ComPac® I & ComPac® II 2 to 6 Ton Vertical Wall Mount Air Conditioners

Marvair®
AIRXCEL™, Inc.
ISO 9001:2008 REGISTERED COMPANY

R-410A Refrigerant

Models AVPA24-30-36-42-48-60-72 (Single Stage Compressor)
Models AVPSA36-42-48-60 (2-Stage Compressor)
Models HVEA24-30-36-42-49-60 (Single Stage Compressor)
Models HVESA36-42-49-60 (2-Stage Compressor)

General Description

The Marvair® ComPac® I and ComPac® II air conditioners are used primarily to cool electronic and communication equipment shelters. Due to the high internal heat load, these shelters require cooling even when outside temperatures drop below 60°F (15°C). The ComPac I and ComPac II air conditioners have the necessary controls and components for operation during these (less than 60°F [15°C]) temperatures. All models use the non-ozone depleting R-410A refrigerant.

AVPA36ACA-100C

The primary difference between the ComPac I and the ComPac II units is that the ComPac® II air conditioner has a factory installed economizer. When cool and dry, the economizer uses outside air to cool the shelter. The economizer provides temperature control, energy cost savings, and increased reliability by decreasing the operating hours of the compressor and the condenser fan. The ComPac I and ComPac II air conditioners are problem solvers for a wide range of conditions and applications. To insure proper operation and optimum performance, all economizers are non-removable, factory installed and tested. In addition, factory and field installed accessories can be used to meet specific requirements.

The HVEA and HVESA models are Marvair's most efficient wall mount air conditioners. Electronically commutated outdoor fan motors combined with highly efficient scroll compressors result in Energy Efficiency Ratios (EER's) of up to 13.1.

Models AVPSA36-42-48-60 and HVESA36-42-49-60 have a 2-stage compressor with first stage cooling approximately 65% of the total cooling capacity. The 2-stage compressor provides lower start-up amps which can be critical when operating with a generator. The two stage compressor can also reduce energy costs and is able to more precisely match the cooling capacity of the air conditioner with the heat load in the shelter. Both ComPac I and ComPac II units are available with 2 stage compressors. See page 3 for a description of the operation of the 2-stage units when they are used with the CommStat 3 SC™ thermostat/ controller in a lead/lag installation.

Safety Listed and Energy Certified

All ComPac air conditioners are built to UL standard 1995, 2nd edition and CAN/CSA C22, No. 236-5, 2nd edition. For energy efficiency and performance, the units are tested and rated in accordance to the ANSI/ARI (Air-Conditioning and Refrigeration Institute) Standard 390- 2003 (Single Package Vertical Units). All units meet or exceed the efficiency requirements of ANSI/ASHRAE/IESNA 90.1.2007. The ComPac I and ComPac II air conditioners are commercial units and are not intended for use in residential applications.

*ComPac® II air conditioner only

Standard Features

Designed for Operation in Low Ambient Conditions

- Low ambient control cycles condenser fan to maintain proper refrigerant pressures. Allows operation in mechanical cooling (compressor) down to 0ºF (-18ºC). Note: low temperature operation is affected by ambient conditions, e.g. wind and humidity.
- Three minute by-pass of the low pressure switch for start-up of compressor when outdoor temperatures are below 55°F (13°C).
- Factory built-in economizer.*

High Efficiency

- High efficiency compressor.
- Lanced fins and rifled tubing on many condenser & evaporator coils.

Built-in Reliability

- High pressure switch and low pressure switch with lockout protects refrigerant circuit.
- Three minute delay on make for short cycle protection.

Remote Alarm Capability

- Dry contacts can be used for remote alarm or notification upon air conditioner lockout.

Ease of Installation

- Sloped top with flashing eliminates need of rainhood.
- Built-in mounting flanges facilitate installation and minimize chance of water leaks.
- Supply and return openings exactly match previous models.
- Factory installed disconnect on all 208/230v units, optional 460V units.

Rugged Construction

- Copper tube, aluminum fin evaporator & condenser coils.
- Factory installed heaters on discharge side of evaporator coil (optional)
- Baked on neutral beige finish over galvanneal steel for maximum cabinet life. (Other finishes are available.)

Ease of Service

- Service access valves are standard.
- Standard 2” (50 mm) pleated filter changeable from outside.
- All major components are readily accessible.
- Front Control Panel allows easy access and complies with NEC clearance codes on redundant side-by-side systems.
- LEDs indicate operational status and fault conditions.

*ComPac® II air conditioner only

A Marvair® First – Factory Installed Economizer

Marvair’s ComPac® II air conditioner has been the industry standard since its introduction in 1986. Tens of thousands of ComPac II air conditioners are in operation from the metropolitan areas of North America to the deserts of the Mid-East to the Siberian tundra. Here’s how the economizer works:

On a signal from the wall mounted indoor thermostat that cooling is required, either mechanical cooling with the compressor or free cooling with the economizer is provided. A factory installed enthalpy controller determines whether the outside air is sufficiently cool and dry to be used for cooling. If suitable, the compressor is locked out and the economizer damper opens to bring in outside air. Integral pressure relief allows the interior air to exit the shelter, permitting outside air to enter the shelter. The temperature at which the economizer opens is adjustable from 53°F (12°C) at 50% Relative Humidity to 78°F (26°C) at 50% Relative Humidity.

After the enthalpy control has activated and outside air is being brought into the building, the mixed air sensor measures the temperature of the air entering the indoor blower and then modulates the economizer damper to mix the right proportion of cool outside air with warm indoor air to maintain 50-56°F (10 - 13°C) air being delivered to the building. This prevents shocking the electronic components with cold outside air. The compressor is not permitted to operate when the economizer is functioning.

If the outside air becomes too hot or humid, the economizer damper closes completely, or to a minimum open position with an optional minimum position potentiometer, and mechanical cooling is activated.

Savings with an Economizer

The following table shows the annual electrical cost of cooling a 10 ft. x 20 ft. x 9 ft. (3m x 6m x 2.7m) shelter in nine cities in the US. Costs are shown for an air conditioner without an economizer (ComPac I units), for an air conditioner with an economizer (ComPac II units) and the savings. The savings do not include any demand charges. The savings are based on the electrical usage of a five ton air conditioner and an electric rate of $.10 per kilowatt-hour, the approximate average commercial rate in the US.

Hours of Operation	Atlanta, GA	Boston, MA	Chicago, IL	Dallas, TX	Denver, CO	Houston, TX
Annual Compressor & Condenser Motor Run Time without Economizer (Hrs.)	6,531	6,348	6,361	6,628	6,472	6,655
Annual Compressor & Condenser Motor Run Time with Economizer (Hrs.)	3,841	2,153	2,424	3,798	750	4,970
Run Time Savings with the Economimizer (Hrs.)	2,690	4,195	3,937	2,830	5,722	1,685
Annual Costs Saving ($) of 9.0 EER unit with an Economizer (ComPac II)						
Annual Operating Cost 9.0 EER Unit without Economizer ($)	$4,100.00	$3,985.00	$4,792.00	$4,161.00	$3,657.00	$4,178.00
Annual Operating Cost 9.0 EER with Economizer	$2,685.00	$1,784.00	$2,315.00	$2,671.00	$940.00	$3,291.00
Annual Savings using 9.0 EER Unit with Economizer	$1,415.00	$2,201.00	$2,477.00	$1,490.00	$2,717.00	$887.00

Hours of Operation	Los Angeles, CA	Miami, FL	Phoenix, AZ	Pittsburgh, PA	Seattle, WA	St. Louis, MO
Annual Compressor & Condenser Motor Run Time without Economizer (Hrs.)	6,467	6,779	6,765	6,386	6,465	6,472
Annual Compressor & Condenser Motor Run Time with Economizer (Hrs.)	3,862	6,391	3,106	1,929	1,654	2,716
Run Time Savings with the Economimizer (Hrs.)	2,605	388	3,659	4,457	4,811	3,756
Annual Costs Saving ($) of 9.0 EER unit with an Economizer (ComPac II)						
Annual Operating Cost 9.0 EER Unit without Economizer ($)	$4,060.00	$4,255.00	$4,247.00	$4,009.00	$3,653.00	$4,063.00
Annual Operating Cost 9.0 EER with Economizer	$2,686.00	$4,051.00	$2,315.00	$1,667.00	$1,368.00	$2,090.00
Annual Savings using 9.0 EER Unit with Economizer	$1,374.00	$204.00	$1,932.00	$2,342.00	$2,285.00	$1,973.00

Shelter Metrics:
- 10’ x 20’ x 9’ building
- Internal heat gain (electronics load): 12,000 watts.
- Building surface area (excluding floor area): 740 ft²
- R-Value of walls and ceiling: R-12
- Internal shelter temperature (Thermostat set point): 75ºF

Air Conditioner Metrics:
- ComPac II Economizer setting: 57ºF (wet bulb)
- A/C unit capacity: 60,000 BTUH (5 tons) with 1-stage compressor
- Nominal EER (unit efficiency): 9.0 (models AVPA)
- Cost of power: $.10 per KWH

Operation of the 2-Stage Compressor Air Conditioners with a CommStat 3 SC™ Lead/Lag Thermostat Controller

Marvair offers selected models of air conditioners with 2-stage compressors. These units can provide substantial energy savings and better control of temperature and humidity by matching the cooling requirement with the performance of the air conditioner. First stage is typically 65% of the total (2-stage) capacity of the air conditioner. When operated from power supplied by a generator, starting the air conditioner in 1-stage means lower start-up amps.

When two, 2-stage air conditioners are controlled by a CommStat 3 SC lead/lag controller in a redundant application, one of the air conditioners is the lead unit and the second is the lag unit. On a call for cooling, the lead unit starts operation in the 1-stage (low capacity). If the temperature in the building continues to rise above the set point temperature, the 1-stage (low capacity) of the lag unit will be initiated. When the temperature in the building drops to the set point, the air conditioners will turn off. On a subsequent call for cooling the process will repeat.

If the set point temperature is not reached with 1-stage capacity operation of both air conditioners after approximately six minutes (this time period is field adjustable), the lead air conditioner will commence operation in 2-stage (full capacity). If the temperature in the building continues to rise past the setpoint, the lag unit will switch to 2-stage cooling approximately six minutes (field adjustable) after it began operation. At that time, both air conditioners are operating in maximum capacity.

When the temperature in the building is satisfied, both units will turn off.

If the units have economizers (ComPac II air conditioners), the enthalpy sensor determines whether to use outside air or use mechanical cooling. When the economizer is used, the compressors do not operate.

Controllers and Thermostats

Controllers

CommStat 4 Telecom HVAC Controller
P/N S/7846

The CommStat 4 HVAC controller is designed specifically for controlling two redundant air conditioners, heat pumps or air conditioners with 2-stage compressors in a telecommunication shelter. The CommStat 4 has seven outputs for remote alarms or notification. Status LED's indicate HEAT, COOL, POWER and the LEAD unit. When a fault is detected, an alarm LED flashes and the LCD screen displays the fault.

The CommStat 4 uses RS-485 communications via a RJ11 jack. It is capable of interfacing with a secondary control board which can interpret Marvair's communication protocol and provide Internet capability. It can be daisy chained with up to two additional CommStat 4 controllers for controlling up to six air conditioners in one shelter. When two or three CommStat 4 controllers are daisy chained together, one is the MASTER and the other controllers are the SLAVES. Any settings to the MASTER unit immediately take effect on the SLAVE unit(s). See the CommStat 4 Product Data Sheet for complete details.

CommStat3™ Lead/Lag Microprocessor Controller
P/N S/04581

Solid state controller designed to operate a fully or partially redundant air conditioning system. Insures equal wear on both air conditioners while allowing the lag unit to assist upon demand. Lead/ lag changeover is factory set at 7 days, but is field programmable in 1/2 day increments from 1/2 to 7 days. The CommStat 3™ Controller has LED's to indicate status & function, digital display of temperature, a comfort override button for energy savings, five alarm relays, a built in temperature sensor and is fully programmable. See CommStat 3™ Controller Product Data Sheet for details on operation & installation.

LL357D4 Lead/Lag Controller

Two stage heat and cool thermostat with solid state module for redundant operation. (See the LL357D4 Product Data Sheet for details.)

CommStat 3 SC Lead/Lag Controller

Used with Marvair air conditioners with two-stage compressors. See page 3 for a description on the operation of the CommStat 3 SC.

Thermostats & Thermostat Guards

Note: All air conditioners with 2-stage compressors, models AVPSA and HVESA, require a 2 stage cooling thermostat.

Thermostat P/N 50123

Digital thermostat. 1 stage heat, 1 stage cool. 7 day programmable. Fan switch: Auto & On. Auto-change over. Keypad lockout. Non-volatile program memory.

Thermostat P/N 50107

Digital thermostat. 2 stage heat, 2 stage cool. 7 day programmable. Fan switch: Auto & On. Auto-change over. Status LED's. Backlit display. Programmable fan. Non-volatile program memory.

Thermostat Guard P/N 50092

Thermostat guard for use with the 50123 and 50107 thermostats.

Thermostat P/N 50186

Digital, non-programmable thermostat. 1 stage cool and 1 stage heat. Auto-changeover.

Digital Humidistat P/N 50254

To be used with units with hot gas or electric reheat. Programmable dehumidistatand ventilation controller. Time of day can be set for dehumidifier or ventilation to run. Permanent memory retention of set points.Humidity sensor can be field calibrated. High & low dehumidification set points. Outdoor temperature and humidity sensor included. °F or °C selectable.

Accessories

Supply Grilles

For AVPA24
20" x 8" (508 mm x 203 mm) P/N 80674

For AVPA30,36 and HVEA24
28" x 8" (711 mm x 203 mm) P/N 80675

For AVPA42,48,60,72 and HVEA30, 36, 42, 49, 60
30" x 10" (762 mm x 254 mm) P/N 80676

Return Grilles

For AVPA24
20" x 12" (508 mm x 305 mm) P/N 80677

For AVPA30,36 and HVEA24
28" x 14" (711 mm x 356 mm) P/N 80678

For AVPA42,48,60,72 and HVEA30, 36, 42, 49, 60
30" x 16" (762 mm x 406 mm) P/N 80679

Return Filter Grilles

Used when filter must be changed from the interior. Not recommended for ComPac® II air conditioner. Note: Filter used in Return Filter Grille is 1" (25 mm) thick.

For AVPA24
20" x 12" (508 mm x 305 mm) P/N 80671

For AVPA30,36 and HVEA24
28" x 14" (711 mm x 356 mm) P/N 80672

For AVPA42,48,60,72 and HVEA30, 36, 42, 49, 60
30" x 16" (762 mm x 406 mm) P/N 80673

Accessories (cont'd)

Security Cages. Deters theft of the air conditioner and components. Constructed of 1" by 11 gauge square tube and 3/4", #9 expanded metal. Hinges and latch are made from steel plate. The complete cage is powder coated for longevity and to match the color of Marvair air conditioners. Field installed.

Options

The ComPac® I and ComPac® II air conditioners were designed and are built to stringent requirements of the communications/electronic shelter. Applications occur that have special requirements. Numerous options are available for the ComPac I and ComPac II air conditioners that meet these special needs.

Hard Start Kit - Used on single phase equipment to give the compressor higher starting torque under low voltage conditions. (Field installed only) (Note: Not recommended for use on scroll compressors.)

Dehumidification – ComPac® I and ComPac® II A/C – Humidity controller overrides thermostat and allows electric heat to operate simultaneously with cooling. See Dehumidification Application Bulletin for details. Note: The electrical characteristics and requirements of air conditioners with the dehumidification option are different from standard air conditioners. Refer to the appropriate Summary Rating Charts for the electrical characteristics of units with Electric Reheat.

Coastal Environment Package – ComPac® I A/C only – Recommended for units to be installed near an ocean or on seacoast. Includes corrosion resistant fasteners, sealed or partially sealed condenser fan motor, protective coating applied to all exposed internal copper and metal in the in the condenser section and an impregnated polyurethane or a phenolic coating on the condenser coil. See Coastal Environmental Technical Bulletin for more details.

External Low Noise Blower (ELNB) – ComPac® I and ComPac® II A/C – A field installed kit that consists of a condenser air hood, a centrifugal blower, controls and a compressor jacket to reduce the sound level by up to 6 dbA of Marvair ComPac air conditioners. Available for models AVP30-60. See External Low Noise Blower Product Data Sheet for details.

ComPac® II Air Conditioner Transition Curb – ComPac II A/C only – A sheet metal curb that enables a 3-1/2, 4 or 5 ton ComPac II air conditioner to replace a 2-1/2 or 3 ton ComPac II unit. Curb transitions supply and return openings of the 3-1/2, 4 and 5 ton units to the smaller openings.

Economizer Damper Control – ComPac® II A/C only – A minimum position potentiometer that can be adjusted to prevent the economizer damper from closing completely. This control ensures that whenever the evaporator fan is operating, fresh air is being introduced into the building. Field or factory installed.

Hot Gas By-pass – ComPac® I A/C Only – Used in specialty applications; i.e., Magnetic Resonance Imaging (MRI) buildings, to prevent magnetic voltage disturbance caused by compressor cycling. Hot gas by-pass option packages are available to allow operation to 20°F (-7°C). Please refer to Hot Gas By-pass Application Bulletin for details. Not available on the AVPA24.

High Filtration – Units are built with larger blowers/motors for use with higher efficiency filters with MERV ratings of 11, 13 and 14 when tested to ASHRAE 52.2. Units with economizers have a prefilter on the outside air.

Color - ComPac® I and ComPac® II air conditioners are available in five different cabinet colors -the standard Marvair® beige and white, gray, brown and dark bronze. The standard cabinet's sides, top and front panels are constructed of 20 gauge painted steel. As an option, these panels can be built of 16 gauge steel in beige & gray or .050 stucco aluminum. When the 16 gauge painted steel or the aluminum is used, only the side, top and front panels are 16 gauge or aluminum. Contact your Marvair representative for color chips. The cabinet can also be constructed of type 316 stainless steel. Two stainless steel cabinet constructions are available- the complete cabinet, including most internal sheet metal or only the exterior sheet metal.

Options (cont'd)

Protective Coil Coatings - Either the condenser or evaporator coil can be coated, however, coating of the evaporator coil is not common. For harsh conditions, e.g., power plants, paper mills or sites were the unit will be exposed to salt water, the coil should be coated with either an impregnated polyurethane or a phenolic. The coatings are sprayed on and pass 3,000 hours of B117 salt fog test. Note: Cooling capacity may be reduced by up to 5% on units with coated coils.

Factory Installed Disconnects on 460V Units - Factory installed disconnects are standard on all 208-230V, 2 through 6 ton units. As an option, all 460V. units may be ordered with a disconnect.

Extended Warranty - A first year labor - Silver, and a two year labor - Gold, are available.

Dirty Filter Indicator - A factory installed option that measures the difference in pressure across the internal filter and illuminates a LED when the pressure exceeds the desired difference.

Single Point Power Entry - A field installed option that allows a single power entry into the air conditioner. Single point power entry should only be selected when the air conditioner has two electrical circuits. See the Summary Ratings Charts for units with two electrical circuits.

Phase Monitor - Monitors 3Ø power supply and will turn the air conditioner off if power supply is not phased properly. Not required on 1Ø units.

Thermal Expansion Valve - Available on all ComPac air conditioners. Allows operation in hot ambient temperatures,

Sealed Condenser Fan Motors - Recommended on units to be installed corrosive sites, e.g., near the ocean and in deserts with blowing sand. Available on all units.

Compressor Sound Jacket - To reduce sound of compressor.

Extreme Duty Package (HVEA & HVESA air conditioners only)
Allows Marvair® air conditioners to operate in extremely cold and hot ambient conditions. The Extreme Duty Kit is always factory installed and is available on all HVEA air conditioners.ComPac Iunits without an economizer will operate from 0°F to 130°F (-18° to 54°C). ComPac II units with an economizer will operate from -20°F to 130°F (-29° to 54°C).

The Extreme Duty Package includes a suction line accumulator, thermal expansion valve (TXV), crankcase heater, hard start kit, an auto reset highpressure switch and an outdoor thermostat and fan cycle switch. The fan cycle control is standard on all ComPac air conditioners and operates based upon the liquid line pressure. The outside thermostat opens whenever the outside temperature is below 50°F (10°C) and closes when the outside temperature is 50°F (10°C) or higher. Whenever the temperature is below 50°F (10°C), the fan cycle switch is in the circuit; when temperatures are 50°F (10°C) or higher, the fan cycle switch is not in the circuit. The outdoor thermostat is used with a TXV to prevent excessive cycling or "hunting" of the TXV.

Control Box

The internal control board in the ComPac® air conditioners simplifies wiring, consolidates several of the electrical functions onto one device and improves the reliability of the air conditioner. In addition, the control board has LED's that indicate operational status and fault conditions.

LED Indicator Lights

COLOR	TYPE	STATUS	DESCRIPTION
Green	Power	Constant On	24 VAC power has been applied
Red	Status	Constant On	Normal operation
		1 Blink	High pressure switch has opened twice
		2 Blinks	Low pressure switch has opened twice
		3 Blinks	Freeze stat (optional) - indoor coil temperature is below 35°F (1°C)

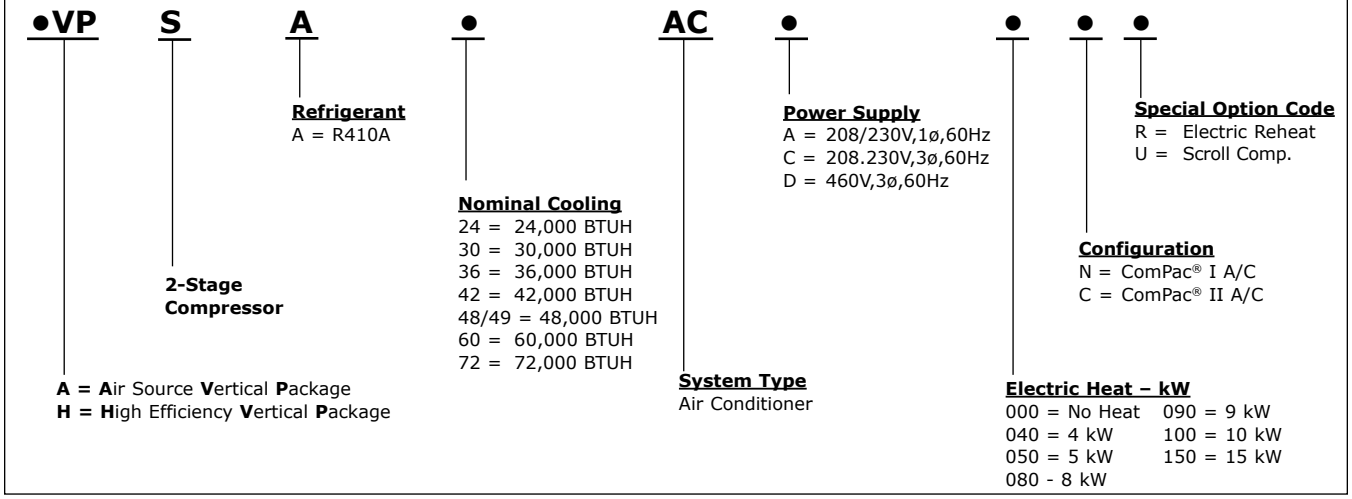
Modes of Operation

Normal Start-up: On a call for cooling, and the with the high pressure switch closed, the cooling system (compressor, indoor blower motor and outdoor fan motor) will be energized. (Note: See the Delay on Make feature). The cooling system will remain energized during the three minute low pressure switch bypass cycle. If the low pressure is closed, the cooling system will continue to operate after the three-minute bypass. If the low pressure switch is open after the three-minute bypass, the cooling system will be de-energized.
Lockout Mode: If either the high or low pressure switch opens twice on the same call for cooling, the control board enters into the lockout mode. In the lockout mode, the compressor is turned off, the alarm output is energized and the status LED's will blink to indicate which fault has occurred. If there is a call for air flow,

the indoor blower will remain energized. When the lockout condition has cleared, the unit will reset if the demand of the thermostat is removed or when power is reset. The ComPac® air conditioners are factory wired for normally open contacts. The user can now have normally closed contacts by moving a wire on the control board.

Delay on Make: On initial power up or on resumption of power, the air conditioner will wait .03 to 10 minutes from a call for cooling before allowing the contactor to energize.

Model Identification



Certified Efficiency & Capacity Ratings at ANSI/AHRI Standard 390 - AVPA Air Conditioners with Single Stage Compressor

Model Number	AVPA24			AVPA30			AVPA36			AVPA42			AVPA48			AVPA60			AVPA72	AVPA72
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA (1ø)	ACC/ACD (3ø)
Cooling BTUH[1]	24,000			29,000			35,000			42,000			46,500			56,000			62,500	70,000
EER[2]	9.10			9.40			9.40			9.00			9.00			9.00			10.20	10.00
Rated Air Flow (CFM[3])	840			1,000			1,220			1,550			1,760			1,850			2,050	2,050
ESP[4] @ Rated Conditions	0.10			0.15			0.15			0.15			0.20			0.20			0.20	0.20

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

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

Model Number	AVPA24			AVPA30			AVPA36			AVPA42			AVPA48			AVPA60			AVPA72	AVPA72	
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Total Capacity	24,000			29,000			35,000			42,000			46,500			56,000			62,500	70,000	
Sensible Heat Ratio	0.71			0.75			0.69			0.75			0.76			0.70			0.70	0.66	
Sensible Capacity	16,950			21,740			24,155			31,640			35,125			39,000			43,815	46,190	
Rated Air Flow (CFM[1])	840			1,000			1,220			1,550			1,760			1,850			2,050	2,050	

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

Cooling Performance (BTUH) at Various Outdoor Temperatures - AVPA Air Conditioners with Single Stage Compressor

Model Number	Outdoor Temperature								
	75°F / 24°C	80°F / 26.5°C	85°F / 29°C	90°F / 32°C	95°F / 35°C	100°F / 38°C	105°F / 40.5°C	110°F / 43.3°C	115°F / 46°C
AVPA24AC	27,840	26,880	25,920	24,960	24,000	23,040	22,080	21,120	20,640
AVPA30AC	33,640	32,480	31,320	30,160	29,000	27,840	26,680	25,520	24,940
AVPA36AC	40,600	39,200	37,800	36,400	35,000	33,600	32,200	30,800	30,100
AVPA42AC	48,720	47,040	45,360	43,680	42,000	40,320	38,640	36,960	36,120
AVPA48AC	53,940	52,080	50,220	48,360	46,500	44,640	42,780	40,920	39,900
AVPA60AC	64,960	62,720	60,480	58,240	56,000	53,760	51,520	49,280	48,160
AVPA72ACA[1]	72,500	70,000	67,500	65,000	62,500	60,000	57,500	55,000	53,750
AVPA72ACC[2], ACD[3]	81,200	78,400	75,600	72,800	70,000	67,200	64,400	61,600	60,200

[1]208/230v. 1ø [2]208/230v. 3ø [3]460v. 3ø
Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67° WB (26.5°C DB/19.5°C WB) at various outdoor temperatures. Return air at rated airflow.

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

BASIC MODEL	COMPRESSOR				OUTDOOR FAN MOTOR				INDOOR FAN MOTOR			
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS	RPM	FLA	HP	VOLTS	RPM	FLA	HP
AVPA24ACA	208/230-60-1	12.8	64.0	20.0	208/230-60-1	1075	1.5	1/5	208/230-60-1	1075	1.5	1/5
AVPA30ACA	208/230-60-1	14.1	77.0	22.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA36ACA	208/230-60-1	17.9	112.0	28.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA42ACA	208/230-60-1	19.8	109.0	31.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA48ACA	208/230-60-1	21.8	117.0	34.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA60ACA	208/230-60-1	26.2	134.0	41.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPA72ACA	208/230-60-1	30.1	158.0	47.0	208/230-60-1	825	2.9	1/2	208/230-60-1	1075	5.2	3/4
AVPA24ACC	208/230-60-3	8.3	61.0	13.0	208/230-60-1	1075	1.5	1/5	208/230-60-1	1075	1.5	1/5
AVPA30ACC	208/230-60-3	9.0	71.0	14.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA36ACC	208/230-60-3	13.2	88.0	20.6	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA42ACC	208/230-60-3	13.6	83.1	21.2	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA48ACC	208/230-60-3	13.7	83.1	21.4	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA60ACC	208/230-60-3	15.6	111.0	24.4	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPA72ACC	208/230-60-3	22.4	149.0	35.0	208/230-60-1	825	2.9	1/2	208/230-60-1	1075	5.2	3/4
AVPA24ACD	460-60-3	5.1	28.0	8.0	208/230-60-1	1075	1.5	1/5	208/230-60-1	1075	1.5	1/5
AVPA30ACD	460-60-3	5.6	38.0	8.8	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA36ACD	460-60-3	6.0	44.0	9.3	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA42ACD	460-60-3	6.1	41.0	9.5	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA48ACD	460-60-3	6.2	41.0	9.7	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA60ACD	460-60-3	7.7	52.0	12.1	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPA72ACD	460-60-3	10.6	75.0	16.5	208/230-60-1	825	2.9	1/2	208/230-60-1	1075	5.2	3/4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current FLA = Full Load Amps
RPM = Revolutions per Minute HP = Horse Power
All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - AVPA Air Conditioners with Single Stage Compressor

Manual Damper ("N") or Economizer ("C") Outside Air

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw				150 = 15 kw			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS
AVPA24ACA	208-230/1	19.0	30	22.4	30	27.5	30	32.8	35	43.1	45			53.6	60								
AVPA30ACA	208-230/1	21.9	35	23.4	35	28.5	35	33.8	35	44.1	45			54.6	60	23.4	35	41.6	45	28.5	35	52.1	60
AVPA36ACA	208-230/1	26.7	40	26.7	40	28.5	40	33.8	40	44.1	45			54.6	60	26.7	40	41.6	45	28.5	40	52.1	60
AVPA42ACA	208-230/1	30.7	50			30.7	50							55.2	60	30.7	50	41.6	45	30.7	50	52.1	60
AVPA48ACA	208-230/1	33.2	50			33.2	50							55.2	60	33.2	50	41.6	45	33.2	50	52.1	60
AVPA60ACA	208-230/1	40.8	60			40.8	60							57.3	60	40.8	60	41.6	45	40.8	60	52.1	60
AVPA72ACA	208-230/1	45.6	60			45.6	60							57.3	60	45.6	60	41.6	45	45.6	60	52.1	60
AVPA24ACC	208-230/3	13.4	20					19.5	20			28.6	30			37.6	40						
AVPA30ACC	208-230/3	15.6	20					20.5	25			29.6	30			38.6	40			47.6	50		
AVPA36ACC	208-230/3	20.8	30					20.8	30			29.6	30			38.6	40			47.6	50		
AVPA42ACC	208-230/3	22.9	35					22.9	35			30.2	35			39.2	40			48.2	50		
AVPA48ACC	208-230/3	23.0	35					23.0	35			30.2	35			39.2	40			48.2	50		
AVPA60ACC	208-230/3	27.5	40					27.5	40			32.3	40			41.3	45			50.3	60		
AVPA72ACC	208-230/3	36.1	50					36.1	50			36.1	50			41.3	50			50.3	60		
AVPA24ACD	460/3	7.9	15					9.8	15			14.3	15			18.8	20			23.3	25		
AVPA30ACD	460/3	9.2	15					10.3	15			14.8	15			19.3	20			23.8	25		
AVPA36ACD	460/3	9.7	15					10.3	15			14.8	15			19.3	20			23.8	25		
AVPA42ACD	460/3	10.6	15					10.6	15			15.1	20			19.6	20			24.1	25		
AVPA48ACD	460/3	10.7	15					10.6	15			15.1	20			19.6	20			24.1	25		
AVPA60ACD	460/3	13.6	20					13.6	20			16.1	20			20.6	25			25.1	30		
AVPA72ACD	460/3	17.3	25					17.3	25			17.3	25			20.6	25			25.1	30		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - AVPA Air Conditioners with Single Stage Compressor

GreenWheel Energy Recovery Ventilator ("H")

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw				150 = 15 kw			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS
AVPA24ACA	208-230/1	21.2	30	24.6	30	29.7	30	35.0	35	45.3	50			55.8	60								
AVPA30ACA	208-230/1	24.1	35	25.6	35	30.7	35	36.0	40	46.3	50			56.8	60	24.1	35	41.6	45	30.7	35	52.1	60
AVPA36ACA	208-230/1	28.9	45	28.9	45	30.7	45	36.0	45	46.3	50			56.8	60	28.9	45	41.6	45	30.7	45	52.1	60
AVPA42ACA	208-230/1	32.9	50			32.9	50							57.4	60	32.9	50	41.6	45	32.9	50	52.1	60
AVPA48ACA	208-230/1	35.4	50			35.4	50							57.4	60	35.4	50	41.6	45	35.4	50	52.1	60
AVPA60ACA	208-230/1	43.0	60			43.0	60							59.5	60	43.0	60	41.6	45	43.0	60	52.1	60
AVPA72ACA	208-230/1	47.9	60			47.9	60							59.5	60	47.9	60	41.6	45	47.9	60	52.1	60
AVPA24ACC	208-230/3	15.6	20					21.7	25			30.8	35			39.8	40						
AVPA30ACC	208-230/3	17.8	25					22.7	25			31.8	35			40.8	45			49.8	50		
AVPA36ACC	208-230/3	23.0	35					23.0	35			31.8	35			40.8	45			49.8	50		
AVPA42ACC	208-230/3	25.1	35					25.1	35			32.4	35			41.4	45			50.4	60		
AVPA48ACC	208-230/3	25.2	35					25.2	35			32.4	35			41.4	45			50.4	60		
AVPA60ACC	208-230/3	29.7	45					29.7	45			34.5	45			43.5	45			52.5	60		
AVPA72ACC	208-230/3	38.3	60					38.3	60			38.3	60			43.5	60			52.5	60		
AVPA24ACD	460/3	9.0	15					10.9	15			15.4	20			19.9	20			24.4	25		
AVPA30ACD	460/3	10.3	15					11.4	15			15.9	20			20.4	25			24.9	25		
AVPA36ACD	460/3	10.8	15					11.4	15			15.9	20			20.4	25			24.9	25		
AVPA42ACD	460/3	11.7	15					11.7	15			16.2	20			20.7	25			25.2	30		
AVPA48ACD	460/3	11.8	15					11.8	15			16.2	20			20.7	25			25.2	30		
AVPA60ACD	460/3	14.7	20					14.7	20			17.2	20			21.7	25			26.2	30		
AVPA72ACD	460/3	18.4	25					18.4	25			17.2	25			21.7	25			26.2	30		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - AVPA Air Conditioners with Single Stage Compressor and Electric Reheat ("R")

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw				060 = 6 kw		090 = 9 kw		100 = 10 kw				120 = 12 kw 8 kw Reheat (ACA)				150 = 15 kw 10 kw Reheat (ACA)			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #2		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS	MCA	MFS
AVPA24ACA	208-230/1	19.0	30	39.9	40	45.0	45			50.3	60			19.0	30	52.1	60								
AVPA30ACA	208-230/1	21.9	35	42.8	45	47.9	50			53.2	60			21.9	35	52.1	60	23.4	35	41.6	45	28.5	35	52.1	60
AVPA36ACA	208-230/1	26.7	40	47.6	50	52.7	60			57.9	60			26.7	40	52.1	60	26.7	40	41.6	45	28.5	40	52.1	60
AVPA42ACA	208-230/1	30.7	50			30.7	50	26.0	30					30.7	50	52.1	60	30.7	50	41.6	45	30.7	50	52.1	60
AVPA48ACA	208-230/1	33.2	50			33.2	50	26.0	30					33.2	50	52.1	60	33.2	50	41.6	45	33.2	50	52.1	60
AVPA60ACA	208-230/1	40.8	60			40.8	60	26.0	30					40.8	60	52.1	60	40.8	60	41.6	45	40.8	60	52.1	60
AVPA72ACA	208-230/1	45.6	60			45.6	60	26.0	30					45.6	60	52.1	60	45.6	60	41.6	45	45.6	60	52.1	60
AVPA24ACC	208-230/3	13.4	20							31.4	35	40.5	45					49.5	50			13.4	20	45.1	50
AVPA30ACC	208-230/3	15.6	20							33.6	35	42.7	45					51.7	60			15.6	20	45.1	50
AVPA36ACC	208-230/3	20.8	30							38.8	40	47.9	50					56.9	60			20.8	30	45.1	50
AVPA42ACC	208-230/3	22.9	35							40.9	45	50.0	60					22.9	35	36.1	40	22.9	35	45.1	50
AVPA48ACC	208-230/3	23.0	35							41.0	45	50.2	60					23.0	35	36.1	40	23.0	35	45.1	50
AVPA60ACC	208-230/3	27.5	40							45.5	50	54.6	60					27.5	40	36.1	40	27.5	40	45.1	50
AVPA72ACC	208-230/3	36.1	50							54.1	60							36.1	50	36.1	40	36.1	50	45.1	50
AVPA24ACD	460/3	7.9	15							16.9	20	21.4	25					25.9	30			30.4	35		
AVPA30ACD	460/3	9.2	15							18.2	20	22.7	25					27.2	30			31.7	35		
AVPA36ACD	460/3	9.7	15							18.7	20	23.2	25					27.7	30			32.2	35		
AVPA42ACD	460/3	10.6	15							19.6	20	23.3	25					28.6	30			33.1	35		
AVPA48ACD	460/3	10.7	15							19.7	20	24.2	25					28.7	30			33.2	35		
AVPA60ACD	460/3	13.6	20							22.6	25	27.1	30					31.6	35			36.1	40		
AVPA72ACD	460/3	17.3	25							26.3	30	30.8	35					35.3	40			39.8	40		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Unit Load Amps (Heating)- AVPA Air Conditioners with Single Stage Compressor

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT AMPS		LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)								TOTAL MAXIMUM HEATING AMPS (STANDARD UNIT)							
		AC[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW
AVPA24ACA	208-230/1/60	15.7	1.5	16.7	20.8	25.0	33.3	n/a	41.7	n/a	n/a	18.2	22.3	26.5	34.8	n/a	43.2	n/a	n/a
AVPA30ACA	208-230/1/60	18.4	2.5	16.7	20.8	25.0	33.3	n/a	41.7	50.0	62.5	19.2	23.3	27.5	35.8	n/a	44.2	52.5	65.0
AVPA36ACA	208-230/1/60	22.2	2.5	16.7	20.8	25.0	33.3	n/a	41.7	50.0	62.5	19.2	23.3	27.5	35.8	n/a	44.2	52.5	65.0
AVPA42ACA	208-230/1/60	25.7	3.1	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	23.9	n/a	n/a	n/a	44.8	53.1	65.6
AVPA48ACA	208-230/1/60	27.7	3.1	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	23.9	n/a	n/a	n/a	44.8	53.1	65.6
AVPA60ACA	208-230/1/60	34.2	5.2	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	26.0	n/a	n/a	n/a	46.9	55.2	67.7
AVPA72ACA	208-230/1/60	38.2	5.2	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	26.0	n/a	n/a	n/a	46.9	55.2	67.7
AVPA24ACC	208-230/3/60	11.2	1.5	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	15.9	n/a	23.2	n/a	30.4	37.6
AVPA30ACC	208-230/3/60	13.3	2.5	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	16.9	n/a	24.2	n/a	31.4	38.6
AVPA36ACC	208-230/3/60	17.5	2.5	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	16.9	n/a	24.2	n/a	31.4	38.6
AVPA42ACC	208-230/3/60	19.5	3.1	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.5	n/a	24.8	n/a	32.0	39.2
AVPA48ACC	208-230/3/60	19.6	3.1	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.5	n/a	24.8	n/a	32.0	39.2
AVPA60ACC	208-230/3/60	23.6	5.2	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	19.6	n/a	26.9	n/a	34.1	41.3
AVPA72ACC	208-230/3/60	30.5	5.2	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	19.6	n/a	26.9	n/a	34.1	41.3
AVPA24ACD	460/3/60	6.6	0.8	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.0	n/a	11.6	n/a	15.2	18.8
AVPA30ACD	460/3/60	7.8	1.3	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.5	n/a	12.1	n/a	15.7	19.3
AVPA36ACD	460/3/60	8.2	1.3	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.5	n/a	12.1	n/a	15.7	19.3
AVPA42ACD	460/3/60	9.1	1.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.8	n/a	12.4	n/a	16.0	19.6
AVPA48ACD	460/3/60	9.2	1.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.8	n/a	12.4	n/a	16.0	19.6
AVPA60ACD	460/3/60	11.7	2.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.8	n/a	13.4	n/a	17.0	20.6
AVPA72ACD	460/3/60	14.7	2.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.8	n/a	13.4	n/a	17.0	20.6

Heating kW rated at 240v. for "A" & "C" models. Derate heat ouptput by 25% for operation on 208v. Total heating amps for all 1ø units with 15 kW of heat includes both circuits (#1 & #2). Heater kW rated at 480v. for all "D" models. Note: 3ø models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase. Total heating and cooling amps include motor loads.
[1]AC=Air Conditioner [2]IBM=Indoor Blower Motor

Certified Efficiency & Capacity Ratings at ANSI/AHRI Standard 390 - AVPSA Air Conditioners with 2-Stage Compressor

Model Number	AVPSA36			AVPSA42			AVPSA48			AVPSA60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Cooling BTUH[1] - 2nd Stage	33,600			38,000			44,000			53,000		
EER[2] - 2nd Stage	9.75			9.00			9.00			9.00		
Integrated Part Load Value[3]	13.0			11.6			11.6			11.6		
Rated Air Flow (CFM[4])	1,220			1,520			1,760			1,850		
ESP[5] @ Rated Conditions	0.15			0.15			0.20			0.20		

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

Sensible Total Heat Ratio @ 95°F (35°C) Outside Air DB - AVPSA Air Conditioners with 2-Stage Compressors

Model Number	AVPSA36			AVPSA42			AVPSA48			AVPSA60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Total Capacity	33,600			38,000			44,000			53,000		
Sensible Heat Ratio	0.69			0.75			0.75			0.70		
Sensible Capacity	23,130			28,500			33,100			37,250		
Rated Air Flow (CFM[1])	1,220			1,520			1,760			1,850		

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

Stage 2 Cooling Performance (BTUH) at Various Outdoor Temperatures - AVPSA Air Conditioners with 2-Stage Compressor

Model Number	Outdoor Temperature								
	75°F / 24°C	80°F / 26.5°C	85°F / 29°C	90°F / 32°C	95°F / 35°C	100°F / 38°C	105°F / 40.5°C	110°F / 43.3°C	115°F / 46°C
AVPSA36AC	38,980	37,630	36,290	34,940	33,600	32,260	30,910	29,570	28,900
AVPSA42AC	44,080	42,560	41,040	39,520	38,000	36,480	34,960	33,440	32,680
AVPSA48AC	51,040	49,280	47,520	45,760	44,000	42,240	40,480	38,720	37,840
AVPSA60AC	61,480	59,360	57,240	55,120	53,000	50,880	48,760	46,640	45,580

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

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

BASIC MODEL	COMPRESSOR				OUTDOOR FAN MOTOR				INDOOR FAN MOTOR			
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS	RPM	FLA	HP	VOLTS	RPM	FLA	HP
AVPSA36ACA	208/230-60-1	16.6	82.0	26.0	208/230-60-1	825	1.8	1/3	208/230-60-1	1075	2.5	1/4
AVPSA42ACA	208/230-60-1	16.6	96.0	26.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPSA48ACA	208/230-60-1	21.1	96.0	33.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPSA60ACA	208/230-60-1	25.6	118.0	40.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPSA36ACC	208/230-60-3	11.1	58.0	17.4	208/230-60-1	825	1.8	1/3	208/230-60-1	1075	2.5	1/4
AVPSA42ACC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPSA48ACC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPSA60ACC	208/230-60-3	17.6	123.0	27.5	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPSA36ACD	460-60-3	4.5	29.0	7.0	208/230-60-1	825	1.8	1/3	208/230-60-1	1075	2.5	1/4
AVPSA42ACD	460-60-3	6.1	44.0	9.5	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPSA48ACD	460-60-3	6.4	41.0	10.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPSA60ACD	460-60-3	9.0	62.0	14.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current FLA = Full Load Amps
RPM = Revolutions per Minute HP = Horse Power
All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - AVPSA Air Conditioners with 2-Stage Compressor

Manual Damper ("N") or Economizer ("C") Outside Air

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw				150 = 15 kw			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS
AVPSA36ACA	208-230/1	25.1	40	25.1	40	28.5	40	33.8	40	44.1	45			54.6	60	25.1	40	41.6	45	28.5	40	52.1	60
AVPSA42ACA	208-230/1	26.7	40			29.1	40							55.2	60	26.7	40	41.6	45	29.1	40	52.1	60
AVPSA48ACA	208-230/1	32.3	50			32.3	50							55.2	60	32.3	50	41.6	45	32.3	50	52.1	60
AVPSA60ACA	208-230/1	40.0	60			40.0	60							57.3	60	40.0	60	41.6	45	40.0	60	52.1	60
AVPSA36ACC	208-230/3	18.2	25					22.3	25			29.6	30			38.6	40			47.6	50		
AVPSA42ACC	208-230/3	22.7	35					23.9	35			30.2	35			39.2	40			48.2	50		
AVPSA48ACC	208-230/3	22.7	35					23.9	35			30.2	35			39.2	40			48.2	50		
AVPSA60ACC	208-230/3	30.0	40					30.0	40			32.3	40			41.3	45			50.3	60		
AVPSA36ACD	460/3	7.8	15					10.3	15			14.8	15			19.3	20			23.8	25		
AVPSA42ACD	460/3	10.6	15					10.6	15			15.1	20			19.6	20			24.1	25		
AVPSA48ACD	460/3	11.0	15					10.6	15			15.1	20			19.6	20			24.1	25		
AVPSA60ACD	460/3	15.3	20					15.3	20			16.1	20			20.6	25			25.1	30		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - AVPSA Air Conditioners with 2-Stage Compressor and Electric Reheat ("R")

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw				060 = 6 kw		090 = 9 kw		100 = 10 kw				120 = 12 kw 8 kw Reheat (ACA)				150 = 15 kw 10 kw Reheat (ACA)			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #2		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS	MCA	MFS
AVPSA36ACA	208-230/1	25.1	40	46.2	50	51.1	60			56.3	60			25.1	40	52.1	60	25.1	40	41.6	45	25.1	40	52.1	60
AVPSA42ACA	208-230/1	26.7	40			26.7	40	26.0	30					26.7	40	52.1	60	26.7	40	41.6	45	26.7	40	52.1	60
AVPSA48ACA	208-230/1	32.3	50			32.3	50	26.0	30					32.3	50	52.1	60	32.3	50	41.6	45	32.3	50	52.1	60
AVPSA60ACA	208-230/1	40.0	60			40.0	60	26.0	30					40.0	60	52.1	60	40.0	60	41.6	45	40.0	60	52.1	60
AVPSA36ACC	208-230/3	18.2	25							36.2	40	45.3	50					54.3	60			18.2	25	45.1	50
AVPSA42ACC	208-230/3	22.7	35							40.7	45	49.8	50					22.7	35	36.1	40	22.7	35	45.1	50
AVPSA48ACC	208-230/3	22.7	35							40.7	45	49.8	50					22.7	35	36.1	40	22.7	35	45.1	50
AVPSA60ACC	208-230/3	30.0	40							48.0	50	57.1	60					30.0	40	36.1	40	30.0	40	45.1	50
AVPSA36ACD	460/3	7.8	15							16.8	20	21.3	25					25.8	30			30.3	35		
AVPSA42ACD	460/3	10.6	15							19.6	20	24.1	25					28.6	30			33.1	35		
AVPSA48ACD	460/3	11.0	15							20.0	25	24.5	25					29.0	30			33.5	35		
AVPSA60ACD	460/3	15.3	20							24.3	25	28.8	30					33.3	35			37.8	40		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Unit Load Amps (Heating) - AVPSA Air Conditioners with 2-Stage Compressor

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT AMPS		LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)								TOTAL MAXIMUM HEATING AMPS (STANDARD UNIT)							
		AC[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW
AVPSA36ACA	208-230/1/60	20.9	2.5	16.7	20.8	25.0	33.3	n/a	41.7	50.0	62.5	19.2	23.3	27.5	35.8	n/a	44.2	52.5	65.0
AVPSA42ACA	208-230/1/60	22.5	3.1	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	23.9	n/a	n/a	n/a	44.8	53.1	65.6
AVPSA48ACA	208-230/1/60	27.0	3.1	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	23.9	n/a	n/a	n/a	44.8	53.1	65.6
AVPSA60ACA	208-230/1/60	33.6	5.2	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	26.0	n/a	n/a	n/a	46.9	55.2	67.7
AVPSA36ACC	208-230/3/60	15.4	2.5	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	16.9	n/a	24.2	n/a	31.4	38.6
AVPSA42ACC	208-230/3/60	19.3	3.1	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.5	n/a	24.8	n/a	32.0	39.2
AVPSA48ACC	208-230/3/60	19.3	3.1	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.5	n/a	24.8	n/a	32.0	39.2
AVPSA60ACC	208-230/3/60	25.6	5.2	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	19.6	n/a	26.9	n/a	34.1	41.3
AVPSA36ACD	460/3/60	6.7	1.3	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.5	n/a	12.1	n/a	15.7	19.3
AVPSA42ACD	460/3/60	9.1	1.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.8	n/a	12.4	n/a	16.0	19.6
AVPSA48ACD	460/3/60	9.4	1.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.8	n/a	12.4	n/a	16.0	19.6
AVPSA60ACD	460/3/60	13.0	2.6	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.8	n/a	13.4	n/a	17.0	20.6

Heating kW rated at 240v. for "A" & "C" models. Derate heat ouptput by 25% for operation on 208v. Total heating amps for all 1ø units with 15 kW of heat includes both circuits (#1 & #2). Heater kW rated at 480v. for all "D" models. Note: 3ø models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase. Total heating and cooling amps include motor loads.
[1]AC=Air Conditioner [2]IBM=Indoor Blower Motor

HVEA High Efficiency Air Conditioners

Certified Efficiency & Capacity Ratings at ANSI/AHRI Standard 390 - HVEA Air Conditioners with Single Stage Compressor

Model Number	HVEA24			HVEA30			HVEA36			HVEA42			HVEA49			HVEA60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Cooling BTUH[1]	23,600			29,000			35,600			39,500			49,000			59,000		
EER[2]	11.00			11.10			11.00			10.60			11.70			10.70		
Rated Air Flow (CFM[3])	800			1,000			1,300			1,400			1,750			1,900		
ESP[4] @ Rated Conditions	0.10			0.15			0.15			0.15			0.20			0.20		

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

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

Model Number	HVEA24			HVEA30			HVEA36			HVEA42			HVEA49			HVEA60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Total Capacity	23,600			29,000			35,600			39,500			49,000			59,000		
Sensible Heat Ratio	0.74			0.76			0.76			0.74			0.74			0.73		
Sensible Capacity	17,435			22,020			26,945			29,090			36,175			42,875		
Rated Air Flow (CFM[1])	800			1,000			1,300			1,400			1,750			1,900		

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

Cooling Performance (BTUH) at Various Outdoor Temperatures - HVEA Air Conditioners with Single Stage Compressor

Model Number	Outdoor Temperature								
	75°F / 24°C	80°F / 26.5°C	85°F / 29°C	90°F / 32°C	95°F / 35°C	100°F / 38°C	105°F / 40.5°C	110°F / 43.3°C	115°F / 46°C
HVEA24AC	27,375	26,430	25,490	24,545	23,600	22,655	21,710	20,770	20,295
HVEA30AC	33,640	32,480	31,320	30,160	29,000	27,840	26,680	25,520	24,940
HVEA36AC	41,295	39,870	38,450	37,025	35,600	34,175	32,750	31,320	30,615
HVEA42AC	45,820	44,240	42,660	41,080	39,500	37,920	36,340	34,760	33,970
HVEA49AC	56,840	54,880	52,920	50,960	49,000	47,040	45,080	43,120	42,140
HVEA60AC	68,440	66,080	63,720	61,360	59,000	56,640	54,280	51,920	50,740

[1]208/230v. 1ø [2]208/230v. 3ø [3]460v. 3ø
Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67° WB (26.5°C DB/19.5°C WB) at various outdoor temperatures. Return air at rated airflow.

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

BASIC MODEL	COMPRESSOR				OUTDOOR FAN MOTOR				INDOOR FAN MOTOR			
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS	RPM	FLA	HP	VOLTS	RPM	FLA	HP
HVEA24ACA	208/230-60-1	13.4	58.3	21.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1500	2.8	1/3
HVEA30ACA	208/230-60-1	12.8	64.0	20.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA36ACA	208/230-60-1	16.6	79.0	26.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA42ACA	208/230-60-1	19.8	109.0	31.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA49ACA	208/230-60-1	21.8	117.0	34.0	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVEA60ACA	208/230-60-1	26.4	134.0	41.2	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVEA24ACC	208/230-60-3	7.7	55.4	12.1	208/230-60-1	1075	1.8	1/4	208/230-60-1	1500	2.8	1/3
HVEA30ACC	208/230-60-3	8.3	61.0	13.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA36ACC	208/230-60-3	10.4	88.0	16.3	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA42ACC	208/230-60-3	13.6	83.1	21.2	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA49ACC	208/230-60-3	13.7	83.1	21.4	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVEA60ACC	208/230-60-3	15.9	111.0	24.9	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVEA24ACD	460-60-3	4.0	28.0	6.2	208/230-60-1	1075	1.8	1/4	208/230-60-1	1500	2.8	1/3
HVEA30ACD	460-60-3	5.1	28.0	8.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA36ACD	460-60-3	5.8	38.0	9.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA42ACD	460-60-3	6.1	41.0	9.5	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVEA49ACD	460-60-3	6.2	41.0	9.7	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVEA60ACD	460-60-3	7.7	52.0	12.1	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current FLA = Full Load Amps
RPM = Revolutions per Minute HP = Horse Power
All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - HVEA Air Conditioners with Single Stage Compressor

Manual Damper ("N") or Economizer ("C") Outside Air

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw				150 = 15 kw			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS
HVEA24ACA	208-230/1	21.4	30	23.7	30	28.8	30	34.1	35	44.4	45			54.9	60								
HVEA30ACA	208-230/1	21.6	30	23.7	30	28.8	30	34.1	35	44.4	45			54.9	60	23.7	30	41.6	45	28.8	30	52.1	60
HVEA36ACA	208-230/1	26.4	40	26.4	40	28.8	40	34.1	40	44.4	45			54.9	60	26.4	40	41.6	45	28.8	40	52.1	60
HVEA42ACA	208-230/1	30.4	50			30.4	50							54.9	60	30.4	50	41.6	45	30.4	50	52.1	60
HVEA49ACA	208-230/1	34.4	50			34.4	50							56.4	60	34.4	50	41.6	45	34.4	50	52.1	60
HVEA60ACA	208-230/1	40.1	60			40.1	60							56.4	60	40.1	60	41.6	45	40.1	60	52.1	60
HVEA24ACC	208-230/3	14.2	20					20.8	20			29.9	30			38.9	40						
HVEA30ACC	208-230/3	16.0	20					20.8	20			29.9	30			38.9	40			47.9	50		
HVEA36ACC	208-230/3	18.6	25					20.8	25			29.9	30			38.9	40			47.9	50		
HVEA42ACC	208-230/3	22.6	35					22.6	35			29.9	35			38.9	40			47.9	50		
HVEA49ACC	208-230/3	24.2	35					24.2	35			31.4	35			40.4	45			49.4	50		
HVEA60ACC	208-230/3	27.0	40					27.0	40			31.4	40			40.4	45			49.4	50		
HVEA24ACD	460/3	7.3	15					10.4	15			14.9	15			19.4	20			23.9	25		
HVEA30ACD	460/3	9.2	15					10.4	15			14.9	15			19.4	20			23.9	25		
HVEA36ACD	460/3	10.1	15					10.4	15			14.9	15			19.4	20			23.9	25		
HVEA42ACD	460/3	10.4	15					10.4	15			14.9	15			19.4	20			23.9	25		
HVEA49ACD	460/3	11.3	15					11.3	15			15.7	20			20.2	25			24.7	25		
HVEA60ACD	460/3	13.2	20					13.2	20			15.7	20			20.2	25			24.7	25		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - HVEA Air Conditioners with Single Stage Compressor and Electric Reheat ("R")

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw				060 = 6 kw		090 = 9 kw		100 = 10 kw				120 = 12 kw 8 kw Reheat (ACA)				150 = 15 kw 10 kw Reheat (ACA)			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #2		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS	MCA	MFS
HVEA24ACA	208-230/1	21.4	30	42.2	45	47.4	50			52.6	60			21.4	30	52.1	60								
HVEA30ACA	208-230/1	21.6	30	42.5	45	47.6	50			52.9	60			21.6	30	52.1	60	21.6	30	41.6	45	21.6	30	52.1	60
HVEA36ACA	208-230/1	26.4	40	47.2	50	52.4	60			57.6	60			26.4	40	52.1	60	26.4	40	41.6	45	26.4	40	52.1	60
HVEA42ACA	208-230/1	30.4	50			30.4	50	26.0	30					30.4	50	52.1	60	30.4	50	41.6	45	30.4	50	52.1	60
HVEA49ACA	208-230/1	34.4	50			34.4	50	26.0	30					34.4	50	52.1	60	34.4	50	41.6	45	34.4	50	52.1	60
HVEA60ACA	208-230/1	40.1	60			40.1	60	26.0	30					40.1	60	52.1	60	40.1	60	41.6	45	40.1	60	52.1	60
HVEA24ACC	208-230/3	14.2	20							32.2	35	41.4	45					50.4	60			14.2	20	45.1	50
HVEA30ACC	208-230/3	16.0	20							34.0	35	43.1	45					52.1	60			16.0	20	45.1	50
HVEA36ACC	208-230/3	18.6	25							36.6	40	45.7	50					54.7	60			18.6	25	45.1	50
HVEA42ACC	208-230/3	22.6	35							40.6	45	49.7	50					22.6	35	36.1	40	22.6	35	45.1	50
HVEA49ACC	208-230/3	24.2	35							42.2	45	51.4	60					24.2	35	36.1	40	24.2	35	45.1	50
HVEA60ACC	208-230/3	27.0	40							45.0	50	54.1	60					27.0	40	36.1	40	27.0	40	45.1	50
HVEA24ACD	460/3	7.3	15							16.3	20	20.8	25					25.3	30			29.8	30		
HVEA30ACD	460/3	9.2	15							18.2	20	22.7	25					27.2	30			31.7	35		
HVEA36ACD	460/3	10.1	15							19.1	20	23.6	25					28.1	30			32.6	35		
HVEA42ACD	460/3	10.4	15							19.4	20	23.9	25					28.4	30			32.9	35		
HVEA49ACD	460/3	11.3	15							20.3	25	24.8	25					29.3	30			33.8	35		
HVEA60ACD	460/3	13.2	20							22.2	25	26.7	30					31.2	35			35.7	40		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Unit Load Amps (Heating)- HVEA Air Conditioners with Single Stage Compressor

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT AMPS		LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)								TOTAL MAXIMUM HEATING AMPS (STANDARD UNIT)							
		AC[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW
HVEA24ACA	208-230/1/60	18.0	2.8	16.7	20.8	25.0	33.3	n/a	41.7	n/a	n/a	19.5	23.6	27.8	36.1	n/a	44.5	n/a	n/a
HVEA30ACA	208-230/1/60	18.4	2.8	16.7	20.8	25.0	33.3	n/a	41.7	50.0	62.5	19.5	23.6	27.8	36.1	n/a	44.5	52.8	65.3
HVEA36ACA	208-230/1/60	22.2	2.8	16.7	20.8	25.0	33.3	n/a	41.7	50.0	62.5	19.5	23.6	27.8	36.1	n/a	44.5	52.8	65.3
HVEA42ACA	208-230/1/60	25.4	2.8	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	23.6	n/a	n/a	n/a	44.5	52.8	65.3
HVEA49ACA	208-230/1/60	28.9	4.3	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	25.1	n/a	n/a	n/a	46.0	54.3	66.8
HVEA60ACA	208-230/1/60	33.5	4.3	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	25.1	n/a	n/a	n/a	46.0	54.3	66.8
HVEA24ACC	208-230/3/60	12.3	2.8	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.2	n/a	24.5	n/a	31.7	38.9
HVEA30ACC	208-230/3/60	13.9	2.8	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.2	n/a	24.5	n/a	31.7	38.9
HVEA36ACC	208-230/3/60	16.0	2.8	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.2	n/a	24.5	n/a	31.7	38.9
HVEA42ACC	208-230/3/60	19.2	2.8	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.2	n/a	24.5	n/a	31.7	38.9
HVEA49ACC	208-230/3/60	20.8	4.3	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	18.7	n/a	26.0	n/a	33.2	40.4
HVEA60ACC	208-230/3/60	23.0	4.3	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	18.7	n/a	26.0	n/a	33.2	40.4
HVEA24ACD	460/3/60	6.3	1.4	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.6	n/a	12.2	n/a	15.8	19.4
HVEA30ACD	460/3/60	7.9	1.4	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.6	n/a	12.2	n/a	15.8	19.4
HVEA36ACD	460/3/60	8.6	1.4	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.6	n/a	12.2	n/a	15.8	19.4
HVEA42ACD	460/3/60	8.9	1.4	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.6	n/a	12.2	n/a	15.8	19.4
HVEA49ACD	460/3/60	9.8	2.2	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.4	n/a	13.0	n/a	16.6	20.2
HVEA60ACD	460/3/60	11.3	2.2	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.4	n/a	13.0	n/a	16.6	20.2

Heating kW rated at 240v. for "A" & "C" models. Derate heat ouptput by 25% for operation on 208v. Total heating amps for all 1ø units with 15 kW of heat includes both circuits (#1 & #2). Heater kW rated at 480v. for all "D" models. Note: 3ø models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase. Total heating and cooling amps include motor loads.
[1]AC=Air Conditioner [2]IBM=Indoor Blower Motor

Certified Efficiency & Capacity Ratings at ANSI/AHRI Standard 390 - HVESA Air Conditioners with 2-Stage Compressor

Model Number	HVESA36			HVESA42			HVESA49			HVESA60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Cooling BTUH[1] - 2nd Stage	35,000			38,000			46,000			56,500		
EER[2] - 2nd Stage	11.00			10.70			12.00			10.50		
Integrated Part Load Value[3]	16.0			14.8			16.3			14.8		
Rated Air Flow (CFM[4])	1,050			1,200			1,800			1,900		
ESP[5] @ Rated Conditions	0.15			0.15			0.20			0.20		

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

Sensible Total Heat Ratio @ 95°F (35°C) Outside Air DB - HVESA Air Conditioners with 2-Stage Compressor

Model Number	HVESA36			HVESA42			HVESA49			HVESA60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
Total Capacity	35,000			38,000			46,000			56,500		
Sensible Heat Ratio	0.75			0.77			0.80			0.79		
Sensible Capacity	26,135			29,125			36,950			44,755		
Rated Air Flow (CFM[1])	1,050			1,200			1,800			1,900		

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

Stage 2 Cooling Performance (BTUH) at Various Outdoor Temperatures - HVESA Air Conditioners with 2-Stage Compressor

Model Number	Outdoor Temperature								
	75°F / 24°C	80°F / 26.5°C	85°F / 29°C	90°F / 32°C	95°F / 35°C	100°F / 38°C	105°F / 40.5°C	110°F / 43.3°C	115°F / 46°C
HVESA36AC	40,600	39,200	37,800	36,400	35,000	33,600	32,200	30,800	30,100
HVESA42AC	44,080	42,560	41,040	39,520	38,000	36,480	34,960	33,440	32,680
HVESA49AC	56,840	54,880	52,920	50,960	49,000	47,040	45,080	43,120	42,140
HVESA60AC	65,540	63,280	61,020	58,760	56,500	54,240	51,980	49,720	48,590

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

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

BASIC MODEL	COMPRESSOR				OUTDOOR FAN MOTOR				INDOOR FAN MOTOR			
	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS	RPM	FLA	HP	VOLTS	RPM	FLA	HP
HVESA36ACA	208/230-60-1	16.6	82.0	26.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVESA42ACA	208/230-60-1	16.6	96.0	26.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVESA49ACA	208/230-60-1	21.1	96.0	33.0	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVESA60ACA	208/230-60-1	25.6	118.0	40.0	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVESA36ACC	208/230-60-3	11.1	58.0	17.4	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVESA42ACC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVESA49ACC	208/230-60-3	13.4	88.0	21.0	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVESA60ACC	208/230-60-3	17.6	123.0	27.5	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVESA36ACD	460-60-3	4.5	29.0	7.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVESA42ACD	460-60-3	6.1	44.0	9.5	208/230-60-1	825	2.8	1/3	208/230-60-1	1500	2.8	1/2
HVESA49ACD	460-60-3	6.4	41.0	10.0	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4
HVESA60ACD	460-60-3	9.0	62.0	14.0	208/230-60-1	825	2.8	1/2	208/230-60-1	1500	4.3	3/4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current FLA = Full Load Amps
RPM = Revolutions per Minute HP = Horse Power
All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - HVESA Air Conditioners with 2 -Stage Compressor

Manual Damper ("N") or Economizer ("C") Outside Air

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw		060 = 6 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		120 = 12 kw				150 = 15 kw			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS
HVESA36ACA	208-230/1	26.4	40	26.4	40	28.8	40	34.1	40	44.4	45			54.9	60	26.4	40	41.6	45	27.8	40	52.1	60
HVESA42ACA	208-230/1	26.4	40			28.8	40							54.9	60	26.4	40	41.6	45	27.8	40	52.1	60
HVESA49ACA	208-230/1	33.5	50			33.5	50							56.4	60	33.5	50	41.6	45	33.5	50	52.1	60
HVESA60ACA	208-230/1	39.4	60			39.4	60							56.4	60	39.4	60	41.6	45	39.4	60	52.1	60
HVESA36ACC	208-230/3	19.5	25					20.8	25			29.9	30			38.9	40			47.9	50		
HVESA42ACC	208-230/3	22.4	30					22.4	30			29.9	30			38.9	40			47.9	50		
HVESA49ACC	208-230/3	23.9	35					23.9	35			31.4	35			40.4	45			49.4	50		
HVESA60ACC	208-230/3	29.4	45					30.0	45			31.4	45			40.4	45			49.4	50		
HVESA36ACD	460/3	8.4	15					10.4	15			14.9	15			19.4	20			23.9	25		
HVESA42ACD	460/3	10.4	15					10.4	15			14.9	15			19.4	20			23.9	25		
HVESA49ACD	460/3	11.6	15					11.6	15			15.7	20			20.2	25			24.7	25		
HVESA60ACD	460/3	14.8	20					14.8	20			15.7	20			20.2	25			24.7	25		

This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Summary Electrical Ratings (Wire Sizing) - HVESA Air Conditioners with 2-Stage Compressor with Electric Reheat ("R")

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw				060 = 6 kw		090 = 9 kw		100 = 10 kw				120 = 12 kw 8 kw Reheat (ACA)				150 = 15 kw 10 kw Reheat (ACA)			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #2		CKT #1		CKT #1		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	MCA	MFS	MCA	MFS	MCA	MFS
HVESA36ACA	208-230/1	26.4	40	47.2	50	52.4	60			57.6	60			26.4	40	52.1	60	26.4	40	41.6	45	26.4	40	52.1	60
HVESA42ACA	208-230/1	26.4	40			52.4	60			57.6	60			26.4	40	52.1	60	26.4	40	41.6	45	26.4	40	52.1	60
HVESA49ACA	208-230/1	33.5	50			33.5	50	26.0	30					33.5	50	52.1	60	33.5	50	41.6	45	33.5	50	52.1	60
HVESA60ACA	208-230/1	39.4	60			39.4	60	26.0	30					39.4	60	52.1	60	39.4	60	41.6	45	39.4	60	52.1	60
HVESA36ACC	208-230/3	19.5	25							37.5	40	46.6	50					55.6	60			19.5	25	45.1	50
HVESA42ACC	208-230/3	22.4	30							40.4	45	49.5	50					58.5	60			22.4	30	45.1	50
HVESA49ACC	208-230/3	23.9	35							41.9	45	51.0	60					23.9	35	36.1	40	23.9	35	45.1	50
HVESA60ACC	208-230/3	29.4	45							47.1	50	56.2	60					29.4	45	36.1	40	29.4	45	45.1	50
HVESA36ACD	460/3	8.4	15							17.4	20	21.9	25					26.4	30			30.9	35		
HVESA42ACD	460/3	10.4	15							19.4	20	23.9	25					28.4	30			32.9	35		
HVESA49ACD	460/3	11.6	15							20.6	25	25.1	30					29.6	30			34.1	35		
HVESA60ACD	460/3	14.8	20							23.8	25	28.3	30					32.8	35			37.3	40		

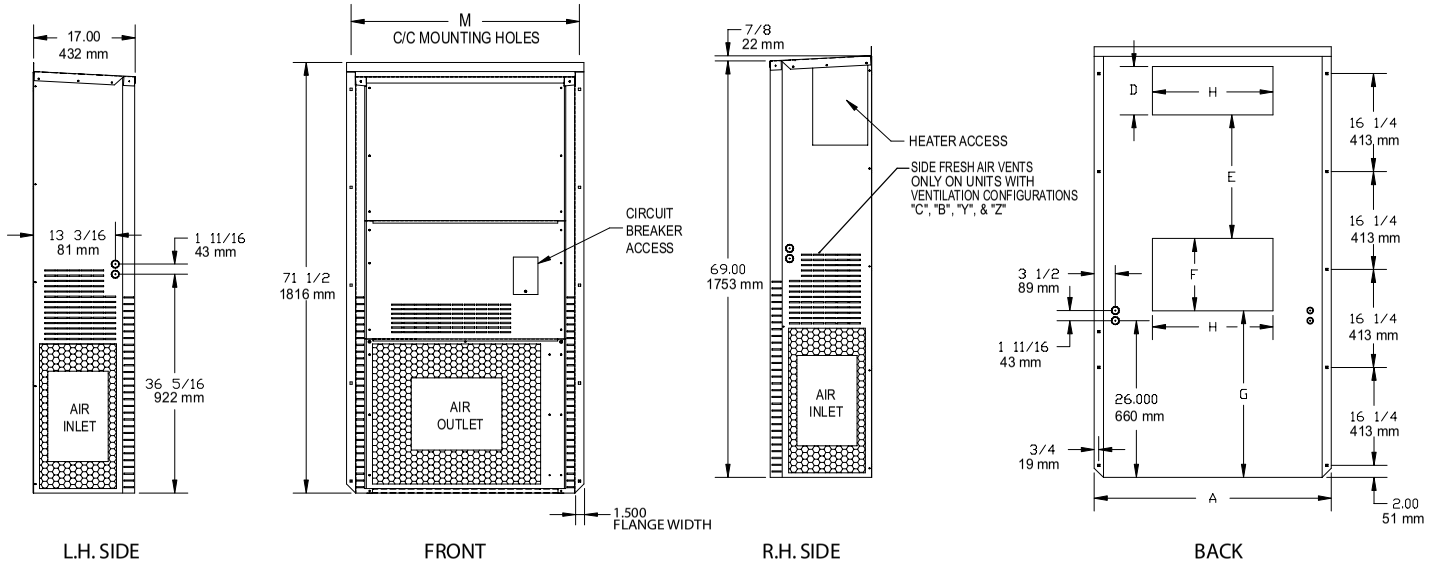
This chart should be used as a general guideline for estimating the conductor size and overcurrent protection. Always refer to the data label on the unit for sizing the conductors and overcurrent protection.
MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

Unit Load Amps (Heating) - HVESA Air Conditioners with 2-Stage Compressor

MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT AMPS		LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)								TOTAL MAXIMUM HEATING AMPS (STANDARD UNIT)							
		AC[1]	IBM[2]	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW	04 kW	05 kW	06 kW	08 kW	09 kW	10 kW	12 kW	15 kW
HVEA36ACA	208-230/1/60	22.4	2.8	16.7	20.8	25.0	33.3	n/a	41.7	50.0	62.5	19.5	23.6	27.8	36.1	n/a	44.5	52.8	65.3
HVEA42ACA	208-230/1/60	22.4	2.8	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	23.6	n/a	n/a	n/a	44.5	52.8	65.3
HVEA49ACA	208-230/1/60	28.2	4.3	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	25.1	n/a	n/a	n/a	46.0	54.3	66.8
HVEA60ACA	208-230/1/60	32.7	4.3	n/a	20.8	n/a	n/a	n/a	41.7	50.0	62.5	n/a	25.1	n/a	n/a	n/a	46.0	54.3	66.8
HVEA36ACC	208-230/3/60	16.7	2.8	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.2	n/a	24.5	n/a	31.7	38.9
HVEA42ACC	208-230/3/60	19.0	2.8	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	17.2	n/a	24.5	n/a	31.7	38.9
HVEA49ACC	208-230/3/60	20.5	4.3	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	18.7	n/a	26.0	n/a	33.2	40.4
HVEA60ACC	208-230/3/60	24.7	4.3	n/a	n/a	14.4	n/a	21.7	n/a	28.9	36.1	n/a	n/a	18.7	n/a	26.0	n/a	33.2	40.4
HVEA36ACD	460/3/60	7.3	1.4	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.6	n/a	12.2	n/a	15.8	19.4
HVEA42ACD	460/3/60	8.9	1.4	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	8.6	n/a	12.2	n/a	15.8	19.4
HVEA49ACD	460/3/60	10.0	2.2	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.4	n/a	13.0	n/a	16.6	20.2
HVEA60ACD	460/3/60	12.6	2.2	n/a	n/a	7.2	n/a	10.8	n/a	14.4	18.0	n/a	n/a	9.4	n/a	13.0	n/a	16.6	20.2

Heating kW rated at 240v. for "A" & "C" models. Derate heat ouptput by 25% for operation on 208v. Total heating amps for all 1ø units with 15 kW of heat includes both circuits (#1 & #2). Heater kW rated at 480v. for all "D" models. Note: 3ø models contain single phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase. Total heating and cooling amps include motor loads.
[1]AC=Air Conditioner [2]IBM=Indoor Blower Motor

DIMENSIONS - AVPA24-36, AVPSA24-36 and HVEA24, HVESA24

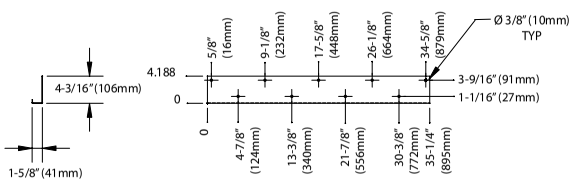


L.H. SIDE FRONT R.H. SIDE BACK

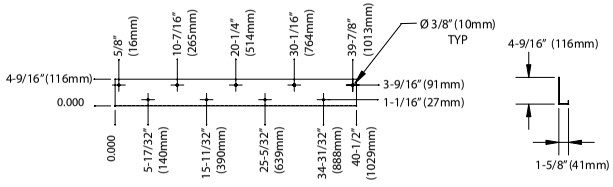
MODEL		A	D	E	F	G	H*	M
AVPA24/ AVPSA24	IN	39-3/8	8	20-1/2	12	27-3/4	20	37-7/8
	MM	1000	203	521	305	705	508	962
AVPA30-36/ AVPSA30-36	IN	44-9/16	8	18	14	28-1/2	28	43-1/16
	MM	1132	203	457	356	724	711	1094
HVEA24/ HVESA24	IN	44-9/16	8	18	14	28-1/2	28	43-1/16
	MM	1132	203	457	356	724	711	1094

*H DIM IS CENTERED BETWEEN A DIM

AVPA24/AVPSA24
BOTTOM MOUNTING BRACKET



AVPA30/36, AVPSA30/36 & HVEA24, HVESA24
BOTTOM MOUNTING BRACKET



SHIP WEIGHT (LBS/KG)

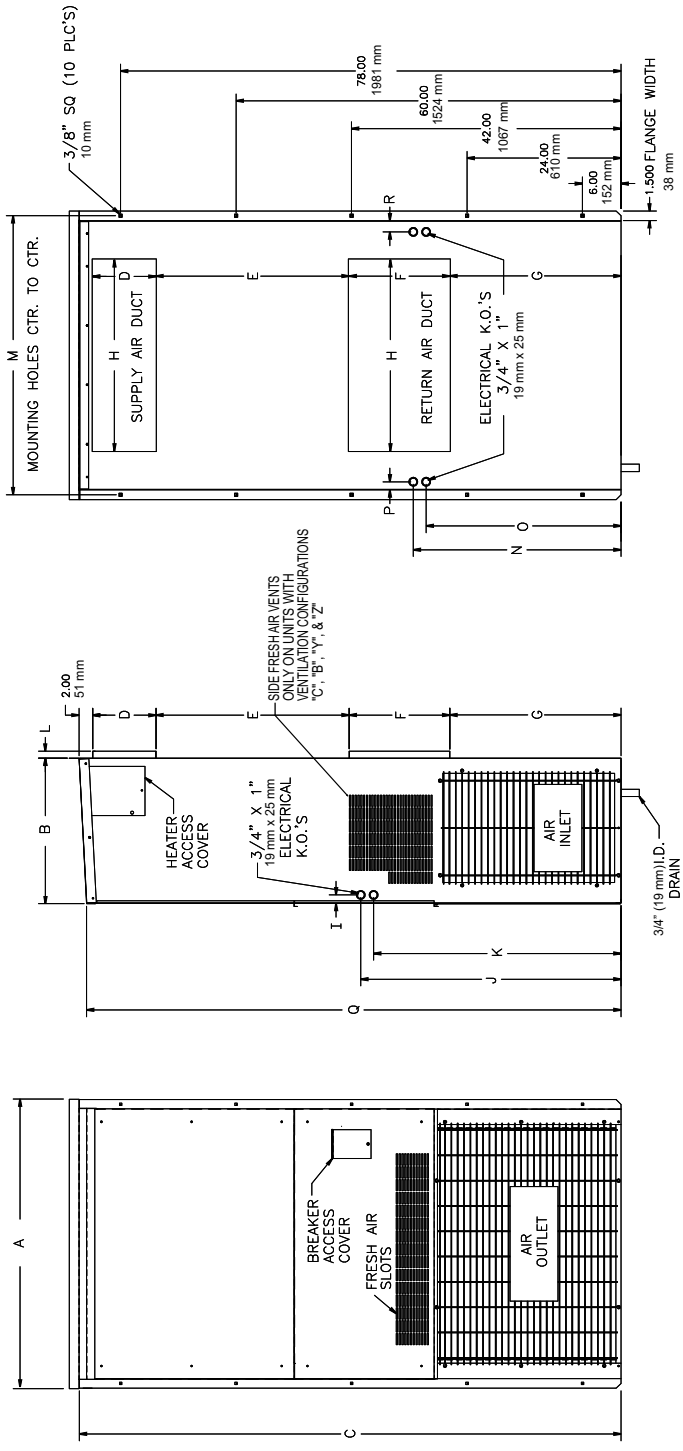
MODEL	AVPA/AVPSA			HVEA/HVESA
	24	30	36	24
COMPAC I (LBS/KG)	274/125	355/160	355/160	375/171
COMPAC II (LBS/KG)	286/130	365/170	365/170	405/184

FILTER SIZE

MODEL	AVPA/AVPSA24	AVPA/AVPSA30/36	HVEA/HVESA24
FILTER SIZE (IN)	16 x 25 x 2	16 x 30 x 2	16 x 30 x 1
FILTER SIZE (MM	406 x 635 x 51	406 x 762 x 51	406 x 762 x 25

Dimensional Data - AVPA42/48/60, AVPSA42/48/60 and HVEA30/36/42, HVESA30/36/42 ComPac® I & II Air Conditioners

DIMENSIONS - AVPA42-60, AVPSA42-60 and HVEA30-42, HVESA30-42



MODEL		A	B	C	D	E	F	G	H*	I	J	K	L	M	N	O	P	Q	R
AVPA42-60/AVPSA42-60	IN	45-1/8	22-5/8	86.00	10.00	30.00	16.00	26-1/2	30.00	1-5/16	40-9/16	38-9/16	1-1/8	43-1/2	32-3/8	30-3/8	1-1/4	83-5/16	1-3/4
HVEA30-42/HVESA30-42	MM	1146	575	2184	254	762	406	673	762	33	1030	979	29	1105	822	772	32	2118	44

*H DIM IS CENTERED BETWEEN A DIM

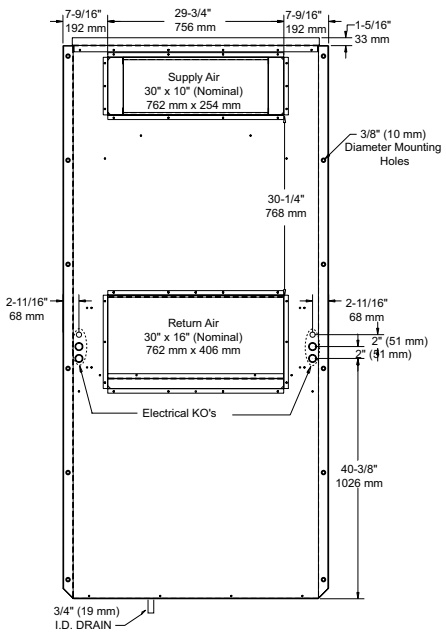
SHIP WEIGHT (LBS/KG)

MODEL	AVPA/AVPSA			HVEA/HVESA		
	42	48	60	30	36	42
COMPAC I (LBS/KG)	495/225	521/240	535/245	560/255	560/255	560/255
COMPAC II (LBS/KG)	527/240	552/250	565/260	590/268	590/268	590/268

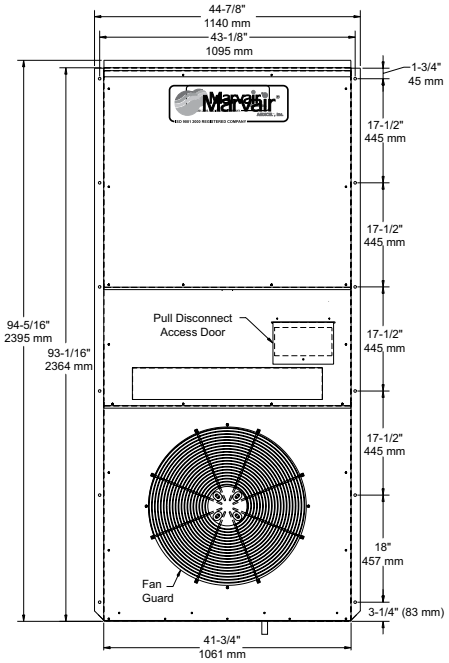
FILTER SIZE

MODEL	AVPA/AVPSA42/48/60	HVEA/HVESA30/36/42
FILTER SIZE (IN)	22 x 36-1/2 x 2	22 x 36-1/2 x 2
FILTER SIZE (MM	559 x 927 x 51	559 x 927 x 51

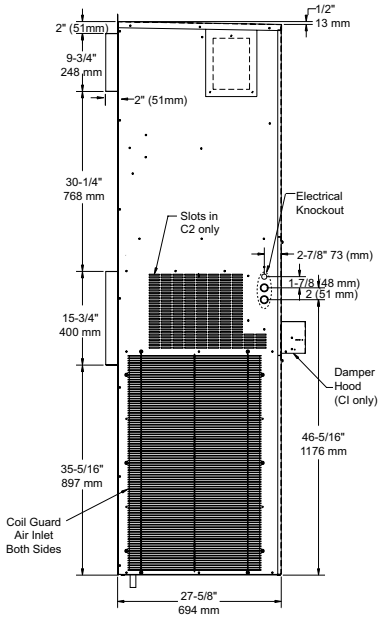
Dimensional Data - AVPA72, AVPSA72 and HVEA49/60, HVESA49/60 ComPac® I & ComPac® II Air Conditioners



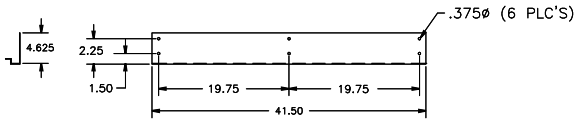
BACK VIEW



FRONT VIEW



LEFT SIDE VIEW



BOTTOM MTG. BRKT.
W/MTG. HOLE LOCATIONS

SHIP WEIGHT (LBS/KG)

MODEL	AVPA/AVPSA	HVEA/HVESA	
	72	49	60
COMPAC I (LBS/KG)	600/272	610/277	625/284
COMPAC II (LBS/KG)	640/290	625/284	640/290

FILTER SIZE

MODEL	AVPA/AVPSA72	HVEA/HVESA49/60
FILTER SIZE (IN)	18 x 24 x 2	18 x 40 x 1
FILTER SIZE (MM)	452 x 610 x 51	457 x 1016 x 25

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

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