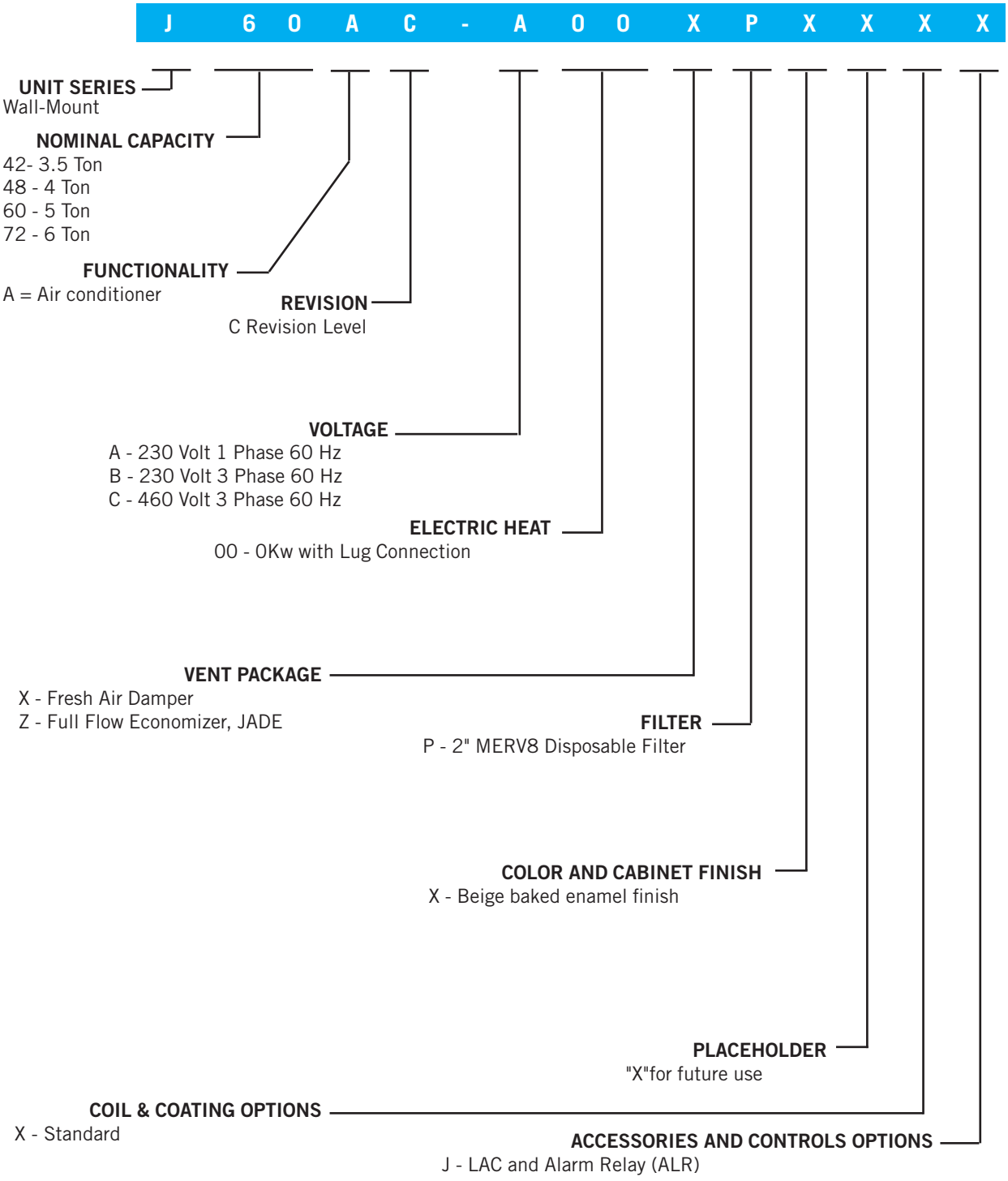

## *11EER J42AC-J60AC Series WALL-MOUNT™*
## *10EER J72AC Series WALL-MOUNT™*

The Solair Wall-Mount Air Conditioner is an energy efficient self contained system, which is designed to offer maximum indoor comfort at a minimal cost without using valuable indoor floor space or outside ground space. This unit is the ideal product for versatile applications such as: new construction, modular offices, school modernization, telecommunication structures, portable structures, correctional facilities and many more. Factory or field installed accessories are available to meet specific job requirements for your unique application.

- Complies with efficiency requirements of ASHRAE/IESNA 90.1-2016
- Certified to ASNI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units)
- Intertek ETL Listed to Standard for Safety Heating and Cooling Equipment ANSI/UL 1995/CSA 22.2 No. 236-05 Fourth Edition
- Commercial Product - Not intended for residential application
- Solair is an ISO 9001:2015 Certified Manufacturer

FORM NO. S3590-0719

## /////// WALL-MOUNT NOMENCLATURE



## /////// ENGINEERED FEATURES

**NEW! EXCLUSIVE *Non-Fiberglass Foil Faced Insulation:** Environmentally friendly high "R" value non-fiberglass insulation that is made with recycled denim and cotton materials used with a FSK foil face that is both durable and cleanable.

**Durable Cabinet Construction:** Multiple cabinet construction options are available for different outdoor conditions. Optional cabinet coatings may be ordered for corrosive outdoor environments. Front access control panel location.

**Green Fin Hydrophilic Evaporator Coil:** Green fin stock enhances coil wettability to help prevent mold growth, aid with condensate drainage, and provide a limited amount of protection to corrosive particulates in the air stream.

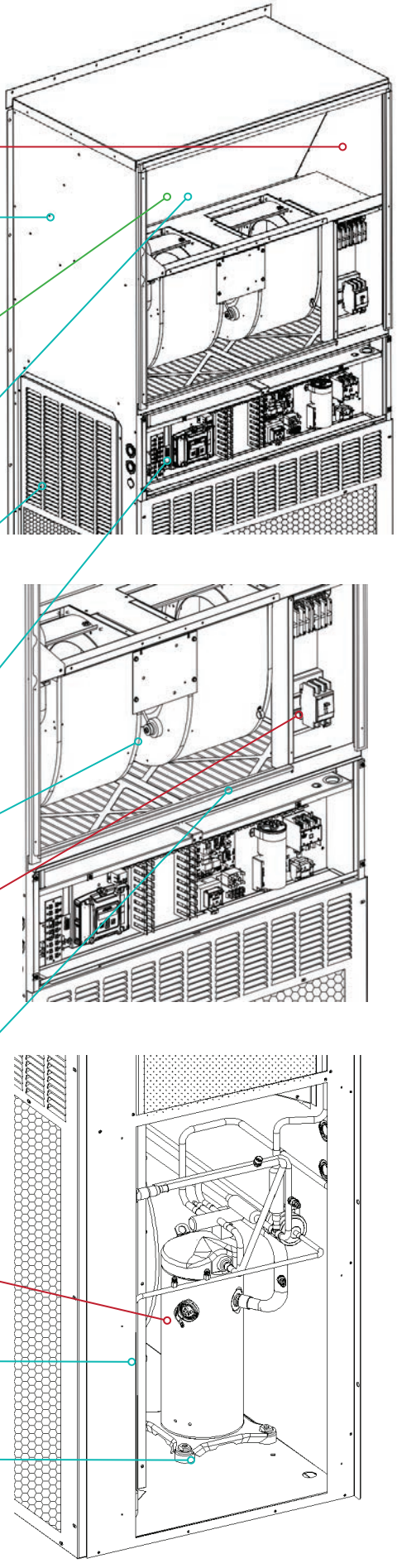
***Balanced Climate™ Technology (patent pending):** High latent capacity humidity & sound reduction removes up to 35% more humidity than any other wall mount on the market with the use of a 2 stage thermostat or controlling device. Solair Balanced Climate™ innovation comes standard on all models.

**Field or Factory Installed Vents:** Multiple ventilation options are available as easily installed kits with electrical plugs, or Factory installed options that can be removed for service. Economizer operation includes improved air path for minimized recirculation and does not require an intake hood.

**Reliable, Easy-to-Use Controls:** Easily accessible through front control panel locations. A lockable hinged access cover to circuit protection is provided. Phase rotation monitor is standard on all 3 phase models. Adjustable compressor on/off delay timer (CCM) with diagnostic lights is standard on all models.

**ECM Indoor Motor Technology:** 5 speed dual shaft motor provides quiet airflow operation when used with a twin blower assembly. Motor overload protection standard on all models.

**Electric Strip Heat:** Reliable, comfortable heater packages feature an automatic limit and thermal cut-off safety control. Heater packages can be factory or field installed.



**Easy Filter Access:** A separate filter door is provided for ease of filter access during routine unit maintenance. MERV8 filters are available with a rating of MERV8.

**Enclosed Condenser Motor:** An enclosed casing condenser motor with ball bearings is used for reliable operation and extended motor life. Enclosed condenser motors are standard on all units.

**Improved Condenser Coil Cleaning:** Removable fan shroud side panels allow for easy condenser coil intake surface cleaning.

**High Efficiency Cooling:** Scroll compressors for quiet, efficient cooling. Designed with R-410A (HFC) non-ozone depleting refrigerant in compliance with the Montreal protocol and 2010 EPA requirements. A liquid line filter-drier to protect the system from moisture is standard on all units.

## /////// UNIT MODES OF OPERATION

**Cooling Operation**: The Solair WA Series WALL MOUNT products offer single stage cooling operation using R410A refrigerant. Copper tube/Aluminum hydrophilic green fin coils are used to provide high efficiency and easy serviceability. Scroll compressor technology delivers years of quiet, reliable operation.

**Heating Operation**: The Solair WA Series WALL MOUNT products offer optional single or two stage heating operation using resistance heaters. Circuit breaker disconnect protection is standard in all units equipped with electric heat.

**Ventilation Operation**: The Solair WA Series WALL MOUNT products offer optional ventilation operation that brings outdoor air into the structure. Vent options can be factory or field installed, and can be used to bring in outdoor air for occupants, save energy by using outdoor air for free cooling, or positively pressurize a structure. Exhaust air options allow room air to be vented outdoors when fresh air is being brought into the structure. Energy recovery options are also available for occupied structures which condition the air being brought in to save energy when ventilation is necessary regardless of outdoor temperature.

**Balanced Climate™ Operation**: Balanced Climate™ is a great comfort feature that can easily be applied under any normal circumstances. If you are setting up your Solair system to air condition in a typical environment where 72 degrees is your lowest cooling set-point, then remove the Y1/Y2 jumper, and install a two stage cooling thermostat. You will increase your humidity removal up to 35% and provide a much more comfortable environment.

If you intend air conditioning below 60° outdoor conditions, then just like any other system, a LAC kit must be installed.

If you are installing the unit with any ventilation package , a Solair LAC Kit must be installed. Failure to utilize a LAC with any air conditioner can cause coil freeze up.

Balanced Climate can readily be applied to Duct-Free (supply & return air grille) applications. It may also be applied to ducted applications with limited static of 0.20" ESP (total including both supply & return statics).

**CAUTION: Balanced Climate is not a replacement for a dehumidification (hot gas reheat) unit for extreme applications, but rather an enhancement feature for limited climates and applications.**

## /////// ADVANCED FEATURE DESCRIPTIONS

**ECM Indoor Blower Motor:** Energy efficient indoor brush-less DC blower motors use EC constant torque technology with 4 selectable pre-programmed speeds. By selecting the needed speed, the WALL MOUNT product can reduce or increase airflow. A NEMA48® frame enclosure is used. A high speed tap can be selected to offer the maximum CFM possible with the blower assembly.

**Outdoor Fan Motor**: Outdoor fan motors use ball bearing construction and are fully enclosed for increased life expectancy.

**Non Fiberglass Cabinet Insulation:** The WALL MOUNT products use advanced non-fiberglass insulation that is made with recycled denim materials. High "R" value, enhanced sound absorption, and reduced delamination are some of the features of this revolutionary product.

## CAPACITY AND EFFICIENCY RATINGS

| MODELS | J42AC | J48AC | J60AC | J72AC |
|---|---|---|---|---|
| Cooling Capacity BTUH ① | 42,000 | 48,000 | 57,500 | 71,000 |
| EER ② | 11.0 | 11.0 | 11.0 | 10.0 |

① Capacity is certified in accordance with ANSI/ARI Standard 390-2003.

② EER = Energy Efficiency Ratio and is certified in accordance with ANSI/ARI Standard 390-2003. All ratings based on fresh air intake being 100% closed (no outside air introduction).

## SPECIFICATIONS 3-1/2 TON THROUGH 6 TON

| MODELS | J42AC-A | J42AC-B | J42AC-C | J48AC-A | J48AC-B | J48AC-C |
|---|---|---|---|---|---|---|
| **Electrical Rating – 60 Hz** | 230/208 - 1 | 230/208-3 | 460 - 3 | 230/208 - 1 | 230/208 - 3 | 460 - 3 |
| Operating Voltage Range | 197-253 | 197-253 | 414-506 | 197-253 | 197-253 | 414-506 |
| **Compressor--Circuit A** | | | | | | |
| Voltage | 230/208 | 230/208 | 460 | 230/208 | 230/208 | 460 |
| Rated Load Amps | 13.8/16.5 | 9.5/11.3 | 5.1 | 16.5/18.7 | 11.8/13.3 | 5.8 |
| Branch Circuit Selection Current | 19.9 | 13.6 | 6.1 | 21.8 | 14.5 | 6.3 |
| Lock Rotor Amps | 109/109 | 83.1/83.1 | 41 | 117/117 | 98/98 | 55 |
| Compressor Type | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| **Fan Motor & Condenser** | | | | | | |
| Fan Motor--HP--RPM | 1/3 | 1/3 | 1/3 | 1/3 | 1/3 | 1/3 |
| Fan Motor--Amps | 2.3 | 2.6 | 0.8 | 1.6 | 2.6 | 1.3 |
| Fan--DIA/CFM | 24" - 2900 | 24" - 2900 | 24" - 2900 | 24" - 3000 | 24" - 3000 | |
| **Blower Motor & Evap.** | | | | | | |
| Blower Motor—HP-SPD | 1/3 Variable | 1/3 Variable | 1/3 Variable | 1/3 Variable | 1/3 Variable | 1/3 Variable |
| Blower Motor—Amps | 2.3 | 2.3 | 1.6 | 3.1 | 2.3 | 1.2 |
| Motor Type | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM |
| CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil) | 1350-.15 | 1350-.15 | 1350-.15 | 1550-.20 | 1550-.20 | 1550-.20 |
| Filter Sizes (inches) STD., 2 required | 20x20x1 | 20x20x1 | 20x20x1 | 20x20x1 | 20x20x1 | 20x20x1 |
| **Basic Unit Weight-LBS.** | 490 | 490 | 490 | 495 | 495 | 495 |
| Barometric Fresh Air Damper (X) | 13 | 13 | 13 | 13 | 13 | 13 |
| Economizer (D, Z) | 44 | 44 | 44 | 44 | 44 | 44 |

| MODELS | J60AC-A | J60AC-B | J60AC-C | J72AC-A | J72AC-B | J72AC-C |
|---|---|---|---|---|---|---|
| **Electrical Rating – 60 Hz** | 230/208 - 1 | 230/208 - 3 | 460 - 3 | 230/208 - 1 | 230/208 - 3 | 460 - 3 |
| Operating Voltage Range | 197-253 | 197-253 | 414-506 | 197-253 | 197-253 | 414-506 |
| **Compressor--Circuit A** | | | | | | |
| Voltage | 230/208 | 230/208 | 460 | 230/208 | 230/208 | 460 |
| Rated Load Amps | 20.6/23.6 | 13.6/15.5 | 7.6 | 27.4/30.4 | 16.7/18.5 | 9.1 |
| Branch Circuit Selection Current | 24.4 | 16 | 7.8 | 37 | 22.5 | 10.6 |
| Lock Rotor Amps | 144/144 | 110/110 | 52 | 185/185 | 149/149 | 75 |
| Compressor Type | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| **Fan Motor & Condenser** | | | | | | |
| Fan Motor--HP--RPM | 1/3 | 1/3 | 1/3 | 1/2 | 1/2 | 1/2 |
| Fan Motor--Amps | 1.8 | 1.8 | 0.9 | 3.2 | 3.2 | 1.6 |
| Fan--DIA/CFM | 24" - 3100 | 24" - 3100 | 24" - 3100 | 24" - 4000 | 24" - 4000 | 24" - 4000 |
| **Blower Motor & Evap.** | | | | | | |
| Blower Motor—HP-SPD | 3/4 Variable | 1/2 Variable | 1/2 Variable | 3/4 Variable | 3/4 Variable | 3/4 Variable |
| Blower Motor—Amps | 3.2 | 3.2 | 1.6 | 3.8 | 3.8 | 1.9 |
| Motor Type | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM | Constant Torque ECM |
| CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil) | 1750-.20 | 1750-.20 | 1750-.20 | 1900-.25 | 1900-.25 | 1900-.25 |
| Filter Sizes (inches) STD., 2 required | 20x20x1 | 20x20x1 | 20x20x1 | 20x20x1 | 20x20x1 | 20x20x1 |
| **Basic Unit Weight-LBS.** | 505 | 505 | 505 | 555 | 555 | 555 |
| Barometric Fresh Air Damper (X) | 13 | 13 | 13 | 13 | 13 | 13 |
| Economizer (D, Z) | 44 | 44 | 44 | 44 | 44 | 44 |

## OPTIONAL SHIPPING CRATES

Optional crates are available to help protect your valuable WALL MOUNT investment during shipping. Constructed from OSB sheathing with steel corner posts, and sized for standard truck transportation. Treated for pests in accordance with the International Plant Protection Convention, Publication 15, Annex 1. Packaging is acceptable for international shipments.

| CRATE NO. | UNITS USING CRATE | DESCRIPTION |
|---|---|---|
| **TBD** | J42AC, J48AC | Standard Unit Crate |
| **TBD** | J60AC, J72AC | Standard Unit Crate |

## COOLING APPLICATION DATA - OUTDOOR TEMPERATURE ①②

| MODEL | RETURN AIR (DB/WB) | COOLING CAPACITY | 75°F | 80°F | 85°F | 90°F | 95°F | 100°F | 105°F | 110°F | 115°F | 120°F | 125°F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **J42** | 75/62 | Total Cooling | 44400 | 42400 | 40500 | 38500 | 36600 | 34800 | 33100 | 31300 | 29600 | 27900 | 26200 |
| | | Sensible Cooling | 33900 | 33200 | 32300 | 31600 | 30800 | 30100 | 29300 | 28500 | 27700 | 27000 | 26100 |
| | 80/67 | Total Cooling | 47400 | 46200 | 44900 | 43500 | 42000 | 40500 | 39000 | 37300 | 35600 | 33800 | 31900 |
| | | Sensible Cooling | 32900 | 32500 | 32000 | 31600 | 31100 | 30600 | 30000 | 29400 | 28800 | 28200 | 27500 |
| | 85/72 | Total Cooling | 56500 | 54000 | 51600 | 49100 | 46700 | 44300 | 42100 | 39700 | 37400 | 35100 | 32800 |
| | | Sensible Cooling | 33700 | 33000 | 32200 | 31400 | 30500 | 29600 | 28600 | 27600 | 26500 | 25500 | 24400 |
| **J48** | 75/62 | Total Cooling | 51300 | 48800 | 46500 | 44100 | 41800 | 39700 | 37500 | 35300 | 33300 | 31200 | 29200 |
| | | Sensible Cooling | 40300 | 39300 | 38200 | 37200 | 36200 | 35200 | 34200 | 33300 | 32400 | 31200 | 29200 |
| | 80/67 | Total Cooling | 54700 | 53200 | 51600 | 49800 | 48000 | 46200 | 44200 | 42100 | 40000 | 37800 | 35500 |
| | | Sensible Cooling | 39100 | 38500 | 37800 | 37200 | 36500 | 35800 | 35100 | 34400 | 33700 | 33000 | 32300 |
| | 85/72 | Total Cooling | 65200 | 62200 | 59300 | 56200 | 53300 | 50600 | 47700 | 44800 | 42000 | 29300 | 36500 |
| | | Sensible Cooling | 40100 | 39100 | 38000 | 37000 | 35800 | 34700 | 33500 | 32300 | 31100 | 29800 | 28600 |
| **J60** | 75/62 | Total Cooling | 61600 | 58500 | 55600 | 52700 | 50100 | 47600 | 45300 | 43000 | 40900 | 38900 | 36900 |
| | | Sensible Cooling | 47200 | 45800 | 44400 | 43100 | 41900 | 40900 | 39800 | 38900 | 38000 | 37200 | 36500 |
| | 80/67 | Total Cooling | 65700 | 63700 | 61700 | 59600 | 57500 | 55500 | 53400 | 51300 | 49200 | 47100 | 45000 |
| | | Sensible Cooling | 45800 | 44900 | 44000 | 43100 | 42300 | 41600 | 40800 | 40200 | 39500 | 38900 | 38400 |
| | 85/72 | Total Cooling | 78300 | 74500 | 70900 | 67300 | 63900 | 60700 | 57600 | 54600 | 51700 | 48900 | 46300 |
| | | Sensible Cooling | 46900 | 45600 | 44200 | 42800 | 41500 | 40300 | 38900 | 37700 | 36400 | 35200 | 34000 |
| **J72** | 75/62 | Total Cooling | 76200 | 72100 | 68500 | 65000 | 61800 | 58900 | 56100 | 53600 | 51300 | 49000 | 47000 |
| | | Sensible Cooling | 55800 | 54100 | 52400 | 50900 | 49500 | 48000 | 46800 | 45700 | 44600 | 43600 | 42700 |
| | 80/67 | Total Cooling | 81300 | 78600 | 76100 | 73500 | 71000 | 68600 | 66200 | 63900 | 61700 | 59400 | 57300 |
| | | Sensible Cooling | 54100 | 53000 | 51900 | 50900 | 49900 | 48900 | 48000 | 47200 | 46400 | 45600 | 44900 |
| | 85/72 | Total Cooling | 96800 | 91900 | 87400 | 83000 | 78600 | 75000 | 71400 | 68000 | 64800 | 61700 | 58900 |
| | | Sensible Cooling | 55400 | 53800 | 52100 | 50600 | 49000 | 47300 | 48500 | 44300 | 42700 | 41200 | 39700 |

① Low ambient control allows for compressor operation down to 0°F.
② Outdoor temperatures shown are measured at the condenser section air inlet.
③ Return air temperature °F.
④ Data shown is at default LO speed operation

| CAPACITY MULTIPLIER FACTORS | | | |
|---|---|---|---|
| **% of Rated Airflow** | -10 | Rated | +10 |
| **Total BTUH** | 0.975 | 1.0 | 1.02 |
| **Sensible BTUH** | 0.950 | 1.0 | 1.05 |

## R410A UNIT CHARGE RATES

| UNIT | STD. UNIT - LBS. |
|---|---|
| **J42AC** | 7.25 |
| **J48AC** | 7.38 |
| **J60AC** | 9.25 |
| **J72AC** | 9.50 |

## BALANCED CLIMATE APPLICATION DATA (OPTIONAL, REQUIRES 2 STAGE COOLING THERMOSTAT)

| MODEL | RETURN AIR (DB/WB) ② | COOLING CAPACITY | 75°F | 80°F | 85°F | 90°F | 95°F | 100°F | 105°F | 110°F | 115°F | 120°F | 125°F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J42 | 75/62 | Total Cooling | 40900 | 39400 | 37900 | 36500 | 34800 | 33300 | 31700 | 30100 | 28500 | 26800 | 25100 |
| | | Sensible Cooling | 28800 | 28200 | 27500 | 26800 | 26100 | 25400 | 24700 | 23900 | 23200 | 22500 | 21700 |
| | | Latent Cooling | 12100 | 11200 | 10400 | 9700 | 8700 | 7900 | 7000 | 6200 | 5300 | 4300 | 3400 |
| | | % Latent Increase | 13% | 18% | 21% | 29% | **33%** | **41%** | 46% | 55% | 64% | 79% | 97% |
| | | Lbs. H2O per Hr. | 11.42 | 10.57 | 9.811 | 9.151 | 8.208 | 7.453 | 6.604 | 5.849 | 5 | 4.057 | 3.208 |
| | 80/67 | Total Cooling | 43600 | 42900 | 42100 | 41200 | 40000 | 38800 | 37400 | 35900 | 34300 | 32500 | 30600 |
| | | Sensible Cooling | 27900 | 27600 | 27200 | 26800 | 26300 | 25800 | 25300 | 24700 | 24100 | 23500 | 22800 |
| | | Latent Cooling | 15700 | 15300 | 14900 | 14400 | 13700 | 13000 | 12100 | 11200 | 10200 | 9000 | 7800 |
| | | % Latent Increase | 8% | 10% | 13% | 17% | 20% | 24% | 26% | 29% | 33% | 38% | 44% |
| | | Lbs. H2O per Hr. | 14.81 | 14.43 | 14.06 | 13.58 | 12.92 | 12.26 | 11.42 | 10.57 | 9.623 | 8.491 | 7.358 |
| | 85/72 | Total Cooling | 52000 | 50200 | 48400 | 46500 | 44500 | 42500 | 40300 | 38200 | 36100 | 33800 | 31500 |
| | | Sensible Cooling | 28600 | 28000 | 27400 | 26600 | 25800 | 25000 | 24100 | 23200 | 22200 | 21300 | 20200 |
| | | Latent Cooling | 23400 | 22200 | 21000 | 19900 | 18700 | 17500 | 16200 | 15000 | 13900 | 12500 | 11300 |
| | | % Latent Increase | 3% | 5% | 8% | 11% | 13% | 16% | 17% | 19% | 22% | 23% | 26% |
| | | Lbs. H2O per Hr. | 22.08 | 20.94 | 19.81 | 18.77 | 17.64 | 16.51 | 15.28 | 14.15 | 13.11 | 11.79 | 10.66 |
| J48 | 75/62 | Total Cooling | 49900 | 47000 | 44400 | 42000 | 39600 | 37500 | 35600 | 33800 | 32100 | 30500 | 29000 |
| | | Sensible Cooling | 35200 | 33900 | 32700 | 31500 | 30400 | 29500 | 28600 | 27700 | 36900 | 26200 | 25500 |
| | | Latent Cooling | 14700 | 13100 | 11700 | 10500 | 9200 | 8000 | 7000 | 6100 | 5200 | 4300 | 3500 |
| | | % Latent Increase | 25% | 27% | 29% | 34% | 39% | 44% | 53% | 67% | 83% | 100% | 100% |
| | | Lbs. H2O per Hr. | 13.87 | 12.36 | 11.04 | 9.906 | 8.679 | 7.547 | 6.604 | 5.755 | 4.906 | 4.057 | 3.302 |
| | 80/67 | Total Cooling | 53200 | 51200 | 49300 | 47400 | 45500 | 43700 | 42000 | 40300 | 38600 | 36900 | 35300 |
| | | Sensible Cooling | 34100 | 33200 | 32400 | 31500 | 30700 | 30000 | 29300 | 28600 | 28000 | 27400 | 26800 |
| | | Latent Cooling | 19100 | 18000 | 16900 | 15900 | 14800 | 13700 | 12700 | 11700 | 10600 | 9500 | 8500 |
| | | % Latent Increase | 18% | 18% | 18% | 21% | 22% | 24% | 28% | 34% | 41% | 49% | 62% |
| | | Lbs. H2O per Hr. | 18.02 | 16.98 | 15.94 | 15 | 13.96 | 12.92 | 11.98 | 11.04 | 10 | 8.962 | 8.019 |
| | 85/72 | Total Cooling | 63400 | 59900 | 56600 | 53500 | 50600 | 47800 | 45300 | 42900 | 40600 | 38400 | 36300 |
| | | Sensible Cooling | 34900 | 33700 | 32600 | 31300 | 30100 | 29000 | 27900 | 26800 | 25800 | 24800 | 23700 |
| | | Latent Cooling | 28500 | 26200 | 24000 | 22200 | 20500 | 18800 | 17400 | 16100 | 14800 | 13600 | 12600 |
| | | % Latent Increase | 12% | 12% | 11% | 14% | 15% | 15% | 18% | 22% | 26% | 30% | 37% |
| | | Lbs. H2O per Hr. | 26.89 | 24.72 | 22.64 | 20.94 | 19.34 | 17.74 | 16.42 | 15.19 | 13.96 | 12.83 | 11.89 |
| J60 | 75/62 | Total Cooling | 58100 | 55200 | 52400 | 49900 | 47500 | 45300 | 43300 | 41400 | 39600 | 38000 | 36500 |
| | | Sensible Cooling | 40700 | 39300 | 38000 | 36800 | 35700 | 34700 | 33700 | 32900 | 32100 | 31300 | 30800 |
| | | Latent Cooling | 17400 | 15900 | 14400 | 13100 | 11800 | 10600 | 9600 | 8500 | 7500 | 6700 | 5700 |
| | | % Latent Increase | 17% | 20% | 22% | 27% | **31%** | **37%** | 43% | 52% | 61% | 75% | 93% |
| | | Lbs. H2O per Hr. | 16.42 | 15 | 13.58 | 12.36 | 11.13 | 10 | 9.057 | 8.019 | 7.075 | 6.321 | 5.377 |
| | 80/67 | Total Cooling | 62000 | 60100 | 58200 | 56400 | 54500 | 52800 | 51100 | 49400 | 47700 | 46100 | 44500 |
| | | Sensible Cooling | 39500 | 38500 | 37600 | 36800 | 36000 | 35300 | 346 | 34000 | 33400 | 32800 | 32400 |
| | | Latent Cooling | 22500 | 21600 | 20600 | 19600 | 18500 | 17500 | 16500 | 15400 | 14300 | 13300 | 12100 |
| | | % Latent Increase | 12% | 13% | 14% | 16% | 18% | 21% | 24% | 28% | 32% | 38% | 45% |
| | | Lbs. H2O per Hr. | 21.23 | 20.38 | 19.43 | 18.49 | 17.45 | 16.51 | 15.57 | 14.53 | 13.49 | 12.55 | 11.42 |
| | 85/72 | Total Cooling | 73900 | 70300 | 66800 | 63700 | 60500 | 57800 | 55100 | 52600 | 50100 | 47900 | 45800 |
| | | Sensible Cooling | 40500 | 39100 | 37800 | 26600 | 35300 | 34200 | 33000 | 31900 | 30800 | 29600 | 28700 |
| | | Latent Cooling | 33400 | 31200 | 29000 | 27100 | 25200 | 23600 | 22100 | 20700 | 19300 | 18300 | 17100 |
| | | % Latent Increase | 6% | 7% | 8% | 10% | 11% | 14% | 15% | 18% | 21% | 25% | 28% |
| | | Lbs. H2O per Hr. | 31.51 | 29.43 | 27.36 | 25.57 | 23.77 | 22.26 | 20.85 | 19.53 | 18.21 | 17.26 | 16.13 |
| J72 | 75/62 | Total Cooling | 70500 | 67400 | 64400 | 61600 | 58800 | 56200 | 53600 | 51200 | 48900 | 46700 | 44500 |
| | | Sensible Cooling | 46700 | 45700 | 44600 | 43500 | 42400 | 41300 | 40100 | 38900 | 37800 | 36600 | 35300 |
| | | Latent Cooling | 23800 | 21700 | 19800 | 18100 | 16400 | 14900 | 13500 | 12300 | 11100 | 10100 | 9200 |
| | | % Latent Increase | 14% | 17% | 19% | 22% | **25%** | **27%** | 31% | 36% | 40% | 47% | 53% |
| | | Lbs. H2O per Hr. | 22.45 | 20.47 | 18.68 | 17.08 | 15.47 | 14.06 | 12.74 | 11.6 | 10.47 | 9.528 | 8.679 |
| | 80/67 | Total Cooling | 75300 | 73400 | 71500 | 69600 | 67500 | 65500 | 63300 | 61100 | 58900 | 56600 | 54200 |
| | | Sensible Cooling | 45300 | 44800 | 44200 | 43500 | 42800 | 42000 | 41100 | 40200 | 39300 | 38300 | 37200 |
| | | Latent Cooling | 30000 | 28600 | 27300 | 26100 | 24700 | 23500 | 22200 | 20900 | 19600 | 18300 | 17000 |
| | | % Latent Increase | 9% | 10% | 11% | 13% | 15% | 16% | 18% | 20% | 22% | 25% | 27% |
| | | Lbs. H2O per Hr. | 28.3 | 26.98 | 25.75 | 24.62 | 23.3 | 22.17 | 20.94 | 19.72 | 18.49 | 17.26 | 16.04 |
| | 85/72 | Total Cooling | 89700 | 85800 | 82100 | 78600 | 75000 | 71600 | 68300 | 65000 | 61900 | 58800 | 55800 |
| | | Sensible Cooling | 46400 | 45500 | 44400 | 43200 | 42000 | 40600 | 39200 | 37700 | 36200 | 34600 | 32900 |
| | | Latent Cooling | 43300 | 40300 | 37700 | 35400 | 33000 | 31000 | 29100 | 27300 | 25700 | 24200 | 22900 |
| | | % Latent Increase | 4% | 5% | 6% | 8% | 9% | 11% | 12% | 13% | 14% | 15% | 16% |
| | | Lbs. H2O per Hr. | 40.85 | 38.02 | 35.57 | 33.4 | 31.13 | 29.25 | 27.45 | 25.75 | 24.25 | 22.83 | 21.6 |

① Low ambient operation disables Balanced Climate Operation.
② Outdoor temperatures shown are measured at the condenser section air inlet.
③ Return air temperature °F.
④ % Latent increase is a comparison to non-Balanced Climate unit operation.

| CAPACITY MULTIPLIER FACTORS | | | |
|---|---|---|---|
| **% of Rated Airflow** | -10 | Rated | +10 |
| **Total BTUH** | 0.975 | 1.0 | 1.02 |
| **Sensible BTUH** | 0.950 | 1.0 | 1.05 |

## /////// INDOOR AIRFLOW CFM @ STATIC PRESSURES - EC BLOWER CONSTANT TORQUE MOTOR WITH ADJUSTMENT SPEEDS

| ESP | J42AC BLOWER TAPS - DRY/WET COIL CFM | | | | | J48AC BLOWER TAPS - DRY/WET COIL CFM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In H2O | Blower and Vent Only | Balanced Climate | Default LO Cooling and Heating | Optional MED Cooling and Heating | Optional HI Cooling and Heating | Blower and Vent Only | Balanced Climate | Default LO Cooling and Heating | Optional MED Cooling and Heating | Optional HI Cooling and Heating |
| 0" | 1510/1495 | 1345/1190 | 1510/1495 | 1740/1650 | 1815/1750 | 1795/1685 | 1370/1305 | 1795/1685 | 1895/1850 | 2000/1920 |
| .1" | 1445/1415 | 1120/1025 | 1445/1415 | 1660/1600 | 1740/1675 | 1730/1625 | 1270/1200 | 1730/1625 | 1845/1765 | 1940/1850 |
| .15" | 1410/1375 | 1020/950 | 1410/1375 | 1620/1565 | 1700/1635 | 1690/1590 | 1220/1145 | 1690/1590 | 1815/1725 | 1905/1815 |
| .2" | 1370/1325 | 930/875 | 1370/1325 | 1580/1530 | 1660/1600 | 1655/1555 | 1165/1095 | 1660/1600 | 1785/1685 | 1870/1780 |
| .3" | 1280/1230 | | 1280/1230 | 1490/1440 | 1575/1515 | 1575/1485 | | 1575/1515 | 1715/1610 | 1800/1710 |
| .4" | 1175/1120 | | 1175/1120 | 1400/1330 | 1490/1430 | 1485/1405 | | 1490/1430 | 1635/1540 | 1730/1635 |
| .5" | 1055/1000 | | 1055/1000 | 1310/1205 | 1400/1345 | 1390/1325 | | 1400/1325 | 1550/1475 | 1655/1560 |

| ESP | J60AC BLOWER TAPS - DRY/WET COIL CFM | | | | | J72AC BLOWER TAPS - DRY/WET COIL CFM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In H2O | Blower and Vent Only | Balanced Climate | Default LO Cooling and Heating | Optional MED Cooling and Heating | Optional HI Cooling and Heating | Blower and Vent Only | Balanced Climate | Default LO Cooling and Heating | Optional MED Cooling and Heating | Optional HI Cooling and Heating |
| 0" | 1960/1870 | 1540/1480 | 1960/1870 | 2085/1985 | 2160/2065 | 2140/2065 | 1675/1605 | 2140/2065 | 2210/2155 | 2265/2195 |
| .1" | 1880/1815 | 1365/1320 | 1880/1815 | 2005/1925 | 2070/1985 | 2080/2005 | 1515/1455 | 2080/2005 | 2160/2085 | 2215/2140 |
| .15" | 1840/1785 | 1285/1245 | 1840/1785 | 1970/1895 | 2025/1950 | 2050/1975 | 1445/1390 | 2050/1975 | 2135/2055 | 2190/2110 |
| .2" | 1805/1760 | 1215/1180 | 1805/1760 | 1935/1865 | 1990/1915 | 2020/1945 | 1380/1330 | 2020/1945 | 2105/2025 | 2165/2080 |
| .3" | 1735/1700 | | 1735/1700 | 1870/1810 | 1920/1855 | 1960/1885 | | 1960/1885 | 2050/1965 | 2110/2020 |
| .4" | 1675/1635 | | 1675/1635 | 1815/1750 | 1865/1800 | 1900/1825 | | 1900/1825 | 1985/1905 | 2050/1965 |
| .5" | 1625/1570 | | 1625/1570 | 1770/1700 | 1820/1755 | 1840/1765 | | 1840/1765 | 1920/1855 | 1985/1905 |

Five factory programmed speed taps (torque settings) are available for the indoor blower motor, and are selected through different unit modes of operation. These modes are energized by 24VAC signals from the low voltage terminal block located inside the control panel by a thermostat or other controlling device.

1. Blower and Ventilation Only Speed is the CFM amount for continuous fan and ventilation without a call for cooling.

2. Balanced Climate Speed is the indoor CFM amount for user selectable Balanced Climate operation and optional Mechanical De humidification. To use Balanced Climate, remove the jumper between Y1 and Y2 on the low voltage terminal strip. A 2 stage cool ing thermostat is then used to control blower airflow stages. Be sure to follow all guidelines provided in the installation manual. A controls kit that includes a low ambient control (LAC) must be used for Balanced Climate Operation if ventilation options are to be used or cooling operation will occur below a 60° outdoor temperature. Balanced Climate can be used for duct free and ducted applications below 0.20"WC ESP total static. Balanced Climate provides increased moisture removal during the cooling cycle, but is not a replacement for optional mechanical dehumidification. Optional mechanical dehumidification provides moisture removal without significantly cooling the space being conditioned. Mechanical dehumidification is highly recommended for appli- cations requiring indoor humidity control for schools, public areas, agricultural, pharmaceutical, and areas with high outdoor humidity and varying indoor heat load.

3. Default LO Cooling and Heating Speed is the indoor CFM amount for cooling operation using the default blower speed tap selec tion. This speed is labeled as LO on the speed selection terminal strip inside the unit control panel. All units ship with cooling and heating operation at LO cooling and heating speed, and provides the optimal airflow amount for normal use.

4. Optional MED Cooling and Heating Speed is selected manually during unit setup and provides a higher indoor CFM for hi static duct applications and increased airflow. This speed is labeled as MED on the speed selection terminal strip inside the unit control panel.

5. Optional HI Cooling and Heating Speed is selected manually during unit setup and provides the highest allowable indoor CFM amount. Not recommended for standard unit operation. This speed is labeled as HI on the speed selection terminal strip inside the unit control panel.

## SOUND DATA - DBA @ 5 FT. AND 10 FT.*

| DUCT FREE | INDOOR COOLING OPERATION @ 5 FT. | | | INDOOR COOLING OPERATION @ 10 FT. | | | OUTDOOR @ 10 FT. |
|---|---|---|---|---|---|---|---|
| Unit | Standard Grilles | With WMICF | With WMICF and WAPR-11 | Standard Grilles | With WMICF | With WMICF and WAPR-11 | Standard Features |
| J42AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| J48AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| J60AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| J72AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |

| DUCTED SUPPLY | INDOOR COOLING OPERATION @ 5 FT. | | | INDOOR COOLING OPERATION @ 10 FT. | | | OUTDOOR @ 10 FT. |
|---|---|---|---|---|---|---|---|
| Unit | Standard Grilles | With WMICF | With WMICF and WAPR-11 | Standard Grilles | With WMICF | With WMICF and WAPR-11 | Standard Features |
| J42AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| J48AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| J60AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| J72AC | TBD | TBD | TBD | TBD | TBD | TBD | TBD |

## ELECTRICAL SPECIFICATIONS — W**AC SERIES

| MODEL | Rated Volts & Phase | No. Field Power Circuits | Single Circuit | | | | Multiple Circuit | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ③ Minimum Circuit Ampacity | ① Maximum External Fuse or Ckt. Brkr. | ② Field Power Wire Size | ② Ground Wire | ③ Minimum Circuit Ampacity | | | ① Maximum External Fuse or Ckt. Breaker | | | ② Field Power Wire Size | | | ② Ground Wire Size | | |
| | | | | | | | Ckt. A | Ckt. B | Ckt. C | Ckt. A | Ckt. B | Ckt. C | Ckt. A | Ckt. B | Ckt. C | Ckt. A | Ckt. B | Ckt. C |
| J42AC-A00, A0Z | | 1 | 31 | 50 | 8 | 10 | | | | | | | | | | | | |
| A05 | | 1 | 31 | 50 | 8 | 10 | | | | | | | | | | | | |
| A10 | 230/208-1 | 1 | 57 | 60 | 6 | 10 | | | | | | | | | | | | |
| A15 | | 1 or 2 | 83 | 90 | 4 | 8 | 57 | 26 | | 60 | 30 | | 6 | 10 | | 10 | 10 | |
| A20 | | 1 or 2 | 109 | 125 | 2 | 6 | 57 | 52 | | 60 | 60 | | 6 | 6 | | 10 | 10 | |
| J42AC-B00, B0Z | | 1 | 23 | 35 | 8 | 10 | | | | | | | | | | | | |
| B06 | | 1 | 23 | 35 | 8 | 10 | | | | | | | | | | | | |
| B09 | 230/208-3 | 1 | 32 | 35 | 8 | 10 | | | | | | | | | | | | |
| B15 | | 1 | 51 | 60 | 6 | 10 | | | | | | | | | | | | |
| B18 | | 1 | 60 | 60 | 6 | 10 | | | | | | | | | | | | |
| J42AC-C00, C0Z | | 1 | 12 | 15 | 14 | 14 | | | | | | | | | | | | |
| C09 | 460-3 | 1 | 17 | 20 | 12 | 12 | | | | | | | | | | | | |
| C15 | | 1 | 26 | 30 | 10 | 10 | | | | | | | | | | | | |
| J48AC-A00, A0Z | | 1 | 35 | 50 | 8 | 10 | | | | | | | | | | | | |
| A05 | | 1 | 35 | 50 | 8 | 10 | | | | | | | | | | | | |
| A10 | 230/208-1 | 1 | 59 | 60 | 6 | 10 | | | | | | | | | | | | |
| A15 | | 1 or 2 | 85 | 90 | 4 | 8 | 59 | 26 | | 60 | 30 | | 6 | 10 | | 10 | 10 | |
| A20 | | 1 or 2 | 111 | 125 | 2 | 6 | 59 | 52 | | 60 | 60 | | 6 | 6 | | 10 | 10 | |
| J48AC-B00, B0Z | | 1 | 26 | 35 | 8 | 10 | | | | | | | | | | | | |
| B06 | | 1 | 26 | 35 | 8 | 10 | | | | | | | | | | | | |
| B09 | 230/208-3 | 1 | 33 | 35 | 8 | 10 | | | | | | | | | | | | |
| B15 | | 1 | 51 | 60 | 6 | 10 | | | | | | | | | | | | |
| B18 | | 1 | 60 | 60 | 6 | 10 | | | | | | | | | | | | |
| J48AC-C00, C0Z | | 1 | 12 | 15 | 14 | 14 | | | | | | | | | | | | |
| C09 | 460-3 | 1 | 17 | 20 | 12 | 12 | | | | | | | | | | | | |
| C15 | | 1 | 26 | 30 | 10 | 10 | | | | | | | | | | | | |
| J60AC-A00, A0Z | | 1 | 38 | 60 | 8 | 10 | | | | | | | | | | | | |
| A05 | | 1 | 38 | 60 | 8 | 10 | | | | | | | | | | | | |
| A10 | 230/208-1 | 1 | 59 | 60 | 6 | 10 | | | | | | | | | | | | |
| A15 | | 1 or 2 | 85 | 90 | 3 | 8 | 59 | 26 | | 60 | 30 | | 6 | 10 | | 10 | 10 | |
| A20 | | 1 or 2 | 111 | 125 | 2 | 6 | 59 | 52 | | 60 | 60 | | 6 | 6 | | 10 | 10 | |
| J60AC-B00, B0Z | | 1 | 28 | 40 | 8 | 10 | | | | | | | | | | | | |
| B06 | | 1 | 28 | 40 | 8 | 10 | | | | | | | | | | | | |
| B09 | 230/208-3 | 1 | 34 | 40 | 8 | 10 | | | | | | | | | | | | |
| B15 | | 1 | 52 | 60 | 6 | 10 | | | | | | | | | | | | |
| B18 | | 2 | NA | N/A | N/A | N/A | 34 | 28 | | 40 | 30 | | 8 | 10 | | 10 | 10 | |
| J60AC-C00, C0Z | | 1 | 14 | 20 | 12 | 12 | | | | | | | | | | | | |
| C09 | 460-3 | 1 | 18 | 20 | 12 | 12 | | | | | | | | | | | | |
| C15 | | 1 | 26 | 30 | 10 | 10 | | | | | | | | | | | | |
| J72AC-A00, A0Z | | 1 | 56 | 60 | 6 | 10 | | | | | | | | | | | | |
| A05 | | 1 | 56 | 60 | 6 | 10 | | | | | | | | | | | | |
| A10 | 230/208-1 | 1 or 2 | 60 | 70 | 6 | 8 | 56 | 26 | | 60 | 30 | | 6 | 10 | | 10 | 10 | |
| A15 | | 1 or 2 | 86 | 90 | 3 | 8 | 56 | 52 | | 60 | 60 | | 6 | 6 | | 10 | 10 | |
| A20 | | 1 or 2 | 112 | 125 | 2 | 6 | 56 | 52 | | 60 | 60 | | 6 | 6 | | 10 | 10 | |
| J72AC -B00, B0Z | | 1 | 38 | 45 | 8 | 10 | | | | | | | | | | | | |
| B06 | | 1 | 38 | 45 | 8 | 10 | | | | | | | | | | | | |
| B09 | 230/208-3 | 1 | 38 | 45 | 8 | 10 | | | | | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | | | | | |
| B18 | | 2 | N/A | N/A | N/A | N/A | 38 | 28 | | 40 | 30 | | 8 | 10 | | 10 | 10 | |
| J72AC-C00, C0Z | | 1 | 18 | 25 | 10 | 10 | | | | | | | | | | | | |
| C09 | 460-3 | 1 | 18 | 25 | 10 | 10 | | | | | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | | | | | |

① Maximum size of the time delay fuse or circuit breaker for protection of field wiring conductors.
② Based on 75°C copper wire. All wiring must conform to the National Electrical Code and all local codes.
③ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing.

**CAUTION:** When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to Note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three current carrying conductors are in a raceway.

**IMPORTANT:** While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes.

## HEATER PACKAGES - FIELD INSTALLED "C" SERIES UNITS

- Designed for adding Electric Heat to 0 KW Units
- Circuit Breaker Standard on 230/208V Models
- ETL US & Canada Listed
- Toggle Disconnect Standard on 460V Models

| Air Conditioner Models | -A00 Models 230/208-1 | | -B00 Models 230/208-3 | | -C00 Models 460-3 | |
|---|---|---|---|---|---|---|
| | Heater Model # | KW | Heater Model # | KW | Heater Model # | KW |
| J42AC<br>J48AC | EHWA48C-A05<br>EHWA42C-A10<br>EHWA42C-A15<br>EHWA42C-A20 | 5<br>10<br>15<br>20 | EHWA42C-B06<br>EHWA42C-B09<br>EHWA42C-B15<br>EHWA42C-B18 | 6<br>9<br>15<br>18 | EHWA48C-C09<br>EHWA42C-C15 | 9<br>15 |
| J60AC | EHWA60C-A10<br>EHWA60C-A15<br>EHWA60C-A20 | 10<br>15<br>20 | EHWA42C-B06<br>EHWA42C-B09<br>EHWA42C-B15<br>EHWA42C-B18 | 6<br>9<br>15<br>18 | EHWA60C-C09<br>EHWA60C-C15 | 9<br>15 |
| J72AC | EHWA72C-A05<br>EHWA72C-A10<br>EHWA72C-A15<br>EHWA72C-A20 | 5<br>10<br>15<br>20 | EHWA72C-B06<br>EHWA72C-B09<br>EHWA72C-B15<br>EHWA72C-B18 | 6<br>9<br>15<br>18 | EHWA60C-C09<br>EHWA60C-C15 | 9<br>15 |

## ELECTRIC HEAT TABLE - REFER TO ELECTRICAL SPECIFICATIONS FOR AVAILABILITY BY UNIT MODEL

| NOMINAL KW | AT 240V (1) | | | | AT 208V (1) | | | | AT 480V (2) | | | AT 460V (2) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | KW | 1-PH AMPS | 3-PH AMPS | BTUH | KW | 1-PH AMPS | 3-PH AMPS | KW | KW | 3-PH AMPS | KW | KW | 3-PH AMPS | KW |
| 4.0 | 4.0 | 16.7 | | 13,652 | 3.00 | 14.4 | | 10,239 | | | | | | |
| 5.0 | 5.0 | 20.8 | | 17,065 | 3.75 | 18.0 | | 12,799 | | | | | | |
| 6.0 | 6.0 | | 14.4 | 20,478 | 4.50 | | 12.5 | 15,359 | 6.0 | 7.2 | 20,478 | 5.52 | 6.9 | 18,840 |
| 8.0 | 8.0 | 33.3 | | 27,304 | 6.00 | 28.8 | | 20,478 | | | | | | |
| 9.0 | 9.0 | | 21.7 | 30,717 | 6.75 | | 18.7 | 23,038 | 9.0 | 10.8 | 30,717 | 8.28 | 10.4 | 28,260 |
| 10.0 | 10.0 | 41.7 | | 34,130 | 7.50 | 36.1 | | 25,598 | | | | | | |
| 15.0 | 15.0 | 62.5 | 36.1 | 51,195 | 11.25 | 54.1 | 31.2 | 38,396 | 15.0 | 18.0 | 51,195 | 13.80 | 17.3 | 47,099 |
| 18.0 | 18.0 | | 43.3 | 61,434 | 13.50 | | 37.5 | 46,076 | 18.0 | 21.7 | 61,434 | 16.56 | 20.8 | 56,519 |
| 20.0 | 20.0 | 83.3 | | 68,260 | 15.00 | 72.1 | | 51,195 | | | | | | |

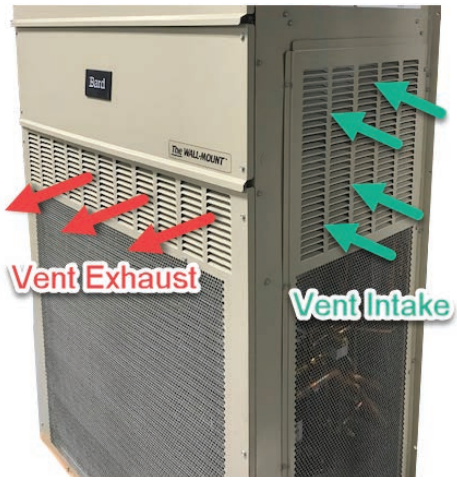
(1) These electric heaters are available in 230/208V units only.
(2) These electric heaters are available in 480V units only.

## C SERIES WALL MOUNT™ VENTILATION OPTION SELECTION CHART

| VENT CODE | FIELD INSTALL KIT | UNIT | OPERATION | DESCRIPTION |
|---|---|---|---|---|
| **X** | **FAD-NE5** | J42AC, J48AC, J60AC, J72AC | Barometric | Air damper provides slight positive room pressure during blower operation, No room air exhaust. |
| **Z** | **ECON-WD5*** | J42AC, J48AC, J60AC, J72AC | JADE Controller | Full flow Economizer that uses the JADE controller and included sensors to operate free cooling. Enthalpy or Dry Bulb operation user selectable. No intake hood required. |

## /////// WALL MOUNT™ VENTILATION OPTIONS SPECIFICATIONS

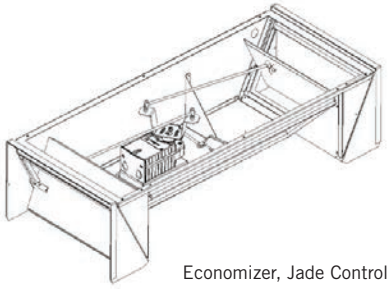
**"X" Vent Code Option – Standard Fresh Air Damper No Exhaust (FAD-NE)**
The barometric fresh air damper without exhaust is a standard feature on all models. It is installed on the inside of the service door and allows outside ventilation air, up to 25% of the total airflow rating of the unit, to be introduced through the air inlet openings and to be mixed with the conditioned air. The damper opens during blower operation and closes when the blower is off. Adjustable blade stops allow different amounts of outside air to be introduced into the building and can be easily locked closed if required. The room exhaust air path is sealed with an insulated block-off plate.



Commercial Room Ventilator- Airpath

## /////// WALL MOUNT™ VENTILATION OPTIONS SPECIFICATIONS (continued)

**"Z" Vent Code Option – Economizers with JADE® Controller (ECON-WD)**
The JADE controlled economizer is internally mounted behind the service door and allows outside ventilation air. The ECON-WD allows up to 100% of the total airflow rating of the unit. Both include a built-in exhaust air damper for room pressurization relief. The economizer is designed to provide "free cooling" when outside air conditions are cool and dry enough to satisfy cooling requirements without running the compressor. This provides lower operating costs, extended equipment life, and cooling operation down to -40°F outdoor temperatures.


Economizer, Jade Control

**"Z" Vent Code Option – (ECON-WD) JADE® Controller Information**
JADE Economizer controls provide Demand Ventilation Control, operational checkout, an easy to read LCD screen, configurable freeze protection, and LCD displayed economizer component failure alarms. Minimum vent position, occupancy ventilation, and 0-10V CO2 input is available for use with select CO2 room sensors. When used with a Solair economizer assembly, the JADE controller is able to meet most state and local codes for economizer use.

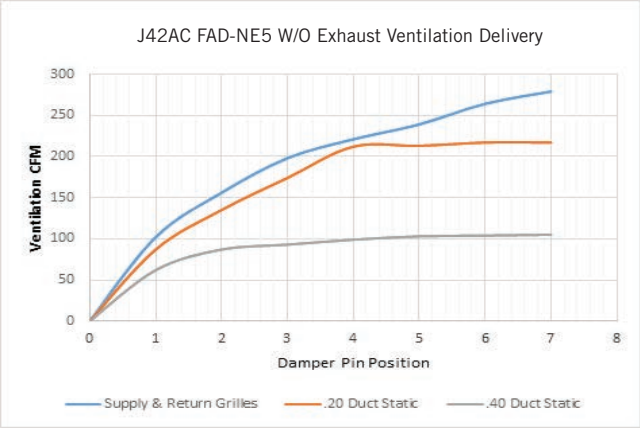
**JADE Controller Specifications:**

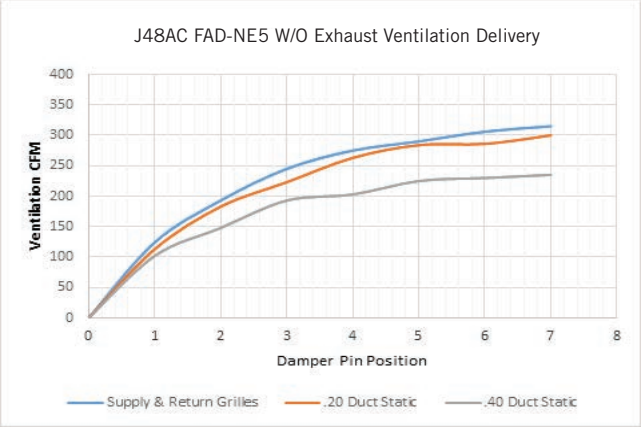
- Operating Humidity Range (% RH) 5 to 95% RH, non-condensing
- Contact Ratings 30 VAC-- 1.5 A Run, 3.5 A Inrush
- Voltage 20 to 30 VAC RMS
- Operating Temperature Range (F) -40 F to +150 F
- Operating Temperature Range (C) -40 C to +65 C
- Approvals, Federal Communications Commission Compliant
- Approvals, CE Compliant
- Complies with California Title 24
- Mixed air and Outdoor Enthalpy Sensor using Sylk Bus.
- Output 2-10 VDC to actuator, Sylk Bus.

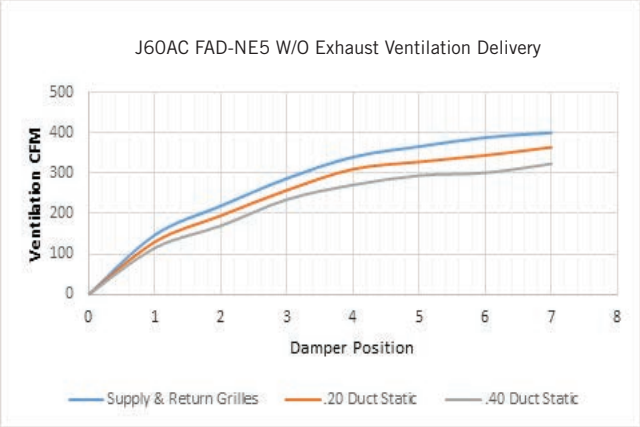

Jade Control Module

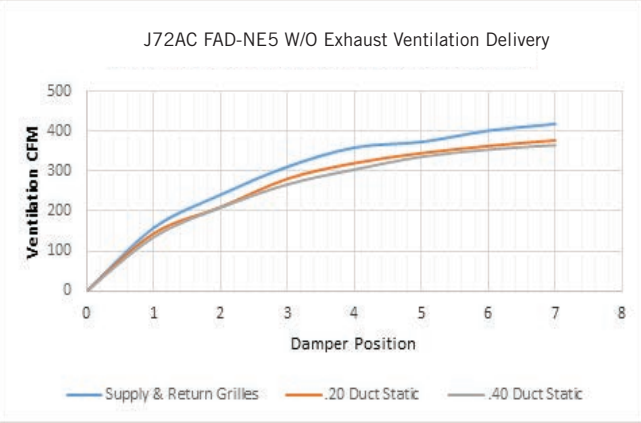
## ////// WALL MOUNT™ BAROMETRIC DAMPER (FAD) PERFORMANCE

### "X" (FAD-NE5 and FAD-NE5) Barometric Damper Without Exhaust Vent Code Options

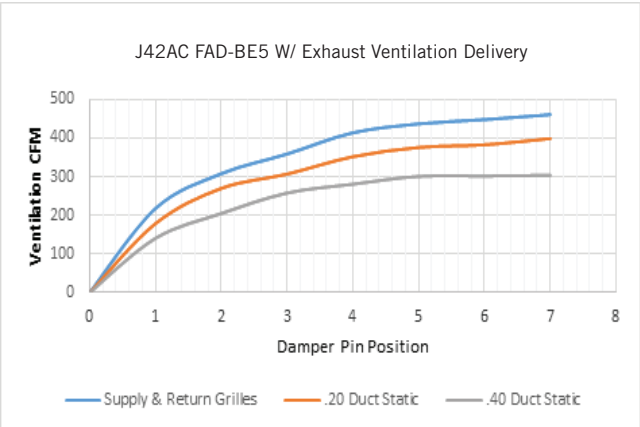


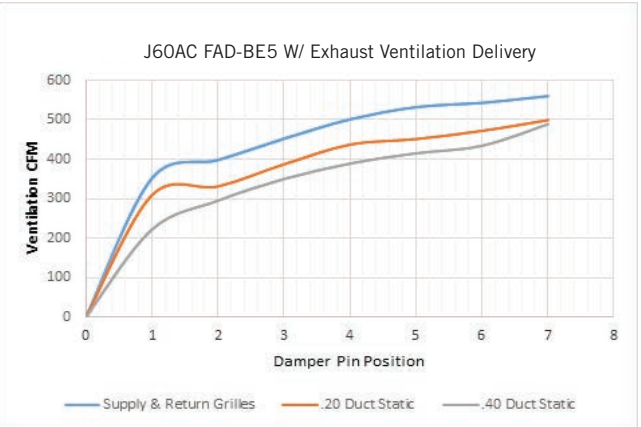



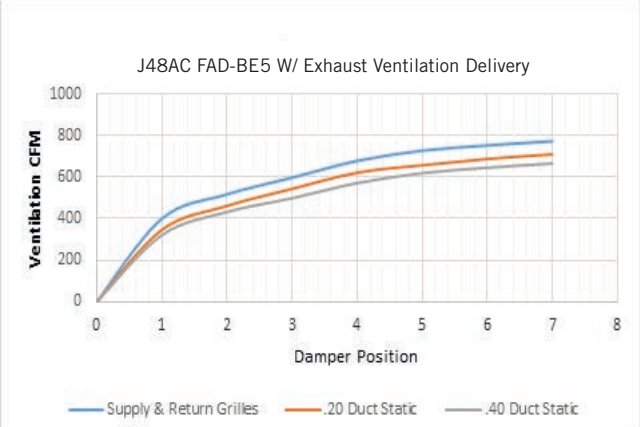



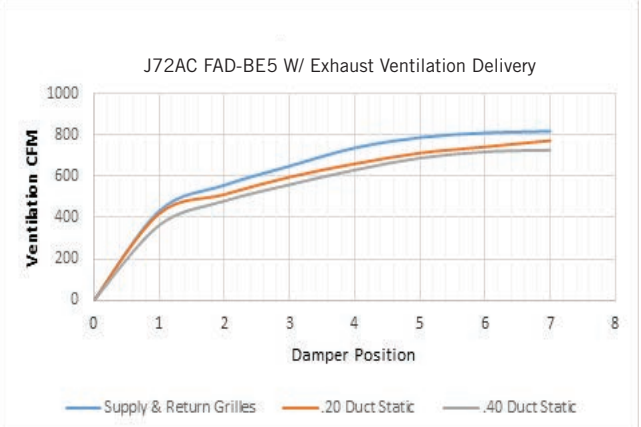




### "A" (FAD-BE5 and FAD-BE5) Barometric Damper With Exhaust Vent Code Options



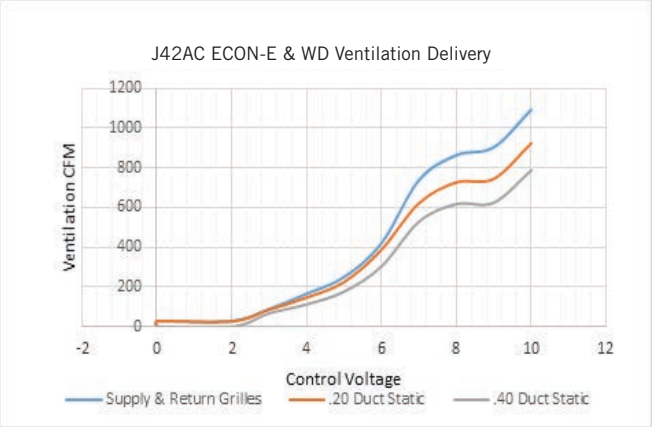



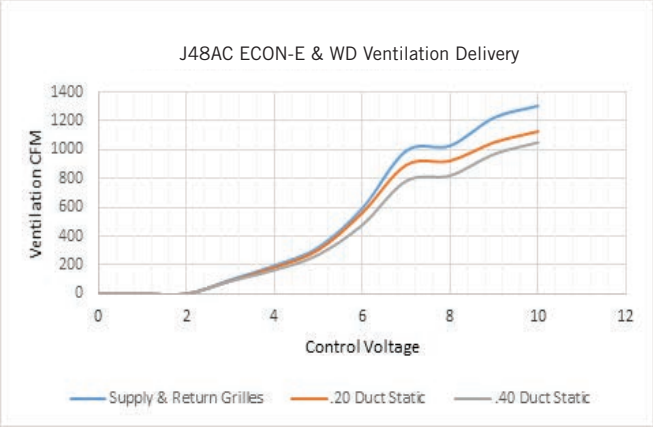



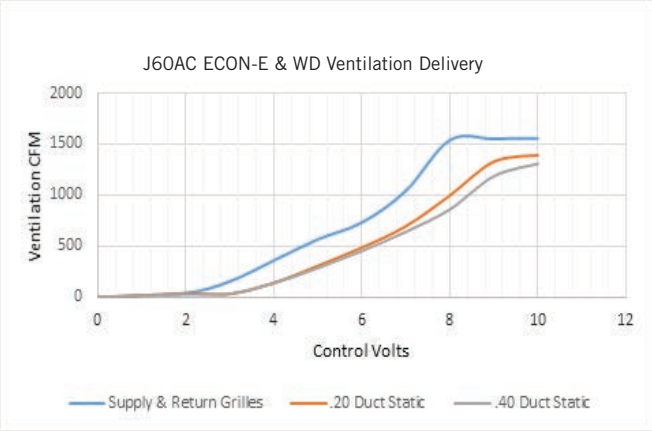



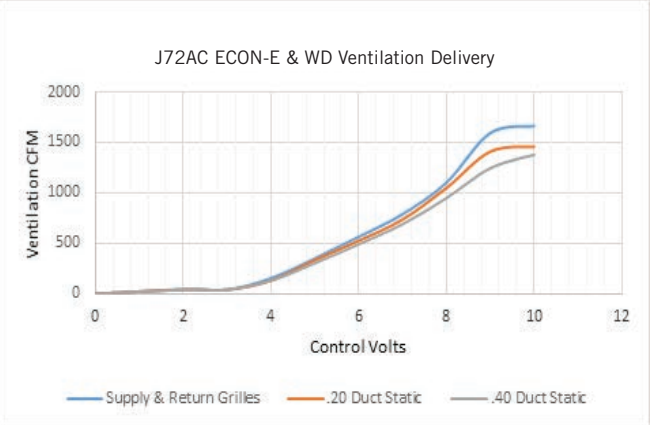
## /////// WALL MOUNT™ ECONOMIZER AIRFLOW PERFORMANCE

**"Z" (ECON-WD) Vent Code Options**



## CABINET AND COIL OPTIONS

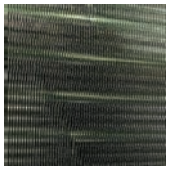
**Cabinet Finish Options**

Unit models are available in Beige. Painted cabinet construction is comprised of 20 gauge Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03.

X—Beige

**Green Fin Hydrophilic Evaporator Coils Standard On All Units**

Solair WALL MOUNT products include a green protective coating applied to the aluminum fin stock used for the evaporator coil. The evaporator coil coating is hydrophilic (attracts water) and allows for proper condensate drainage along with mild corrosion protection. Resistance to corrosive agents include ammonia, sodium hydroxide, sodium chloride, acidic solutions and solvents.



Hydrophilic Green Coil (Standard)

## /////// WALL MOUNT™ FACTORY INSTALLED CONTROLS OPTIONS

Factory installed controls are provided by Solair to enhance a WALL MOUNT product before it is shipped. All WALL MOUNT products are shipped with a auto-reset high pressure switch and an auto-reset low pressure switch to help protect refrigeration components. A compressor control module with adjustable voltage protection, delay on make and break, and high/low pressure diagnostics is also standard

| CONTROL CODE | DESCRIPTION OF FACTORY INSTALLED COMPONENTS |
|---|---|
| X | Hi Pressure Switch, Low Pressure Switch, Compressor Control Module. |

## /////// WALL MOUNT™ FIELD INSTALLED KITS

Field installed kits provide accessories that can be installed in the field. Required components, wires, enclosures, screws, and instructions that are needed are provided within the kit.

| CONTROL CODE | KIT PART NO. | UNITS USING KIT | DESCRIPTION OF FIELD INSTALLED KIT |
|---|---|---|---|
| NA | CMC-32 | J42AC, J48AC, J60AC, J72AC | PTCR Start Kit. Increases starting torque by 2 to 3x. 230V-60hz-1 phase (A voltage) only. Cannot be used in combination with SK start kit |
| NA | CMA-39 | J42AC, J48AC, J60AC, J72AC | Low Ambient Control allows compressor cooling between 0°F and 50°F outdoor temp. - fan cycling |

## 24VAC LOW VOLTAGE TERMINAL DESIGNATIONS

Solair WALL MOUNT products provide 24VAC power to controllers and thermostats. They also are able to receive 24VAC signals from a controlling device. The V controls option provides additional sensors for use with a field supplied DDC controls systems. The information below provides terminal designations and how they are used in the WALL MOUNT unit. More information on low voltage connections and operational sequences is provided in the unit installation manual.

| Terminal | Unit | Description |
|---|---|---|
| **R** | All Units | 24VAC low voltage output (HOT Terminal) |
| **RT** | All Units | RT terminal has jumper to R terminal. When jumper is removed, R and RT can be used with normally closed contacts for fire/smoke detector for unit shutdown. |
| **C** | All Units | Ground Terminal |
| **G** | All Units | Indoor fan input |
| **Y1** | All Units | 1st Stage cooling input. Economizer stage when used. Balanced Climate stage when used. Remove jumper between Y1 and Y2 for 2 stage blower operation. |
| **Y2** | All Units | 2nd Stage cooling input. Compressor cooling stage when Econ or Balanced Climate is used. |
| **B/W1** | All Units | 1st Stage electric heat |
| **W2** | All Units | 2nd State electric heat. Jumper between W1 and W2 must be removed for staged heat |
| **A** | Vent option units only | Ventilation option input. Calls for occupied vent air intake for CRV, ERV, ECON |
| **D** | Dehum. units only | Dehumidification input on units equipped with mechanical reheat dehumidification |
| **L** | All Units | 24VAC Alarm active output |
| **1** | C, J, M, V Control Opt. | Alarm relay Normally Closed Contract |
| **2** | C, J, M, V Control Opt. | Alarm relay Normally Open Contact |
| **3** | C, J, M, V Control Opt. | Alarm Relay Common Contact |
| **9** | V Controls Option Only | Discharge Air Sensor, 10K ohm |
| **10** | V Controls Option Only | Discharge Air Sensor, 10K ohm |
| **11** | G, V Control Options | Filter Switch, Normally Open Contacts |
| **12** | G, V Control Options | Filter Switch, Normally Open Contacts |
| **13** | V Controls Option Only | Blower Airflow Switch, Normally Open Contacts |
| **14** | V Controls Option Only | Blower Airflow Switch, Normally Open Contacts |
| **15** | V Controls Option Only | Compressor Current Sensor, Normally Open Contacts |
| **16** | V Controls Option Only | Compressor Current Sensor, Normally Open Contacts |

## /////// OPTIONAL CONTROLS AND KIT COMPONENT DEFINITIONS

**Hi Pressure Control (HPC)** - The high pressure control provides a means of protecting the refrigeration circuit when high system pressures occur. It is a auto-reset device that is connected to the Compressor Control Module. When activated, the compressor is disabled until pressures reach an acceptable level. If activated twice in the same cooling call, compressor operation is locked out until the cooling call is interrupted.

**Low Pressure Control (LPC)** - The low pressure control provides a means of protecting the refrigeration circuit when extremely low system pressures occur. It is a auto-reset device that is connected to the Compressor Control Module. When activated, the compressor is disabled until pressures reach an acceptable level.

**Compressor Control Module (CCM) -** The compressor control module locks out compressor operation to protect the refrigeration system based on signals from the hi and low pressure switches. It provides diagnostics to indicate when a refrigerant pressure event occurs, and also sends a signal to the alarm relay. Low incoming unit power protection suspends compressor operation when incoming voltage is too low. Suspending compressor operation avoids reverse scroll operation. The low voltage feature is adjustable or can be disables. An adjustable delay on break timer is provided. Delay on make is 2 mins. plus 10% of delay on break setting.

**Alarm Relay (ALR) -** The alarm relay provides a set of NO and NC pilot duty contacts that operate when the compressor control module locks out compressor operation because of a high or low system refrigerant pressure event.

**Low Ambient Control (LAC)** - The low ambient control pressure sensor is attached to the suction line of the system, and monitors low side system pressure. Operation of the LAC occurs as outdoor temperatures drop below the 60°F. On/Off and modulating controls are used. On/Off LAC operation cycles the condenser fan operation based on outdoor temperature. Modulating LAC operation is factory adjusted and slows the condenser fan speed RPM based on outdoor temperature.

**PTCR Start Kit** - PTCR (Precision Temperature Coefficient Resistor) start kit includes the start device and wires needed for installation. The device is located inside the unit control panel near the compressor capacitor and provides an increase in starting torque. The PTCR Start Kit is not normally required when a clean, stable power source is available for the unit. The kit can only be used in 230 Volt single phase units.

**Start Capacitor and Potential Relay Start Kit** - The kit includes a start capacitor and relay that is energized during startup of the compressor. The capacitor, relay, and needed wires are provided in a metal enclosure that is field installed in the outdoor section attached to the back. The Start Capacitor Kit is not normally required when a clean, stable power source is available for the unit. The kit can only be used in 230 Volt single phase units. Start capacitor kit cannot be used with the PTCR start kit installed.

## CABINET AND CLEARANCE DIMENSIONS - W**AC SERIES UNITS

### CLEARANCES REQUIRED FOR SERVICE ACCESS AND ADEQUATE CONDENSER INLET AIRFLOW

| MODELS | LEFT SIDE | RIGHT SIDE |
|---|---|---|
| J42AC, J48AC, J60AC, J72AC | 20" | 20" |

1.) Follow all national, state, and local codes and regulations regarding the installation of heating and cooling equipment regarding Single Packaged Vertical Units (SPVU) including electrical access clearances.
2.) Field ventilation installation with the unit installed requires 40" on the left or right side of the unit.
3.) Solair recommends a minimum of 10 ft. between the unit front condenser air outlet and solid objects including fences, walls, bushes, and other airflow obstructions.
4.) Solair recommends a minimum of 15 ft. between the condenser air outlets of 2 units that are facing each other.
5.) Solair recommends a minimum clearance of 4" under the unit cabinet for condenser defrost drain age during heat pump operation.

### MINIMUM CLEARANCES REQUIRED TO COMBUSTIBLE MATERIALS

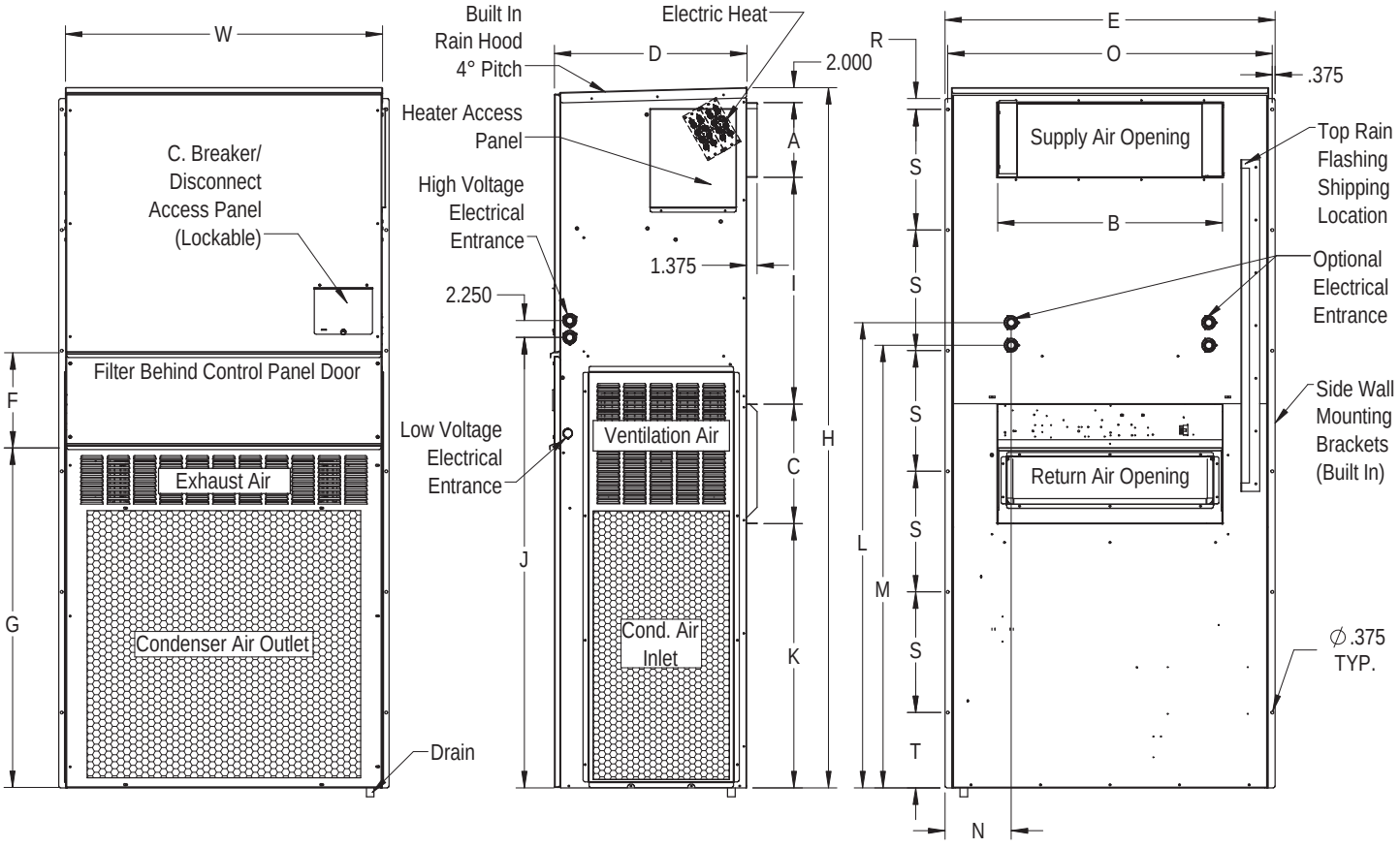
| MODELS ① | SUPPLY AIR DUCT FIRST THREE FEET | CABINET |
|---|---|---|
| J42AC, J48AC, J60AC, J72AC | 1/4" | 0" |

① Refer to the Installation Manual for more detailed information.

### DIMENSIONS OF W18-72A BASIC UNIT FOR ARCHITECTURAL & INSTALLATION REQUIREMENTS (NOMINAL)

| MODEL | WIDTH (W) | DEPTH (D) | HEIGHT (H) | SUPPLY | | RETURN | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A | B | C | B | D | E | F | G | I | J | K | L | M | N | O | R | S | T |
| **J42AC J48AC** | 42 | 25.52 | 84.750 | 9.88 | 29.88 | 15.88 | 29.88 | 25.52 | 43.88 | 12.63 | 39.06 | 30.06 | 53.75 | 26.94 | 55.59 | 52.59 | 8.82 | 43 | 1.438 | 16 | 1.88 |
| **J60AC J72AC** | 42 | 25.52 | 92.88 | 9.88 | 29.88 | 15.88 | 29.88 | 25.52 | 43.88 | 12.63 | 45 | 30.06 | 59.75 | 35.06 | 61.72 | 58.72 | 8.82 | 43 | 1.438 | 16 | 10.00 |

① Wall Mounting holes in side flanges are 0.375.




MIS-3978

## /////// WALL CURB ACCESSORIES

Optional wall curb accessories are available to help reduce vibration through the outer wall surface or to use existing wall openings when replacing equipment. Follow all static pressure airflow requirements, safety and installation guidelines in the instructions provided with the curb and WALL MOUNT products.

| CURB | UNITS USING CURB | DESCRIPTION |
|---|---|---|
| **WWC5-*** | J42AC, J48AC, J60AC, J72AC | Install to use with existing wall openings. Wall openings must provide sufficient airflow |

* Color Option

## /////// INDOOR SOUND REDUCTION ACCESSORIES

Optional sound accessories are available to help reduce sound transmission from the supply and return openings inside the indoor area. Follow all static pressure airflow requirements, safety and installation guidelines in the instructions provided with the accessories and WALL MOUNT products.

| ACCESSORY | UNITS USING ACCESS. | DESCRIPTION |
|---|---|---|
| **WAPR11-*** | J42AC, J48AC, J60AC, J72AC | Acoustical return air plenum that offsets the return air path. Air intake at floor level |

* Color Option

## /////// NON-DUCTED SUPPLY AND RETURN GRILLES

Supply and return louver grilles are of a brushed aluminum finish. 2” flange versions are recommended for standard installations to allow grille attachment when large wall openings are present. Return filter grilles are available for filter access from an indoor area. Filter grilles do not include a filter, and are not recommended for unit with ventilation due to filter location. A manual damper return grille is available for W42 and W72 models. The manual damper is adjustable, and is only recommended for installations where increased return duct static pressure is required.

| GRILLE NO. | UNITS USING GRILLE | DESCRIPTION OF LOUVER GRILLE |
|---|---|---|
| **SG-5W** | W42AC, W48AC, W60AC, W72AC | 10" x 30" with 2" Flange 4 way deflection supply grille. **Use for standard installations** |
| **RG-5W** | W42AC, W48AC, W60AC, W72AC | 16" x 30" with 2" Flange return grille. **Use for standard installations.** |
| **RFG-5W** | W42AC, W48AC, W60AC, W72AC | 16” x 30” with 1” Flange return filter grille. **Not recommended for use as primary filter for units with vent options** |
| **RGD-5** | W42AC, W48AC, W60AC, W72AC | 16" x 30" with 1" Flange return grille. Manual damper used to restrict return air |

## NON-DUCTED SUPPLY GRILLES - SPREAD AND THROW CHARACTERISTICS

One of the most important setup procedures for non-ducted supply applications is to adjust the 4 way supply grille blade positions. Placement of equipment, occupants, the thermostat, and room size can all play an important role in deciding how the conditioned supply air must be directed in an indoor area. The chart below may be used as a reference tool to help with this process.

| SUPPLY GRILLE | AIRFLOW CFM | DEFLECTION | VELOCITY | TOTAL PRESSURE | THROW |
|---|---|---|---|---|---|
| SG-5W | 1450 CFM | 0° | 968 | .073" WC | 51-73 ft. |
| | | 22.5° | 1071 | .103" WC | 39-56 ft. |
| | | 45° | 1331 | .169" WC | 28-40 ft. |
| | 2000 CFM | 0° | 1336 | .130" WC | 61-86 ft. |
| | | 22.5° | 1477 | .188" WC | 54-65 ft. |
| | | 45° | 1835 | .335" WC | 33-46 ft. |

## CONTROLLER, THERMOSTAT, HUMIDISTAT AND CO2 VENTILATION CONTROL OPTIONS

Solair provides a wide variety of controllers for equipment cooling, thermostats, for equipment and comfort cooling, humidistats for dehumidification units, and CO2 sensors for ventilation control. Lockable thermostat covers are available for applications where security or supervisory control is desired.

| CONTROLLER | OPERATION | DESCRIPTION |
|---|---|---|
| **MC-4002** | 2 Unit Lead/Lag Controller | Standard Lead/Lag Controller with remote alarming capability. |

| THERMOSTAT | OPERATION | DESCRIPTION |
|---|---|---|
| **8403-057** | 1 Heat/1 Cool | Easy to use, Nonprogrammable |
| **8403-059** | 2 Heat/2 Cool | Programmable or Nonprogrammable |
| **8403-060** | 3 Heat/3 Cool | Programmable or Nonprogrammable, ventilation output, dehumidification operation |
| **8403-089** | 1 Heat/1 Cool | Temp. Settings per Day 4, 2, 1, 0 Programs per Week 7, 5-2, 5-1-1 or Nonprogrammable |
| **8403-090** | 2 Heat/2 Cool | Temp. Settings per Day 4, 2, 1, 0 Programs per Week 7, 5-2, 5-1-1 or Nonprogrammable |
| **8403-091** | 1 Heat/1 Cool | Easy to use, Nonprogrammable. FEMA use |
| **8403-092** | 2 Heat/2 Cool | Programmable or Nonprogrammable, ventilation output, Wi-Fi |

| HUMIDISTAT | OPERATION | DESCRIPTION |
|---|---|---|
| **8403-038** | Humidity %RH | Easy to use w/SPDT switching.<br>Ratings: Pilot duty 50VA @24V, 120VA @ 120/240V |
| **8403-047** | Humidity %RH | Electronic with display, EEPROM memory, lockable keypad, humidity sensor calibration |

| CO2 CONTROL | OPERATION | DESCRIPTION |
|---|---|---|
| **8403-056** | CO2 PPM | CO2 ventilation control with digital display.<br>Use with JADE Economizer for modulating ventilation |
| **8403-067** | CO2 PPM | CO2 ventilation control with digital display.<br>On/Off or modulating ventilation operation |

| THERMOSTAT COVER* | SIZE | DESCRIPTION |
|---|---|---|
| **8405-003** | (Inside) 5-1/16" H x 6-1/16" W<br>(Outside) 6-1/2" H x 7-1/2" W x 2-15/16" D | Clear acrylic with ventilation. Fits all thermostats except 8403-060 |
| **8405-005** | (Inside) 5-7/8" H x 8-3/8" W<br>(Outside) 7-1/4" H x 9-3/4" W x 3-3/8" D | Clear acrylic with ventilation. Fits all thermostats. |
| **8405-006** | (Inside) 5-1/16" H x 6-1/16" W<br>(Outside) 6-3/8" H x 7-3/8" W x 2-7/8" D | Clear acrylic with ventilation. Fits all thermostats except 8403-060 |
| **8405-007** | (Inside) 5-7/8" H x 8-3/8" W<br>(Outside) 7-1/8" H x 9-5/8" W x 3-1/4" D | Beige painted steel cover with ventilation. Fits all thermostats. |

* Thermostat covers include ventilation, but may effect temperature control reaction time. If security control lockout is needed, the 8403-060 thermostat provides input control lockout features.

**Due to our continuous product improvement policy, all specifications subject to change without notice.**

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.