.

Dehumidification - Model VAISA

Dehumidification - Scholar III Model VAISA36 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	37,406	26,904	10,502	1200	51.6	9.9	9.5	Cooling
75 / 62.5	50	75	10,502	0	10,502	1200	72.4	9.9	9.5	Dehumid.
75 / 65.5	60	75	39,524	23,680	15,844	1200	54.7	15.0	14.3	Cooling
75 / 65.5	60	75	15,844	0	15,844	1200	73.0	15.0	14.3	Dehumid.
75 / 68	70	75	41,318	20,411	20,907	1200	57.3	19.7	18.9	Cooling
75 / 68	70	75	20,907	0	20,907	1200	73.0	19.7	18.9	Dehumid.
65 / 63	90	75	37,765	16,028	21,737	1200	57.2	20.5	19.7	Cooling
65 / 63	90	75	21,737	0	21,737	1200	64.6	20.5	19.7	Dehumid.
80 / 67	50	95	35,000	25,148	9,852	1200	57.9	9.3	8.9	Cooling
80 / 67	50	95	9,852	0	9,852	1200	77.3	9.3	8.9	Dehumid.
Dehumidification - Scholar III Model VAISA40 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	43,819	32,539	11,280	1300	50.7	10.7	10.2	Cooling
75 / 62.5	50	75	11,280	0	11,280	1300	73.4	10.7	10.2	Dehumid.
75 / 65.5	60	75	46,299	28,561	17,738	1300	53.8	16.8	16.1	Cooling
75 / 65.5	60	75	17,738	0	17,738	1300	73.8	16.8	16.1	Dehumid.
75 / 68	70	75	48,400	25,186	23,214	1300	56.5	22.0	21.1	Cooling
75 / 68	70	75	23,214	0	23,214	1300	74.1	22.0	21.1	Dehumid.
65 / 63	90	75	44,239	19,025	25,214	1300	51.3	23.8	22.9	Cooling
65 / 63	90	75	25,214	0	25,214	1300	67.8	23.8	22.9	Dehumid.
80 / 67	50	95	41,000	30,501	10,499	1300	57.1	9.9	9.5	Cooling
80 / 67	50	95	10,499	0	10,499	1300	78.4	9.9	9.5	Dehumid.
Dehumidification - Scholar III Model VAISA48 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	52,369	37,675	14,694	1550	50.7	13.9	13.3	Cooling
75 / 62.5	50	75	14,694	0	14,694	1550	73.3	13.9	13.3	Dehumid.
75 / 65.5	60	75	55,333	33,215	22,118	1550	53.7	20.9	20.0	Cooling
75 / 65.5	60	75	22,118	0	22,118	1550	73.5	20.9	20.0	Dehumid.
75 / 68	70	75	57,845	29,424	28,421	1550	56.3	26.8	25.7	Cooling
75 / 68	70	75	28,421	0	28,421	1550	73.9	26.8	25.7	Dehumid.
65 / 63	90	75	52,871	25,548	27,323	1550	51.2	25.8	24.7	Cooling
65 / 63	90	75	27,323	0	27,323	1550	66.5	25.8	24.7	Dehumid.
80 / 67	50	95	49,000	35,191	13,809	1550	56.9	13.0	12.5	Cooling
80 / 67	50	95	13,809	0	13,809	1550	77.9	13.0	12.5	Dehumid.
Dehumidification - Scholar III Model VAISA60 (HG)										
Indoor Conditions Air Entering Indoor Coil		Outdoor Ambient	Capacity (Btu/Hr)			Indoor Air Flow	Indoor Supply Air	Moisture Removed (Approximate)		Operating Mode
DB / WB	% RH	DB	Total	Sensible	Latent	CFM	DB	Lbs / Hr	Pints / Hr	
75 / 62.5	50	75	61,988	42,727	19,261	1650	50.2	18.2	17.4	Cooling
75 / 62.5	50	75	19,261	0	19,261	1650	74.2	18.2	17.4	Dehumid.
75 / 65.5	60	75	65,497	37,989	27,508	1650	53.2	26.0	24.9	Cooling
75 / 65.5	60	75	27,508	0	27,508	1650	74.5	26.0	24.9	Dehumid.
75 / 68	70	75	68,469	33,954	34,515	1650	55.7	32.6	31.2	Cooling
75 / 68	70	75	34,515	0	34,515	1650	74.8	32.6	31.2	Dehumid.
65 / 63	90	75	62,582	26,627	35,955	1650	51.1	33.9	32.5	Cooling
65 / 63	90	75	35,955	0	35,955	1650	66.0	33.9	32.5	Dehumid.
80 / 67	50	95	58,000	39,659	18,341	1650	56.1	17.3	16.6	Cooling
80 / 67	50	95	18,341	0	18,341	1650	78.4	17.3	16.6	Dehumid.

Electric Heat Table - Heat Pumps & Air Conditioners

OUTPUT	HEATER KW			
	5	7.5	10	15
240 VOLT (BTUH)	16,380	24,500	32,670	49,150
208 VOLT (BTUH)	12,290	18,420	24,570	36,860
480 VOLT (BTUH)	17,070	25,600	34,130	51,200

Electric heaters are field installed.

Hot Water Output - Heat Pumps & Air Conditioners

Model	Entering Air Temperature 70°F DB, 60°F WB		HOT WATER HEAT 180°F Entering Water Temperature Water Flow (GPM)									
			2	4	6	8	10	12	14	16	18	20
VAIA24	Indoor Air Flow	(CFM)	800									
	Total Capacity	(Btu/Hr)	44,359	56,790	62,475	65,757	67,900	69,412	70,539	71,413	72,111	72,683
	Leaving Air - DB	(°F)	120.5	134.6	141.1	144.8	147.3	149.0	150.3	151.3	152.0	152.7
	Leaving Air - WB	(°F)	75.1	78.6	80.0	80.9	81.4	81.8	82.1	82.3	82.4	82.6
	Leaving Fluid Temp.	(°F)	134.4	150.8	158.6	163.1	166.1	168.1	169.7	170.8	171.8	172.5
	Fluid Delta T	(°F)	45.6	29.2	21.4	16.9	13.9	11.9	10.3	9.2	8.2	7.5
	Water Press. Drop	(Ft - H_2O)	0.2	0.6	1.3	1.7	3.7	5.3	7.2	9.3	11.7	14.4
VAIA30	Indoor Air Flow	(CFM)	1,000									
	Total Capacity	(Btu/Hr)	47,529	62,536	69,762	74,030	76,863	78,887	80,408	81,595	82,549	83,333
	Leaving Air - DB	(°F)	113.3	126.9	133.5	137.4	140.0	141.8	143.2	144.3	145.1	145.8
	Leaving Air - WB	(°F)	73.2	76.7	78.3	79.2	79.8	80.2	80.5	80.8	80.9	81.1
	Leaving Fluid Temp.	(°F)	131.2	147.9	156.1	161.0	164.2	166.5	168.2	169.5	170.6	171.4
	Fluid Delta T	(°F)	48.8	32.1	23.9	19.0	15.8	13.5	11.8	10.5	9.4	8.6
	Water Press. Drop	(Ft - H_2O)	0.2	0.6	1.3	1.7	3.7	5.3	7.2	9.3	11.7	14.4
VAIA36 & VAISA36	Indoor Air Flow	(CFM)	1,200									
	Total Capacity	(Btu/Hr)	49,916	67,067	75,662	80,826	84,297	86,800	88,693	90,179	91,378	92,367
	Leaving Air - DB	(°F)	107.9	120.9	127.4	131.3	133.9	135.8	137.3	138.4	139.3	140.1
	Leaving Air - WB	(°F)	71.8	75.2	76.8	77.8	78.4	78.8	79.2	79.4	79.6	79.8
	Leaving Fluid Temp.	(°F)	128.7	145.6	154.1	159.2	162.7	165.1	167.0	168.4	169.6	170.5
	Fluid Delta T	(°F)	51.3	34.4	25.9	20.8	17.3	14.9	13.0	11.6	10.4	9.5
	Water Press. Drop	(Ft - H_2O)	0.2	0.6	1.3	1.7	3.7	5.3	7.2	9.3	11.7	14.4
VAIA40 & VAISA40	Indoor Air Flow	(CFM)	1,300									
	Total Capacity	(Btu/Hr)	50,903	69,001	78,218	83,797	87,569	90,297	92,368	93,977	95,313	96,401
	Leaving Air - DB	(°F)	105.6	118.3	124.8	128.7	131.3	133.2	134.7	135.8	136.7	142.8
	Leaving Air - WB	(°F)	71.2	74.5	76.2	77.1	77.8	78.2	78.6	78.8	79.1	80.4
	Leaving Fluid Temp.	(°F)	127.7	144.6	153.2	158.5	162.0	164.5	166.4	167.9	169.1	171.0
	Fluid Delta T	(°F)	52.3	35.4	26.8	21.5	18.0	15.5	13.6	12.1	10.9	9.0
	Water Press. Drop	(Ft - H_2O)	0.2	0.6	1.3	1.7	3.7	5.3	7.2	9.3	11.7	14.4
VAIA48 & VAISA48	Indoor Air Flow	(CFM)	1,500									
	Total Capacity	(Btu/Hr)	52,575	72,363	82,703	89,070	93,405	96,561	98,969	100,870	102,412	103,688
	Leaving Air - DB	(°F)	101.9	113.9	120.2	124.0	126.7	128.6	130.1	131.2	132.1	132.9
	Leaving Air - WB	(°F)	70.1	73.4	75.0	76.0	76.7	77.1	77.5	77.8	78.0	78.2
	Leaving Fluid Temp.	(°F)	126.0	142.8	151.7	157.1	160.8	163.5	165.5	167.1	168.3	169.4
	Fluid Delta T	(°F)	54.0	37.2	28.3	22.9	19.2	16.5	14.5	12.9	11.7	10.6
	Water Press. Drop	(Ft - H_2O)	0.2	0.6	1.3	1.7	3.7	5.3	7.2	9.3	11.7	14.4
VAIA60 & VAISA60	Indoor Air Flow	(CFM)	1,700									
	Total Capacity	(Btu/Hr)	53,944	75,197	86,539	93,624	98,477	102,031	104,753	106,909	108,663	110,118
	Leaving Air - DB	(°F)	98.9	110.3	116.3	120.1	122.7	124.6	126.1	127.2	128.2	129.0
	Leaving Air - WB	(°F)	69.2	72.4	74.0	75.0	75.7	76.2	76.5	76.8	77.0	77.2
	Leaving Fluid Temp.	(°F)	124.5	141.4	150.4	156.0	159.8	162.5	164.6	166.3	167.6	168.7
	Fluid Delta T	(°F)	55.5	38.6	29.6	24.0	20.2	17.5	15.4	13.7	12.4	11.3
	Water Press. Drop	(Ft - H_2O)	0.2	0.6	1.3	1.7	3.7	5.3	7.2	9.3	11.7	14.4

Air Flow, CFM* - Heat Pumps & Air Conditioners

BASIC MODEL	24	30	36	40	48	60
AIR FLOW (CFM)	800	1000	1200	1300	1550	1650

*Nominal air flow up to .50 IWG. All ratings are at 230v. for 208-230v. units and 460v. for 460v. units. Operation of units at a voltage different from the rating point will affect performance and air flow.

Shipping Weight (pounds)

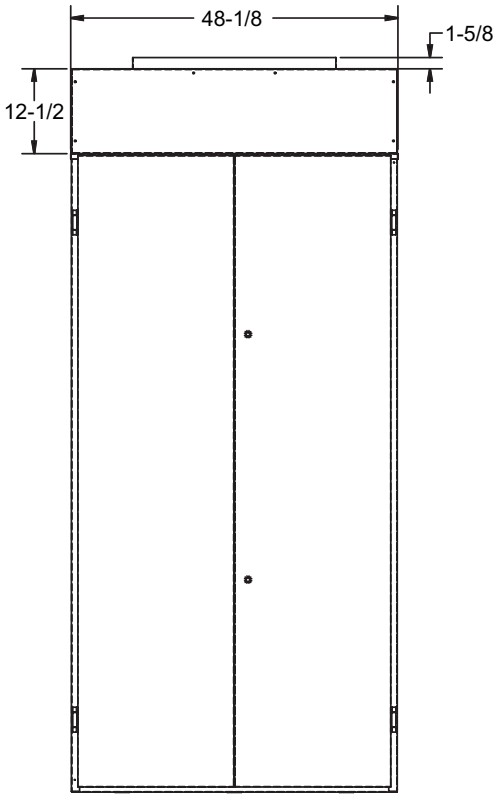
BASIC MODEL	24	30	6	40	48	60
VOLTAGE - 230	1020	1020	1020	1030	1045	1060
VOLTAGE - 460	1045	1045	1045	1055	1070	1085

Air Filter Sizes (inches)

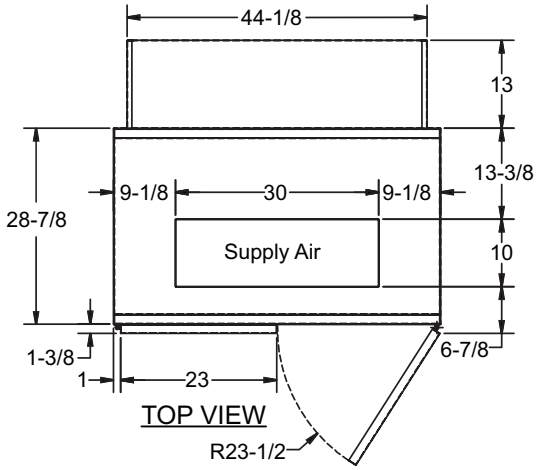
MODEL	RETURN AIR FILTER*	FRESH AIR FILTER	EXHAUST FILTER**
ALL VAIA & VAISA	16" x 24" x 2"	12" x 20" x 1"	12" x 20" x 1"

*Two (2) return air filters are required for each unit. Optional 4" pleated filter. **With GreenWheel® ventilation system.

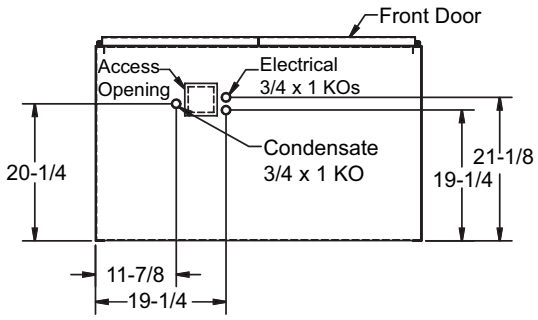
Dimensional Data for VAIA24-60 & VAISA36-60 (in inches)



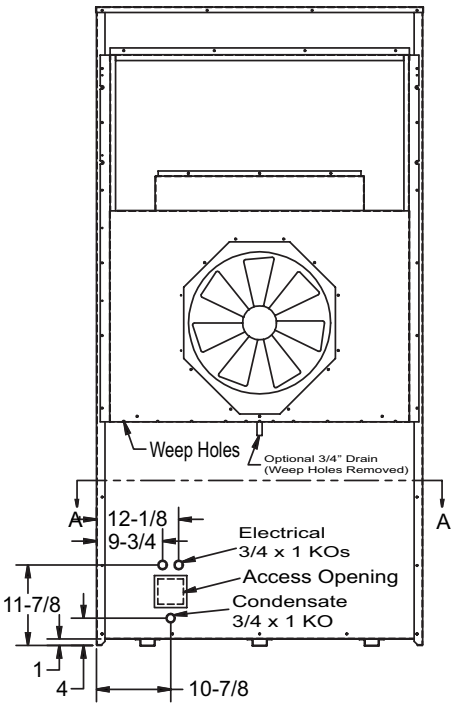
FRONT VIEW



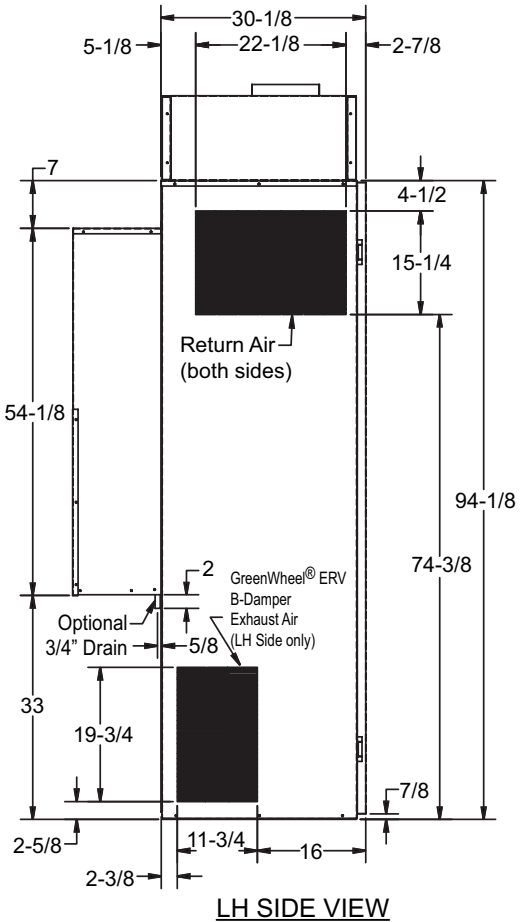
TOP VIEW



SECTION A-A

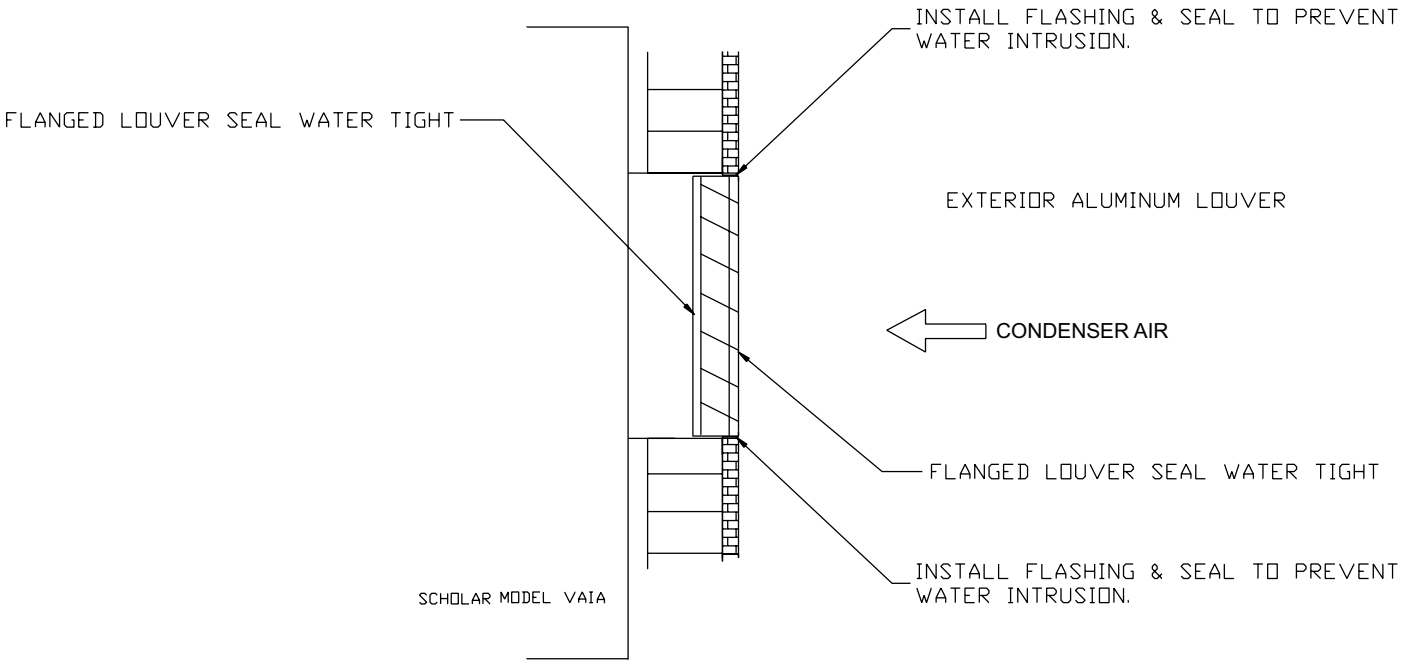


REAR VIEW



LH SIDE VIEW

Typical Installation Detail



WALL MOUNTED LOUVER DETAIL

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.

Marvair® AIRXCEL®, Inc.
ISO 9001 2000 REGISTERED COMPANY
P.O. Box 400 • Cordele, GA 31010
156 Seedling Drive • Cordele, GA 31015
Ph: 229-273-3636 • Fax: 229-273-5154
Email: marvair@airxcel.com • Internet: www.marvair.com

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