

Arcata Elementary School District

INVITATION FOR BIDS

Proposition 39

Phase 2 HVAC Upgrade Project 18-005

DEADLINE FOR SUBMITTING BIDS:

2 p.m., Friday, April 27, 2018

All bids must be submitted in person or by mail to:

**Patricia Terry, Project Manager
Redwood Coast Energy Authority (RCEA)
633 3rd Street
Eureka, CA, 95501**

Mandatory Pre-Bid Conference

A mandatory pre-bid conference will be held to acquaint all prospective bidders with the Contract Documents and the Project site. Failure to attend the conference may result in the disqualification of the bid of the non-attending bidder. All questions presented should be submitted in writing.

Date: Thursday, April 12, 2018

Time: 3:00 p.m.

Location: Arcata Elementary School
2400 Baldwin Ave
Arcata, CA 95521

Contacts: Patricia Terry, Project Manager
pterry@redwoodenergy.org
(707) 269-1700 Ext 317

David Lonn
superintendent@arcatasd.org
(707) 822-0351

OVERVIEW

Arcata Elementary School District is soliciting bids from interested contractors to implement HVAC improvements at their campus. The goal of the project is to reduce energy use at the school site. The expected work product is to install identified capital improvements that will reduce the overall energy usage and comply with California Energy Commission (CEC) guidelines for the use of Proposition 39 funding.

The District seeks a contractor to complete the following:

BASE BID:

- Replace six (6) existing exterior wall-mount vertical heat pump units at Arcata Elementary School with high efficiency exterior wall-mount heat pumps.

ADDITIVE ALTERNATE 1:

- Replace two (2) existing exterior wall-mount vertical gas/electric HVAC unit at the District Office with high efficiency exterior wall-mount heat pump.

A proposed schedule indicating the timeline for this solicitation is presented below.

SCHEDULE

The following is a schedule of significant events and deadlines:

Issue Date	Tuesday, April 3, 2018
Mandatory pre-bid conference:	3:00 p.m., Thursday, April 12, 2018
Bids due:	By 2 p.m., Friday, April 27, 2018
Public bid opening:	After 2 p.m., Friday, April 27, 2018
Anticipated bid award date:	Monday, May 14, 2018
Installation start date:	After June 15, 2018
Installation complete:	no later than August 10, 2018

PROP 39 CONSTRUCTION BID DOCUMENTS

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NOTICE INVITING BIDS

Arcata Elementary School District

Proposition 39 HVAC Replacement Project

1. Notice is hereby given that the Governing Board of the Arcata Elementary School District ("District"), County of Humboldt, State of California, will receive sealed bids for the Phase 2 HVAC Upgrade Project ("Project") up to, but not later than, **2 p.m., on Friday, April 27, 2018**, and will thereafter publicly open and read aloud the bids. **All bids shall be received at the office of Redwood Coast Energy Authority ("RCEA"), 633 Third Street, Eureka, California.**
2. Each bid shall be completed on the Bid Proposal Form included in the Contract Documents, and must conform and be fully responsive to this invitation, the plans, specifications and all other Contract Documents. Copies of the Contract Documents are available for examination at RCEA, 633 3rd Street, Eureka, California, and at the RCEA website <http://redwoodenergy.org/services/bid-opportunities>, and may be obtained by licensed contractors upon request.
3. Each bid shall be accompanied by cash, a cashier's or certified check, or a bidder's bond executed by a surety licensed to do business in the State of California as a surety, made payable to the District, in an amount not less than ten percent (10%) of the maximum amount of the bid. The check or bid bond shall be given as a guarantee that the bidder to whom the contract is awarded will execute the Contract Documents and will provide the required payment and performance bonds and insurance certificates within ten (10) days after the notification of the award of the Contract.
4. The successful bidder shall comply with the provisions of the Labor Code pertaining to payment of the generally prevailing rate of wages and apprenticeships or other training programs. The Department of Industrial Relations has made available the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft, classification or type of worker needed to execute the Contract, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available to any interested party upon request and are online at <http://www.dir.ca.gov/DLSR>. The Contractor and all Subcontractors shall pay not less than the specified rates to all workers employed by them in the execution of the Contract. It is the Contractor's responsibility to determine any rate change.
5. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work shall be at least time and one half.
6. The substitution of appropriate securities in lieu of retention amounts from progress payments in accordance with Public Contract Code §22300 is permitted.
7. Pursuant to Public Contract Code §4104, each bid shall include the name and location of the place of business of each subcontractor who shall perform work or service or fabricate or

install work for the contractor in excess of one-half of one percent (1/2 of 1%) of the bid price. The bid shall describe the type of the work to be performed by each listed subcontractor.

8. No bid may be withdrawn for a period of sixty (60) days after the date set for the opening for bids except as provided by Public Contract Code §§5100 *et seq.* The District reserves the right to reject any and all bids and to waive any informalities or irregularities in the bidding.
9. Minority, women, and disabled veteran contractors are encouraged to submit bids. This bid is ☐ / is not ☒ subject to Disabled Veteran Business Enterprise requirements.
10. The project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations. In accordance with Labor Code sections 1725.5 and 1770 *et seq.*, all bidders, contractors and subcontractors working at the site shall be duly registered with the Department of Industrial Relations at time of bid opening and at all relevant times. Proof of registration shall be provided as to all such contractors prior to the commencement of any work.

This project is ☒ / is not ☐ subject to reporting directly to the California Department of Industrial Relations pursuant to Labor Code sections 1725.5 and 1770 *et seq.* Contractors are still required to maintain certified payroll records on a continuous basis, submit them to the District and provide them to the Labor Commissioner's Office upon request.
11. Each bidder shall possess at the time the bid is awarded the following classification(s) of California State Contractor's license: C-20.
12. ☒ Bidders' Conference. A mandatory bidders' conference will be held at Arcata Elementary School on April 12, 2018 at 3:00 p.m. for the purpose of acquainting all prospective bidders with the Contract Documents and the Project site. Failure to attend the conference may result in the disqualification of the bid of the non-attending bidder.

Arcata Elementary School District

By: David Lonn, Superintendent

DATED: April 3, 2018

Publication Dates: 1) April 3, 2018 2) April 10, 2018

SCOPE OF WORK

Arcata Elementary School District (“District”) is soliciting bids from licensed and qualified contractors for the following scope of work at Arcata Elementary School in Arcata, California.

The selected contractor will:

Provide all equipment, labor, and material for a complete project. Include all site work, disposal, design and applicable fees and taxes.

- 1. Base Bid:** Replace six (6) existing exterior vertical wall-mount heat pump units at Arcata Elementary School with high efficiency exterior wall-mount heat pumps.
 - a. Location
 - i. HVAC units to be replaced are located on the Preschool/After School Building, Library, Music Room.
 - ii. See Appendix 3 for a table of measure locations
 - iii. See Appendix 4 for a Site Map.
 - b. Demolition
 - i. Remove existing wall-mount HVAC unit. Existing duct work to remain in place.
 - ii. Ensure proper recycling and/or disposal of removed units.
 - c. Mechanical
 - i. Provide and install six (6) new heat pumps with EER 11 and IPLV 14 or greater.
 - ii. See Appendix 3 for proposed equivalent unit.
 - iii. Existing ductwork (if present) shall be used with minimum modifications.
 - iv. Provide new transitions and adapters, as required.
 - d. Electrical
 - i. Disconnect and reconnect power in the same location.
 - e. Structural
 - i. Proposed unit weight should not exceed existing unit weight.
 - ii. Provide support as needed.
- 2. Additive Alternate 1:** Replace two (2) existing exterior wall-mount gas/electric units at the Arcata Elementary School District Office with high efficiency exterior wall-mount heat pumps.
 - a. Location
 - ii. Furnaces to be replaced are located on the District Office on opposite sides of the building.
 - iii. See Appendix 3 for a table of measure locations.
 - iv. See Appendix 4 for a Site Map.
 - b. Demolition
 - v. Remove existing wall-mount gas/electric HVAC unit. Existing duct work to remain in place.
 - iii. Ensure proper recycling and/or disposal of removed units.
 - iv. Cap off gas lines.

- c. Mechanical
 - v. Provide and install two (2) new heat pumps with EER 11 and IPLV 14 or greater.
 - vi. See Appendix 3 for equivalent proposed units.
 - vii. Existing ductwork shall be used with minimum modifications.
 - viii. Provide new transitions and adapters, as required.
- d. Electrical
 - ii. Disconnect and reconnect power in the same location.
 - iii. If an electrical upgrade is required for the new unit, the District electrician will address this prior to installation.
- e. Structural
 - iii. Proposed furnace weight should not exceed existing furnace weight.
 - iv. Provide support as needed.

3. Coordinate with the District and Redwood Coast Energy Authority to ensure adherence to Proposition 39 program guidelines.

- a. All project services will comply with Proposition 39: California Clean Energy Jobs Act – 2015 Program Implementation Guidelines.
- b. Contractor commits to prompt communication of change orders prior to execution to ensure Proposition 39 compliance.
- c. Report costs and other information as needed to meet Prop 39 reporting requirements.

4. In addition to completing the scope defined above and in APPENDIX A:

- a. Title 24:
 - i. System must comply with 2016 Building Energy Efficiency Standards (Title 24, Section 6)
- b. Verify all units are operational seven (7) days post installation. If not operational, correct and verify.
- c. Provide briefing/training on the installed equipment to school staff/faculty.

INSTRUCTIONS TO BIDDERS

Each bid submitted to the Arcata Elementary School District (“District”) for the Phase 2 HVAC Upgrade Project (“Project”) shall be in accordance with the following instructions and requirements, which are part of the Contract Documents for this Project.

1. Deadline for Receipt of Bids. Each bid shall be sealed and submitted to the Redwood Coast Energy Authority, 633 3rd Street, Eureka, no later than 2 p.m. on Friday, April 27, 2018. The District suggests that bids be hand delivered in order to ensure their timely receipt. Any bids received after the time stated, regardless of the reason, shall be returned, unopened, to the bidder.

SUBMITTAL OF RESPONSES

Proposals shall be received at the RCEA office at or before 2 p.m. on Friday, April 27, 2018

ALL MAILED PROPOSALS SHALL BE ADDRESSED AS FOLLOWS:

BID NO. 18-005
Attn: Patricia Terry, Project Manager
Redwood Coast Energy Authority
633 3rd Street
Eureka, CA 95501

The envelope shall also indicate the name and address of the submitting firm, with “DO NOT OPEN UNTIL BID OPENING” on the front of the envelope.

HAND DELIVERED COURIER OR PACKAGED DELIVERED SERVICE SHALL BE DELIVERED DIRECTLY TO:

Redwood Coast Energy Authority
633 3rd Street
Eureka, CA 95501

2. Mandatory Pre-Bid Conference. A mandatory pre-bid site visit and question forum will be held on Thursday, April 12, 2018 at 3:00 p.m. local time for the purpose of acquainting all prospective bidders with the Contract Documents and the Project site. This will be the bidder’s time to look at the installation site and ask any questions about the project.

The pre-bid site visit will begin at the following location:

Arcata Elementary School
2400 Baldwin Ave
Arcata, CA 95521

3. Requests for Information. A bidder's failure to request clarification or interpretation of an apparent error, inconsistency or ambiguity in the Contract Documents waives that bidder's right to thereafter claim entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Contractor, subject to the limitations of Public Contract Code §1104. Any questions relative to the bid shall be in writing and directed to the District Superintendent or designee at the address specified for receipt of bid proposals. These requests shall be submitted to the District at least five working days prior to the date the bid is due.
4. Bid Proposal Forms. All bid proposals shall be made on the form provided by the District. All items on the form shall be filled out in ink. Numbers should be stated in figures, and the signatures of all individuals must be in long hand. The completed form should be without interlineations, alterations, or erasures.
5. Execution of Forms. Each bid shall give the full business address of the bidder and must be signed by the bidder or bidder's authorized representative with his or her usual signature. Bids by partnerships must furnish the full names of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters. Bids by corporations must be signed with the legal name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation in this matter. The name of each person signing shall also be typed or printed below the signature. When requested by the District, satisfactory evidence of the authority of the officer signing on behalf of the corporation or partnership shall be furnished. A bidder's failure to properly sign required forms may result in rejection of the bid. All bids must include the bidder's contractor license number(s) and expiration date(s).
6. Bid Security. Bid proposals shall be accompanied by a certified or cashier's check or bid bond for an amount not less than ten percent (10%) of the bid amount, payable to the District. A bid bond shall be secured from an admitted surety company, licensed in the State of California, and satisfactory to the District. The bid security shall be given as a guarantee that the bidder will enter into the Contract if awarded the work, and in the case of refusal or failure to enter into the Contract within ten (10) calendar days after notification of the award of the Contract or failure to provide the payment and performance bonds and proof of insurance as required by the Contract Documents, the District shall have the right to award the Contract to another bidder and declare the bid security forfeited. The District reserves the right to pursue all other remedies in law or equity relating to such a breach including, but not limited to, seeking recovery of damages for breach of contract. Failure to provide bid security, or bid security in the proper amount, shall result in rejection of the bid.
7. Withdrawal of Bid Proposals. Bid proposals may be withdrawn by the bidders prior to the time fixed for the opening of bids, but may not be withdrawn for a period of sixty (60) days after the opening of bids, except as permitted pursuant to Public Contract Code §5103.
8. Addenda or Bulletins. The District reserves the right to issue addenda or bulletins prior to the opening of the bids subject to the limitations of Public Contract Code §4104.5. Any addenda or bulletins issued prior to bid time shall be considered a part of the Contract Documents.

9. Bonds. The successful bidder shall be required to submit payment and performance bonds as specified in and using the bond forms included with the Contract Documents. All required bonds shall be based on the maximum total contract price as awarded, including additive alternates, if applicable.
10. Rejection of Bids and Award of Contract. The District reserves the right to waive any irregularities in the bid and reserves the right to reject any and all bids. The Contract will be awarded, if at all, within sixty (60) calendar days after the opening of bids to the lowest responsible and responsive bidder, subject to Governing Board approval. The time for awarding the Contract may be extended by the District with the consent of the lowest responsible, responsive bidder.
11. Execution of Contract. The successful bidder shall, within ten (10) calendar days of the Notice of Award of the Contract, sign and deliver to the District the executed contract along with the bonds and certificates of insurance required by the Contract Documents. In the event the successful bidder fails or refuses to execute the Contract or fails to provide the bonds and certificates as required, the District may declare the bidder's bid deposit or bond forfeited as liquidated damages, and may award the work to the next lowest responsible, responsive bidder, or may reject all bids and, in its sole discretion, call for new bids. In all cases, the District reserves the right, without any liability, to cancel the award of Contract at any time prior to the full execution of the Contract.
12. Drawings and Specifications. All drawings, specifications and other documents used or prepared during the project shall be the exclusive property of the District.
13. Evidence of Responsibility. Upon the request of the District, a bidder shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by the District, the bidder's availability to perform the Contract and any other required evidence of the bidder's qualifications and responsibility to perform the Contract. The District may consider such evidence before making its decision to award the Contract. Failure to submit requested evidence may result in rejection of the bid.
14. Taxes. Applicable taxes shall be included in the bid prices.
15. Bid Exceptions. Bid exceptions are not allowed. If the Bidder has a comment regarding the bid documents or the scope of work, the Bidder shall submit those comments to the District for evaluation at least five working days prior to the opening of the bids. No oral or telephonic modification of any bid submitted will be considered and a sealed written modification may be considered only if received prior to the opening of bids. E-mailed or faxed bids or modifications will not be accepted.
16. Discounts. Any discounts which the bidder desires to provide the District must be stated clearly on the bid form itself so that the District can calculate the net cost of the bid proposal. Offers of discounts or additional services not delineated on the bid form will not be considered by the District in the determination of the lowest responsible responsive bidder.

17. Quantities. The quantities shown on the plans and specifications are approximate. The District reserves the right to increase or decrease quantities as desired.
18. Prices. Bidders must quote prices F.O.B. unless otherwise noted. Prices should be stated in the units specified and bidders should quote each item separately.
19. Samples. On request, samples of the products being bid shall be furnished to the District.
20. Special Brand Names/Substitutions. In describing any item, the use of a manufacturer or special brand does not restrict bidding to that manufacturer or special brand, but is intended only to indicate quality and type of item desired, except as provided in §3400 of the Public Contract Code. Substitute products will be considered either prior to or after the award of the Contract in accordance with §3400 and as set forth in the General Conditions, Supplemental Conditions or the Specifications. All data substantiating the proposed substitute as an "equal" item shall be submitted with the written request for substitution. The District reserves the right to make all final decisions on product and vendor selection.
21. Container Costs and Delivery. All costs for containers shall be borne by the bidder. All products shall conform to the provisions set forth in the federal, county, state and city laws for their production, handling, processing and labeling. Packages shall be so constructed to ensure safe transportation to the point of delivery.
22. Bid Negotiations. A bid response to any specific item of the bid using terms such as "negotiable," "will negotiate," or similar phrases, will be considered non-responsive.
23. Prevailing Law. In the event of any conflict or ambiguity between these instructions and state or federal law or regulations, the latter shall prevail. All equipment to be supplied or services to be performed under the bid proposal shall conform to all applicable requirements of local, state and federal law, including, but not limited to, Labor Code §§1771, 1778 and 1779.
24. Allowances. An "allowance" means an amount included in the bid proposal for work that may or may not be included in the Project, depending on conditions that will become known only after the Project is underway.
25. Subcontractors. Pursuant to the Subletting and Subcontracting Fair Practices Act, Public Contract Code §§4100-4114, every bidder shall, on the enclosed Subcontractor List Form with their DIR number, set forth:
 - a. The name and location of the place of business of each Subcontractor who will perform work or labor or render service to the bidder in or about the work or fabricate and install work in an amount in excess of one-half (1/2) of the one percent (1%) of the bidder's total bid.
 - b. If the bidder fails to specify a Subcontractor for any portion of the work to be performed under the Contract in excess of one-half (1/2) of one percent (1%) of the bidder's total bid,

bidder agrees that bidder is fully qualified to and shall perform that portion of the work. The successful bidder shall not, without the written consent of the District or compliance with Public Contract Code §§4100 - 4114, either:

- 1) Substitute any person as Subcontractor in place of the Subcontractor designated in the original bid;
 - 2) Permit any subcontract to be voluntarily assigned or transferred or allow the work to be performed by anyone other than the original Subcontractor listed in the bid; or
 - 3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid as to which the bidder's original bid did not designate a Subcontractor.
26. Examination of Contract Documents and Work Site. Before submitting a bid proposal, all bidders shall carefully examine the Contract Documents, including the plans and specifications, shall visit the site of the proposed work, and shall fully inform themselves of all conditions in and about the work site, as well as applicable federal, state and local laws and regulations that may affect the work. No bidder shall visit the site without prior authorization of the District. Bidders shall contact the District Superintendent or designee for coordination of site visits.
27. Form and Approval of Contract. The Contract Documents must be approved by the Governing Board of the District and its legal counsel. The bidder selected by the District shall execute the contract provided by the District.
28. Licenses and Permits. Each bidder, and its Subcontractors, if any, shall at all times possess all appropriate and required licenses or other permits to perform the work as identified in the Contract Documents. Upon request, each bidder shall furnish the District with evidence demonstrating possession of the required licenses or permits.
29. Denial of Right to Bid. Contractors or Subcontractors who have violated state law governing public works shall be denied the right to bid on this public works contract pursuant to Labor Code §1777.7.
30. Bidders Interested in More Than One Bid. No person, firm, or corporation shall make, or file, or be interested in more than one bid. However, a person, firm, or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or from submitting a prime proposal.
31. Contractor's State License Board. Contractors and Subcontractors are required by law to be licensed and regulated by the California Contractors' License Board.
32. Fingerprinting. By law it is the District's responsibility to determine whether a contractor must provide fingerprint certification. Pursuant to Education Code §45125.2, the District considers the totality of the circumstances in order to determine if fingerprinting of employees of a contractor

working on a school site is required. Factors to be considered include the length of time the contractor's employees are on school grounds, whether students are in proximity to the location where the contractor's employees are working, and whether the contractor's employees are working alone or with others.

33. Disabled Veterans Participation Goals. This Contract is ☐ / is not ☒ subject to Education Code §17076.11, Pursuant to that section, this District has established a participation goal for disabled veteran business enterprises ("DVBE") of at least 3 percent per year of the overall dollar amount of funds allocated to the District by the State Allocation Board pursuant to the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the District. Prior to, and as a condition precedent for final payment under the Contract for the project, the Contractor shall provide appropriate documentation to the District identifying the amount paid to DBVE in conjunction with the contract, so that the District can assess its success at meeting this goal. The Office of Small Business and DVBE Certification (OSDC), (916) 375-4940, www.pd.dgs.ca.gov/smbus/default.htm, is an information resource to assist bidders in locating Disabled Veteran Business Enterprises. (Please note: while the OSDC may be used as a resource, the DVBE Program administered by OSDC applies to state contracts, not local agency (school district) contracts.)
34. Labor Compliance. This project is ☒ / is not ☐ subject to compliance monitoring and enforcement by the California Department of Industrial Relations pursuant to Labor Code sections 1725.5 and 1770 *et seq.* In accordance with Labor Code sections 1725.5 and 1770 *et seq.*, all bidders, contractors and subcontractors working at the site shall be duly registered with the Department of Industrial Relations at time of bid opening and at all relevant times. Proof of registration shall be provided as to all such contractors prior to the commencement of any work. If this project is under \$25,000.00, in accordance with SB 96 Labor Code 1771.1, the bidder awarded this project will not be required to upload their certified payrolls to the DIR. They will be required to maintain records and release them to the District and Project Manager for the project record.
36. Additive and Deductive Items: Method of Determining Lowest Bid. Pursuant to Public Contract Code §20103.8, if the bid solicitation includes additive and/or deductive items, the checked [X] method shall be used to determine the lowest bid: *[check one]*
- ☒ (a) The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.
- ☐ (b) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Proposal Form as being used for the purpose of determining the lowest bid price.
- ☐ (c) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by the District before the first bid is opened.

☐ (d) The lowest bid shall be determined in a manner that prevents any information that would identify any of the bidders or the proposed Subcontractors or suppliers from being revealed to the public entity before the ranking of all bidders from lowest to highest has been determined.

If no method is checked, sub-paragraph (a) shall be used to determine the lowest bid.

Notwithstanding the method used by the District to determine the lowest responsible bidder, the District retains the right to add to or deduct from the Contract any of the items included in the bid solicitation.

37. **Bid Protest.** Any bid protest must be in writing and received by the District Office before 5:00 p.m. no later than three (3) working days following bid opening and shall comply with the following requirements:

- a. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation.
- b. The party filing the protest must have actually submitted a bid for the Project. A Subcontractor of a bidder submitting a bid for the Project may not submit a bid protest. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
- c. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based.
- d. The protest must include the name, address and telephone number of the person representing the protesting bidder.
- e. The bidder filing the protest must concurrently transmit a copy of the bid protest and all supporting documentation to all other bidders with a direct financial interest which may be affected by the outcome of the protest, including all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- f. The bidder whose bid has been protested may submit a written response to the bid protest. Such response shall be submitted to the District before 5 p.m. no later than two (2) working days after the deadline for submission of the bid protest or receipt of the bid protest, whichever is sooner, and shall include all supporting documentation. Such response shall also be transmitted concurrently to the protesting bidder and to all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- g. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code claim or legal proceedings.

- h. If the District determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards by the District.
- i. A “working day” for purposes of this section means a weekday during which the District’s office is open and conducting business, regardless of whether or not school is in session.

-- END --

APPENDICES

APPENDIX 1 - PROPOSITION 39 REQUIREMENTS

Contractor acknowledges that all Work must qualify as an eligible project under Proposition 39 and shall comply with all Proposition 39 Guidelines; and that the Scope of Work may be amended to reflect changes in funding allocation and District's energy expenditure plan, upon mutual agreement of the Parties and a written amendment to this Contract related to any changes in scope, payment and duration. Prior to commencement of any Work, District shall review and approve the Project.

Contractor agrees to maintain and make available Project records for inspection by the District and other agencies, as requested by the District. Contractor shall provide or assist the District in providing all required annual and final reports for each Proposition 39 funded project and shall provide data for reports to Citizens Oversight Board.

Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work, including but not limited to data and reports to the California Energy Commission required under Proposition 39.

APPENDIX 2 – PROJECTED ENERGY SAVINGS

Projected energy savings and cost estimates, per Public Resource Code Section 26206. See the Scope of Work in the Invitation for Bids for further details about each energy efficiency measure.

This table will be filled in before the contract is executed.

Measure Description	Total Installed Cost	Energy Savings (kWh)
Replace six (6) existing wall mount vertical heat pump units with energy efficient wall mount heat pumps.	\$	13,362.30
Replace two (2) existing wall mount vertical gas/electric units with energy efficient wall mount heat pumps.	\$	2,540.00

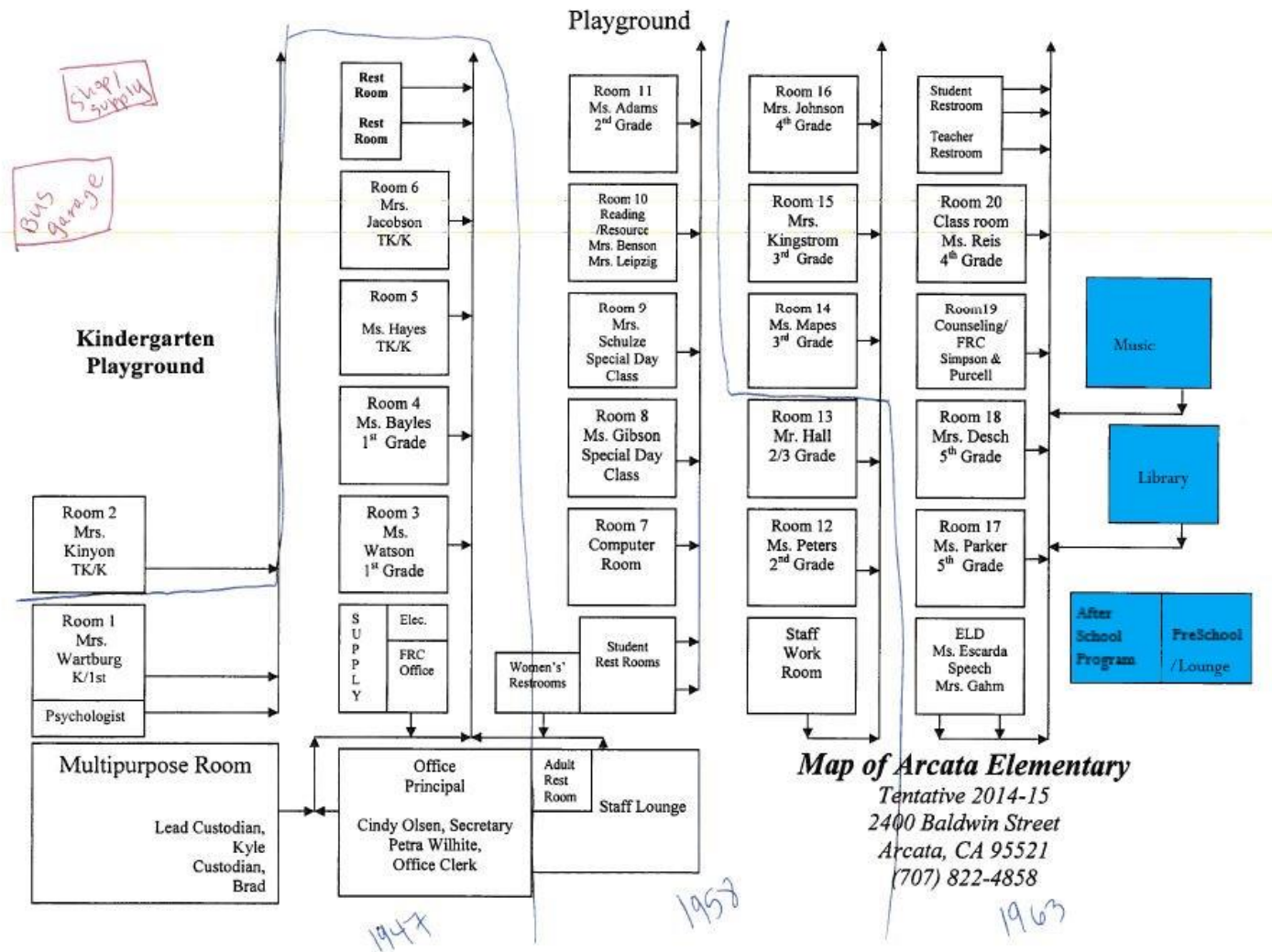
APPENDIX 3: Itemized Scope of Work**BASE BID:**

Location	Existing					Proposed		
	Type	Existing Make and Model	Tons	SEER	Qty	Equivalent Unit	Tons	Efficiency
Lounge, bathrooms and offices	Heat Pump	Bard WH491-A05VP4	4	10	1	Bard C49H1-A05VP4	4.0	EER 11 and IPLV 14 or greater
Preschool and After school care	Heat Pump	Bard WH421-A05VP4	3.5	10	2	Bard C42H1- A05VP4	3.5	EER 11 and IPLV 14 or greater
Kitchen, office and storage	Heat Pump	Bard WH361-A05VP4	3	10	1	Bard C36H1- A05VP4	3.0	EER 11 and IPLV 14 or greater
Library & Music Portables	Heat Pump	Unknown	3.5?	10?	2	Bard C42H1- A05VP4	3.5	EER 11 and IPLV 14 or greater

ADDITIVE ALTERNATE 1:

Location	Existing					Proposed		
	Type	Existing Make and Model	Tons	SEER	Qty	Equivalent Unit	Tons	Efficiency
District Office	Heat Pump	Bard WG421-ANBV	3.5	10	2	Bard C42H1-A05VP4	3.5	EER 11 and IPLV 14 or greater

APPENDIX 4: Site Maps



APPENDIX 5: EXISTING EQUIPMENT SPECIFICATIONS

1. Bard WH491
2. Bard WH421
3. Bard WH361
4. Bard WG421

APPENDIX 6: PROPOSED EQUIPMENT SPECIFICATIONS

1. Bard CXXH



THE WALL-MOUNT™ HEAT PUMPS - WH (60HZ)

WH-Series Refrigerant 22 60Hz
Heating Capacities: 18,000 to 54,000 BTUH
Cooling Capacities: 18,400 to 54,000 BTUH

The Bard Wall-Mount Heat Pump is a self-contained energy efficient heating and cooling 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 or correctional facilities. Factory or field installed accessories are available to meet specific job requirements.

Engineered Features

Aluminum Finned Copper Coils:

Grooved tubing and enhanced louvered fin for maximum heat transfer and energy efficiency.

Twin Blowers:

Move air quietly. Most models feature multispeed blower motors providing airflow adjustment for high and low static operation. Motor overload protection is standard on all models.

Heat Pump Compressor:

Reciprocating compressor designed to withstand higher compressor ratios and longer operation than normal air conditioning compressors. Equipped with crankcase heater and discharge muffler. Standard on all 2, 2½, 3 and 3½ ton models.

Scroll compressor designed for increased efficiency, quieter operation and improved reliability for longer life. Eliminates need for crankcase heater and suction accumulator. Standard on all 1½, 4 and 5 ton models.

Galvanized 20 Gauge Zinc Coated Steel Cabinet:

Cleaned, rinsed, sealed and dried before the polyurethane primer is applied. The cabinet is handsomely finished with a baked on, beige textured enamel, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03.

Electrical Components:

Are easily accessible for routine inspection and maintenance through a right side, service panel opening. Features a lockable, hinged access cover to the circuit breaker or pull disconnect switch.

Electric Heat Strips:

Features an automatic limit and thermal cut-off safety control. Heater packages are factory or field installed for all 1½ through 5 ton models. Features easy slide-in field assembly with various BTUH outputs.

Condenser Fan and Motor Shroud Assembly:

Slide out for easy access.

One Inch, Disposable Air Filters:

Are standard equipment. Optional one inch washable filters available and filter racks permit the addition of 2" pleated filter. Factory or field installed.

Solid State Electronic Heat Pump Control:

Provides efficient 30, 60 or 90 minute defrost cycle. A thermistor sensor, speed up terminal for service and 10 minute defrost override are standard on the electronic heat pump control.

High Pressure Switch:

Is built-in with a lockout circuit that resets from the room thermostat.

Five Minute Compressor Time Delay:

Short cycle protection is standard. Built into the heat pump control.

Suction Accumulator:

Protects the reciprocating compressor from refrigerant flood back and prevents damage to the compressor bearing surfaces. Not required on scroll compressor applications.

Emergency Heat Circuit:

Permits continuous operation of the system.

Barometric Fresh Air Damper:

Standard on all units. Allows up to 25% outside fresh air.

Built-in Circuit Breakers:

Standard on all electric heat versions of single and three phase (230/208 volt) equipment. Toggle disconnects are standard on all electric heat versions of three phase (460 volt) equipment.

Slope Top:

Standard feature for water run-off.

Full Length Mounting Brackets:

Built into cabinet for improved appearance and easy installation. NOTE: Bottom mounting bracket included to assist in installation.

Top Rain Flashing:

Standard feature on all models.



Ventilation System Packages

All packages are designed to meet your specific ventilation requirements utilizing one of six ventilation options for the product. The ventilation package is mounted within the unit eliminating the need for an exterior mounted hood or damper assembly on the unit. All assemblies can be factory installed, installed in the field at time of installation or as a retrofit system after installation.

- Standard - Barometric Fresh Air Damper
- Optional - Motorized Fresh Air Damper
- Optional - Blank off Plate
- Optional - Commercial Room Ventilator w/Exhaust
 - CRV - Spring Return
 - CRVP - Power Return
- Optional - Economizer with Exhaust
- Optional - Energy Recovery Ventilator

- Certified to ANSI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units).
- Commercial Product - Not intended for Residential application.



Capacity and Efficiency Ratings

MODELS	WH185	WH242	WH301	WH303	WH361	WH363	WH421	WH423	WH483	WH604
Cooling BTUH ①	18,400	23,600	30,000	27,600	35,600	34,000	41,500	42,000	47,000	54,000
EER ②	9.10	9.20	8.70	9.00	9.00	9.00	8.70	9.00	9.00	9.00
High Temp Heating (47F) BTUH ①	18,000	23,200	28,000	26,000	34,400	33,000	41,000	41,000	46,000	54,000
COP ②	3.00	3.00	3.00	3.00	2.90	3.00	3.00	3.00	3.00	3.00
Low Temp Heating (17F) BTUH ①	10,000	12,000	15,600	14,000	19,000	19,000	23,000	21,000	28,000	33,000
COP ②	1.80	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.10	2.00
ANSI / ASHRAE / IESNA 90.1 Compliance	⑤	⑤	④	⑤	④	⑤	④	⑤	⑤	⑤

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

② EER = Energy Efficiency Ratio, COP = Coefficient of Performance and are certified in accordance with ANSI/ARI Standard 390-2003.

All ratings based on fresh air intake being 100% closed (no outside air introduction).

④ Complies with efficiency requirements of ANSI / ASHRAE / IESNA 90.1-2004.

⑤ Complies with efficiency requirements of ANSI / ASHRAE / IESNA 90.1-2007.

Specifications 1-1/2 through 2-1/2 Ton

MODELS	WH185-A	WH242-A	WH242-B	WH242-C	WH301-A	WH301-B	WH301-C	WH303-A	WH303-B	WH303-C
Electrical Rating--60HZ	230/208 - 1	230/208 - 1	230/208 - 3	460 - 3	230/208 - 1	230/208 - 3	460 - 3	230/208 - 1	230/208 - 3	460 - 3
Operating Voltage Range	197-253	197-253	197-253	414-506	197-253	197-253	414-506	197-253	197-253	414-506
Compressor--Circuit A										
Voltage	230/208	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	7.0/8.8	10.0/11.0	6.9/7.6	3.9	12.9/14.0	8.1/8.7	4.8	10.9/12.2	7.2/8.1	4.5
Branch Circuit Selection Current	10.0	11.0	8.0	4.0	14.0	10.0	5.0	12.5	10.0	5.0
Lock Rotor Amps	45/45	56/56	51/51	25	75/75	68/68	34	78/78	63/63	30
Compressor Type	Scroll	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
Fan Motor & Condenser										
Fan Motor--HP-RPM	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075
Fan Motor--Amps	1.2	1.2	1.2	1.4	1.5	1.5	1.4	1.5	1.5	1.4
Fan--DIA/CFM	18" - 1600	18" - 1600	18" - 1600	18" - 1600	20" - 2000	20" - 2000	20" - 2000	20" - 2000	20" - 2000	20" - 2000
Motor & Evaporator										
Blower Motor--HP/RPM/SPD	1/6-1100-2	1/6-1100-1	1/6-1100-1	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2
Blower Motor--Amps	1.0	1.0	1.0	1.1	2.2	2.2	1.1	2.2	2.2	1.1
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	650 - .2	800 - .2	800 - .2	800 - .2	1000 - .4	1000 - .4	1000 - .4	1000 - .4	1000 - .4	1000 - .4
Filter Sizes (inches) STD.	16 x 25 x 1	16 x 25 x 1	16 x 25 x 1	16 x 25 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1
Shipping Weight --LBS.	300	300	300	300	365	365	365	365	365	365

Specifications 3 through 3-1/2 Ton

MODELS	WH361-A	WH361-B	WH361-C	WH363-A	WH363-B	WH363-C	WH421-A	WH421-B	WH421-C
Electrical Rating--60HZ	230/208 - 1	230/208 - 3	460 - 3	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	197-253	197-253	414-506
Compressor--Circuit A									
Voltage	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	16.3/17.0	9.8/10.5	5.2	15.6/16.7	9.8/10.5	5.2	18.3/20.4	12.2/13.1	6.1
Branch Circuit Selection Current	17.0	11.0	6.0	17.0	11.0	6.0	21.0	14.0	7.0
Lock Rotor Amps	96/96	75/75	40	96/96	75/75	40	102/102	91/91	42/42
Compressor Type	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
Fan Motor & Condenser									
Fan Motor--HP/RPM/SPD	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2
Fan Motor--Amps	1.5	1.5	1.4	1.5	1.5	1.4	2.5	2.5	1.3
Fan--DIA/CFM	20" - 2000	20" - 1900	20" - 1900	20" - 2000	20" - 1900	20" - 1900	24" - 2750	24" - 2750	24" - 2750
Motor & Evaporator									
Blower Motor--HP/RPM/SPD	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/2-1070-2	1/2-1070-2	1/2-1070-2
Blower Motor--Amps	2.2	2.2	1.1	2.2	2.2	1.1	3.3	3.3	1.9
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	1100 - .3	1100 - .3	1100 - .3	1100 - .3	1100 - .3	1100 - .3	1400 - .3	1400 - .3	1400 - .3
Filter Sizes (inches) STD.	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Shipping Weight --LBS.	380	380	380	380	380	380	510	510	510

Specifications 3-1/2 through 5 Ton

MODELS	WH423-A	WH423-B	WH423-C	WH483-A	WH483-B	WH483-C	WH604-A	WH604-B	WH604-C
Electrical Rating--60HZ	230/208 - 1	230/208 - 3	460 - 3	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	197-253	197-253	414-506
Compressor--Circuit A									
Voltage	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	18.3/20.4	12.2/13.1	6.1	20.8/21.6	12.3/12.7	6.2	25.8/30.4	15.5/18.3	8.7
Branch Circuit Selection Current	21.0	14.0	7.0	21.8	12.9	6.5	30.4	18.3	8.7
Lock Rotor Amps	102/102	91/91	42/42	131/131	91/91	46	148/148	123/123	62
Compressor Type	Recip.	Recip.	Recip.	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Fan Motor & Condenser									
Fan Motor--HP/RPM/SPD	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2	1/3 - 825 - 2
Fan Motor--Amps	2.5	2.5	1.3	2.5	2.5	1.3	2.5	2.5	1.3
Fan--DIA/CFM	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750
Motor & Evaporator									
Blower Motor--HP/RPM/SPD	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2
Blower Motor--Amps	3.3	3.3	1.9	3.3	3.3	1.9	3.3	3.3	1.9
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	1400 - .3	1400 - .3	1400 - .3	1550 - .2	1550 - .2	1550 - .2	1700 - .3	1700 - .3	1700 - .3
Filter Sizes (inches) STD.	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Shipping Weight --LBS.	510	510	510	510	510	510	510	510	510

Ventilation System Packages

Bard Wall-Mounts are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. All units are equipped with a barometric fresh air damper as the standard ventilation package. All ventilation packages can be built-in at the factory, or field-installed at a later date.



Barometric Fresh Air Damper

BAROMETRIC FRESH AIR DAMPER - BFAD

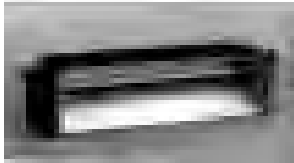
STANDARD

The barometric fresh air damper 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.

BLANK OFF PLATE - BOP

OPTIONAL

A blank off plate is installed on the inside of the service door. It covers the air inlet openings which restricts any outside air from entering into the unit. The blank off plate should be utilized in applications where outside air is not required to be mixed with the conditioned air.



Motorized Fresh Air Damper

MOTORIZED FRESH AIR DAMPER - MFAD

OPTIONAL

The motorized fresh air damper is internally mounted behind 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 two position damper can be fully open or closed. The damper blade is powered open by a 24VAC motor with spring return on power loss. The damper can be controlled by indoor blower operation or can be field connected to be managed based on building occupancy.

NOTE: The above vent systems are intake only without built-in exhaust capability. Building will likely require separate field installed barometric relief or mechanical exhaust elsewhere within the conditioned space. Balancing dampers in the return air grille may be required to achieve specified amount of outdoor air intake.



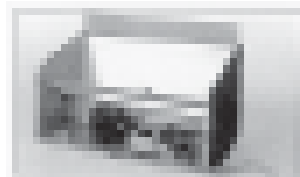
Commercial Room Ventilator

COMMERCIAL ROOM VENTILATOR - CRV

OPTIONAL

The built-in commercial room ventilator is internally mounted behind the service door and allows outside ventilation air, up to 50% of the total airflow rating of the unit, to be introduced through the air inlet openings. It includes a built-in exhaust air damper.

The commercial room ventilator (CRV) is a simple and innovative approach to improving the indoor air quality by providing fresh air intake and exhaust capability through the CRV. The damper can be easily adjusted to control the amount of fresh air supplied into the building. The CRV can be controlled by indoor blower operation or field controlled based on room occupancy. Two versions available (except on 1.5 and 2-Ton models). The CRV and CRVS are power open - spring return on power loss, and CRVP is power open and power close. Complies with ANSI/ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality."



Economizer

ECONOMIZER - EIFM

OPTIONAL

The built-in economizer system is internally mounted behind the service door and allows outdoor air to be introduced through the air inlet openings. The amount of outdoor air varies in response to the system controls and settings defined by the end user. It includes a built-in exhaust air damper. 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 in turn provides lower operating costs, while extending the life of the compressor.

Standard Features:

- One Piece Construction - Easy to install with no mechanical linkage adjustment required.
- Exhaust Air Damper - Built in with positive closed position. Provides exhaust air capability to prevent pressurization of tight buildings.
- Actuator Motor - 24 volt, power open, spring return with built in torque limiting switch.
- Proportioning Type Control - for maximum "free cooling" economy and comfort.
- Moisture Eliminator & Prefilter - permanent, washable aluminum construction.
- Enthalpy Control - adjustable to monitor outdoor temperature and humidity.
- Minimum Position Potentiometer - adjustable to control minimum damper blade position for ventilation purposes.
- Mixed Air Sensor - to monitor outside and return air to automatically modulate damper position.



Energy Recovery Ventilator

WALL-MOUNT ENERGY RECOVERY VENTILATOR - WERV

OPTIONAL

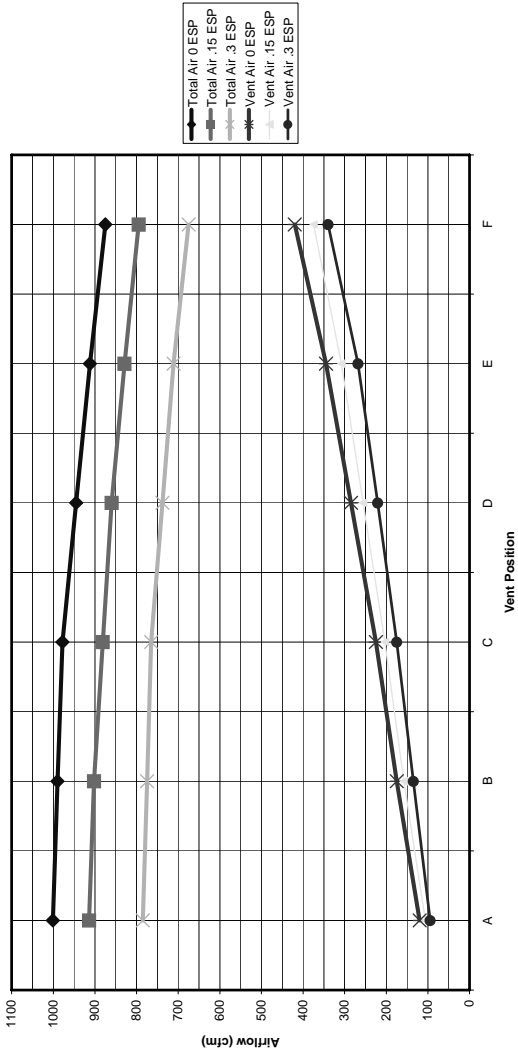
The wall-mount energy recovery ventilator (WERV) is a highly innovative approach to meeting indoor air quality ventilation requirements as established by ANSI/ASHRAE Standard 62.1. The WERV allows from 200 to 450 CFM (depending upon model) of fresh air and exhaust through the unit while maintaining superior indoor comfort and humidity levels. In most cases this can be accomplished without increasing equipment sizing or operating costs. Heat transfer efficiency is up to 67% during summer and 75% during winter conditions.

The WERV consists of a unique "rotary energy recovery cassette" that provides effective sensible and latent heat transfer capabilities during summer and winter conditions. Various control schemes are addressed including limiting ventilation during building occupancy only.

The WERV is designed to be internally mounted behind the service door in the WA, WH or WL model wall-mount units. It can be built-in at the factory or field installed as an option. WERV-*3C and WERV-*5C can be independently adjusted for intake and exhaust rates.

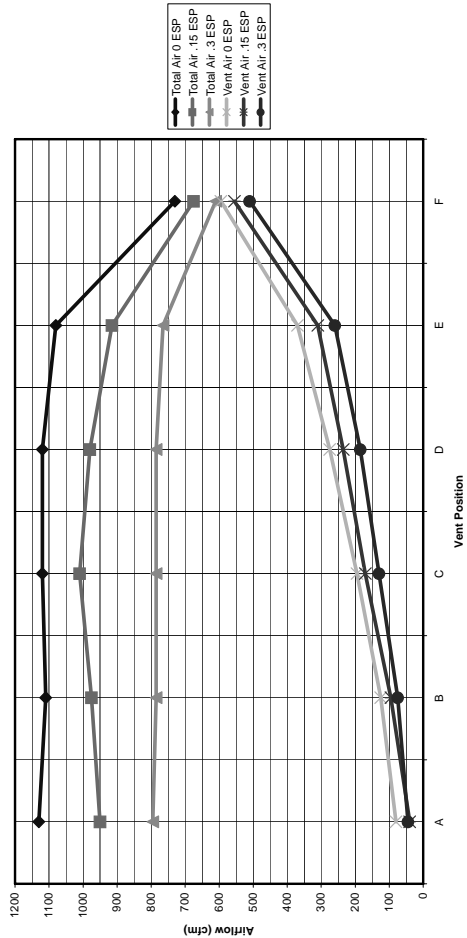
Commercial Room Ventilator Performance Data - CRV-2

WH18 & WH24 TOTAL AND VENTILATION AIRFLOW

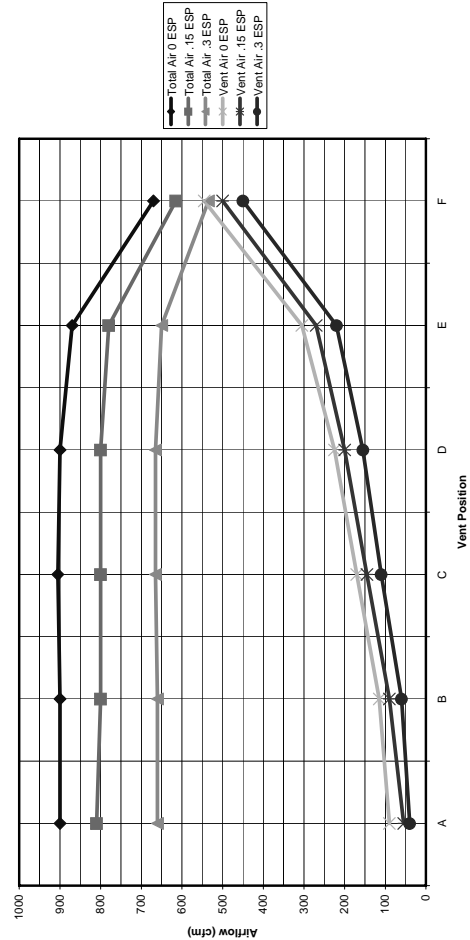


Commercial Room Ventilator Performance Data - CRVS-3 and CRVP-3

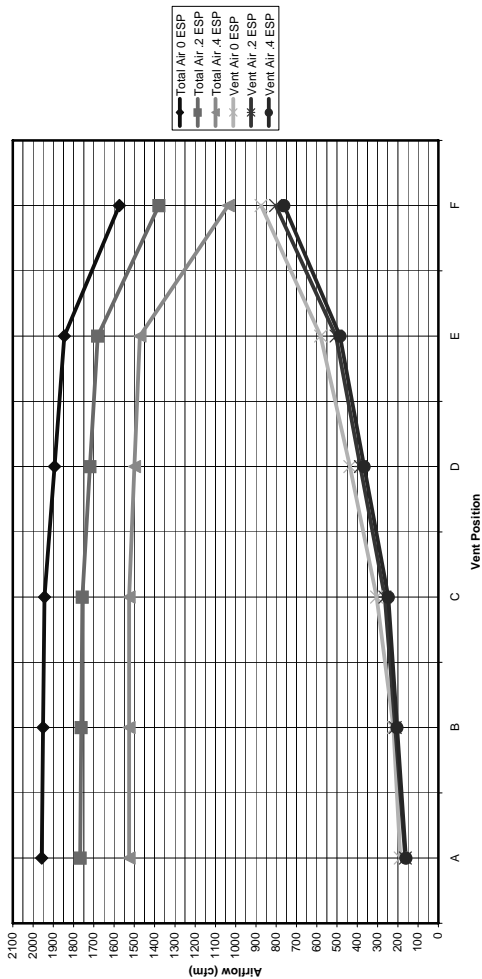
WH30 & WH36 HIGH SPEED TOTAL AND VENTILATION AIRFLOW



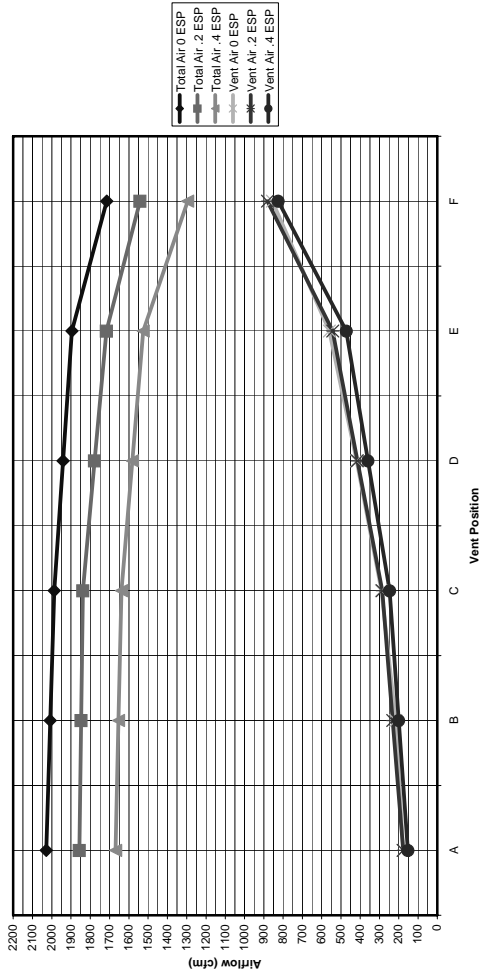
WH30 & WH36 LOW SPEED TOTAL AND VENTILATION AIRFLOW



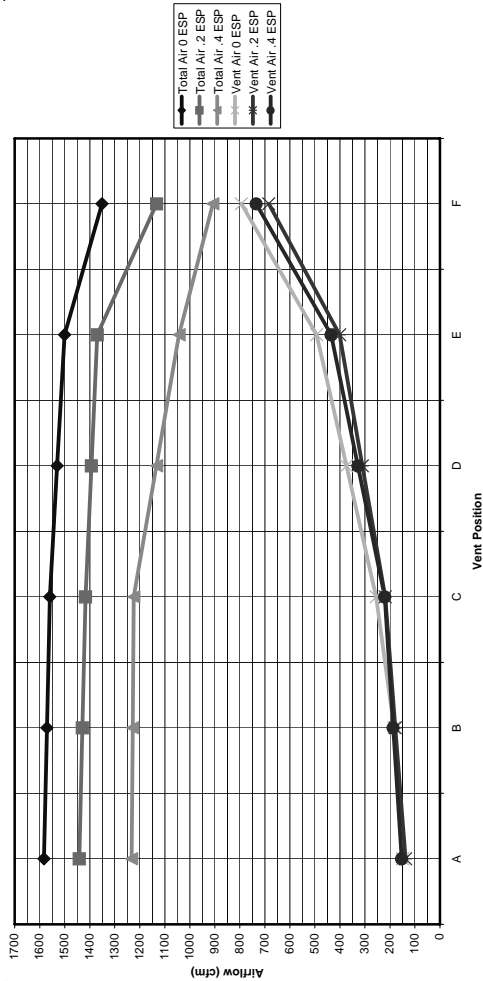
WH42 & WH48 HIGH SPEED TOTAL AND VENTILATION AIRFLOW



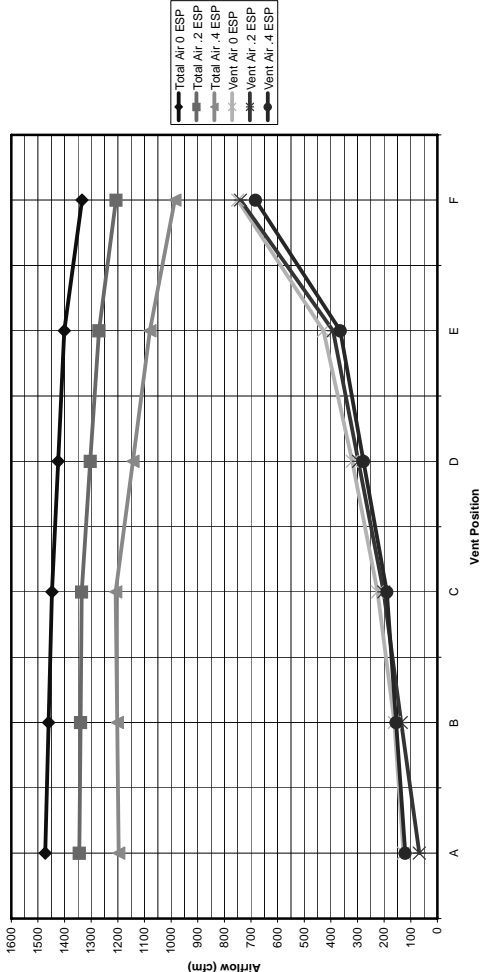
WH60 HIGH SPEED TOTAL AND VENTILATION AIRFLOW



WH42 & WH48 LOW SPEED TOTAL AND VENTILATION AIRFLOW



WH60 LOW SPEED TOTAL AND VENTILATION AIRFLOW



Performance and Application Data- WERV-*2B

SUMMER COOLING PERFORMANCE (INDOOR DESIGN CONDITIONS 75°DB/62°WB)

Ambient O.D.		VENTILATION RATE -- 250 CFM 62% EFFICIENCY						VENTILATION RATE -- 225 CFM 63% EFFICIENCY						VENTILATION RATE -- 200 CFM 63% EFFICIENCY					
DB/ WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
105	75	11925	8100	1325	7394	5022	822	10727	7287	3441	6758	4591	2168	9540	6480	3060	6010	4082	1928
	70	8100	8100	0	5022	5022	0	7287	7287	0	4591	4591	0	6480	6480	0	4082	4082	0
	65	8100	8100	0	5022	5022	0	7287	7287	0	4591	4591	0	6480	6480	0	4082	4082	0
100	80	17550	6750	10800	10881	4185	6696	15788	6072	9716	9946	3826	6121	14040	5400	8640	8845	3402	5443
	75	11925	6750	5175	7394	4185	3209	10727	6072	4655	6758	3826	2933	9540	5400	4140	6010	3402	2608
	70	6863	6750	113	4255	4185	70	6173	6072	101	3889	3826	64	5490	5400	90	3458	3402	56
	65	6750	6750	0	4185	4185	0	6072	6072	0	3826	3826	0	5400	5400	0	3402	3402	0
	60	6750	6750	0	4185	4185	0	6072	6072	0	3826	3826	0	5400	5400	0	3402	3402	0
95	80	17550	5400	12150	10881	3348	7533	15788	4858	10930	9946	3060	6886	14040	4320	9720	8845	2722	6124
	75	11925	5400	6525	7394	3348	4046	10727	4858	5870	6758	3060	3698	9540	4320	5220	6010	2722	3289
	70	6863	5400	1463	4255	3348	907	6173	4858	1315	3889	3060	829	5490	4320	1170	3458	2722	737
	65	5400	5400	0	3348	3348	0	4858	4858	0	3060	3060	0	4320	4320	0	2722	2722	0
	60	5400	5400	0	3348	3348	0	4858	4858	0	3060	3060	0	4320	4320	0	2722	2722	0
90	80	17550	4050	13500	10881	2511	8370	15788	3643	12145	9946	2295	7651	14040	3240	10800	8845	2041	6804
	75	11925	4050	7875	7394	2511	4883	10727	3643	7084	6758	2295	4463	9540	3240	6300	6010	2041	3969
	70	6863	4050	2813	4255	2511	1744	6173	3643	2530	3889	2295	1594	5490	3240	2250	3458	2041	1417
	65	4050	4050	0	2511	2511	0	3643	3643	0	2295	2295	0	3240	3240	0	2041	2041	0
	60	4050	4050	0	2511	2511	0	3643	3643	0	2295	2295	0	3240	3240	0	2041	2041	0
85	80	17550	2700	14850	10881	1674	9207	15788	2429	13359	9946	1530	8416	14040	2160	11880	8845	1361	7484
	75	11925	2700	9225	7394	1674	5720	10727	2429	8298	6758	1530	5228	9540	2160	7380	6010	1361	4649
	70	6863	2700	4163	4255	1674	2581	6173	2429	3744	3889	1530	2359	5490	2160	3300	3458	1361	2098
	65	2700	2700	0	1674	1674	0	2429	2429	0	1530	1530	0	2160	2160	0	1361	1361	0
	60	2700	2700	0	1674	1674	0	2429	2429	0	1530	1530	0	2160	2160	0	1361	1361	0
80	75	11925	1350	10575	7394	837	6557	10727	1214	9513	6758	765	5993	9540	1080	8460	6010	680	5330
	70	6863	1350	5513	4255	837	3418	6173	1214	4959	3889	765	3124	5490	1080	4410	3458	680	2778
	65	2363	1350	1013	1465	837	628	2125	1214	911	1339	765	547	1890	1080	810	1190	680	510
	60	1350	1350	0	837	837	0	1214	1214	0	765	765	0	1080	1080	0	680	680	0
75	70	6863	0	6863	4255	0	4255	6173	0	6173	6889	0	3889	5490	0	5490	3458	0	3458
	65	2363	0	2363	1465	0	1465	2125	0	2125	1339	0	1339	1890	0	1890	1190	0	1190
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

WERV-*2B WINTER HEATING PERFORMANCE (INDOOR DESIGN CONDITIONS 70°F DB)

Ambient O.D.	VENTILATION RATE					
	250 CFM 74% EFF.		225 CFM 75% EFF.		200 CFM 75% EFF.	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	1350	999	1214	911	1080	810
60	2700	1998	2429	1822	2160	1620
55	4050	2997	3643	2733	3240	2430
50	5400	3996	4858	3643	4320	3240
45	6750	4995	6072	4554	5400	4050
40	8100	5994	7287	5465	6480	4860
35	9450	6993	8501	6376	7560	5670
30	10800	7992	9716	7287	8640	6480
25	12150	8991	10930	8198	9720	7290
20	13500	9990	12145	9108	10800	8100
15	14850	10989	13359	10019	11880	8910

LEGEND:

VLT = Ventilation Load - Total
 VLS = Ventilation Load - Sensible
 VLL = Ventilation Load - Latent
 HRT = Heat Recovery - Total
 HRS = Heat Recovery - Sensible
 HRL = Heat Recovery - Latent
 WVL = Winter Ventilation Load
 WHR = Winter Heat Recovery

NOTE: Sensible performance only is shown for winter application.

Performance and Application Data- WERV-3C

SUMMER COOLING PERFORMANCE (INDOOR DESIGN CONDITIONS 75°DB/62°WB)

Ambient O.D.		VENTILATION RATE -- 400CFM 63% EFFICIENCY						VENTILATION RATE -- 325 CFM 64% EFFICIENCY						VENTILATION RATE -- 250 CFM 65% EFFICIENCY					
DB/ WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
105	75	19080	12960	6120	12020	8164	3855	15502	10530	4972	9921	6739	3182	11925	8100	3825	7751	5265	2486
	70	12960	12960	0	8164	8164	0	10530	10530	0	6739	6739	0	8100	8100	0	5265	5265	0
	65	12960	12960	0	8164	8164	0	10530	10530	0	6739	6739	0	8100	8100	0	5265	5265	0
100	80	28080	10800	17280	17690	6804	10886	22815	8775	14040	14601	5616	8985	17550	6750	10800	11407	4387	7019
	75	19080	10800	8280	12020	6804	5216	15502	8775	6727	9921	5616	4305	11925	6750	5175	7751	4387	3363
	70	10980	10800	180	6717	6804	113	8921	8775	146	5709	5616	93	6862	6750	112	4460	4387	73
	65	10800	10800	0	6804	6804	0	8775	8775	0	5616	5616	0	6750	6750	0	4387	4387	0
	60	10800	10800	0	6804	6804	0	8775	8775	0	5616	5616	0	6750	6750	0	4387	4387	0
95	80	28080	8640	19440	17690	5443	12247	22815	7020	15795	14601	4492	10108	17550	5400	12150	11407	3510	7897
	75	19080	8640	10440	12020	5443	6577	15502	7020	8482	9921	4492	5428	11925	5400	6525	7751	3510	4241
	70	10980	8640	2340	6917	5443	1474	8921	7020	1901	5709	4492	1216	6862	5400	1462	4460	3510	950
	65	8640	8640	0	5443	5443	0	7020	7020	0	4492	4492	0	5400	5400	0	3510	3510	0
	60	8640	8640	0	5443	5443	0	7020	7020	0	4492	4492	0	5400	5400	0	3510	3510	0
90	80	28080	6480	21600	17690	4082	13608	22815	5265	17550	14601	3369	11232	17550	4050	13500	11407	2632	8774
	75	19080	6480	12600	12020	4082	7938	15502	5265	10237	9921	3369	6552	11925	4050	7875	7751	2632	5118
	70	10980	6480	4500	6917	4082	2835	8921	5265	3656	5709	3369	2340	6862	4050	2812	4460	2632	1828
	65	6480	6480	0	4082	4082	0	5265	5265	0	3369	3369	0	4050	4050	0	2632	2632	0
	60	6480	6480	0	4082	4082	0	5265	5265	0	3369	3369	0	4050	4050	0	2632	2632	0
85	80	28080	4320	23760	17690	2721	14968	22815	3510	19305	14601	2246	12355	17550	2700	14850	11407	1755	9652
	75	19080	4320	14760	12020	2721	9298	15502	3510	11992	9921	2246	7675	11925	2700	9225	7751	1755	5996
	70	10980	4320	6660	6917	2721	4195	8921	3510	5411	5709	2246	3463	6862	2700	4162	4460	1755	2705
	65	4320	4320	0	2721	2721	0	3510	3510	0	2246	2246	0	2700	2700	0	1755	1755	0
	60	4320	4320	0	2721	2721	0	3510	3510	0	2246	2246	0	2700	2700	0	1755	1755	0
80	75	19080	2160	16920	12020	1360	10659	15502	1755	13747	9921	1123	8798	11925	1350	10575	7751	877	6873
	70	10980	2160	8820	6917	1360	5556	8921	1755	7166	5709	1123	4586	6862	1350	5512	4460	877	3583
	65	3780	2160	1620	2381	1360	1020	3071	1755	1316	1965	1123	842	2362	1350	1012	1535	877	658
	60	2160	2160	0	1360	1360	0	1755	1755	0	1123	1123	0	1350	1350	0	877	877	0
75	70	10980	0	10980	6917	0	6917	8921	0	8921	5709	0	5709	6862	0	6862	4460	0	4460
	65	3780	0	3780	2381	0	2380	3071	0	3071	1965	0	1965	2362	0	2362	1535	0	1535
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

WERV-3C WINTER HEATING PERFORMANCE (INDOOR DESIGN CONDITIONS 70°F DB)

Ambient O.D.	VENTILATION RATE					
	400 CFM 75% EFF.		325 CFM 76% EFF.		250 CFM 77% EFF.	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2160	1620	1755	1333	1350	1039
60	4320	3240	3510	2667	2700	2079
55	6480	4860	5265	4001	4050	3118
50	8640	6480	7020	5335	5400	4158
45	10800	8100	8775	6669	6750	5197
40	12960	9720	10530	8002	8100	6237
35	15120	11340	12285	9336	9450	7276
30	17280	12960	14040	10670	10800	8316
25	19440	14580	15795	12004	12150	9355
20	21600	16200	17550	13338	13500	10395
15	23760	17820	19305	14671	14850	11434

NOTE: Sensible performance only is shown for winter application.

LEGEND:

VLT = Ventilation Load - Total
VLS = Ventilation Load - Sensible
VLL = Ventilation Load - Latent
HRT = Heat Recovery - Total
HRS = Heat Recovery - Sensible
HRL = Heat Recovery - Latent
WVL = Winter Ventilation Load
WHR = Winter Heat Recovery

Performance and Application Data- WERV-5C

SUMMER COOLING PERFORMANCE (INDOOR DESIGN CONDITIONS 75°DB/62°WB)

Ambient O.D.		VENTILATION RATE 450 CFM						VENTILATION RATE 375 CFM						VENTILATION RATE 300 CFM					
DB/ WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
75	105	21465	14580	6884	13952	9477	4475	17887	12150	5737	11805	8018	3786	14310	9720	4590	9587	6512	3075
	70	14580	14580	0	9477	9477	0	12150	12150	0	8018	8018	0	9720	9720	0	6512	6512	0
	65	14580	14580	0	9477	9477	0	12150	12150	0	8018	8018	0	9720	9720	0	6512	6512	0
100	80	31590	12150	19440	20533	7897	12635	26325	10125	16200	17374	6682	10692	21060	8100	12960	14110	5427	8683
	75	21465	12150	9314	13952	7897	6054	17887	10125	7762	11805	6682	5123	14310	8100	6210	9587	5427	4160
	70	12352	12150	202	8029	7897	131	10293	10125	168	6793	6682	111	8235	8100	135	5517	5427	90
	65	12150	12150	0	7897	7897	0	10125	10125	0	6682	6682	0	8100	8100	0	5427	5427	0
	60	12150	12150	0	7897	7897	0	10125	10125	0	6682	6682	0	8100	8100	0	5427	5427	0
95	80	31590	9720	21870	20533	6318	14215	26325	8100	18225	17374	5345	12028	21060	6480	14580	14110	4341	9768
	75	21465	9720	11744	13952	6318	7634	17887	8100	9787	11805	5345	6459	14310	6480	7830	9587	4341	5246
	70	12352	9720	2632	8029	6318	1711	10293	8100	2193	6793	5345	1447	8235	6480	1755	5517	4341	1175
	65	9720	9720	0	6318	6318	0	8100	8100	0	5345	5345	0	6480	6480	0	4341	4341	0
	60	9720	9720	0	6318	6318	0	8100	8100	0	5345	5345	0	6480	6480	0	4341	4341	0
90	80	31590	7290	24300	20533	4738	15794	26325	6075	20250	17374	4009	13365	21060	4860	16200	14110	3256	10854
	75	21465	7290	14175	13952	4738	9213	17887	6075	11812	11805	4009	7796	14310	4860	9450	9587	3256	6331
	70	12352	7290	5062	8029	4738	3290	10293	6075	4218	6793	4009	2784	8235	4860	3375	5517	3256	2261
	65	7290	7290	0	4738	4738	0	6075	6075	0	4009	4009	0	4860	4860	0	3256	3256	0
	60	7290	7290	0	4738	4738	0	6075	6075	0	4009	4009	0	4860	4860	0	3256	3256	0
85	80	31590	4860	26730	20533	3159	17374	26325	4050	22275	17374	2672	14701	21060	3240	17820	14110	2170	11939
	75	21465	4860	16605	13952	3159	10793	17887	4050	13837	11805	2672	9132	14310	3240	11070	9587	2170	7416
	70	12352	4860	7492	8029	3159	4870	10293	4050	6243	6793	2672	4120	8235	3240	4995	5517	2170	3346
	65	4860	4860	0	3159	3159	0	4050	4050	0	2672	2672	0	3240	3240	0	2170	2170	0
	60	4860	4860	0	3159	3159	0	4050	4050	0	2672	2672	0	3240	3240	0	2170	2170	0
80	75	21465	2430	19035	13952	1579	12372	17887	2025	15862	11805	1336	10469	14310	1620	12690	9587	1085	8502
	70	12352	2430	9922	8029	1579	6449	10293	2025	8268	6793	1336	5457	8235	1620	6615	5517	1085	4432
	65	4252	2430	1822	2764	1579	1184	3543	2025	1518	2338	1336	1002	2835	1620	1215	1899	1085	814
	60	2430	2430	0	1579	1579	0	2025	2025	0	1336	1336	0	1620	1620	0	1085	1085	0
75	70	12352	0	12352	8029	0	8029	10293	0	10293	6793	0	6793	8235	0	8235	5517	0	5517
	65	4252	0	4252	2764	0	2764	3543	0	3543	2338	0	2338	2835	0	2835	1899	0	1899
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

WERV-5C WINTER HEATING PERFORMANCE (INDOOR DESIGN CONDITIONS 70°F DB)

Ambient O.D.	VENTILATION RATE					
	450 CFM		375 CFM		300 CFM	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2430	1944	2025	1640	1620	1328
60	4860	3888	4050	3280	3240	2656
55	7290	5832	6075	4920	4860	3985
50	9720	7776	8100	6561	6480	5313
45	12150	9720	10125	8201	8100	6642
40	14580	11664	12150	9841	9720	7970
35	17010	13608	14175	11481	11340	9298
30	19440	15552	16200	13122	12960	10627
25	21870	17496	18225	14762	14580	11955
20	24300	19440	20250	16402	16200	13284
15	26730	21384	22275	18042	17820	14612

NOTE: Sensible performance only is shown for winter application.

LEGEND:

VLT = Ventilation Load - Total
VLS = Ventilation Load - Sensible
VLL = Ventilation Load - Latent
HRT = Heat Recovery - Total
HRS = Heat Recovery - Sensible
HRL = Heat Recovery - Latent
WVL = Winter Ventilation Load
WHR = Winter Heat Recovery

Clearances Required for Service Access and Adequate Condenser Airflow

MODELS	LEFT SIDE	RIGHT SIDE
WH18, WH24, WH30, WH36	15"	20"
WH42, WH48, WH60	20"	20"

Minimum Clearances Required to Combustible Materials

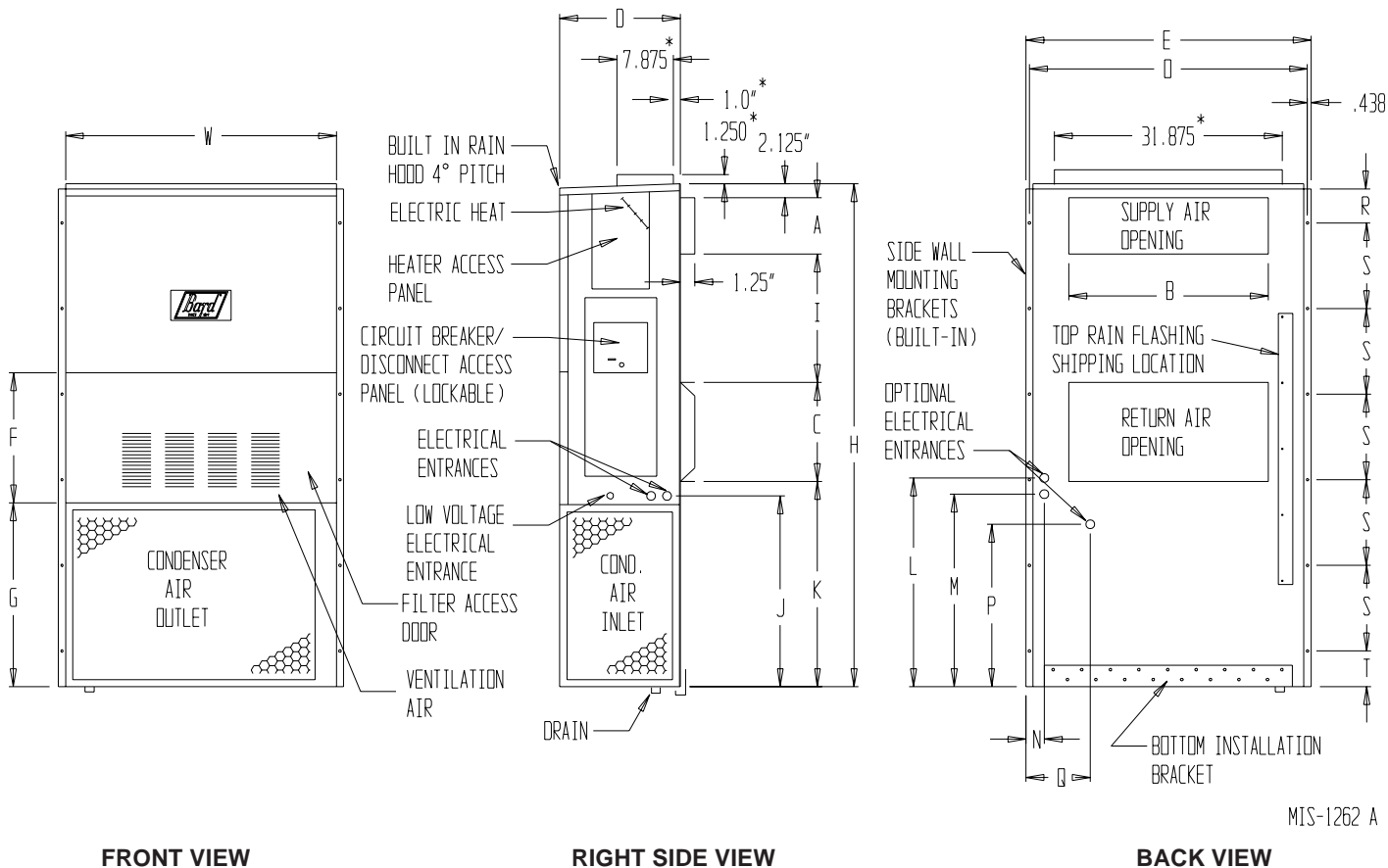
MODELS ①	SUPPLY AIR DUCT FIRST THREE FEET	CABINET
WH18, WH24	0"	0"
WH30, WH36	1/4"	0"
WH42, WH48, WH60	1/4"	0"

① Refer to the Installation Manual for more detailed information.

Dimensions of Basic Unit for Architectural and Installation Requirements (Nominal)

MODEL	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN																
				A	B	C	B	E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T
WH18 WH24	33.300	17.125	70.563	7.88	19.88	11.88	19.88	35.00	18.50	25.75	20.56	26.75	28.06	29.25	27.00	2.63	34.13	22.06	10.55	4.19	12.00	5.00
WH30 WH36	38.200	17.125	70.563	7.88	27.88	13.88	27.88	40.00	18.50	25.75	17.93	26.75	28.75	29.25	27.00	2.63	39.13	22.75	9.14	4.19	12.00	5.00
WH42 WH48 WH60	42.075	22.432	84.875	9.88	29.88	15.88	29.88	43.88	19.10	31.66	30.00	32.68	26.94	34.69	32.43	3.37	43.00	23.88	10.00	1.44	16.00	1.88

All dimensions are in inches. Dimensional drawings are not to scale.



MIS-1262 A

*NOTE: Top supply opening is optional and available factory-built only on models WH30 and WH36.

Indoor Blower Performance - CFM at 230 or 460 Volts

ESP in H ₂ O	WH18 WH24	WH30 WH36		WH42 WH48		WH60	
	Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil
0	1020/975	1395/1315	950/935	1885/1800	1650/1600	2200/2000	1600/1450
.1	960/905	1340/1270	930/915	1770/1665	1550/1500	2100/1900	1525/1375
.2	865/800	1285/1190	910/885	1635/1550	1450/1400	2000/1800	1460/1200
.3	820/735	1205/1100	855/830	1500/1400	1350/1300	1875/1700	-/-
.4	735/650	1110/1000	800/755	1370/1285	1300/1175	1775/1600	-/-
.5	615/535	1005/870	-/-	1250/1150	-/-	1650/1475	-/-

Above data is with 1" standard throwaway filter and 1" washable filter.

For optional 2" pleated filter - reduce ESP by .15 in.

See installation instructions for maximum ESP information on various KW applications.

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	Btuh	KW	3-Ph Amps	Btuh	KW	3-Ph Amps	Btuh
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.

Heater Packages - Field Installed

- Designed for adding Electric Heat to 0 KW Units
- Circuit Breaker Standard on 230/208V Models
- Toggle Disconnect Standard on 460V Models
- UL Listed
- CUL Listed

Heat Pump Models	-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 460-3	
	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
WH18	EHWH02A-A04 EHWH02A-A08	4 8	N/A		N/A	
WH24	EHWH02A-A04 EHWH02A-A08	4 8	EHWH24-B06	6	EHWH24B-C06	6
WH30	EHWH30-A05 EHWH30-A10	5 10	EHWH03-B06 EHWH03-B09	6 9	EHWC03A-C06 EHWC03A-C09 EHWH03A-C15 *	6 9 15
WH36	EHWH36-A05 EHWH36-A10 EHWH36-A15 *	5 10 15	EHWH03-B06 EHWH03-B09 EHWH36-B15 *	6 9 15	EHWC03A-C06 EHWC03A-C09 EHWH03A-C15 *	6 9 15
WH42	EHWH42-A05 EHWH42-A10 EHWH42-A15 *	5 10 15	EHWH05-B06 EHWH05-B09 EHWH05-B15 *	6 9 15	EHWH42-C06 EHWH05A-C09 EHWH05A-C15 *	6 9 15
WH483	EHWH04-A04 EHWH42-A05 EHWH42-A10 EHWH42-A15 * EHWH04-A20 *	4 5 10 15 20	EHWH05-B06 EHWH05-B09 EHWH05-B15 * EHWH04-B18 *	6 9 15 18	EHWH05A-C09 EHWH05A-C15 *	9 15
WH60	EHWH04-A05 EHWH04-A10 EHWH04-A15 * EHWH04-A20 *	5 10 15 20	EHWH05-B09 EHWH05-B15 * EHWH04-B18 *	9 15 18	EHWH05A-C09 EHWH05A-C15 *	9 15

NOTE: Field installed heater packages are not approved for use with top supply opening models.

* Not available for dehumidification models.

Cooling Application Data - Outdoor Temperature °F ①

Model	D.B./W.B. ②	Cooling Capacity	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F
WH185	75/ 62	Total Cooling	21,400	19,800	18,400	17,200	16,100	15,200	14,400	13,800	13,300
		Sensible Cooling	16,900	16,400	15,800	15,200	14,800	14,400	14,000	13,600	13,300
	80/ 67	Total Cooling	22,800	21,500	20,400	19,400	18,400	17,700	17,000	16,400	16,000
		Sensible Cooling	16,400	16,000	15,600	15,200	14,900	14,600	14,300	14,000	13,800
	85/ 72	Total Cooling	27,200	25,200	23,500	21,900	20,500	19,400	18,400	17,500	16,800
		Sensible Cooling	16,800	16,300	15,700	15,100	14,700	14,200	13,700	13,200	12,700
WH242	75/ 62	Total Cooling	24,780	23,800	23,760	21,670	20,530	19,330	18,080	16,780	15,420
		Sensible Cooling	19,600	19,090	18,570	18,040	17,495	16,940	16,380	15,800	15,220
	80/ 67	Total Cooling	26,450	25,940	25,300	24,520	23,600	22,550	21,360	20,040	18,575
		Sensible Cooling	19,030	18,730	18,410	18,050	17,670	17,260	16,820	16,350	15,855
	85/ 72	Total Cooling	31,520	30,320	29,030	27,660	26,200	24,650	23,020	21,300	19,500
		Sensible Cooling	19,490	19,000	18,470	17,910	17,315	16,680	16,020	15,320	14,585
WH301	75/ 62	Total Cooling	31,600	30,290	28,930	27,540	26,100	24,620	23,100	21,530	19,920
		Sensible Cooling	24,370	24,210	23,940	23,560	23,075	22,480	21,770	20,960	20,040
	80/ 67	Total Cooling	33,760	33,030	32,160	31,150	30,000	28,710	27,280	25,710	24,000
		Sensible Cooling	24,000	23,830	23,650	23,485	23,310	22,900	22,360	21,690	20,880
	85/ 72	Total Cooling	40,220	38,600	36,910	35,140	33,300	31,390	29,400	27,340	25,200
		Sensible Cooling	24,220	24,090	23,810	23,400	22,845	22,150	21,310	20,330	19,210
WH303	75/ 62	Total Cooling	33,300	30,700	28,200	26,000	24,100	22,300	20,700	19,300	18,100
		Sensible Cooling	26,200	24,900	23,800	22,600	21,700	20,900	20,000	19,000	18,000
	80/ 67	Total Cooling	35,500	33,400	31,300	29,400	27,600	26,000	24,400	23,000	21,700
		Sensible Cooling	25,400	24,400	23,500	22,600	21,900	21,200	20,500	20,000	19,500
	85/ 72	Total Cooling	42,300	39,100	36,000	33,200	30,700	28,500	26,300	24,500	22,800
		Sensible Cooling	26,000	24,800	23,600	22,500	21,500	20,500	19,600	18,800	18,000
WH361	75/ 62	Total Cooling	36,960	35,600	34,150	32,600	30,972	29,250	27,440	25,540	23,550
		Sensible Cooling	28,730	28,320	27,820	27,220	26,530	25,740	24,850	23,875	22,800
	80/ 67	Total Cooling	39,475	38,820	37,960	36,880	35,600	34,100	32,400	30,500	28,375
		Sensible Cooling	27,870	27,790	27,580	27,250	26,800	26,220	25,520	24,700	23,750
	85/ 72	Total Cooling	45,360	45,000	43,910	42,080	39,515	37,000	34,650	32,200	29,790
		Sensible Cooling	28,570	28,190	27,670	27,030	26,260	25,350	24,320	23,150	21,850
WH363	75/ 62	Total Cooling	38,000	35,700	33,600	31,600	29,600	27,800	26,100	24,400	22,800
		Sensible Cooling	28,700	27,700	26,700	25,700	24,800	23,900	23,100	22,300	21,500
	80/ 67	Total Cooling	40,500	38,900	37,300	35,700	34,000	32,400	30,800	29,100	27,400
		Sensible Cooling	27,800	27,100	26,400	25,700	25,000	24,300	23,700	23,000	22,300
	85/ 72	Total Cooling	48,300	45,500	42,900	40,300	37,800	35,500	33,200	31,000	28,800
		Sensible Cooling	28,500	27,500	26,500	25,600	24,500	23,500	22,600	21,600	20,600
WH421	75/ 62	Total Cooling	46,330	43,420	40,680	38,350	36,100	33,920	31,800	29,770	27,800
		Sensible Cooling	36,530	34,230	33,380	32,970	32,300	31,370	30,180	28,720	27,000
	80/ 67	Total Cooling	49,670	47,390	45,220	43,380	41,500	39,570	37,600	35,570	33,500
		Sensible Cooling	35,900	34,900	33,020	32,900	32,600	32,110	31,430	30,560	29,500
	85/ 72	Total Cooling	59,150	55,450	51,740	48,590	45,600	42,770	40,090	37,570	35,200
		Sensible Cooling	36,750	35,400	33,100	32,600	31,900	31,000	29,900	28,600	27,100
WH423	75/ 62	Total Cooling	46,200	43,800	41,400	39,000	36,600	34,300	31,900	29,400	27,000
		Sensible Cooling	35,400	34,500	33,600	32,700	31,800	30,900	29,800	28,900	26,900
	80/ 67	Total Cooling	49,300	47,700	46,000	44,100	42,000	39,900	37,600	35,100	32,500
		Sensible Cooling	34,300	33,800	33,300	32,700	32,100	31,400	30,600	29,800	28,900
	85/ 72	Total Cooling	58,700	55,800	52,800	49,800	46,700	43,700	40,600	37,400	34,200
		Sensible Cooling	35,100	34,300	33,500	32,500	31,500	30,400	29,200	28,000	26,600
WH483	75/ 62	Total Cooling	50,250	47,770	45,375	43,100	40,900	38,800	36,800	34,900	33,100
		Sensible Cooling	39,550	38,500	37,500	36,525	35,600	34,700	33,875	33,050	32,300
	80/ 67	Total Cooling	53,700	52,050	50,400	48,700	47,000	45,250	43,500	41,700	39,900
		Sensible Cooling	38,500	37,850	37,200	36,600	36,000	35,400	34,850	34,250	33,700
	85/ 72	Total Cooling	63,800	60,800	57,840	54,980	52,200	49,500	46,890	44,350	41,900
		Sensible Cooling	39,250	38,300	37,300	36,325	35,300	34,250	33,200	32,100	31,000
WH604	75/ 62	Total Cooling	58,700	55,400	52,500	49,600	47,000	44,600	42,400	40,300	38,300
		Sensible Cooling	44,500	43,500	42,500	41,500	40,400	39,400	38,200	37,100	35,900
	80/ 67	Total Cooling	62,600	60,400	58,300	56,100	54,000	52,000	50,000	48,000	46,100
		Sensible Cooling	43,100	42,600	42,100	41,500	40,800	40,100	39,200	38,300	37,300
	85/ 72	Total Cooling	74,600	70,600	67,000	63,300	60,000	56,900	53,900	51,100	48,500
		Sensible Cooling	44,200	43,200	42,300	41,200	40,000	38,800	37,400	35,900	34,400

① Below 65°F, unit requires a factory or field installed low ambient control.

② Return air temperature °F.

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

Heating Application Rating and Outdoor Temperature °F *

Model		0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°
WH185	BTUH	5,500	6,800	8,200	9,500	10,400	11,000	11,700	12,300	14,700	17,100	18,800	20,200	21,500	22,800
	WATTS	1,500	1,520	1,540	1,560	1,580	1,580	1,590	1,590	1,640	1,680	1,710	1,740	1,760	1,780
	COP	1.08	1.32	1.57	1.79	1.93	2.04	2.16	2.27	2.63	2.99	3.23	3.41	3.58	3.76
WH242	BTUH	8,030	9,090	10,160	11,230	12,775	13,360	14,430	15,500	18,700	21,910	24,280	26,080	27,880	29,680
	WATTS	1,775	1,825	1,875	1,925	1,970	2,020	2,070	1,976	2,165	2,215	2,265	2,315	2,365	2,412
	COP	1.32	1.45	1.58	1.70	1.90	1.93	2.04	2.29	2.53	2.88	3.14	3.30	3.45	3.60
WH301	BTUH	9,875	11,450	13,025	14,600	16,790	17,750	19,325	20,900	23,860	26,815	29,180	31,150	33,115	35,080
	WATTS	2,165	2,230	2,290	2,350	2,400	2,470	2,530	2,662	2,650	2,710	2,770	2,830	2,890	2,952
	COP	1.33	1.50	1.66	1.82	2.05	2.10	2.23	2.30	2.63	2.89	3.08	3.22	3.57	3.48
WH303	BTUH	7,200	9,200	11,200	13,200	15,000	16,500	18,000	19,600	22,300	25,000	27,200	29,200	31,200	33,200
	WATTS	2,040	2,090	2,140	2,190	2,230	2,260	2,290	2,320	2,400	2,470	2,530	2,580	2,630	2,680
	COP	1.04	1.29	1.54	1.77	1.98	2.14	2.31	2.48	2.73	2.97	3.16	3.32	3.48	3.63
WH361	BTUH	13,970	15,445	16,920	18,400	20,900	21,830	22,825	24,303	28,510	32,720	35,820	38,180	40,550	42,920
	WATTS	2680	2,760	2,845	2,925	3,000	3,090	3,170	3,185	3,335	3,420	3,500	3,580	3,664	3,750
	COP	1.52	1.64	1.74	1.84	2.05	2.07	2.10	2.23	2.50	2.80	2.99	3.12	3.24	3.35
WH363	BTUH	11,100	13,400	15,800	18,100	19,200	19,500	19,700	20,000	25,400	30,900	34,400	36,800	39,100	41,400
	WATTS	2,310	2,400	2,490	2,580	2,630	2,650	2,670	2,700	2,890	3,070	3,200	3,290	3,380	3,470
	COP	1.41	1.64	1.86	2.06	2.14	2.16	2.17	2.18	2.58	2.95	3.15	3.28	3.39	3.50
WH421	BTUH	15,750	17,825	19,900	21,975	24,050	26,100	28,200	30,250	34,725	39,200	42,800	45,850	48,875	51,900
	WATTS	3,075	3,175	3,275	3,350	3,450	3,550	3,650	3,750	3,825	3,925	4,025	4,100	4,200	4,300
	COP	1.50	1.64	1.78	1.92	2.08	2.15	2.26	2.36	2.65	2.92	3.11	3.27	3.41	3.53
WH423	BTUH	9,700	13,000	16,400	19,700	22,500	24,800	27,200	29,600	34,400	39,100	43,000	46,400	49,700	53,000
	WATTS	2,780	2,900	3,010	3,130	3,240	3,330	3,430	3,530	3,670	3,820	3,940	4,060	4,180	4,290
	COP	1.03	1.32	1.60	1.85	2.04	2.19	2.33	2.46	2.75	3.00	3.20	3.35	3.49	3.62
WH483	BTUH	19,900	21,875	23,850	26,200	28,500	29,750	31,700	33,675	38,800	43,900	47,950	51,175	54,400	57,650
	WATTS	3,550	3,625	3,700	3,800	3,900	3,975	4,075	4,150	4,250	4,300	4,425	4,500	4,600	4,700
	COP	1.64	1.76	1.88	2.00	2.15	2.20	2.27	2.37	2.67	2.89	3.17	3.33	3.46	3.59
WH604	BTUH	21,100	24,600	28,100	31,600	34,300	36,500	38,700	40,800	46,300	51,800	56,100	59,600	63,100	66,600
	WATTS	4,190	4,330	4,460	4,600	4,700	4,780	4,870	4,950	5,160	5,370	5,540	5,670	5,800	5,940
	COP	1.48	1.67	1.85	2.02	2.14	2.24	2.33	2.42	2.63	2.83	2.97	3.08	3.19	3.29

*70°F DB indoor return air at rated CFM includes defrost operation below 45°.

Electrical Specifications

Model	Rated Volts and Phase	No. Field Power Circuits	Single Circuit				Dual Circuit							
			④ Minimum Circuit Ampacity	① Maximum External Fuse or Ckt. Brkr.	② Field Power Wire Size	③ Ground Wire	④ Minimum Circuit Ampacity		① Maximum External Fuse or Ckt. Breaker		② Field Power Wire Size		③ Ground Wire Size	
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WH185- A00, A0Z A04 ③ A08	230/208-1	1 1 1	17 38 59	25 40 60	12 8 6	12 10 10								
WH242- A00, A0Z A04 ③ A08	230/208-1	1 1 1	18 39 60	25 40 60	10 8 6	10 10 10								
WH242- B00, B0Z B06	230/208-3	1 1	15 33	20 35	12 8	12 10								
WH242- C00, C0Z C06	460-3	1 1	8 17	15 20	14 12	14 12								
WH301- A00, A0Z* A05* ③ A10*	230/208-1	1 1 1 or 2	24 50 76	35 50 80	8 8 4	10 10 8	50	26	50	30	8	10	10	10
WH301- B00, B0Z* B06 ③ B09*	230/208-3	1 1 1	19 37 46	25 40 50	10 8 8	10 10 10								
WH301- C00, C0Z* C06 ③ C09* C15	460-3	1 1 1 1	10 19 24 26	15 20 25 30	14 12 10 10	14 12 10 10								
WH303- A00, A0Z* A05* ③ A10*	230/208-1	1 1 1 or 2	22 48 74	30 50 80	8 8 4	10 10 8	48	26	50	30	8	10	10	10
WH303- B00, B0Z* B06 ③ B09*	230/208-3	1 1 1	17 35 44	20 40 50	10 8 8	10 10 10								
WH303- C00, C0Z* C06 ③ C09* C15	460-3	1 1 1 1	10 19 24 26	15 20 25 30	14 12 10 10	14 12 10 10								
WH361- A00, A0Z* A05 ③ A10* ⑤ A15	230/208-1	1 1 1 or 2 1 or 2	27 53 79 83	40 60 80 90	8 6 4 4	10 10 8 8	53 53	26 52	60 60	30 60	6 6	10 6	10 10	10 10
WH361- B00, B0Z* B06 ③ B09* ⑤ B15	230/208-3	1 1 1 1	20 38 47 50	25 40 50 50	10 8 8 8	10 10 10 10								
WH361- C00, C0Z* C06 ③ C09* ⑤ C15	460-3	1 1 1 1	11 20 25 26	15 20 25 30	14 12 10 10	14 12 10 10								
WH363- A00, A0Z* A05 ③ A10* ⑤ A15	230/208-1	1 1 1 or 2 1 or 2	27 53 79 83	40 60 80 90	8 6 4 4	10 10 8 8	53 53	26 52	60 60	30 60	6 6	10 6	10 10	10 10
WH363- B00, B0Z* B06 ③ B09* ⑤ B15	230/208-3	1 1 1 1	20 38 47 50	25 40 50 50	10 8 8 8	10 10 10 10								
WH363- C00, C0Z* C06 ③ C09* ⑤ C15	460-3	1 1 1 1	11 20 25 26	15 20 25 30	14 12 10 10	14 12 10 10								

① Maximum size of the time delay fuse or HACR type 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 Maximum KW that can operate with the heat pump on.

④ 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 (3) conductors are in a raceway.

⑤ Not available on dehumidification models.

* Available factory-built only with top outlet supply as an option.

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.

Electrical Specifications

Model	Rated Volts and Phase	No. Field Power Circuits	Single Circuit				Dual Circuit							
			④ Minimum Circuit Ampacity	① Maximum External Fuse or Ckt. Brkr.	② Field Power Wire Size	② Ground Wire	④ Minimum Circuit Ampacity		① Maximum External Fuse or Ckt. Breaker		② Field Power Wire Size		② Ground Wire Size	
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WH421- A00, A0Z A05 ③ A10 ⑤ A15	230/208-1	1 1 or 2 1 or 2 1 or 2	34 60 86 86	50 70 90 90	8 6 3 3	10 8 8 8	34 34 34	26 52 52	50 50 50	30 60 60	8 8 8	10 6 6	10 10 10	10 10 10
WH421- B00, B0Z B06 ③ B09 ⑤ B15	230/208-3	1 1 1 1	26 44 53 53	35 50 60 60	8 8 6 6	10 10 10 10								
WH421- C00, C0Z C06 ③ C09 ⑤ C15	460-3	1 1 1 1	13 23 27 27	20 25 30 30	12 10 10 10	12 10 10 10								
WH423- A00, A0Z A05 ③ A10 ⑤ A15	230/208-1	1 1 or 2 1 or 2 1 or 2	34 60 86 86	50 70 90 90	8 6 3 3	10 8 8 8	34 34 34	26 52 52	50 50 50	30 60 60	8 8 8	10 6 6	10 10 10	10 10 10
WH423- B00, B0Z B06 ③ B09 ⑤ B15	230/208-3	1 1 1 1	26 44 53 53	35 50 60 60	8 8 6 6	10 10 10 10								
WH423- C00, C0Z C06 ③ C09 ⑤ C15	460-3	1 1 1 1	13 23 27 27	20 25 30 30	12 10 10 10	12 10 10 10								
WH483- A00, A0Z A04 A05 ③ A10 ⑤ A15 ⑤ A20	230/208-1	1 1 1 or 2 1 or 2 1 or 2 1 or 2	36 57 62 88 88 110	50 60 70 90 90 110	8 6 6 3 3 2	10 10 8 8 8 6	36 36 36 59	26 52 52 52	50 50 50 60	30 60 60 60	8 8 8 6	10 6 6 6	10 10 10 10	10 10 10 10
WH483- B00, B0Z B06 ③ B09 ⑤ B15 ⑤ B18	230/208-3	1 1 1 1 1	25 43 52 52 60	35 50 60 60 60	8 8 6 6 6	10 10 10 10 10								
WH483- C00, C0Z ③ C09 ⑤ C15	460-3	1 1 1	13 26 26	15 30 30	14 10 10	14 10 10								
WH604- A00, A0Z A05 ③ A10 ⑤ A15 ⑤ A20	230/208-1	1 1 or 2 1 or 2 1 or 2 1 or 2	45 71 97 97 110	60 90 110 110 110	8 4 3 3 2	10 8 6 6 6	45 45 45 59	26 52 52 52	60 60 60 60	30 60 60 60	8 8 8 6	10 6 6 6	10 10 10 10	10 10 10 10
WH604- B00, B0Z ③ B09 ⑤ B15 ⑤ B18	230/208-3	1 1 1 1	33 60 60 60	45 60 60 60	8 6 6 6	10 10 10 10								
WH604- C00, C0Z ③ C09 ⑤ C15	460-3	1 1 1	16 29 29	20 35 35	12 8 8	12 10 10								

① Maximum size of the time delay fuse or HACR type 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 Maximum KW that can operate with the heat pump on.

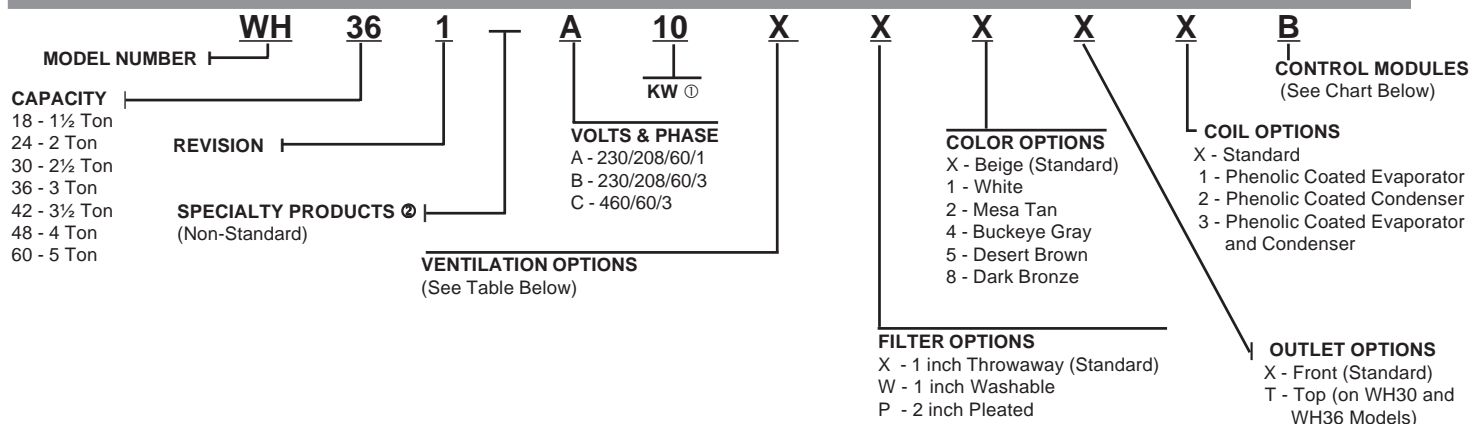
④ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electrical Code (latest version), Article 310 for power conductor sizing. Caution: When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three (3) conductors are in a raceway.

⑤ Not available on dehumidification models.

* Available factory-built only with top outlet supply as an option.

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.

Heat Pump Wall-Mount Model Nomenclature



① For 0KW and circuit breakers (230/208 volt) or toggle disconnects (460 volt) applications, insert 0Z in the KW field of the model number.

② Insert "D" for dehumidification with hot gas reheat. Reference Form F1743 for complete details.

Ventilation Options

MODELS	WH18, WH24		WH30, WH36		WH42, WH48, WH60	
Description	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.
Barometric Fresh Air Damper - Standard	X	BFAD-2	X	BFAD-3	X	BFAD-5
Blank-Off Plate	B	BOP-2	B	BOP-3	B	BOP-5
Motorized Fresh Air Damper	M	MFAD-2	M	MFAD-3	M	MFAD-5
Commercial Ventilator - Spring Return w/Exhaust	V	CRV-2	V	CRVS-3	V	CRVS-5
Commercial Ventilator - Power Return w/Exhaust	---	---	P	CRVP-3	P	CRVP-5
Economizer (Internal) - Fully Modulating	E	EIFM-2B	E	EIFM-3C	E	EIFM-5C
Energy Recovery Ventilator - 230 Volt	R	WERV-A2B-*	R	WERV-A3C-*	R	WERV-A5C-*
Energy Recovery Ventilator - 460 Volt	R	WERV-C2B-*	R	WERV-C3C-*	R	WERV-C5C-*

① Intake and exhaust can be independently adjusted.

* Color option must be specified to match unit (X = Beige, 4 = Buckeye Gray)

Heat Pump Control Modules

Factory Installed Code Number	Field Installed Part Number	Description			
		Low Pressure Control ①	Low Ambient Control and Relay ②	Start Kit ③	Outdoor Thermostat ④
B	CMH-3	●			
E	CMH-7		●		
O	CMH-9	●	●		
Q	CMH-14A				●
R	---	●	●		●
S	---	●	●	●	
T	---	●	●	●	●
P	CMC-15 ③			●	
U	---	●			●

① The low pressure control is auto reset. It includes a lock-out feature and is resettable from the wall thermostat. All low pressure controls use a timed bypass circuit to prevent nuisance tripping during low temperature start-up.

② The low ambient control includes an 8201-008 (fan relay) and permits cooling operation down to 0°F.

③ For WH242-A, WH303-A, WH363-A and WH423-A models. The CMC-15 can be used with any control module combination.

NOTE: The compressor anti-cycle relay is standard on all heat pump models.

④ The outdoor thermostat is adjustable from 0°F to 50°F. It is suitable for use as a compressor cut-off thermostat.



Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardhvac.com

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.

Form No.
S3210
February, 2009

Supersedes S3210-1008



THE WALL-MOUNT™ “QUIET-CLIMATE” HEAT PUMPS

Models: WH262, WH311, WH381, WH431, WH491, WH612

Heating Capacities: 21,000 to 55,000 BTUH

Cooling Capacities: 23,600 to 55,000 BTUH

Refrigerant 22

- High Efficiency
- Ultra Low Sound Level

The Bard Wall-Mount Heat Pump is a self-contained energy efficient heating and cooling 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 or correctional facilities. Factory or field installed accessories are available to meet specific job requirements.

Engineered Features

Aluminum Finned Copper Coils:

Grooved tubing and enhanced louvered fin for maximum heat transfer and energy efficiency.

Twin Blowers:

Move air quietly. All models feature multispeed blower motors providing airflow adjustment for free blow or ducted applications at a very low sound level. Motor overload protection is standard on all models.

Heat Pump Compressor:

Scroll compressor designed for increased efficiency, quieter operation and improved reliability for longer life. Eliminates need for a suction accumulator.

Phase Rotation Monitor:

Standard on all 3 phase scroll compressors. Protects against reverse rotation if power supply is not properly connected.

Galvanized 20 Gauge Zinc Coated Steel Cabinet:

Cleaned, rinsed, sealed and dried before the polyurethane primer is applied. The cabinet is handsomely finished with a baked on, beige textured enamel, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03.

Electrical Components:

Are easily accessible for routine inspection and maintenance through a right side, service panel opening. Features a lockable (key lock CAT60), hinged access cover to the circuit breaker.

Electric Heat Strips:

Features an automatic limit and thermal cut-off safety control. Heater packages are factory or field installed. Features easy slide-in field assembly with various BTUH outputs.

Two Speed Condenser Fan Motor:

Is controlled with outdoor thermostat and operates on low speed below 80°F outdoor temperature on cooling. In heating mode operates on high speed only. WH262 and WH311 are one speed only.

Condenser Fan and Motor Shroud Assembly:

Slide out for easy access.

One-Inch, Disposable Air Filters:

Are standard equipment. Optional 1-inch washable filters available and filter racks permit the addition of 2" pleated filter. Factory or field installed.

Solid State Electronic Heat Pump Control:

Provides efficient 30, 60 or 90-minute defrost cycle. A thermistor sensor, speed up terminal for service and 10 minute defrost override are standard on the electronic heat pump control.

High Pressure Switch:

Is built-in with a lockout circuit that resets from the room thermostat.

Five Minute Compressor Time Delay:

Short cycle protection is standard. Built into the heat pump control.

Thermal Expansion Valve:

Non-bleed TXV is standard on 2 through 4 ton. The 5 ton uses an orifice.

Emergency Heat Circuit:

Permits continuous operation of the system.

Barometric Fresh Air Damper:

Standard on all units. Allows up to 25% outside fresh air.

Built-in Circuit Breakers:

Standard on all models.

Slope Top:

Standard feature for water run-off.

Full Length Mounting Brackets:

Built into cabinet for improved appearance and easy installation.

NOTE: Bottom mounting bracket included to assist in installation.

Liquid Line Filter/Drier:

Is standard for maximizing refrigerant circuit protection.

Outdoor Coil Drain Pan:

Standard built in feature. Optional 8620-160 Drain Connection Kit is available (recommended for non-freezing climates only).

Top Rain Flashing:

Standard feature on all models.



Ventilation System Packages

All packages are designed to meet your specific ventilation requirements utilizing one of six ventilation options for the product. The ventilation package is mounted within the unit eliminating the need for an exterior mounted hood or damper assembly on the unit. All assemblies can be factory installed, installed in the field at time of installation or as a retrofit system after installation.

- Standard - Barometric Fresh Air Damper
- Optional - Adjustable Fresh Air Damper
- Optional - Motorized Fresh Air Damper
- Optional - Blank Off Plate
- Optional - Commercial Room Ventilator (CRV)
- Optional - Commercial Room Ventilator (CRV) with power exhaust
- Optional - Energy Recovery Ventilator with built-in exhaust

- Complies with efficiency requirements of ANSI/ASHRAE/IESNA 90.1-2007.
- Certified to ANSI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units).
- Commercial Product - Not intended for Residential application.



Capacity and Efficiency Ratings

MODELS	WH262	WH311	WH381	WH431	WH491	WH612
Cooling BTUH ①	24,000	26,400	35,400	42,000	46,500	55,000
EER ②	11.00	10.00	10.30	10.30	10.20	9.60
High Temp Heating (47F) BTUH ①	21,000	25,000	33,000	37,400	45,000	54,000
COP ②	3.00	3.00	3.10	3.00	3.00	3.00
Low Temp Heating (17F) BTUH ①	12,400	15,000	18,500	22,000	28,000	32,000
COP ②	2.00	2.00	1.90	2.00	2.10	2.00

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

② EER = Energy Efficiency Ratio, COP = Coefficient of Performance, and are certified in accordance with ANSI/ARI Standard 390-2003.

All ratings based on fresh air intake being 100% closed (no outside air introduction).

Specifications 2 through 3 Ton

MODELS	WH262-A	WH262-B	WH262-C	WH311-A	WH311-B	WH311-C	WH381-A	WH381-B	WH381-C
Electrical Rating -- 60 HZ	230/208-1	230/208-3	460-3	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	197-253	197-253	414-506
Compressor -- Circuit A									
Voltage	230/208	230/208	460	203/208	230/208	460	230/208	230/208	460
Rated Load Amps	8/9	7.5/9.3	4.7	13.9/16.7	9.6/11.5	5.3	15.3/19.5	10.3/13.0	6.2
Branch Circuit Selection Current	11	9.3	4.7	16.7	11.5	5.3	19.5	13.0	6.2
Lock Rotor Amps	54/54	45/45	22.4	67/67	55/55	27.0	88/88	77/77	39
Fan Motor & Condenser									
Fan Motor -- HP - RPM - SPD	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/3-825-2	1/3-825-2	1/3-825-2
Fan Motor -- Amps	1.5	1.5	1.1	1.5	1.5	1.1	2.5	2.5	1.1
Fan -- DIA - CFM	20"-1900	20"-1900	20"-1900	20"-1900	20"-1900	20"-1900	24"-2900	24"-2900	24"-2900
Motor & Evaporator									
Blower Motor -- HP - RPM - SPD	1/5-850-2	1/5-850-2	1/5-850-2	1/5-850-2	1/5-850-2	1/5-850-2	1/4-800-3	1/4-800-3	1/4-800-3
Blower Motor -- Amps	1.4	1.4	.65	1.4	1.4	.65	1.9	1.9	1.3
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	800 - .10	800 - .10	800 - .10	800 - .10	800 - .10	800 - .10	1100 - .15	1100 - .15	1100 - .15
Filter Sizes (inches) STD	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Shipping Weight -- LBS.	365	365	365	380	380	380	510	510	510

Specifications 3-1/2 through 5 Ton

MODELS	WH431-A	WH431-B	WH431-C	WH491-A	WH491-B	WH491-C	WH612-A	WH612-B	WH612-C
Electrical Rating -- 60 HZ	230/208-1	230/208-3	460-3	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	197-253	197-253	414-506
Compressor -- Circuit A									
Voltage	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	18.2/21.7	12.7/15.1	7.0	21.5/26.7	14.4/17.9	9.0	25.8/30.4	16.9/19.7	8.7
Branch Circuit Selection Current	21.7	15.1	7.0	26.7	17.9	9.0	30.4	19.7	9.0
Lock Rotor Amps	104/104	88/88	44	129/129	91/91	46	148/148	123/123	62
Fan Motor & Condenser									
Fan Motor -- HP - RPM - SPD	1/3-825-2	1/3-825-2	1/3-825-1	1/3-825-2	1/3-825-2	1/3-825-1	1/3-825-2	1/3-825-2	1/3-825-1
Fan Motor -- Amps	2.5	2.5	1.1	2.5	2.5	1.1	2.5	2.5	1.1
Fan -- DIA - CFM	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900
Motor & Evaporator									
Blower Motor -- HP - RPM - SPD	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3
Blower Motor -- Amps	1.9	1.9	1.3	1.9	1.9	1.3	1.9	1.9	1.3
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	1300 - .15	1300 - .15	1300 - .15	1250 - .20	1250 - .20	1250 - .20	1350 - .20	1350 - .20	1350 - .20
Filter Sizes (inches) STD	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Shipping Weight -- LBS.	510	510	510	510	510	510	520	520	520

Ventilation System Packages

Bard Wall-Mounts are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. All units are equipped with a barometric fresh air damper as the standard ventilation package. All ventilation packages can be built-in at the factory, or field-installed at a later date.



Barometric Fresh Air Damper

BAROMETRIC FRESH AIR DAMPER - BFAD

STANDARD

The barometric fresh air damper 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.

BLANK OFF PLATE - BOP

OPTIONAL

A blank off plate is installed on the inside of the service door. It covers the air inlet openings which restricts any outside air from entering the unit. The blank off plate should be utilized in applications where outside air is not required to be mixed with the conditioned air.



Motorized Fresh Air Damper

MOTORIZED FRESH AIR DAMPER - MFAD

OPTIONAL

The motorized fresh air damper is internally mounted behind 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 two position damper can be fully open or closed. The damper blade is powered open by a 24VAC motor with spring return on power loss. The damper can be controlled by indoor blower operation or can be field connected to be managed based on building occupancy.

COMMERCIAL ROOM VENTILATOR - CRV

OPTIONAL

The built-in commercial room ventilator is internally mounted behind the service door and allows outside ventilation air, up to 50% of the total airflow rating of the unit, to be introduced through the air inlet openings.



Commercial Room Ventilator

The commercial room ventilator (CRV) is a simple and innovative approach to improving the indoor air quality by providing fresh air through the CRV. The damper can be easily adjusted to control the amount of fresh air supplied into the building. The CRV can be controlled by indoor blower operation or field controlled based on room occupancy. The CRV is power open - spring return on power loss. Complies with ANSI/ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality."

ADJUSTABLE FRESH AIR DAMPER - AFAD

OPTIONAL

Similar to commercial room ventilator (CRV) in design and construction except is non-motorized. The damper is manually set and locked into position. The AFAD has the same ventilation capacity as the CRV.

NOTE: The above vent systems are intake only without built-in exhaust capability. Building will likely require separate field installed barometric relief or mechanical exhaust elsewhere within the conditioned space. Balancing dampers in the return air grille may be required to achieve specified amount of outdoor air intake.

COMMERCIAL POWER EXHAUST VENTILATOR - CPVE

OPTIONAL

The built-in commercial power exhaust ventilator is internally mounted in the heat pump and allows outside ventilation air, up to 485 CFM, to be introduced through the air inlet openings.

The commercial power exhaust ventilator (CPVE) is a simple and innovative approach to improving the indoor air quality by providing fresh air through the heat pump system. The ventilation airflow can be easily adjusted by changing speed tap on the 3-speed power exhaust blower motor. The CPVE can be controlled by indoor blower motor or field controlled by thermostats with independent ventilation control capability or other occupancy sensing controls. Complies with ANSI/ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality".

WALL-MOUNT ENERGY RECOVERY VENTILATOR - WERV

OPTIONAL

The wall-mount energy recovery ventilator (WERV) is a highly innovative approach to meeting indoor air quality ventilation requirements as established by ANSI/ASHRAE Standard 62.1. The WERV allows from 200 to 450 CFM (depending upon model) of fresh air and exhaust through the unit while maintaining superior indoor comfort and humidity levels. In most cases this can be accomplished without increasing equipment sizing or operating costs. Heat transfer efficiency is up to 67% during summer and 75% during winter conditions.

The WERV consists of a unique "rotary energy recovery cassette" that provides effective sensible and latent heat transfer capabilities during summer and winter conditions. Various control schemes are addressed including limiting ventilation during building occupancy only.

The WERV is designed to be internally mounted behind the service door in the WA, WH or WL model wall-mount units. It can be built-in at the factory or field installed as an option. WERV-*3C and WERV-*5C can be independently adjusted for intake and exhaust rates.



Energy Recovery Ventilator

Clearances Required for Service Access and Adequate Condenser Air Flow

MODELS	LEFT SIDE	RIGHT SIDE
All Models	20"	20"

Minimum Clearances Required to Combustible Materials

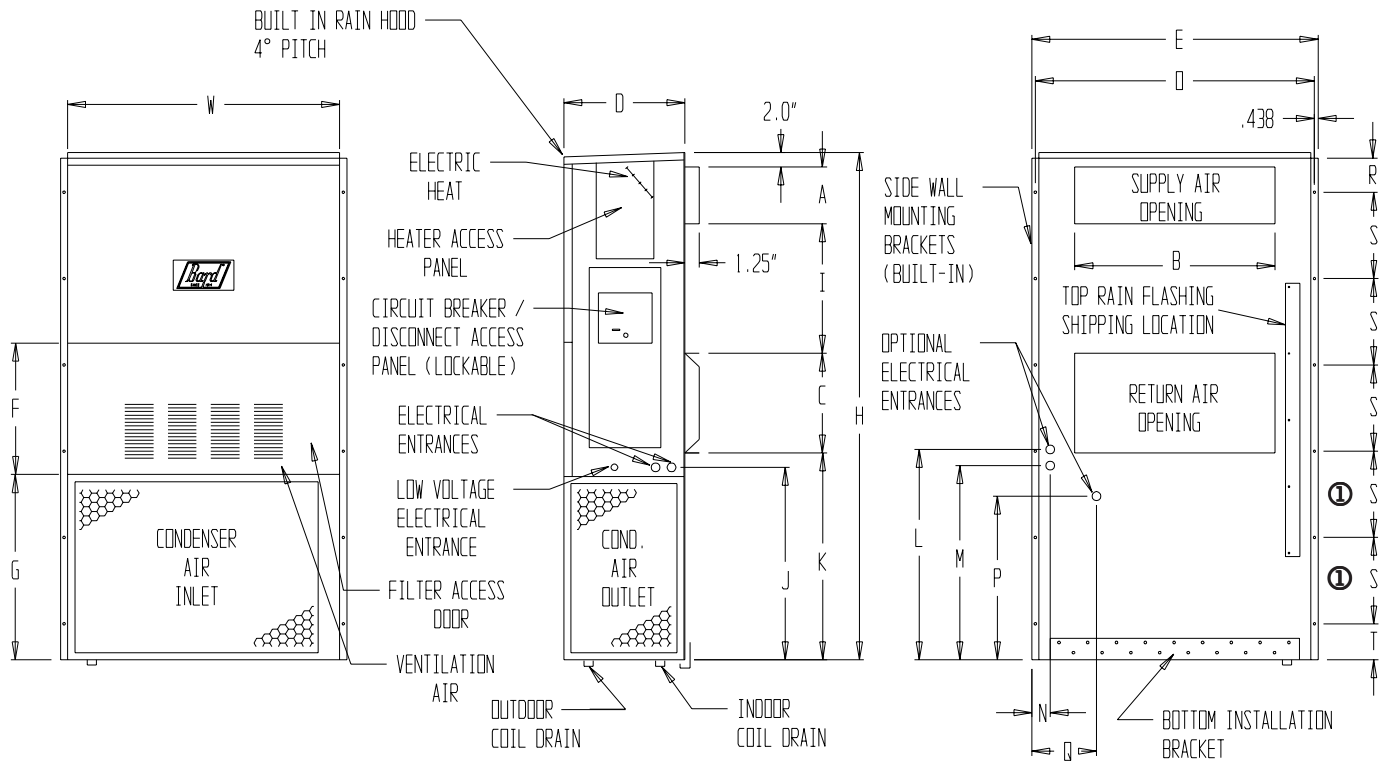
MODELS ①	SUPPLY AIR DUCT FIRST THREE FEET	CABINET
All Models	1/4"	0"

① Refer to the Installation Manual for more detailed information.

Dimensions of Basic Unit for Architectural and Installation Requirements (Nominal)

MODEL	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN																
				A	B	C	B	E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T
WH262 WH311	38.200	17.125	70.563	7.88	27.88	13.88	27.88	40.00	18.50	25.75	17.93	26.75	28.75	29.25	27.00	2.75	39.13	22.75	9.14	4.19	12.00	5.00
WH381 WH431 WH491	42.075	22.432	84.875	9.88	29.88	15.88	29.88	43.88	19.10	31.66	30.00	32.68	26.94	34.69	32.43	3.37	43.00	23.88	10.00	1.44	16.00	1.88
WH612	42.075	22.432	94.875	9.88	29.88	15.88	29.88	43.88	19.10	41.66	30.00	42.68	36.94	44.69	42.43	3.37	43.00	33.88	10.00	1.44	16.00	1.88

All dimensions are in inches. Dimensional drawings are not to scale.



MIS-1270 A

① 21.00 for model WH612 on lower 2 positions only.

FRONT VIEW

RIGHT SIDE VIEW

BACK VIEW

Electrical Specifications

Models	Rated Volts, HZ and Phase	No. of Field Power Circuits	Single Circuit				Dual Circuit							
			Minimum Circuit Ampacity ①	Maximum External Fuse or Circuit Breaker ②	Field Power Wire Size ③	Ground Wire Size ④	Min. Circuit Ampacity		Max. Circuit Exterior Fuse or Crt. Bkr.		Field Power Wire Size		Ground Wire Size	
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WH262-A0Z	230/208-60-1	1	19	25	8	10								
-A04	230/208-60-1	1	40	50	8	10								
-A08	230/208-60-1	1	48	50	8	10								
WH262-B0Z	230/208-60-3	1	18	25	10	10								
-B06	230/208-60-3	1	35	40	8	10								
WH262-C0Z	460-60-3	1	10	15	14	14								
-C06	460-60-3	1	18	20	12	12								
WH311-A0Z	230/208-60-1	1	26	40	8	10								
-A04	230/208-60-1	1	48	50	8	10								
-A08	230/208-60-1	1	48	50	8	10								
WH311-B0Z	230/208-60-3	1	20	30	10	10								
-B06	230/208-60-3	1	38	45	8	10								
WH311-C0Z	460-60-3	1	11	15	14	14								
-C06	460-60-3	1	19	20	12	12								
WH381-A0Z	230/208-60-1	1	31	45	8	10								
-A05	230/208-60-1	1 or 2	57	70	6	8	31/26		50/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	73	80	4	8	31/42		50/45		8/8		10/10	
-A10	230/208-60-1	1 or 2	83	90	4	8	31/52		50/60		8/6		10/10	
WH381-B0Z	230/208-60-3	1	23	35	10	10								
-B06	230/208-60-3	1	41	45	8	10								
-B09	230/208-60-3	1	50	50	6	10								
WH381-C0Z	460-60-3	1	13	15	14	14								
-C06	460-60-3	1	21	25	10	10								
-C09	460-60-3	1	25	30	10	10								
WH431-A0Z	230/208-60-1	1	34	50	8	10								
-A05	230/208-60-1	1 or 2	60	70	6	8	34/26		50/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	76	80	4	8	34/42		50/45		8/8		10/10	
-A10	230/208-60-1	1 or 2	86	90	3	8	34/52		50/60		8/6		10/10	
WH431-B0Z	230/208-60-3	1	25	35	10	10								
-B06	230/208-60-3	1	43	50	8	10								
-B09	230/208-60-3	1	52	60	6	10								
WH431-C0Z	460-60-3	1	14	20	12	12								
-C06	460-60-3	1	22	25	10	10								
-C09	460-60-3	1	26	30	10	10								
WH491-A0Z	230/208-60-1	1	40	60	8	10								
-A05	230/208-60-1	1 or 2	66	70	4	8	40/26		50/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	82	90	4	8	40/42		50/45		8/8		10/10	
-A10	230/208-60-1	1 or 2	92	100	3	8	40/52		50/60		8/6		10/10	
WH491-B0Z	230/208-60-3	1	29	45	10	10								
-B06	230/208-60-3	1	47	60	8	10								
-B09	230/208-60-3	1	57	60	6	10								
WH491-C0Z	460-60-3	1	16	20	12	12								
-C06	460-60-3	1	24	30	10	10								
-C09	460-60-3	1	29	30	10	10								
WH612-A0Z	230/208-60-1	1	46	60	8	10								
-A05	230/208-60-1	1 or 2	72	90	4	8	46/26		60/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	88	90	3	6	46/42		60/50		8/8		10/10	
-A10	230/208-60-1	1 or 2	98	100	3	6	46/52		60/60		8/6		10/10	
④ -A20	230/208-60-1	1 or 2	111	120	2	6	46/52		60/60		8/6		10/10	
WH612-B0Z	230/208-60-3	1	33	45	8	10								
-B09	230/208-60-3	1	59	60	8	10								
WH612-C0Z	460-60-3	1	15	20	12	10								
-C09	460-60-3	1	29	30	10	10								

① These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to 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 (3) current carrying conductors are in a raceway.

② Maximum size of time delay fuse or HACR type circuit breaker for protection of field power conductors.

③ Based on 75C copper wire. All wiring must conform to National Electrical Code and all local codes.

④ Maximum KW that can operate concurrently with heat pump on is 10KW. All 20KW will operate during emergency heat condition.

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.

Indoor Blower Performance - CFM at 230 or 460 Volts

ESP in Inches Water Column	WH262, WH311		WH381			WH431, WH491			WH612		
	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Med. Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Med. Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Med. Speed Dry/Wet Coil	Low Speed Dry/Wet Coil
.0	1050/1000	950/900	1625/1475	1425/1325	1125/1100	1700/1550	1475/1375	N/A	1700/1600	1475/1425	N/A
.1	900/850	840/800	1475/1350	1325/1200	1100/1000	1550/1400	1375/1250	N/A	1550/1500	1375/1350	N/A
.2	750/700	700/650	1350/1150	1200/1025	1000/850	1400/1250	1250/1100	N/A	1400/1350	1250/1200	N/A

● Above data is with 1" standard disposable or 1" washable filter

N/A = Not Applicable

● For optional 2" pleated filter - reduce ESP by 0.08 in.

● Recommended (factory connected) motor speed for ducted installation:

WH262, WH311, WH381: Medium Speed

WH431, WH491, WH611: High Speed

● Reconnect to next lower speed for free blow (non-ducted) installation.

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	Btuh	Kw	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh
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						
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.

Heater Packages - Field Installed

● Designed for adding Electric Heat to 0 KW Units

● UL Listed

● Circuit Breaker Standard on All Models

● CUL Listed

Heat Pump Models	-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 460-3	
	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
WH262	EHS31-A04	4	EHS31-B06	6	EHW31-C06	6
	EHS31-A08	8				
WH311	EHS31-A04	4	EHS31-B06	6	EHW31-C06	6
	EHS31-A08	8				
WH381	EWH38-A05	5	EWH38-B06 EWH38-B09	6 9	EWH49-C06 EWH49-C09	6 9
	EWH49-A08	8				
	EWH49-A10	10				
WH431 WH491	EWH49-A05	5	EWH49-B06 EWH49-B09	6 9	EWH49-C06 EWH49-C09	6 9
	EWH49-A08	8				
	EWH49-A10	10				
WH612	EWH61-A05	5	EWH49-B09	9	EWH61-C09	9
	EWH61-A08	8				
	EWH61-A10	10				
	EWH61A-A20	20				

Performance Data for Commercial Power Exhaust Ventilator

Indoor Blower Speed Tap	Power Exhaust Speed	CFM of Fresh Air
Low	Low	310
Medium	Medium	385
High	High	485
Low	High	450
Medium	Low	305
High	Medium	390
Low	Medium	375
Medium	High	480
High	Low	335

Cooling Application Data - Outdoor Temperature °F ①

Model	D.B./W.B. °	Cooling Capacity	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F
WH262	75/ 62	Total Cooling	23,800	23,200	22,500	21,700	20,900	20,200	19,500	18,700	18,000
		Sensible Cooling	19,200	18,700	18,300	17,800	17,400	16,900	16,500	16,000	15,600
	80/ 67	Total Cooling	25,400	25,200	24,900	24,500	24,000	23,500	23,000	22,300	21,600
		Sensible Cooling	18,600	18,300	18,100	17,800	17,500	17,200	16,900	16,500	16,200
WH311	85/ 72	Total Cooling	30,300	29,500	28,600	27,700	26,700	25,700	24,800	23,800	22,700
		Sensible Cooling	19,100	18,600	18,200	17,700	17,200	16,700	16,100	15,500	15,000
	75/ 62	Total Cooling	27,900	26,600	25,400	24,300	23,100	22,100	21,100	20,200	19,400
		Sensible Cooling	20,400	20,000	19,500	19,000	18,500	17,900	17,300	16,700	16,000
WH381	80/ 67	Total Cooling	29,800	29,000	28,200	27,400	26,500	25,700	24,900	24,100	23,300
		Sensible Cooling	19,800	19,600	19,300	19,000	18,600	18,200	17,700	17,200	16,600
	85/ 72	Total Cooling	35,500	33,900	32,400	31,000	29,500	28,100	26,900	25,700	24,500
		Sensible Cooling	20,300	19,900	19,400	18,900	18,300	17,600	16,900	16,200	15,300
WH431	75/ 62	Total Cooling	38,700	36,500	34,400	32,600	30,900	29,500	28,400	27,400	26,500
		Sensible Cooling	30,000	29,200	28,300	27,500	26,800	26,100	25,500	24,800	24,200
	80/ 67	Total Cooling	41,300	39,700	38,200	36,800	35,400	34,400	33,500	32,600	31,900
		Sensible Cooling	29,100	28,600	28,000	27,500	27,000	26,500	26,100	25,600	25,200
WH491	85/ 72	Total Cooling	49,200	46,400	43,900	41,600	39,500	37,700	36,100	34,700	33,500
		Sensible Cooling	29,800	29,100	28,200	27,300	26,500	25,700	24,900	24,000	23,200
WH612	75/ 62	Total Cooling	44,000	42,200	40,400	38,500	36,600	34,700	32,700	30,700	28,700
		Sensible Cooling	35,600	34,300	33,000	31,900	30,900	30,000	29,100	28,300	27,600
	80/ 67	Total Cooling	47,000	46,000	44,800	43,500	42,000	40,400	38,600	36,600	34,500
		Sensible Cooling	34,500	33,600	32,700	31,900	31,200	30,500	29,800	29,200	28,700
WH491	85/ 72	Total Cooling	56,000	53,800	51,500	49,100	46,700	44,200	41,600	39,000	36,300
		Sensible Cooling	35,400	34,100	32,900	31,700	30,600	29,500	28,400	27,400	26,500
WH491	75/ 62	Total Cooling	48,900	46,900	44,800	42,700	40,500	38,400	36,200	34,000	31,800
		Sensible Cooling	36,000	35,000	34,000	33,100	32,100	31,300	30,200	29,300	28,500
	80/ 67	Total Cooling	52,200	51,100	49,700	48,200	46,500	44,700	42,700	40,500	38,200
		Sensible Cooling	34,900	34,300	33,700	33,100	32,400	31,800	31,000	30,300	29,600
WH612	85/ 72	Total Cooling	62,200	59,800	57,100	54,400	51,700	48,900	46,100	43,100	40,200
		Sensible Cooling	35,800	34,800	33,900	32,900	31,800	30,800	29,600	28,400	27,300
WH612	75/ 62	Total Cooling	56,000	54,200	52,100	50,100	48,000	45,800	43,600	41,300	39,000
		Sensible Cooling	40,100	39,400	38,600	37,700	36,800	35,800	34,600	33,500	32,200
	80/ 67	Total Cooling	59,800	59,000	57,900	56,600	55,000	53,300	51,400	49,200	46,900
		Sensible Cooling	38,900	38,600	38,200	37,700	37,100	36,400	35,550	34,600	33,500
WH612	85/ 72	Total Cooling	71,200	69,000	66,500	63,900	61,200	58,300	55,400	52,400	49,300
		Sensible Cooling	39,900	39,200	38,400	37,500	36,400	35,200	33,800	32,500	30,900

① Below 65°F, unit requires a factory or field installed low ambient control.

② Return air temperature °F.

Capacity Multiplier Factors

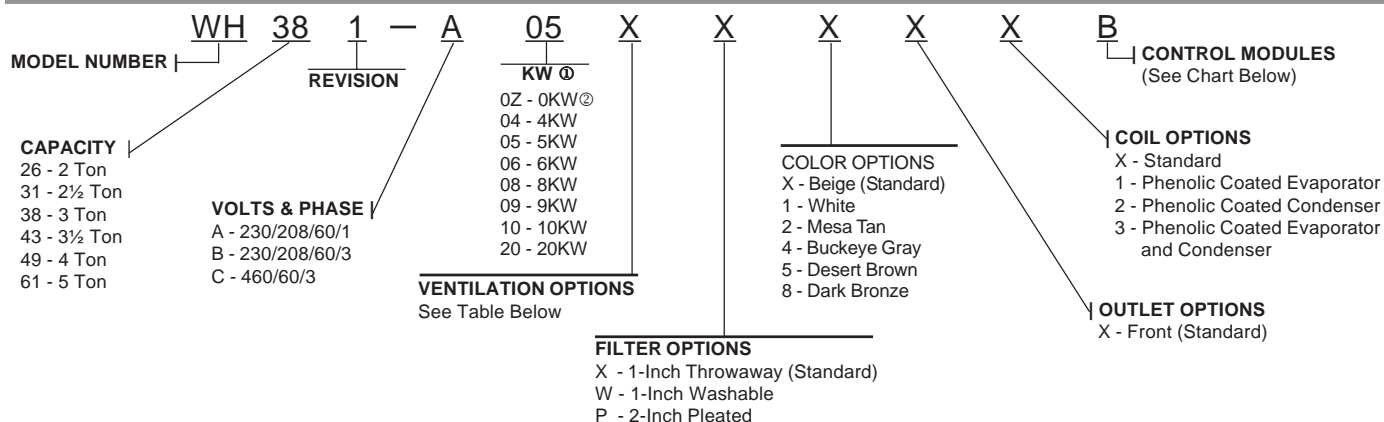
% of Rated Airflow	-10	Rated	+10
Total BTUH	0.975	1.0	1.02
Sensible BTUH	0.950	1.0	1.05

Heating Application Rating & Outdoor Temperature °F*

Model		0°F	5°F	10°F	15°F	20°F	25°F	30°F	35°F	40°F	45°F	50°F	55°F	60°F
WH262	BTUH	7,600	9,000	10,400	11,900	13,000	14,000	15,000	15,900	18,100	20,200	21,900	23,300	24,800
	WATTS	1690	1730	1770	1810	1850	1900	1950	2000	2030	2050	2080	2120	2160
	COP	1.32	1.53	1.73	1.93	2.06	2.16	2.26	2.33	2.62	2.89	3.09	3.23	3.37
WH311	BTUH	9,400	11,000	12,700	14,400	15,300	15,700	16,100	16,600	20,100	23,600	26,000	27,700	29,400
	WATTS	2060	2100	2150	2190	2220	2240	2270	2290	2360	2420	2470	2510	2550
	COP	1.34	1.54	1.74	1.93	2.02	2.06	2.08	2.13	2.50	2.86	3.09	3.24	3.38
WH381	BTUH	10,300	12,700	15,200	17,600	19,400	20,800	22,200	23,600	27,500	31,500	34,500	36,900	39,300
	WATTS	2710	2750	2800	2850	2870	2890	2900	2910	3010	3110	3180	3230	3270
	COP	1.12	1.36	1.60	1.81	2.00	2.11	2.25	2.38	2.68	2.97	3.18	3.35	3.53
WH431	BTUH	13,300	15,900	18,400	21,000	23,600	26,200	28,800	31,400	33,900	36,500	39,100	41,700	44,300
	WATTS	3010	3070	3130	3180	3240	3300	3360	3420	3470	3530	3590	3650	3710
	COP	1.30	1.52	1.73	1.94	2.14	2.33	2.52	2.70	2.87	2.95	3.15	3.35	3.50
WH491	BTUH	18,400	21,300	24,100	26,700	29,600	32,600	34,400	38,300	41,100	43,900	46,800	49,600	52,400
	WATTS	3500	3590	3690	3780	3880	3970	4070	4160	4260	4350	4450	4540	4640
	COP	1.55	1.74	1.92	2.09	2.26	2.41	2.55	2.70	2.83	2.96	3.09	3.21	3.31
WH612	BTUH	22,600	26,200	29,700	33,200	35,000	36,100	37,100	37,900	45,900	53,900	59,200	62,900	66,600
	WATTS	4540	4720	4900	5080	5180	5230	5280	5330	5700	6080	6330	6510	6690
	COP	1.46	1.63	1.79	1.87	1.96	2.04	2.06	2.09	2.36	2.60	2.75	2.84	2.92

*70°F DB indoor return air at rated CFM includes defrost operation below 45°.

Heat Pump Wall-Mount Model Nomenclature



① Not all KW available on all models. See pages 5 & 6 for details

② 0Z is 0KW and circuit breaker (230/208V) or toggle disconnect (460V). Use 00 for 0KW and no circuit breaker or disconnect.

Ventilation Options

MODELS	WH262, WH311		WH381, WH431, WH491, WH612	
DESCRIPTION	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.
Barometric Fresh Air Damper - Standard	X	BFAD-3	X	BFAD-5
Blank-Off Plate	B	BOP-3	B	BOP-5
Motorized Fresh Air Damper	M	MFAD-3	M	MFAD-5
Commercial Ventilator - Motorized	C	CRV-3	C	CRV-5
Commercial Power Exhaust Ventilator 230V	Not Available	Not Available	G	CPVE6-A
Commercial Power Exhaust Ventilator 460V	Not Available	Not Available	G	CPVE6-C
Adjustable Fresh Air Damper	A	AFAD-3	A	AFAD-5
Energy Recovery Ventilator w/Built-in Exhaust 230V	R	WERV-A3C-* ①	R	WERV-A5C-* ①
Energy Recovery Ventilator w/Built-in Exhaust 460V	R	WERV-C3C-* ①	R	WERV-C5C-* ①

Note: All vent systems, except Energy Recovery Ventilator and Commercial Power Exhaust Ventilator, are without exhaust capability and may require separate field installed barometric relief elsewhere within the conditioned space.

① Intake and exhaust can be independently adjusted.

* Color option must be specified to match unit (X = Beige, 4 = Buckeye Gray)

Heat Pump Control Modules

Factory Installed Code Number	Field Installed Part Number	Description			
		Low Pressure Control ①	Low Ambient Control and Relay ②	Start Kit	Outdoor Thermostat ③
B	CMH-3	●			
E	CMH-7		●		
O	CMH-9	●	●		
Q	CMH-14A				●
Field Installed Only	CMC-15 ④			●	
Field Installed WH26 - WH49	SK111 ⑤			●	
Field Installed WH61	SK113 ⑤			●	

① The low pressure control is auto reset. It includes a lockout feature and is resettable from the wall thermostat. All low pressure controls use a timed bypass circuit to prevent nuisance tripping during low temperature start-up.

② The low ambient control includes an 8201-008 (fan relay) and permits cooling operation down to 0°F.

③ For use only on WH381, WH431, WH491 and WH612 models only. The outdoor thermostat is adjustable from 0°F to 50°F. It is suitable for use as a compressor cut-off thermostat.

④ PTCR start kit can be used with all -A single phase models. Increases starting torque 2-3x. Not used for -B or -C three phase models. Do not use if SK111 or SK113 is used.

⑤ Start capacitor and potential relay start kit can be used with all -A single phase models. Increases starting torque 9x. Not used for -B or -C three phase models. Do not use if CMC-15 is used.



Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardhvac.com

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.

**Form No.
S3341
February, 2009**

Supersedes S3341-808



THE WALL-MOUNT™ STEP CAPACITY HEAT PUMPS

Integrated Part Load Value (IPLV) Efficiency Up To 15.0 BTU/WATT

GREEN REFRIGERANT
R-410A

Models: C24H to C60H
Cooling Capacities:
Heating Capacities:

Up to 11.0 EER
22,200 to 55,500 BTUH
19,200 to 51,000 BTUH

QUIET CLIMATE FLEX™ *

The Bard Wall-Mount Heat Pump is a self-contained energy efficient heating and cooling 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, and the like. Factory or field installed accessories are available to meet specific job requirements.

CH Series Special Features

ECM Indoor Blower Motor:

Features a variable speed motor providing super-high efficiency, low sound levels & soft-start capabilities. The motor is self-adjusting to provide the proper airflow rate for the staged capacity, and for higher static pressure in ducted installations without user adjustment or wiring changes.

Step Capacity Compressor:

Scroll 2-Stage Compressors are standard on all 2 to 5 ton models. Eliminates need for crankcase heater.

Double isolated floating compressor mounting system, compressor sound blanket, and discharge line muffler for reduced sound level.

Quiet Curb Options:

Various curbs are specially designed for the CH product family that reduce sound levels for school and occupied building applications.

Draw-Thru Condenser Airflow:

Condenser air is brought in from the front of the unit condenser section, and exhausted through the side grilles. This allows quiet operation, and avoids heat pump defrost water accumulation in front of the CH unit.

Engineered Features

Copper Tube/Aluminum Fin Coils:

Grooved copper tubing and enhanced aluminum fins provide maximum heat transfer and high energy efficiency. Optional phenolic-coated coils are also available.

Twin Blowers:

Move air quietly. All models feature variable speed blower motors providing airflow adjustment for high and low static operation. Motor overload protection is standard on all models.

Phase Rotation Monitor:

Standard on all 3 phase scroll compressors. Protects against reverse rotation if power supply is not properly connected.

R-410A Refrigerant:

Designed with R-410A (HFC) non-ozone depleting refrigerant in compliance with the Montreal protocol and 2010 EPA requirements.

Liquid Line Filter Drier:

Standard on all units. Protects system against moisture.

Foil Faced Insulation:

Standard on all units.

Galvanized 20 Gauge Zinc Coated Cabinet:

Cleaned, rinsed, sealed and dried before the polyurethane primer is applied. The cabinet is handsomely finished with a baked on, beige textured enamel, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03. Stainless Steel cabinets available.

Electrical Components:

Are easily accessible for routine inspection and maintenance through a right side, service panel opening. Features a lockable, hinged access cover to the circuit breaker or rotary disconnect switch.

Electric Heat Strips:

Features an automatic limit and thermal cut-off safety control. Heater packages are factory or field installed for all 2 through 5 ton models. Features easy slide-in field assembly with various BTUH outputs.

Condenser Fan and Motor

Shroud Assembly:

Slide out for easy access.

Filter Service Door:

Separate service door provides easy access for filter change.

One Inch, Disposable Air Filters:

Are standard equipment. Filter rack permits the addition of 2" pleated filter. Factory or field installed.

Solid State Electronic Heat Pump Control:

Provides efficient 30, 60 or 90 minute defrost cycle. A thermistor sensor, speed up terminal for service and 10 minute defrost override are standard on the electronic heat pump control.

High & Low Pressure Switches are Auto-Reset:

Standard on all units. Built-in lockout circuit resets from the room thermostat. Provides commercial quality protection to the compressor.

Five Minute Compressor Time Delay:

Short cycle protection is standard. Built into the heat pump control.

Built-in Circuit Breakers:

Standard on all electric heat versions of single (230/208 volt) and three phase (230/208 volt) equipment. Rotary disconnects are standard on three phase (460 volt) equipment. 460V circuit breaker



Model C42H shown with TCURBF3660 Wall Curb Attached
* Quiet Curb Option must be added to obtain Quiet Climate Flex™ sound ratings.

available as option on OKW only.

Slope Top:

Standard feature for water run-off.

Full Length Mounting Brackets:

Built into cabinet for improved appearance and easy installation. NOTE: Bottom mounting bracket included to assist in installation.

Top Rain Flashing:

Standard feature on all models.

Outdoor Coil Drain Pan:

Standard built in feature. 8620-160 Drain Connection Kit is standard (recommended for non-freezing climates only).



Intertek

Form No. S3459-1217
Supersedes S3459-316
Page 1 of 24

Bard is an
ISO 9001:2008
Certified Manufacturer

Certified Capacity and Efficiency Ratings at Full Capacity

MODELS	C24H1	C30H1	C36H1	C42H1	C48H1	C60H1
Cooling BTUH, Stage 2 (Full Capacity) ① 80/67-95	22,200	29,200	35,000	40,000	45,500	55,500
EER ①②	11.0	11.0	11.0	11.0	11.0	10.6
Rated CFM	740	900	1100	1250	1500	1650
IPLV (Integrated Stage 1 and Stage 2) ①③ 80/67-80	14.3	14.5	14.5	14.5	15.0	14.8
High Temperature 47° Heating BTUH, Stage 2 (Full Capacity)	19,200	25,600	31,000	38,500	41,500	51,000
COP ①④	3.10	3.20	3.30	3.40	3.40	3.20
Rated CFM	740	900	1100	1250	1500	1650

- ① Certified in accordance with ARI Standard 390-2003 for single package vertical units
 ② EER = Energy Efficiency Ratio - BTU/WATT efficiency
 ③ Integrated Part Load Value - BTU/WATT efficiency (combines Stage 1 & 2 performance)
 ④ COP = Coefficient of Performance - BTU/WATT efficiency

Capacity and Efficiency Ratings at Partial Capacity

MODELS	C24H1	C30H1	C36H1	C42H1	C48H1	C60H1
Cooling BTUH, Stage 1 (Partial Capacity) 80/67-80	17,700	24,000	27,000	31,400	35,800	43,000
EER @ Part Load (80/67-80) Stage 1 Cooling	14.4	14.75	14.8	14.7	15.5	14.9
Operating CFM	550	650	750	900	1000	1300
High Temperature Heating 47° BTUH, Stage 1 (Partial Capacity)	14,200	18,600	21,400	26,600	29,200	36,000
Operating CFM	550	650	750	900	1000	1300

Specifications 2-1/2 through 3 Ton

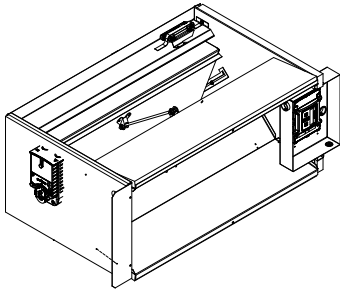
MODELS	C24H1-A	C24H1-B	—	C30H1-A	C30H1-B	C30H1-C	C36H1-A	C36H1-B	C36H1-C
Electrical Rating--60 Hz	230/208-1	230/208-3	---	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3
Operating Voltage Range	197 - 253	197 - 253	---	197 - 253	197 - 253	414 - 506	197 - 253	197 - 253	414 - 506
Compressor--Circuit A									
Voltage	203/208	230/208	---	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	7.5 / 8.4	4.2 / 4.7	---	9.7 / 11.2	7.2 / 8.3	4.2	11.8 / 13.3	9.0 / 10.1	5.0
Branch Circuit Selection Current	11.7	6.5	---	13.1	8.7	4.3	15.3	11.7	5.8
Lock Rotor Amps	58.3 / 58.3	55.4 / 55.4	---	73 / 73	58 / 58	28	83 / 83	73 / 73	38
Compressor Type	Scroll	Scroll	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Fan Motor & Condenser									
Fan Motor--HP-RPM-SPD	1/5-1050-1	1/5-1050-1	---	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/3-825-2	1/3-825-2	1/3-825-2
Fan Motor--Amps	1.5	1.5	---	1.5	1.5	.8	2.5	2.5	1.3
Fan--DIA/CFM	20"-1900	20"-1900	---	20"-1900	20"-1900	20"-1900	24"-2900	24"-2900	24"-2900
Blower Motor & Evap.									
Blower Motor--HP-RPM-SPD	1/3 Var.	1/3 Var.	---	1/3 Var.	1/3 Var.	1/3 Var.	1/2 Var.	1/2 Var.	1/2 Var.
Blower Motor--Amps	2.4	2.4	---	2.8	2.8	2.8	2.8	2.8	2.8
CFM w/Filter ①	740 - .10	740 - .10	---	900 - .10	900 - .10	900 - .10	1100 - .15	1100 - .15	1100 - .15
Filter Sizes (inches) STD.	16 x 30 x 1	16 x 30 x 1	---	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Basic Unit Weight-LBS.									
Blank-Off Plate	380	380	---	380	380	380	475	475	475
Commercial Room Ventilator	1.0	1.0	---	1.0	1.0	1.0	1.0	1.0	1.0
Economizer	35.0	35.0	---	35.0	35.0	35.0	35.0	35.0	35.0
Energy Recovery Ventilator	45.0	45.0	---	45.0	45.0	45.0	45.0	45.0	45.0
	64.0	64.0	---	64.0	64.0	64.0	64.0	64.0	64.0

Specifications 3-1/2 through 5 Ton

MODELS	C42H1-A	C42H1-B	C42H1-C	C48H1-A	C48H1-B	C48H1-C	C60H1-A	C60H1-B	C60H1-C
Electrical Rating--60 Hz	230/208-1	230/208-3	460-3	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	197 - 253	197 - 253	414 - 506
Compressor--Circuit A									
Voltage	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	14.0 / 15.9	11.2 / 12.7	5.6	16.8 / 19.2	11.1 / 12.7	5.8	21.4 / 23.3	13.1 / 14.2	6.2
Branch Circuit Selection Current	18.0	14.2	6.3	21.2	14.1	6.5	27.2	16.6	7.3
Lock Rotor Amps	96 / 96	88 / 88	44	104	83 / 83	41	153 / 153	110 / 110	52
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Fan Motor & Condenser									
Fan Motor--HP-RPM-SPD	1/3-825-2	1/3-825-2	1/3-825-1	1/3-825-2	1/3-825-2	1/3-825-1	1/2-1025-1	1/2-1025-1	1/2-1025-1
Fan Motor--Amps	2.5	2.5	1.3	2.5	2.5	1.3	4.1	4.1	4.1
Fan--DIA/CFM	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-3700	24"-3700	24"-3700
Blower Motor & Evap.									
Blower Motor--HP-RPM-SPD	3/4 Var.	3/4 Var.	3/4 Var.	3/4 Var.	3/4 Var.	3/4 Var.	3/4 Var.	3/4 Var.	3/4 Var.
Blower Motor--Amps	3.8	3.8	3.8	4.4	4.4	4.4	4.7	4.7	4.7
CFM w/Filter ①	1250 - .15	1250 - .15	1250 - .15	1550 - .2	1550 - .2	1550 - .2	1650 - .2	1650 - .2	1650 - .2
Filter Sizes (inches) STD.	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Basic Unit Weight-LBS.									
Blank-Off Plate	520	520	540	550	550	595	555	555	600
Commercial Room Ventilator	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Economizer	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Energy Recovery Ventilator	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0

Ventilation System Packages

Bard Wall-Mounts are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. All units are equipped with a barometric fresh air damper as the standard ventilation package. All ventilation packages can be built-in at the factory, or field-installed at a later date.



Commercial Room Ventilator

BLANK OFF PLATE - BOP

OPTIONAL

A blank off plate is installed on the inside of the service door. It covers the air inlet openings which restricts any outside air from entering into the unit. The blank off plate should be utilized in applications where outside air is not required to be mixed with the conditioned air.

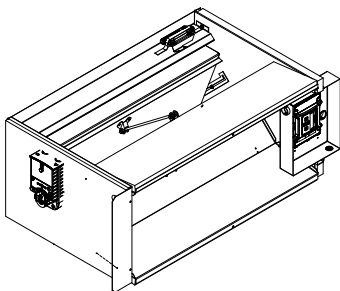
COMMERCIAL ROOM VENTILATOR - CHCRV

OPTIONAL

NOTE: Models C24H & C30H with CHCRV-3 require a Wall Curb Model TCURBF2430 or TCURBT2430 (See Page 10)

The built-in commercial room ventilator is internally mounted behind the service door and allows outside ventilation air, up to 50% of the total airflow rating of the unit, to be introduced through the air inlet openings. It includes a built-in exhaust air damper.

The commercial room ventilator (CRV) is a simple and innovative approach to improving the indoor air quality by providing fresh air intake and exhaust capability through the CRV. The damper can be easily adjusted to control the amount of fresh air supplied into the building. The CRV can be controlled by indoor blower operation or field controlled based on room occupancy. The CRV is modulating design with power open - spring return on power loss. Complies with ANSI/ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality."



Economizer

ECONOMIZER - ECONCHS

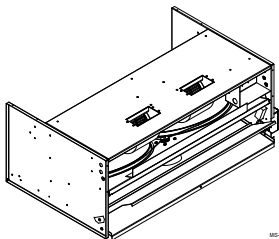
OPTIONAL

All economizers require matching TCURBF or TCURBT (See Page 10)

The built-in economizer system is internally mounted behind the service door and allows outdoor air to be introduced through the air inlet openings. The amount of outdoor air varies in response to the system controls and settings defined by the end user. It includes a built-in exhaust air damper. 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 in turn provides lower operating costs, while extending the life of the compressor.

Standard Features:

- Designed to deliver 75% of cooling rated CFM when equipped with standard 3" air intake hood
- Honeywell Direct Drive Hi-Torque Actuator
- Positive shut-off with non-stick gaskets
- Electronic sensors, Enthalpy used for outdoor free cooling decision
- Honeywell JADE electronic economizer module with precision settings and diagnostics



Energy Recovery Ventilator

WALL-MOUNT ENERGY RECOVERY VENTILATOR - CHERV

OPTIONAL

The wall-mount energy recovery ventilator (ERV) is a highly innovative approach to meeting indoor air quality ventilation requirements as established by ANSI/ASHRAE Standard 62.1. The ERV allows from 200 to 450 CFM (depending upon model) of fresh air and exhaust through the unit while maintaining superior indoor comfort and humidity levels. In most cases this can be accomplished without increasing equipment sizing or operating costs. Heat transfer efficiency is up to 67% during summer and 75% during winter conditions.

The ERV consists of a unique "rotary energy recovery cassette" that provides effective sensible and latent heat transfer capabilities during summer and winter conditions. Various control schemes are addressed including limiting ventilation during building occupancy only.

The ERV is designed to be internally mounted behind the service door in the WA, WH or WL model wall-mount units. It can be built-in at the factory or field installed as an option. CHERV-*3 and CHERV-*5 can be independently adjusted for intake and exhaust rates. 3" air intake hood is standard.

CHERV Model ERV's have exhaust gravity shut-off dampers all sizes. CHERV-A5 & -C5 have motorized air intake damper.

DRAW-THRU CONDENSER AIRFLOW

The CH unit requires the use of a curb to meet the Quietflex sound ratings. Due to draw-thru air pressurizing the condenser section, room exhaust air exits the bottom of the curb. These special wall curbs allow for the exhaust air to pass through the bottom of the curb instead of through the condenser section of the CH unit.

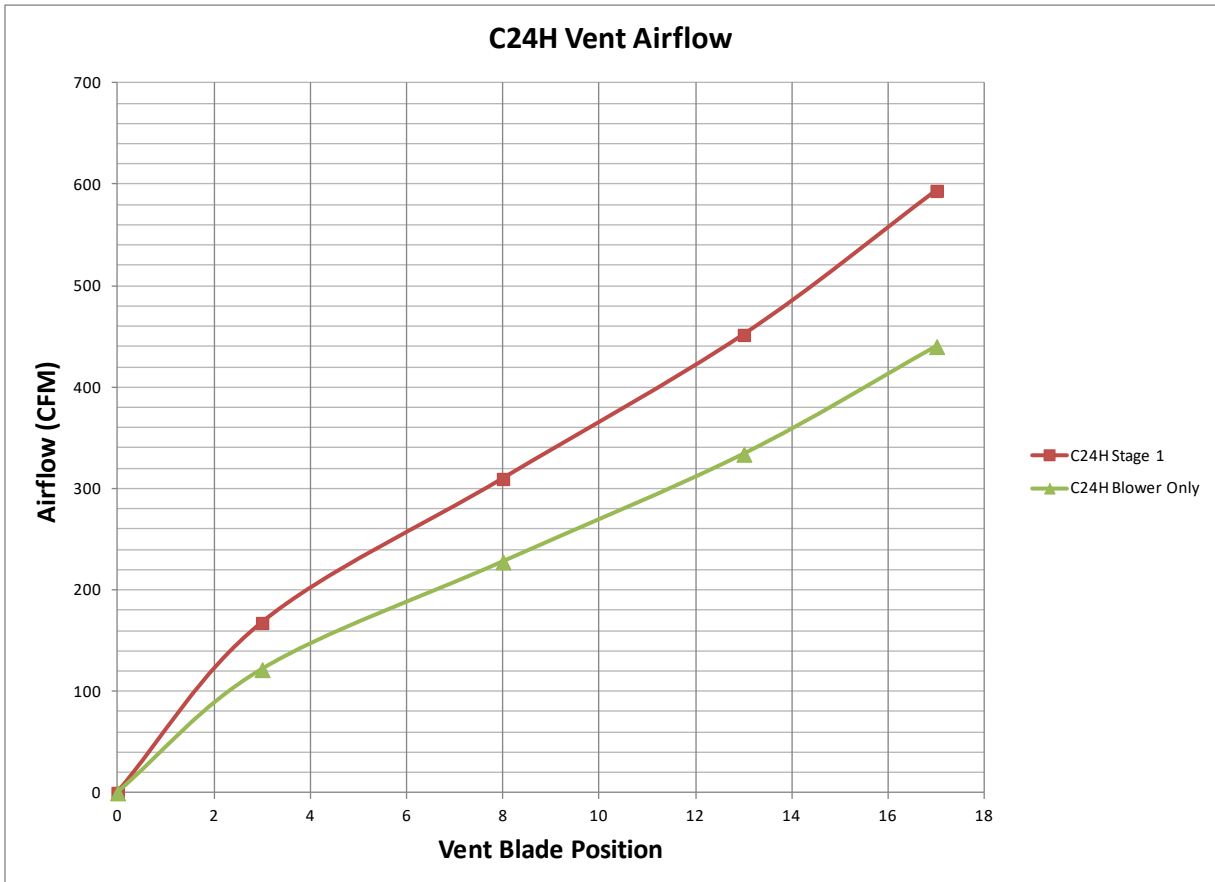
The following vent options require the use of a wall curb:

- CHCRV-3
- ECONCHS-E3
- ECONCHS-E5

Refer to the "C**H Unit to Wall Curb Application Guide" (Page 10) for curb selection options when using the vent options listed above.

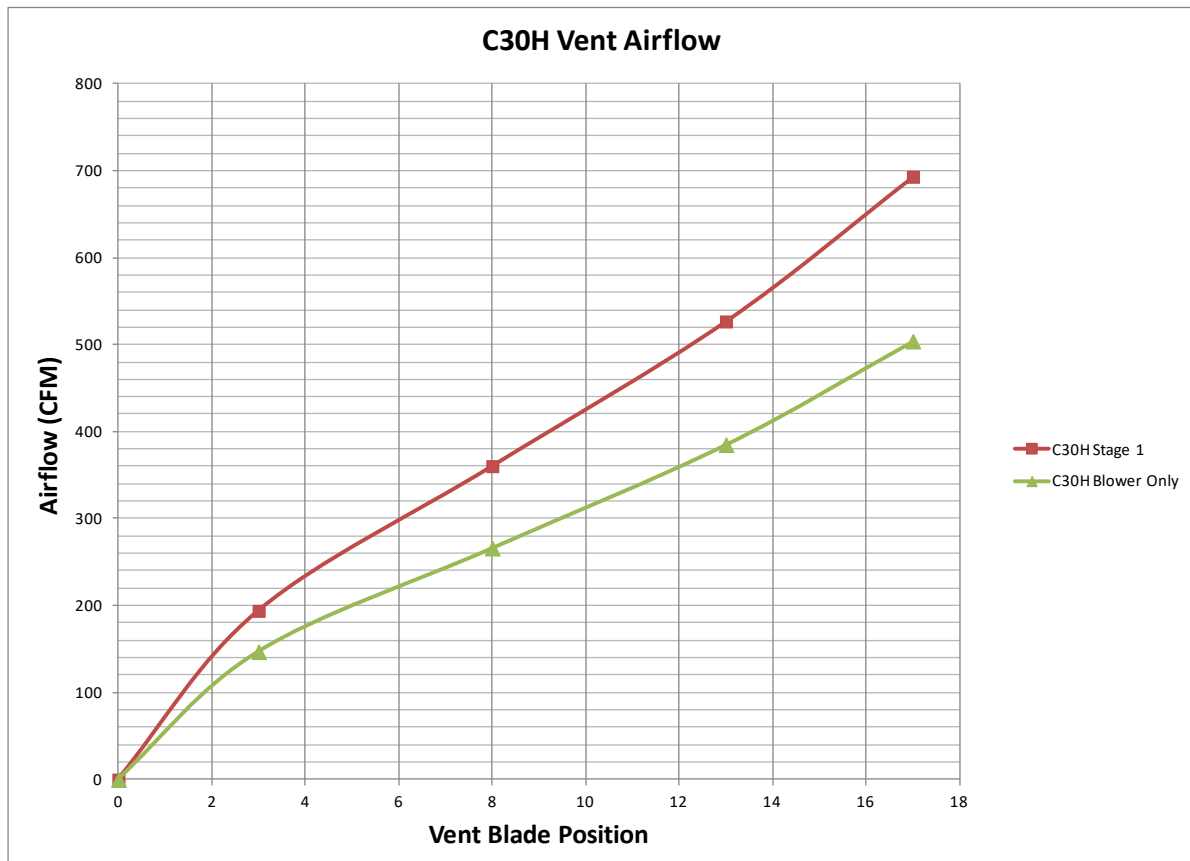
- Complies with efficiency requirements of ASHRAE/IESNA 90.1-2013.
- Certified to ANSI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units).
- Intertek ETL Listed to Standard for Safety Heating and Cooling Equipment ANSI/UL 1995/CSA 22.2 No. 236-05, Fourth Edition.
- Commercial Product - Not intended for Residential application.

Modulating Commercial Room Ventilator Performance Data : CHCRV-3 for C24H



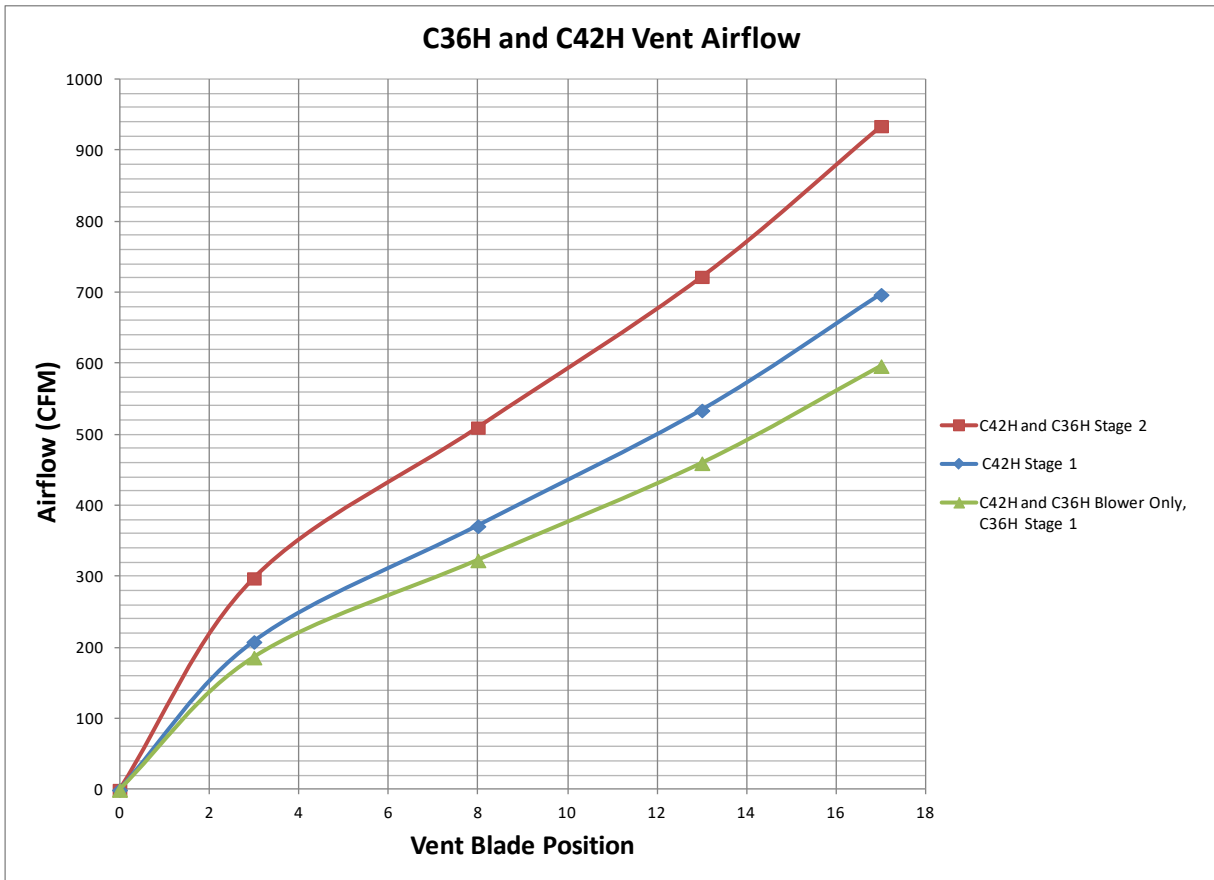
Airflow amounts less than 100 CFM may not be achievable.

Modulating Commercial Room Ventilator Performance Data : CHCRV-3 for C30H



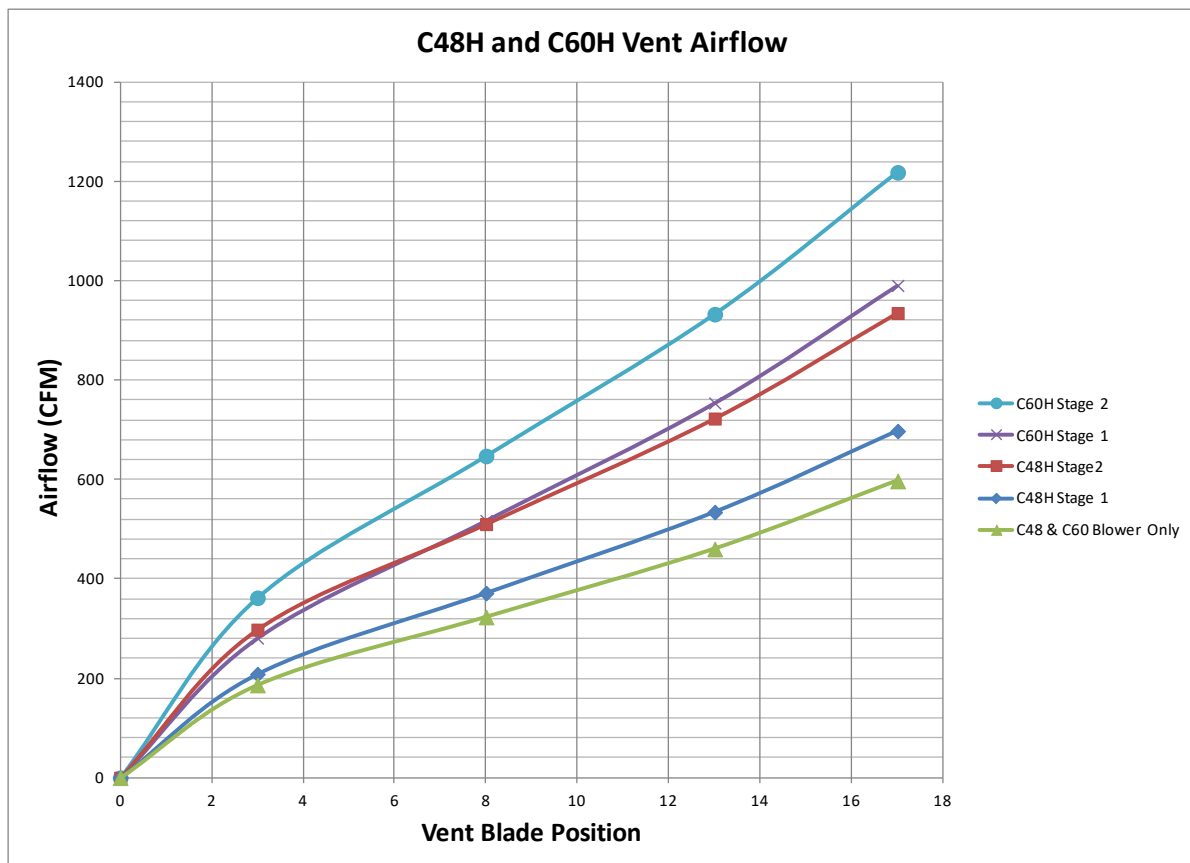
Airflow amounts less than 100 CFM may not be achievable.

Commercial Room Ventilator Performance Data : CHCRV-5 for C36H & C42H



Airflow amounts less than 100 CFM may not be achievable.

Commercial Room Ventilator Performance Data : CHCRV-5 for C48H & C60H



Airflow amounts less than 100 CFM may not be achievable.

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Performance and Application Data - CHERV-*3 (C24H1 & C30H1)

SUMMER COOLING PERFORMANCE (INDOOR DESIGN CONDITIONS 75°DB / 62°WB)

Ambient O.D.		VENTILATION RATE 400 CFM 63% EFFICIENCY						VENTILATION RATE 325 CFM 64% EFFICIENCY						VENTILATION RATE 250 CFM 65% EFFICIENCY					
DB/ WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
105	75	19080	12960	6120	12020	8164	3855	15502	10530	4972	9921	6739	3182	11925	8100	3825	7751	5265	2486
	70	12960	12960	0	8164	8164	0	10530	10530	0	6739	6739	0	8100	8100	0	5265	5265	0
	65	12960	12960	0	8164	8164	0	10530	10530	0	6739	6739	0	8100	8100	0	5265	5265	0
100	80	28080	10800	17280	17690	6804	10886	22815	8775	14040	14601	5616	8985	17550	6750	10800	11407	4387	7019
	75	19080	10800	8280	12020	6804	5216	15502	8775	6727	9921	5616	4305	11925	6750	5175	7751	4387	3363
	70	10980	10800	180	6717	6804	113	8921	8775	146	5709	5616	93	6862	6750	112	4460	4387	73
	65	10800	10800	0	6804	6804	0	8775	8775	0	5616	5616	0	6750	6750	0	4387	4387	0
	60	10800	10800	0	6804	6804	0	8775	8775	0	5616	5616	0	6750	6750	0	4387	4387	0
95	80	28080	8640	19440	17690	5443	12247	22815	7020	15795	14601	4492	10108	17550	5400	12150	11407	3510	7897
	75	19080	8640	10440	12020	5443	6577	15502	7020	8482	9921	4492	5428	11925	5400	6525	7751	3510	4241
	70	10980	8640	2340	6917	5443	1474	8921	7020	1901	5709	4492	1216	6862	5400	1462	4460	3510	950
	65	8640	8640	0	5443	5443	0	7020	7020	0	4492	4492	0	5400	5400	0	3510	3510	0
	60	8640	8640	0	5443	5443	0	7020	7020	0	4492	4492	0	5400	5400	0	3510	3510	0
90	80	28080	6480	21600	17690	4082	13608	22815	5265	17550	14601	3369	11232	17550	4050	13500	11407	2632	8774
	75	19080	6480	12600	12020	4082	7938	15502	5265	10237	9921	3369	6552	11925	4050	7875	7751	2632	5118
	70	10980	6480	4500	6917	4082	2835	8921	5265	3656	5709	3369	2340	6862	4050	2812	4460	2632	1828
	65	6480	6480	0	4082	4082	0	5265	5265	0	3369	3369	0	4050	4050	0	2632	2632	0
	60	6480	6480	0	4082	4082	0	5265	5265	0	3369	3369	0	4050	4050	0	2632	2632	0
85	80	28080	4320	23760	17690	2721	14968	22815	3510	19305	14601	2246	12355	17550	2700	14850	11407	1755	9652
	75	19080	4320	14760	12020	2721	9298	15502	3510	11992	9921	2246	7675	11925	2700	9225	7751	1755	5996
	70	10980	4320	6660	6917	2721	4195	8921	3510	5411	5709	2246	3463	6862	2700	4162	4460	1755	2705
	65	4320	4320	0	2721	2721	0	3510	3510	0	2246	2246	0	2700	2700	0	1755	1755	0
	60	4320	4320	0	2721	2721	0	3510	3510	0	2246	2246	0	2700	2700	0	1755	1755	0
80	75	19080	2160	16920	12020	1360	10659	15502	1755	13747	9921	1123	8798	11925	1350	10575	7751	877	6873
	70	10980	2160	8820	6917	1360	5556	8921	1755	7166	5709	1123	4586	6862	1350	5512	4460	877	3583
	65	3780	2160	1620	2381	1360	1020	3071	1755	1316	1965	1123	842	2362	1350	1012	1535	877	658
	60	2160	2160	0	1360	1360	0	1755	1755	0	1123	1123	0	1350	1350	0	877	877	0
75	70	10980	0	10980	6917	0	6917	8921	0	8921	5709	0	5709	6862	0	6862	4460	0	4460
	65	3780	0	3780	2381	0	2380	3071	0	3071	1965	0	1965	2362	0	2362	1535	0	1535
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CHERV-*3 WINTER HEATING PERFORMANCE (INDOOR DESIGN CONDITIONS 70°DB)

Ambient O.D.	VENTILATION RATE					
	400 CFM 75% EFF.		325 CFM 76% EFF.		250 CFM 77% EFF	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2160	1620	1755	1333	1350	1039
60	4320	3240	3510	2667	2700	2079
55	6480	4860	5265	4001	4050	3118
50	8640	6480	7020	5335	5400	4158
45	10800	8100	8775	6669	6750	5197
40	12960	9720	10530	8002	8100	6237
35	15120	11340	12285	9336	9450	7276
30	17280	12960	14040	10670	10800	8316
25	19440	14580	15795	12004	12150	9355
20	21600	16200	17550	13338	13500	10395
15	23760	17820	19305	14671	14850	11434

LEGEND:

VLT = Ventilation Load - Total
 VLS = Ventilation Load - Sensible
 VLL = Ventilation Load - Latent
 HRT = Heat Recovery - Total
 HRS = Heat Recovery - Sensible
 HRL = Heat Recovery - Latent
 WVL = Winter Ventilation Load
 WHR = Winter Heat Recovery

NOTE: Sensible performance only is shown for winter application.

Performance and Application Data - CHERV-*5 (C36H1, C42H1, C48H1 & C60H1)

SUMMER COOLING PERFORMANCE (INDOOR DESIGN CONDITIONS 75°DB / 62°WB)

Ambient O.D.		VENTILATION RATE 450 CFM						VENTILATION RATE 375 CFM						VENTILATION RATE 300 CFM					
DB/ WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
105	75	21465	14580	6884	13952	9477	4475	17887	12150	5737	11805	8018	3786	14310	9720	4590	9587	6512	3075
	70	14580	14580	0	9477	9477	0	12150	12150	0	8018	8018	0	9720	9720	0	6512	6512	0
	65	14580	14580	0	9477	9477	0	12150	12150	0	8018	8018	0	9720	9720	0	6512	6512	0
100	80	31590	12150	19440	20533	7897	12635	26325	10125	16200	17374	6682	10692	21060	8100	12960	14110	5427	8683
	75	21465	12150	9314	13952	7897	6054	17887	10125	7762	11805	6682	5123	14310	8100	6210	9587	5427	4160
	70	12352	12150	202	8029	7897	131	10293	10125	168	6793	6682	111	8235	8100	135	5517	5427	90
	65	12150	12150	0	7897	7897	0	10125	10125	0	6682	6682	0	8100	8100	0	5427	5427	0
	60	12150	12150	0	7897	7897	0	10125	10125	0	6682	6682	0	8100	8100	0	5427	5427	0
95	80	31590	9720	21870	20533	6318	14215	26325	8100	18225	17374	5345	12028	21060	6480	14580	14110	4341	9768
	75	21465	9720	11744	13952	6318	7634	17887	8100	9787	11805	5345	6459	14310	6480	7830	9587	4341	5246
	70	12352	9720	2632	8029	6318	1711	10293	8100	2193	6793	5345	1447	8235	6480	1755	5517	4341	1175
	65	9720	9720	0	6318	6318	0	8100	8100	0	5345	5345	0	6480	6480	0	4341	4341	0
	60	9720	9720	0	6318	6318	0	8100	8100	0	5345	5345	0	6480	6480	0	4341	4341	0
90	80	31590	7290	24300	20533	4738	15794	26325	6075	20250	17374	4009	13365	21060	4860	16200	14110	3256	10854
	75	21465	7290	14175	13952	4738	9213	17887	6075	11812	11805	4009	7796	14310	4860	9450	9587	3256	6331
	70	12352	7290	5062	8029	4738	3290	10293	6075	4218	6793	4009	2784	8235	4860	3375	5517	3256	2261
	65	7290	7290	0	4738	4738	0	6075	6075	0	4009	4009	0	4860	4860	0	3256	3256	0
	60	7290	7290	0	4738	4738	0	6075	6075	0	4009	4009	0	4860	4860	0	3256	3256	0
85	80	31590	4860	26730	20533	3159	17374	26325	4050	22275	17374	2672	14701	21060	3240	17820	14110	2170	11939
	75	21465	4860	16605	13952	3159	10793	17887	4050	13837	11805	2672	9132	14310	3240	11070	9587	2170	7416
	70	12352	4860	7492	8029	3159	4870	10293	4050	6243	6793	2672	4120	8235	3240	4995	5517	2170	3346
	65	4860	4860	0	3159	3159	0	4050	4050	0	2672	2672	0	3240	3240	0	2170	2170	0
	60	4860	4860	0	3159	3159	0	4050	4050	0	2672	2672	0	3240	3240	0	2170	2170	0
80	75	21465	2430	19035	13952	1579	12372	17887	2025	15862	11805	1336	10469	14310	1620	12690	9587	1085	8502
	70	12352	2430	9922	8029	1579	6449	10293	2025	8268	6793	1336	5457	8235	1620	6615	5517	1085	4432
	65	4252	2430	1822	2764	1579	1184	3543	2025	1518	2338	1336	1002	2835	1620	1215	1899	1085	814
	60	2430	2430	0	1579	1579	0	2025	2025	0	1336	1336	0	1620	1620	0	1085	1085	0
75	70	12352	0	12352	8029	0	8029	10293	0	10293	6793	0	6793	8235	0	8235	5517	0	5517
	65	4252	0	4252	2764	0	2764	3543	0	3543	2338	0	2338	2835	0	2835	1899	0	1899
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CHERV-*5 WINTER HEATING PERFORMANCE (INDOOR DESIGN CONDITIONS 70°DB)

Ambient O.D.	VENTILATION RATE					
	450 CFM		375 CFM		300 CFM	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2430	1944	2025	1640	1620	1328
60	4860	3888	4050	3280	3240	2656
55	7290	5832	6075	4920	4860	3985
50	9720	7776	8100	6561	6480	5313
45	12150	9720	10125	8201	8100	6642
40	14580	11664	12150	9841	9720	7970
35	17010	13608	14175	11481	11340	9298
30	19440	15552	16200	13122	12960	10627
25	21870	17496	18225	14762	14580	11955
20	24300	19440	20250	16402	16200	13284
15	26730	21384	22275	18042	17820	14612

LEGEND:

VLT = Ventilation Load - Total
 VLS = Ventilation Load - Sensible
 VLL = Ventilation Load - Latent
 HRT = Heat Recovery - Total
 HRS = Heat Recovery - Sensible
 HRL = Heat Recovery - Latent
 WVL = Winter Ventilation Load
 WHR = Winter Heat Recovery

NOTE: Sensible performance only is shown for winter application.

Electrical Specifications — Standard Heat Pumps

Model	Rated Volts & Phase	No. Field Power Circuits	Single Circuit				Multiple Circuit											
			① Minimum Circuit Ampacity	② Max. External Fuse or Ckt. Brkr.	③ Field Power Wire Size	④ Ground Wire	⑤ Minimum Circuit Ampacity			⑥ Max. Circuit Exterior Fuse or Ckt. Brkr.			⑦ Field Power Wire Size			⑧ Ground Wire		
							Ckt. A	Ckt. B	Ckt. C	Ckt. A	Ckt. B	Ckt. C	Ckt. A	Ckt. B	Ckt. C	Ckt. A	Ckt. B	Ckt. C
NOTE A	C24H1-A0Z -A04 ④ -AS8 ⑤ -AF8	230/208-60-1	1 1 1 1 or 2	22 42 48 63	30 50 50 70	10 8 10 8												
	C24H1-B0Z -B06 -B09	230/208-60-3	1 1 1	15 33 42	20 35 45	12 8 10												
	C30H1-A0Z -A04 ④ -AS8 ⑤ -AF8	230/208-60-1	1 1 1 1 or 2	23 44 49 65	30 50 50 70	10 8 8 6												
	C30H1-B0Z -B06 -B09	230/208-60-3	1 1 1	18 36 45	25 40 45	10 8 10												
	C30H1-C0Z/C0C -C06 -C09	460-60-3	1 1 1	10 19 24	15 20 25	14 12 10												
	C36H1-A0Z -A05 -A10 ⑤ -A15	230/208-60-1	1 1 1 or 2 1 or 2	27 53 79 85	40 60 80 90	8 6 4 8												
	C36H1-B0Z -B06 -B09 ⑥ -B15	230/208-60-3	1 1 1 1	23 41 50 52	30 45 50 60	10 8 8 6												
	C36H1-C0Z/C0C -C06 -C09 ⑥ -C15	460-60-3	1 1 1 1	12 21 26 27	15 25 30 30	14 10 10 10												
	C42H1-A0Z -A05 -A10 ⑤ -A15	230/208-60-1	1 1 1 or 2 1 or 2	31 57 83 86	40 60 90 90	8 6 4 3												
	C42H1-B0Z -B06 -B09 ⑥ -B15	230/208-60-3	1 1 1 1	27 45 54 54	35 50 60 60	8 8 6 6												
NOTE A	C42H1-C0Z/C0C -C06 -C09 ⑥ -C15	460-60-3	1 1 1 1	13 22 26 27	15 25 30 30	14 10 10 10												
	C48H1-A0Z -A04 -A05 -A10 ⑤ -A15 ⑤ -A20	230/208-60-1	1 1 1 1 or 2 1 or 2 1 or 3	37 57 62 88 88 113	50 60 70 90 90 125	8 6 8 3 3 2												
	C48H1-B0Z -B06 -B09 ⑥ -B15 ⑥ -B18	230/208-60-3	1 1 1 1 2	27 45 54 54 N/A	40 50 60 60 N/A	8 8 6 10 N/A												
	C48H1-C0Z/C0C -C06 -C09 ⑥ -C15	460-60-3	1 1 1 1	13 22 27 27	20 25 30 30	12 10 10 10												
	C60H1-A0Z -A05 -A10 ⑤ -A15 ⑤ -A20	230/208-60-1	1 1 or 2 1 or 2 1 or 2 1 or 3	45 71 97 97 113	60 80 100 100 125	8 4 3 3 2												
	C60H1-B0Z -B06 -B09 ⑥ -B15 ⑥ -B18	230/208-60-3	1 1 1 1 2	32 50 59 59 N/A	45 60 60 60 N/A	8 8 6 6 N/A												
	C60H1-C0Z/C0C -C06 -C09 ⑥ -C15	460-60-3	1 1 1 1	17 26 31 31	20 30 35 35	12 10 8 8												

① 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 (3) conductors are in a raceway.

② Maximum size of the time delay fuse or HACR type circuit breaker for protection of field wiring conductors.

③ Based on 75°C copper wire. All wiring must conform to the National Electrical Code and all local codes.

④ Maximum KW that can operate with the heat pump on is 4KW. Full heat available during Emergency Heat Mode.

⑤ Maximum KW that can operate with the heat pump on is 10KW. Full heat available during Emergency Heat Mode.

⑥ Maximum KW that can operate with the heat pump on is 9KW. Full heat available during Emergency Heat Mode.

⑦ Maximum KW that can operate with the heat pump on is 8KW. Full heat available during Emergency Heat Mode.

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

NOTE A: -C Models have Rotary Disconnect. C0C 460V circuit breaker only available for 0KW. All electrical ratings are the same.

NOTE: To obtain Quiet Climate Flex™ sound ratings, a TCURB Model Fig. 1 to Fig. 6 must be used.

C**H Unit to Wall Curb Application Guide

Unit Indoor Air Connections														Shipping Weight Lbs.
Fig. No.	Curb Model ①②	Application	Curb Depth	Curb Height	Used with Unit Model(s)	Unit Indoor Air Connections			Curb Indoor Air Connections					
						Supply Air H x W	Return Air H x W	Spacing SA to RA	Supply Air H x W	Return Air H x W	Spacing SA to RA	Alt. Spacing SA to RA		
1	TCURBF2430A		9.313	70-5/16	C24H, C30H	7.88 x 27.88	13.88 x 27.88	17.93	7.88 x 27.88	13.88 x 27.88	6.125	17.93	160	
2	TCURBF3642A	Used to direct replace CH3S Models.	9.313	85¾	C36H, C42H	9.88 x 29.88	15.88 x 29.88	30.00	9.88 x 29.88	15.88 x 29.88	6.125	30.00	195	
3	TCURBF4860A	Used to direct replace CH4S and CH5S Models.	9.313	85-5/16	C48H, C60H	9.88 x 29.88	15.88 x 29.88	30.00	9.88 x 29.88	15.88 x 29.88	6.125	30.00	195	
4	TCURBT2430A	Used to install 2 or 2.5-ton cabinet machines installed in a soffit.	9.313	82¼	C24H, C30H	7.88 x 27.88	13.88 x 27.88	17.93	7.88 x 27.88	13.88 x 27.88	17.93	Refer to Installation Instruction 2100-586 for Spacing	170	
5	TCURBT3642A	Used to install 3 or 3.5-ton cabinet machines installed in a soffit.	9.313	109¼	C36H, C42H	9.88 x 29.88	15.88 x 29.88	30.00	9.88 x 29.88	15.88 x 29.88	30.00		235	
6	TCURBT4860A	Used to install 4 or 5-ton cabinet machines installed in a soffit.	9.313	109¾	C48H, C60H	9.88 x 29.88	15.88 x 29.88	30.00	9.88 x 29.88	15.88 x 29.88	30.00		225	
7	WMICF3A	Isolation Curb	3.625	70¾	C24H, C30H	7.88 x 27.88	13.88 x 27.88	17.93	7.88 x 27.88	13.88 x 27.88	17.93		110	
8	WMICF5A	Isolation Curb	3.625	84¾	C36H, C42H	9.88 x 29.88	15.88 x 29.88	30.00	9.88 x 29.88	15.88 x 29.88	30.00		130	
9	WMICF5A	Isolation Curb	3.625	84¾	C48H, C60H	9.88 x 29.88	15.88 x 29.88	30.00	9.88 x 29.88	15.88 x 29.88	30.00		130	
10	TFCT-32A	Used to install new 2-ton in place of old 2-ton in a soffit.	9.313	80¼	C24H, C30H	7.88 x 27.88	13.88 x 27.88	17.93	7.88 x 19.88	11.88 x 19.88	20.56		175	
11	TFCT-53A	Used to install new 3-ton in place of old 3-ton in a soffit.	9.313	82¼	C36H, C42H	9.88 x 29.88	15.88 x 29.88	30.00	7.88 x 27.88	13.88 x 27.88	17.93		185	
12	TFCF-32A	Used to install new 2-ton in place of old 2-ton.	9.313	70¾	C24H, C30H	7.88 x 27.88	13.88 x 27.88	17.93	7.88 x 19.88	11.88 x 19.88	20.56		160	
13	TFCF-53A	Used to install new 3-ton in place of old 3-ton.	9.313	70¾	C36H, C42H	9.88 x 29.88	15.88 x 29.88	30.00	7.88 x 27.88	13.88 x 27.88	17.93		170	
14	WMRSC3SA	Used to install new 3-ton where there are obstacles (conduit, etc) underneath original unit.	9.313	72	C36H	9.88 x 29.88	15.88 x 29.88	30.00	7.88 x 27.88	13.88 x 27.88	17.93		170	

① All curb model numbers followed by -X (beige), -4 (gray), etc to match unit color.

② All curbs have 4 rubber isolation mounts to reduce vibration to the installation wall.

NOTE A: For all economizer applications a TCURB***** is required. For C24 & C30 installations with CHCRV-3 a TCURB is also required.

All Dimensions in Inches.

FIG. 1
TCURBF2430A

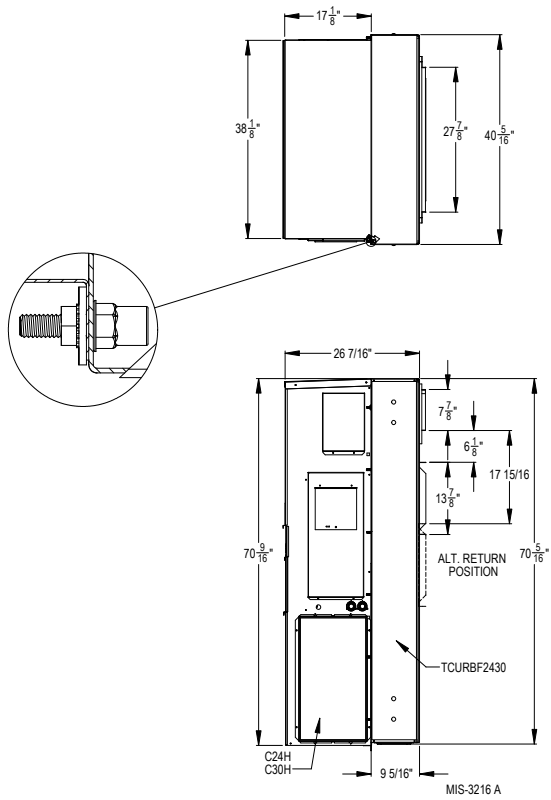


FIG. 2
TCURBF3642A

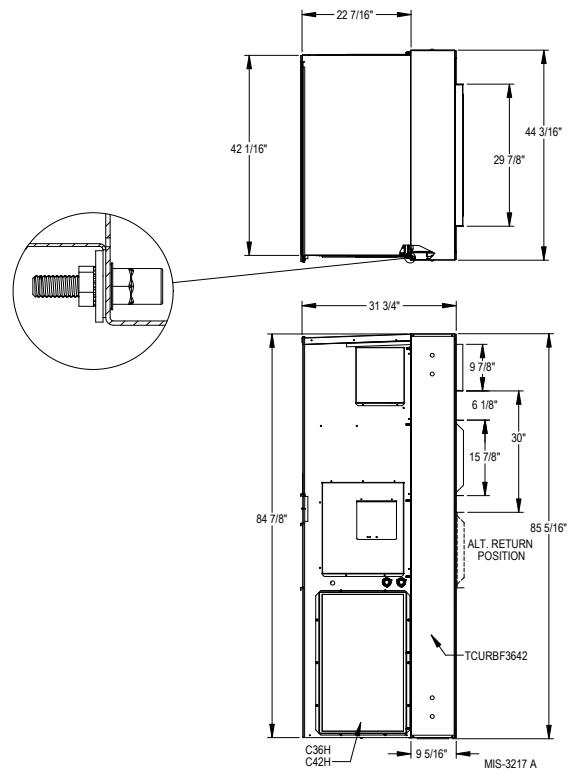


FIG. 3
TCURBF4860A

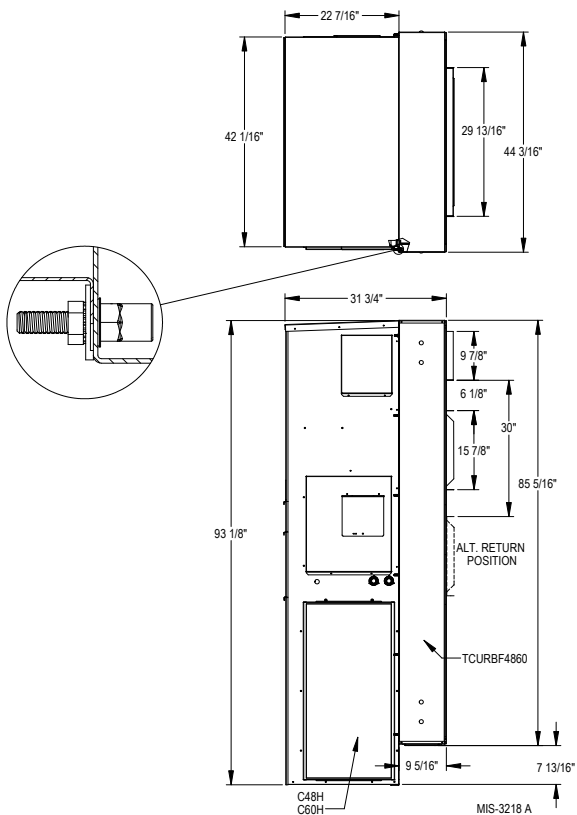


FIG. 4
TCURBT2430A

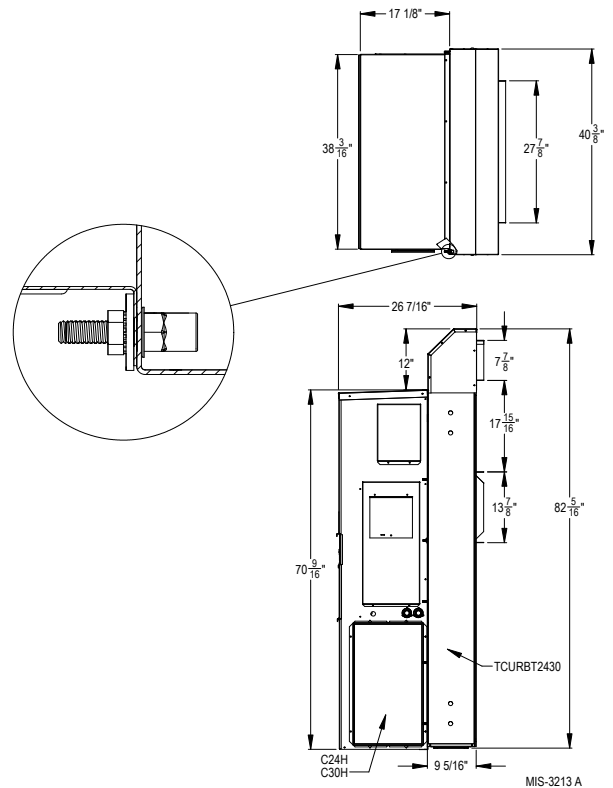


FIG. 5
TCURBT3642A

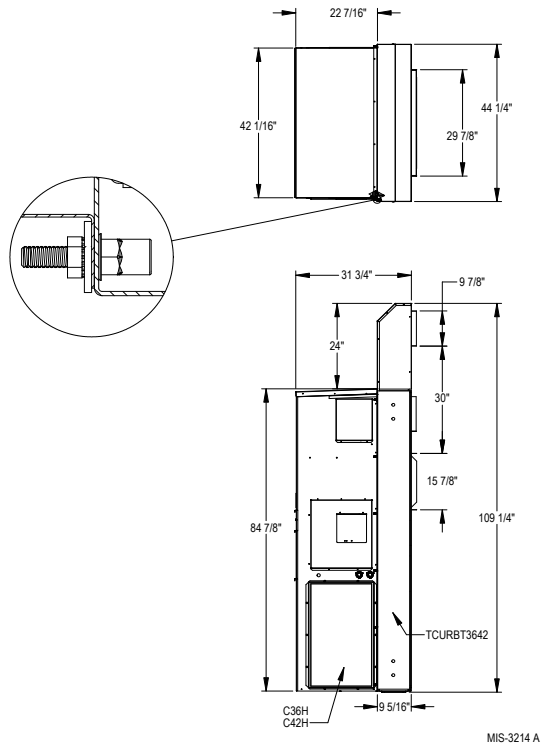


FIG. 6
TCURBT4860A

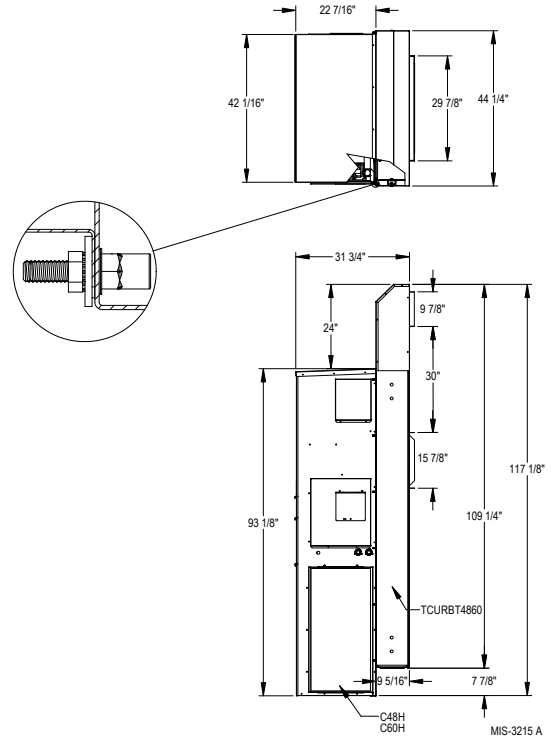


FIG. 7
WMICF3A

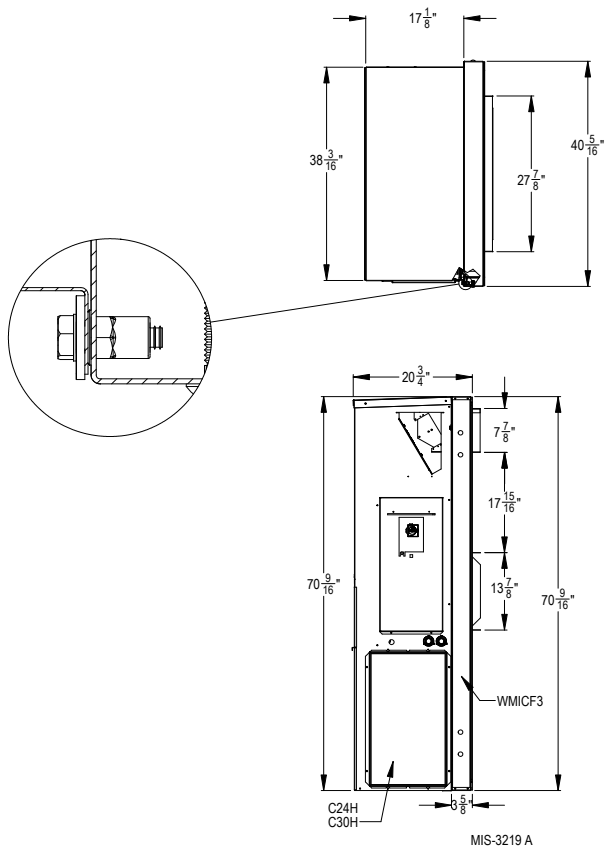


FIG. 8
WMICF5A

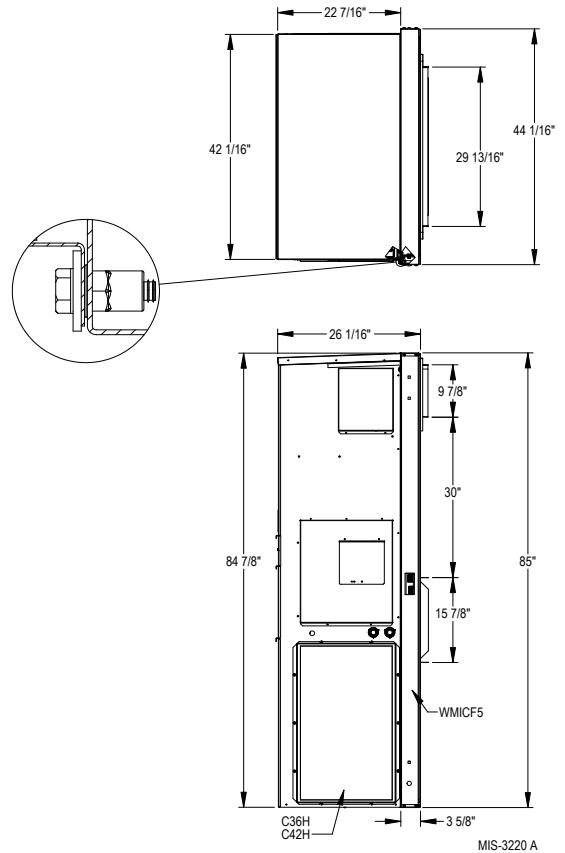


FIG. 9
WMICF5A

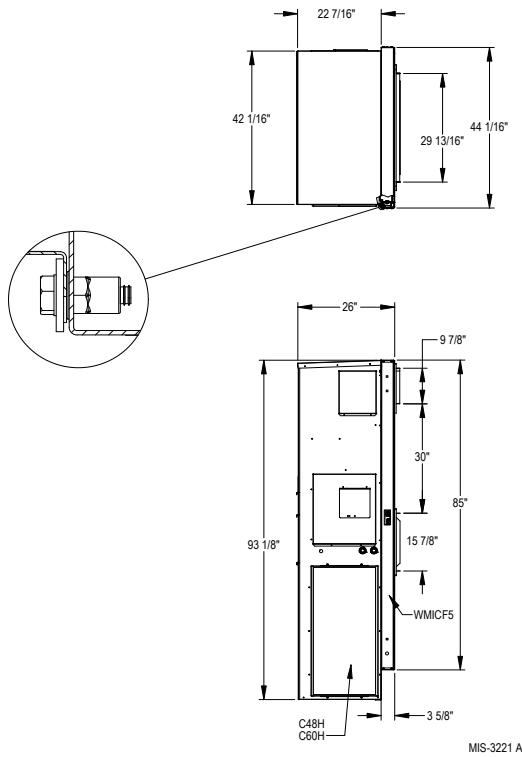
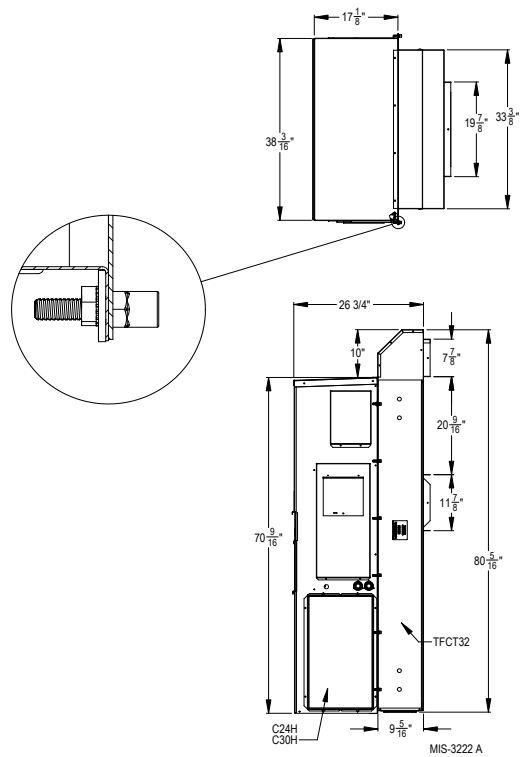


FIG. 10
TFCT-32A



*** TFCT AND TFCF CURBS MAY REQUIRE WALL MODIFICATION FOR MOUNTING HOLE PATTERN.**

FIG. 11
TFCT-53A

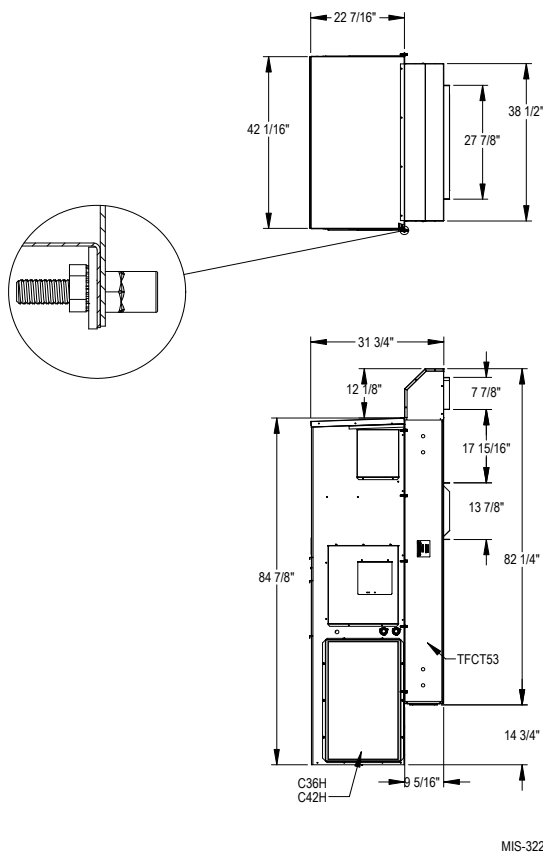
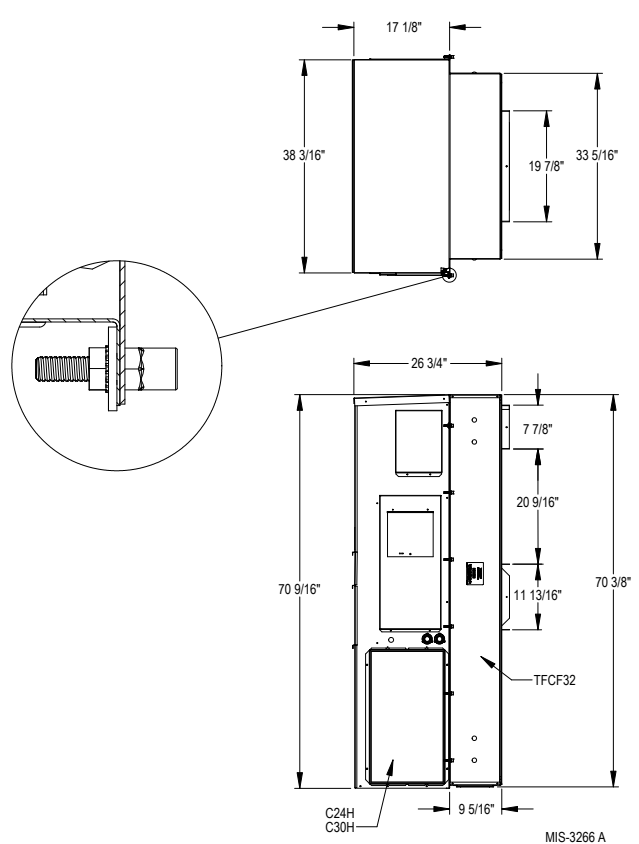
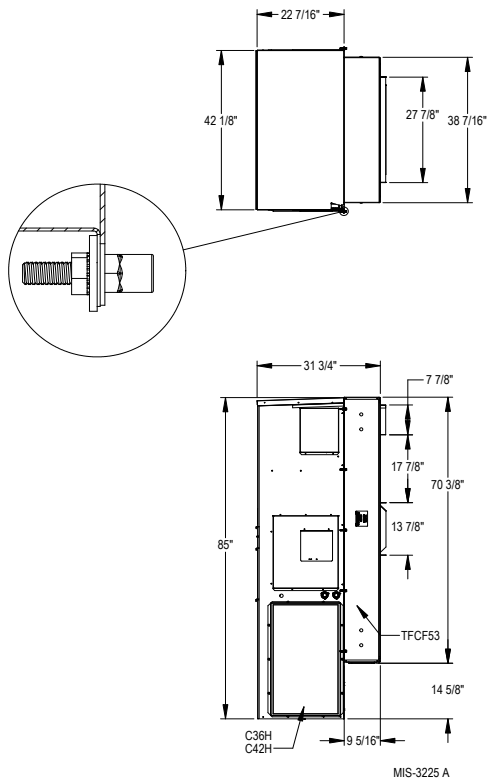


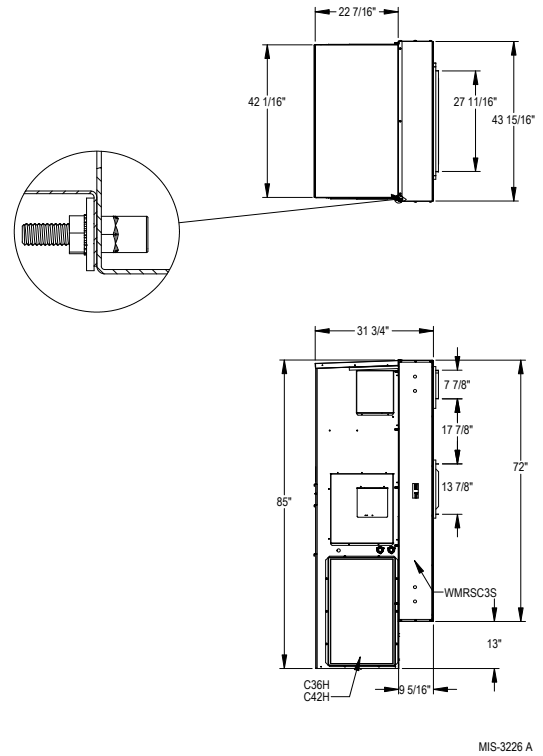
FIG. 12
TFCF-32A



**FIG. 13
TFCF-53A**



**FIG. 14
WMRSC3SA**

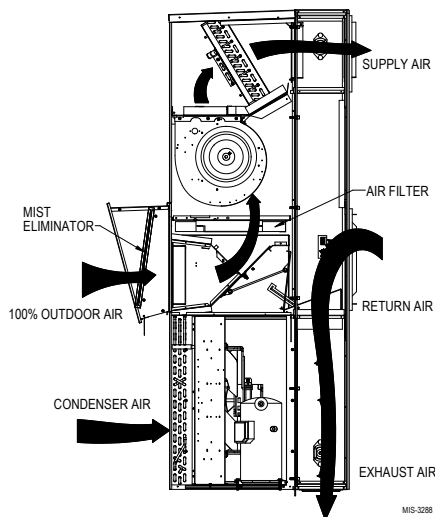


*** TFCT AND TFCF CURBS MAY REQUIRE WALL MODIFICATION FOR MOUNTING HOLE PATTERN.**

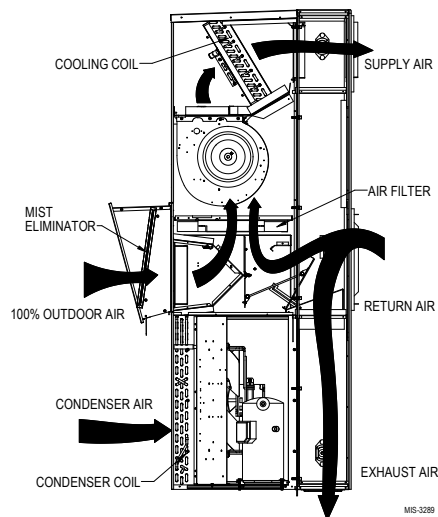
PATENTED UNDER 9,004,995

CH Unit & T Curb Economizer Airflow Path

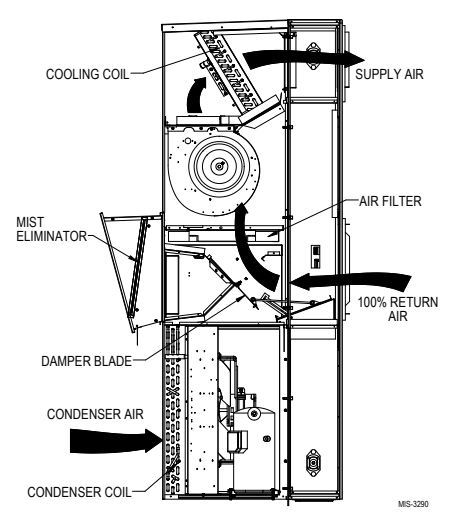
100% OUTSIDE AIRFLOW PATH



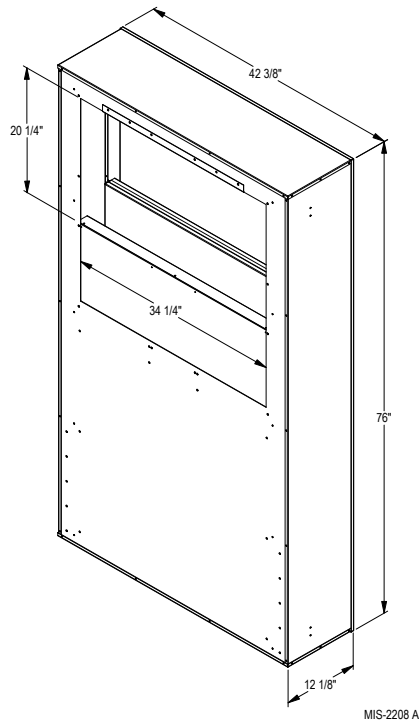
MIXED AIRFLOW PATH



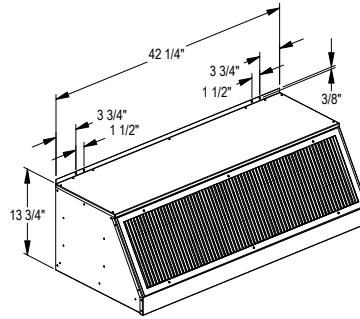
100% CLOSED LOOP AIRFLOW PATH



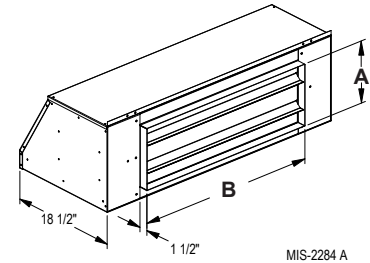
Return Air Acoustical Plenum WAPR11



Duct Free Acoustical Plenum



	A	B
WAPFB31	7-7/8	27-7/8
WAPFB51	9-7/8	29-7/8
WAPFB51FF	9-7/8	29-7/8

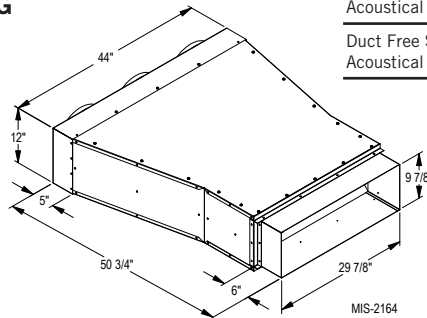
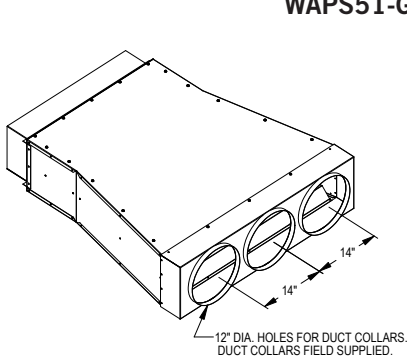


NOTE: WAPFB51FF same as shown, except has square front with grille straight up and down.

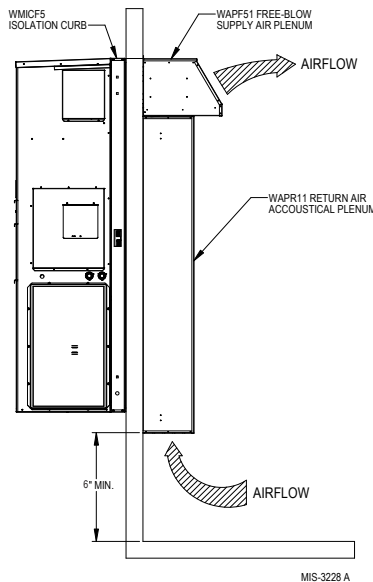
Optional Installation Accessories

Description	Model	Used With	Color	Shipping Weight (Lbs)
Return Air Acoustical Plenum	WAPR11-X WAPR11-4	C36H-C60H	Beige Buckeye Gray	205
Duct Free Supply Air Acoustical Plenum	WAPFB31-X WAPFB31-4	C24H-C30H	Beige Buckeye Gray	132
Ducted Supply Air Acoustical Plenum	WAPS51-G	C36H-C60H	Galvanized	140
Duct Free Supply Air Acoustical Plenum	WAPFB51-X WAPFB51-4	C36H-C60H	Beige Buckeye Gray	70
Duct Free Supply Air Acoustical Plenum	WAPFB51FF-X WAPFB51FF-4	C36H-C60H	Beige Buckeye Gray	70

Supply Air Acoustical Plenum WAPS51-G



Typical installation with isolation curb, free blow, supply air acoustical plenum & return air acoustical plenum.



Patent 8,336,672

Typical Sound Performance with Installation/Isolation Curbs & Acoustical Plenums

C24H1 Sound Data Matrix (dBA @ 5 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	Direct	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB31 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPSS1-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation with CRV	NA	28.6	30.1	29.4	NA	NA	26.5	25.7
Compressor Stage 1 Operation with CRV	NA	43.2	40.2	40.4	NA	NA	43.7	39.4
Compressor Stage 2 Operation	NA	43.8	41.3	41.7	NA	NA	43.2	40.6
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	NA	39.9	37.4	37.6	NA	NA	39.9	36.4
Compressor Stage 2 Outdoor Sound Level		65.4	65.4	65.4		65.4	65.4	65.4

Note 1: dBA is sound pressure measured 5 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C30H1 Sound Data Matrix (dBA @ 5 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	Direct	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB31 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPSS1-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	NA	35.5	33.8	32.5	NA	NA	31.2	32.5
Compressor Stage 1 Operation	NA	41.2	40.7	40.9	NA	NA	40.8	38.0
Compressor Stage 2 Operation	NA	44.3	43.1	43.2	NA	NA	42.3	40.9
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	NA	40.0	38.9	38.8	NA	NA	38.2	36.7
Compressor Stage 2 Outdoor Sound Level		63.8	63.8	63.8			63.8	63.8

Note 1: dBA is sound pressure measured 5 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C36H1 Sound Data Matrix (dBA @ 5 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	Direct	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPSS1-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	37.1	32.7	32.6	30.2	36.1	32.3	28.7	29.3
Compressor Stage 1 Operation	53.6	45.7	40.9	40.0	51.1	42.8	39.7	38.0
Compressor Stage 2 Operation	53.3	46.1	42.4	41.8	51.8	43.5	40.0	39.8
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	49.8	42.4	38.5	37.5	47.8	39.8	36.4	35.7
10' Compressor Stage 2 Outdoor Sound Level	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6

Note 1: dBA is sound pressure measured 5 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

Typical Sound Performance with Installation/Isolation Curbs & Acoustical Plenums

C42H1 Sound Data Matrix (dBA @ 5 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	Direct	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation with CRV	38.5	33.1	33.3	32.0	38.2	34.3	29.4	31.3
Compressor Stage 1 Operation with CRV	54.5	44.7	42.4	42.5	51.9	45.1	43.1	40.7
Compressor Stage 2 Operation	55.1	46.0	44.6	43.5	52.5	45.2	43.0	42.1
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	51.1	41.9	40.2	39.6	48.6	41.8	39.5	38.1
Compressor Stage 2 Outdoor Sound Level	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0

Note 1: dBA is sound pressure measured 5 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C48H1 Sound Data Matrix (dBA @ 5 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	Direct	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	38.7	32.3	34.1	31.6	38.4	33.5	29.0	30.0
Compressor Stage 1 Operation	50.5	43.0	42.5	41.1	48.6	40.5	40.3	39.1
Compressor Stage 2 Operation	53.5	46.5	45.0	44.3	52.2	45.3	43.6	42.0
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	48.5	41.3	40.5	39.4	47.0	39.9	38.5	37.2
Compressor Stage 2 Outdoor Sound Level	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8

Note 1: dBA is sound pressure measured 5 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C60H1 Sound Data Matrix (dBA @ 5 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	Direct	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	40.2	33.3	32.5	31.7	39.0	33.6	30.1	32.9
Compressor Stage 1 Operation	52.1	45.4	42.1	41.4	50.7	44.2	42.8	40.2
Compressor Stage 2 Operation	58.8	51.1	51.6	51.7	57.5	52.5	51.5	50.6
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	52.4	45.0	44.7	44.7	51.1	45.8	44.7	43.7
Compressor Stage 2 Outdoor Sound Level	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6

Note 1: dBA is sound pressure measured 5 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

Typical Sound Performance with Installation/Isolation Curbs & Acoustical Plenums

C24H1 Sound Data Matrix (dBA @ 10 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	Direct	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation with CRV	NA	27.4	28.1	25.9	NA	NA	24.5	24.8
Compressor Stage 1 Operation with CRV	NA	40.4	37.2	37.8	NA	NA	39.7	37.7
Compressor Stage 2 Operation	NA	41.2	38.9	38.7	NA	NA	39.5	39.3
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	NA	37.2	34.8	34.8	NA	NA	36.0	34.9
Compressor Stage 2 Outdoor Sound Level		65.4	65.4	65.4			65.4	65.4

Note 1: dBA is sound pressure measured 10 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C30H1 Sound Data Matrix (dBA @ 10 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb	Direct	Direct	TCURBF2430 Isolation Curb	TCURBF2430 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	NA	32.5	31.8	29.9	NA	NA	29.4	30.5
Compressor Stage 1 Operation	NA	38.6	36.7	36.3	NA	NA	38.7	37.5
Compressor Stage 2 Operation	NA	42.2	41.0	39.2	NA	NA	39.7	39.5
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	NA	37.5	36.2	34.8	NA	NA	36.0	35.5
Compressor Stage 2 Outdoor Sound Level		63.8	63.8	63.8			63.8	63.8

Note 1: dBA is sound pressure measured 10 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C36H1 Sound Data Matrix (dBA @ 10 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	Direct	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	35.1	31.7	30.4	27.6	33.0	29.9	27.2	27.1
Compressor Stage 1 Operation	48.7	43.5	40.9	37.1	47.0	40.2	39.7	38.3
Compressor Stage 2 Operation	48.8	43.8	42.4	38.8	48.1	40.8	40.0	38.4
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	45.2	40.2	38.5	34.6	43.9	37.2	36.4	35.0
Compressor Stage 2 Outdoor Sound Level	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6

Note 1: dBA is sound pressure measured 10 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

Typical Sound Performance with Installation/Isolation Curbs & Acoustical Plenums

C42H1 Sound Data Matrix (dBA @ 10 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb	Direct	Direct	TCURBF3642 Isolation Curb	TCURBF3642 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation with CRV	35.7	31.5	30.3	28.6	35.0	31.6	27.6	29.3
Compressor Stage 1 Operation with CRV	48.7	43.0	41.3	40.0	49.2	40.4	42.1	39.0
Compressor Stage 2 Operation	49.0	44.5	42.2	40.6	50.3	42.5	41.7	40.5
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	45.3	40.3	38.3	36.9	46.1	38.2	38.4	36.4
Compressor Stage 2 Outdoor Sound Level	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0

Note 1: dBA is sound pressure measured 10 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C48H1 Sound Data Matrix (dBA @ 10 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	Direct	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	36.1	32.2	31.7	28.4	35.3	30.8	27.6	27.4
Compressor Stage 1 Operation	45.8	41.3	40.2	38.4	45.9	38.2	39.0	38.8
Compressor Stage 2 Operation	49.6	45.0	42.1	41.3	49.0	42.7	42.1	40.8
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	44.4	39.9	37.9	36.5	44.0	37.4	37.1	36.3
Compressor Stage 2 Outdoor Sound Level	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8

Note 1: dBA is sound pressure measured 10 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

C60H1 Sound Data Matrix (dBA @ 10 feet)

Unit Mounting	Free Blow Configuration				Front Outlet Ducted Configuration			
	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb	Direct	Direct	TCURBF4860 Isolation Curb	TCURBF4860 Isolation Curb
Supply Air Treatment	Grille	Grille	Grille	WAPFB51 Free Blow Supply Air Plenum	Standard Supply Duct	Standard Supply Duct	Standard Supply Duct	WAPS51-G Supply Air Silencer
Return Air Treatment	Grille	Grille	WAPR11-X Return Air Silencer	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer	Grille	WAPR11-X Return Air Silencer
Blower Only Operation	37.1	31.7	29.9	29.0	35.7	29.6	27.9	27.5
Compressor Stage 1 Operation	48.2	42.8	41.0	39.4	48.1	40.9	42.4	39.1
Compressor Stage 2 Operation	54.8	47.7	45.3	45.0	54.5	47.3	48.2	44.1
Compressor Stage 2 with ERV High Speed Operation								
Indoor Integrated dBA	48.5	42.3	39.8	39.0	48.2	41.0	42.0	38.3
Compressor Stage 2 Outdoor Sound Level	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6

Note 1: dBA is sound pressure measured 10 feet in front of unit and 5 feet above floor.

Note 2: Unit or isolation curb is mounted to frame construction.

Note 3: Results may vary depending upon other factors such as room size, type of construction and acoustical variances.

Part Load Cooling Application Data - Outdoor Temperature °F ①②

Model	D.B. / W.B. ③	COOLING CAPACITY	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F	120°F
C24H1	75/62	Total Cooling Sensible Cooling	17,500 13,900	16,300 13,200	15,300 12,700	14,200 12,100	13,100 11,600	12,100 11,200	11,200 10,900	10,400 10,600	9,500 10,300	8,600 10,100
	80/67	Total Cooling Sensible Cooling	18,600 13,400	17,700 12,900	16,900 12,500	16,000 12,100	15,000 11,700	14,100 11,400	13,200 11,100	12,300 10,900	11,400 10,700	10,400 10,500
	85/72	Total Cooling Sensible Cooling	22,200 13,800	20,700 13,100	19,400 12,600	18,100 12,100	16,700 11,500	15,500 11,100	14,300 10,600	13,100 10,300	12,000 9,900	10,800 9,500
C30H1	75/62	Total Cooling Sensible Cooling	23,500 18,000	22,100 17,500	20,800 17,000	19,600 16,400	18,500 16,000	17,500 15,500	16,600 14,900	15,800 14,500	15,000 14,000	14,300 13,500
	80/67	Total Cooling Sensible Cooling	25,100 17,400	24,000 17,100	23,100 16,800	22,100 16,400	21,200 16,100	20,400 15,700	19,600 15,300	18,800 15,000	18,000 14,500	17,300 14,100
	85/72	Total Cooling Sensible Cooling	29,900 17,900	28,100 17,400	26,600 16,900	25,000 16,300	23,600 15,800	22,300 15,200	21,200 14,600	20,000 14,100	18,900 13,400	18,000 12,800
C36H1	75/62	Total Cooling Sensible Cooling	26,600 20,700	24,800 20,100	23,300 19,500	21,800 19,000	20,400 18,400	19,300 17,800	18,200 17,200	17,200 16,600	16,300 15,900	15,500 15,200
	80/67	Total Cooling Sensible Cooling	28,400 20,000	27,000 19,700	25,800 19,300	24,600 19,000	23,400 18,500	22,400 18,100	21,400 17,600	20,500 17,100	19,600 16,500	18,800 15,900
	85/72	Total Cooling Sensible Cooling	33,900 20,500	31,600 20,000	29,700 19,400	27,800 18,900	26,000 18,200	24,500 17,500	23,100 16,800	21,800 16,100	20,600 15,200	19,600 14,400
C42H1	75/62	Total Cooling Sensible Cooling	30,700 23,200	28,500 23,000	26,600 22,600	24,900 22,100	23,400 21,500	22,100 20,900	21,000 20,100	20,200 19,200	19,400 18,100	18,800 17,000
	80/67	Total Cooling Sensible Cooling	32,700 22,500	31,400 22,500	29,500 22,400	28,100 22,100	26,800 21,700	25,700 21,200	24,800 20,600	24,000 19,800	23,300 18,800	22,800 17,800
	85/72	Total Cooling Sensible Cooling	39,000 23,100	36,300 22,900	33,900 22,500	31,800 22,000	29,800 21,300	28,100 20,500	26,800 19,700	25,600 18,600	24,500 17,300	23,700 16,100
C48H1	75/62	Total Cooling Sensible Cooling	35,300 27,500	34,000 27,200	32,600 26,800	31,200 26,300	29,600 25,700	28,100 25,100	26,500 24,300	24,800 23,300	23,000 22,400	21,200 21,300
	80/67	Total Cooling Sensible Cooling	37,700 26,600	35,800 26,600	36,200 26,500	35,200 26,300	34,000 25,900	32,700 25,500	31,200 24,900	29,500 24,100	27,700 23,300	25,700 22,300
	85/72	Total Cooling Sensible Cooling	44,900 27,300	43,300 27,000	41,600 26,600	39,800 26,100	37,800 25,400	35,800 24,700	33,700 23,800	31,400 22,600	29,100 21,500	26,700 20,200
C60H1	75/62	Total Cooling Sensible Cooling	43,300 33,900	41,300 33,100	39,500 32,300	37,500 31,400	35,500 30,500	33,700 29,600	31,800 28,700	30,000 27,700	28,100 26,700	26,300 25,700
	80/67	Total Cooling Sensible Cooling	46,200 32,900	43,000 32,400	43,800 32,000	42,400 31,400	40,800 30,800	39,200 30,100	37,500 29,400	35,700 28,600	33,800 27,800	31,800 26,900
	85/72	Total Cooling Sensible Cooling	55,100 33,700	52,600 32,900	50,300 32,200	47,900 31,200	45,300 30,200	42,900 30,200	40,500 28,000	38,000 26,800	35,500 25,600	33,100 24,300

- ① Below 65°F, unit requires a factory or field installed low ambient control.
 ② Outdoor temperatures shown are measured at the condenser section air inlet.
 ③ Return air temperature °F.

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

Part Load Heating Application Rating & Outdoor Temperature °F* ②

MODEL		0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°F
C24H1	BTUH	3,600	4,700	5,900	7,000	8,100	9,300	10,400	11,600	12,700	13,800	14,900	16,100	17,200
	WATTS	1390	1400	1410	1410	1420	1420	1420	1410	1440	1460	1470	1480	1490
	COP	0.76	0.99	1.23	1.46	1.68	1.92	2.15	2.42	2.59	2.77	2.97	3.19	3.39
C30H1	BTUH	6,200	7,600	8,900	10,300	11,500	12,500	13,500	14,600	16,400	18,300	19,900	21,200	22,600
	WATTS	1680	1700	1720	1740	1760	1700	1770	1780	1820	1860	1890	1910	1930
	COP	1.09	1.31	1.52	1.74	1.92	2.07	2.24	2.41	2.65	2.89	3.09	3.26	3.44
C36H1	BTUH	7,000	8,600	10,100	11,600	13,100	14,400	15,700	17,100	18,900	20,700	22,400	23,900	25,400
	WATTS	1930	1940	1960	1970	1980	1980	1990	1990	2020	2060	2080	2090	2110
	COP	1.07	1.30	1.51	1.73	1.94	2.14	2.32	2.52	2.75	2.95	3.16	3.36	3.53
C42H1	BTUH	8,800	10,600	12,500	14,300	16,200	18,100	20,000	21,900	23,600	25,400	27,100	29,000	30,800
	WATTS	2340	2360	2390	2410	2410	2400	2380	2370	2450	2540	2590	2610	2640
	COP	1.11	1.32	1.54	1.74	1.97	2.21	2.47	2.71	2.83	2.93	3.07	3.26	3.42
C48H1	BTUH	10,800	12,900	15,100	17,200	18,900	20,300	21,600	23,000	26,300	29,500	32,100	34,300	36,400
	WATTS	2490	2520	2550	2580	2590	2600	2600	2600	2670	2740	2790	2820	2850
	COP	1.28	1.50	1.74	1.96	2.14	2.29	2.44	2.60	2.89	3.16	3.38	3.57	3.75
C60H1	BTUH	11,400	14,200	17,100	19,900	22,700	25,500	28,300	31,000	33,900	36,900	39,700	42,600	45,400
	WATTS	2860	2900	2950	2990	3040	3110	3170	3230	3250	3260	3290	3340	3380
	COP	1.17	1.44	1.70	1.96	2.19	2.41	2.62	2.82	3.06	3.32	3.54	3.74	3.94

* 70°F DB indoor return air at rated CFM includes defrost operation below 45°.

② Outdoor temperatures shown are measured at the condenser section air inlet.

Form No. S3459-1217

Supersedes S3459-316

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Full Load Cooling Application Data - Outdoor Temperature °F ①②

Model	D.B. / W.B. ③	COOLING CAPACITY	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F	120°F
C24H1	75/62	Total Cooling Sensible Cooling	24,400 19,200	23,200 18,800	22,000 18,300	20,700 17,700	19,400 17,200	18,100 16,500	16,700 15,800	15,400 15,100	13,900 14,400	12,400 13,600
	80/67	Total Cooling Sensible Cooling	26,000 18,600	26,000 18,600	24,400 18,100	23,400 17,700	22,200 17,300	21,000 16,800	19,700 16,200	18,300 15,600	16,700 14,900	15,000 14,200
	85/72	Total Cooling Sensible Cooling	31,000 19,100	29,500 18,700	28,100 18,200	26,500 17,600	24,700 17,000	23,000 16,300	21,300 15,500	19,500 14,700	17,600 13,800	15,600 12,900
C30H1	75/62	Total Cooling Sensible Cooling	31,200 24,300	29,600 23,400	28,100 22,600	26,700 22,000	25,500 21,300	24,300 20,800	23,200 20,200	22,100 19,700	21,000 19,200	20,100 18,800
	80/67	Total Cooling Sensible Cooling	33,300 23,500	32,200 22,900	31,200 22,400	30,200 22,000	29,200 21,500	28,300 21,100	27,300 20,700	26,300 20,300	25,300 19,900	24,300 19,600
	85/72	Total Cooling Sensible Cooling	39,700 24,100	37,700 23,300	35,900 22,500	34,100 21,900	32,500 21,100	31,000 20,400	29,500 19,800	28,000 19,100	26,600 18,400	25,300 17,700
C36H1	75/62	Total Cooling Sensible Cooling	37,200 29,500	35,500 28,700	33,800 27,800	32,100 26,900	30,500 26,100	28,900 25,300	27,400 24,500	25,800 23,600	24,400 22,900	22,900 22,100
	80/67	Total Cooling Sensible Cooling	39,700 28,600	38,600 28,100	37,500 27,500	36,300 26,900	35,000 26,300	33,700 25,700	32,300 25,100	30,800 24,400	29,300 23,800	27,700 23,100
	85/72	Total Cooling Sensible Cooling	47,300 29,300	45,200 28,500	43,100 27,700	41,000 26,700	38,900 25,800	36,900 24,900	34,900 23,900	32,800 22,900	30,800 21,900	28,800 20,900
C42H1	75/62	Total Cooling Sensible Cooling	42,100 33,400	40,100 32,400	38,300 31,300	36,500 30,400	34,700 29,500	33,000 28,600	31,300 27,800	29,700 27,100	28,100 26,400	26,500 25,700
	80/67	Total Cooling Sensible Cooling	44,900 32,400	43,700 31,700	42,500 31,000	41,200 30,400	40,000 29,700	38,400 29,100	36,900 28,500	35,400 28,000	33,800 27,400	32,100 26,900
	85/72	Total Cooling Sensible Cooling	53,500 33,200	51,100 32,200	48,800 31,200	46,500 30,200	44,200 29,200	42,000 28,200	39,800 27,200	37,700 26,300	35,500 25,300	33,400 24,300
C48H1	75/62	Total Cooling Sensible Cooling	48,800 39,400	46,600 38,500	44,600 37,600	42,500 36,700	40,500 35,700	38,600 34,800	36,800 33,800	35,000 32,800	33,200 31,800	31,400 30,800
	80/67	Total Cooling Sensible Cooling	52,100 38,200	50,800 37,700	49,500 37,200	48,000 36,700	45,500 36,000	45,000 35,400	43,400 34,700	41,700 33,900	39,900 33,100	38,000 32,200
	85/72	Total Cooling Sensible Cooling	62,100 39,100	59,400 38,300	56,900 37,400	54,200 36,500	51,700 35,300	49,200 34,300	46,800 33,100	44,400 31,800	41,900 30,500	39,500 29,100
C60H1	75/62	Total Cooling Sensible Cooling	58,100 45,200	55,600 43,700	53,200 42,400	51,000 41,100	48,800 39,900	46,700 38,800	44,700 37,800	42,700 36,900	40,800 36,000	38,900 35,200
	80/67	Total Cooling Sensible Cooling	62,000 43,800	60,600 42,800	59,100 42,000	57,600 41,100	55,500 40,300	54,400 39,500	52,700 38,800	50,900 38,100	49,100 37,400	47,200 36,800
	85/72	Total Cooling Sensible Cooling	73,900 44,900	70,900 43,400	67,900 42,200	65,000 40,800	62,200 39,500	59,500 38,200	56,800 37,000	54,200 35,700	51,600 34,500	49,100 33,300

- ① Below 65°F, unit requires a factory or field installed low ambient control.
 ② Outdoor temperatures shown are measured at the condenser section air inlet.
 ③ Return air temperature °F.

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

Full Load Heating Application Rating & Outdoor Temperature °F* ②

MODEL		0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°F
C24H1	BTUH	5,100	6,600	8,100	9,600	11,100	12,400	13,800	15,200	16,900	18,600	20,100	21,600	23,100
	WATTS	1570	1600	1620	1640	1660	1680	1690	1710	1750	1790	1820	1840	1860
	COP	0.96	1.21	1.47	1.72	1.96	2.17	2.40	2.61	2.83	3.05	3.24	3.44	3.64
C30H1	BTUH	10,600	12,200	13,800	15,400	16,400	16,900	17,400	17,900	21,200	24,400	26,600	28,200	29,800
	WATTS	2000	2030	2060	2100	2120	2120	2130	2130	2210	2290	2340	2380	2410
	COP	1.56	1.77	1.97	2.15	2.27	2.34	2.40	2.47	2.82	3.13	3.34	3.48	3.63
C36H1	BTUH	12,200	14,200	16,200	18,200	19,900	21,200	22,600	24,000	26,900	29,900	32,200	34,200	36,200
	WATTS	2270	2300	2340	2380	2410	2430	2450	2470	2530	2600	2640	2680	2720
	COP	1.58	1.81	2.03	2.25	2.42	2.56	2.71	2.85	3.12	3.37	3.58	3.74	3.90
C42H1	BTUH	14,000	16,600	19,300	22,000	23,900	25,400	26,900	28,400	32,800	37,300	40,600	43,300	46,000
	WATTS	2750	2810	2870	2930	2960	2970	2980	2990	3130	3270	3370	3430	3490
	COP	1.50	1.74	1.98	2.20	2.37	2.51	2.65	2.79	3.08	3.35	3.53	3.70	3.87
C48H1	BTUH	18,000	20,600	23,300	26,000	28,000	29,500	31,100	32,700	37,000	41,300	44,600	47,300	50,000
	WATTS	3010	3070	3130	3190	3240	3280	3320	3360	3450	3540	3610	3670	3730
	COP	1.76	1.97	2.19	2.39	2.54	2.64	2.75	2.86	3.15	3.42	3.62	3.78	3.93
C60H1	BTUH	24,800	27,700	30,600	33,500	35,800	37,600	39,400	41,300	45,800	50,300	53,800	56,700	59,600
	WATTS	3770	3850	3930	4010	4080	4140	4200	4260	4370	4470	4560	4640	4720
	COP	1.93	2.11	2.29	2.45	2.58	2.67	2.75	2.85	3.08	3.30	3.46	3.59	3.70

* 70°F DB indoor return air at rated CFM includes defrost operation below 45°.

② Outdoor temperatures shown are measured at the condenser section air inlet.

Indoor Blower Performance - CFM (0.00" — 0.50" H₂O) ①

Model	Rated ESP	① Max ESP	② Blower Only	Cooling & Heat Pump Stage 1	④ Cooling & Heat Pump Stage 2	④ Electric Heat
C24H	.10	.50	550	550	740	900
C30H	.10	.50	650	650	900	900
C36H	.15	.50	800	800	1100	1100
C42H	.15	.50	800	900 ③	1250	1250
C48H	.20	.50	825	1000 ③	1550	1550
C60H	.20	.50	850	1300 ③	1650	1650

NOTE: These units are equipped with a variable speed (ECM) indoor motor that automatically adjusts itself to maintain approximately the same rate of indoor airflow in both heating & cooling, dry & wet coil conditions and at both 230/208 or 460 volts.

① Maximum ESP (inches WC) shown is with 2" thick disposable filter.

② Blower only CFM is the total air being circulated during continuous fan only mode.

③ Blower only CFM reduces during continuous fan only mode.

④ CFM output on Stage 2 Cooling and Heat Pump or Electric Heat.

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	Btuh	KW	3-Ph Amps	Btuh	KW	3-Ph Amps	Btuh
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			43.4	61,434	13.5		37.4	46,076	18.0	21.6	61,434	16.56	20.8	56,520
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.

Heater Packages - Field Installed

• Designed for adding Electric Heat to 0 KW Units

• Circuit Breaker standard on 230/208V Models

• ETL – US & Canada Listed

• Rotary Disconnect standard on 460V Models

Heat Pump Models	-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 460-3	
	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
C24H1	EHT03H-A04B EHT03H-AF8B EHT03H-AS8B	4 F8 S8	EHT02H-B06B EHT03H-B09B	6 9		
C30H1	EHT03H-A04B EHT03H-AF8B EHT03H-AS8B	4 F8 S8	EHT03H-B06B EHT03H-B09B	6 9	EHT03H-C06 EHT03H-C09	6 9
C36H1	EHS03H-A05B EHT05H-A10B EHT05H-A15B	5 10 15	EHT05H-B06B EHT05H-B09B EHS05H-B15B	6 9 15	EHS05H-C06 EHS03H-C09 EHS03H-C15	6 9 15
C42H1	EHS03H-A05B EHT05H-A10B EHT05H-A15B	5 10 15	EHS05H-B06B EHS05H-B09B EHS05H-B15B	6 9 15	EHS05H-C06 EHS05H-C09 EHS05H-C15	6 9 15
C48H1	EHT06H-A04B EHT06H-A05B EHT06H-A10B EHT06H-A15B EHT06H-A20B	4 5 10 15 20	EHT06H-B06B EHT06H-B09B EHT06H-B15B EHT06H-B18B	6 9 15 18	EHT06H-C06 EHT06H-C09 EHT06H-C15	6 9 15
C60H1	EHT06H-A05B EHT06H-A10B EHT06H-A15B EHT06H-A20B	5 10 15 20	EHT06H-B06B EHT06H-B09B EHT06H-B15B EHT06H-B18B	6 9 15 18	EHT06H-C06 EHT06H-C09 EHT06H-C15 EHT06H-C18	6 9 15 18

Clearances Required for Service Access and Adequate Condenser Airflow

MODELS	LEFT SIDE	RIGHT SIDE
All Models	36"	36"

Minimum Clearances Required to Combustible Materials

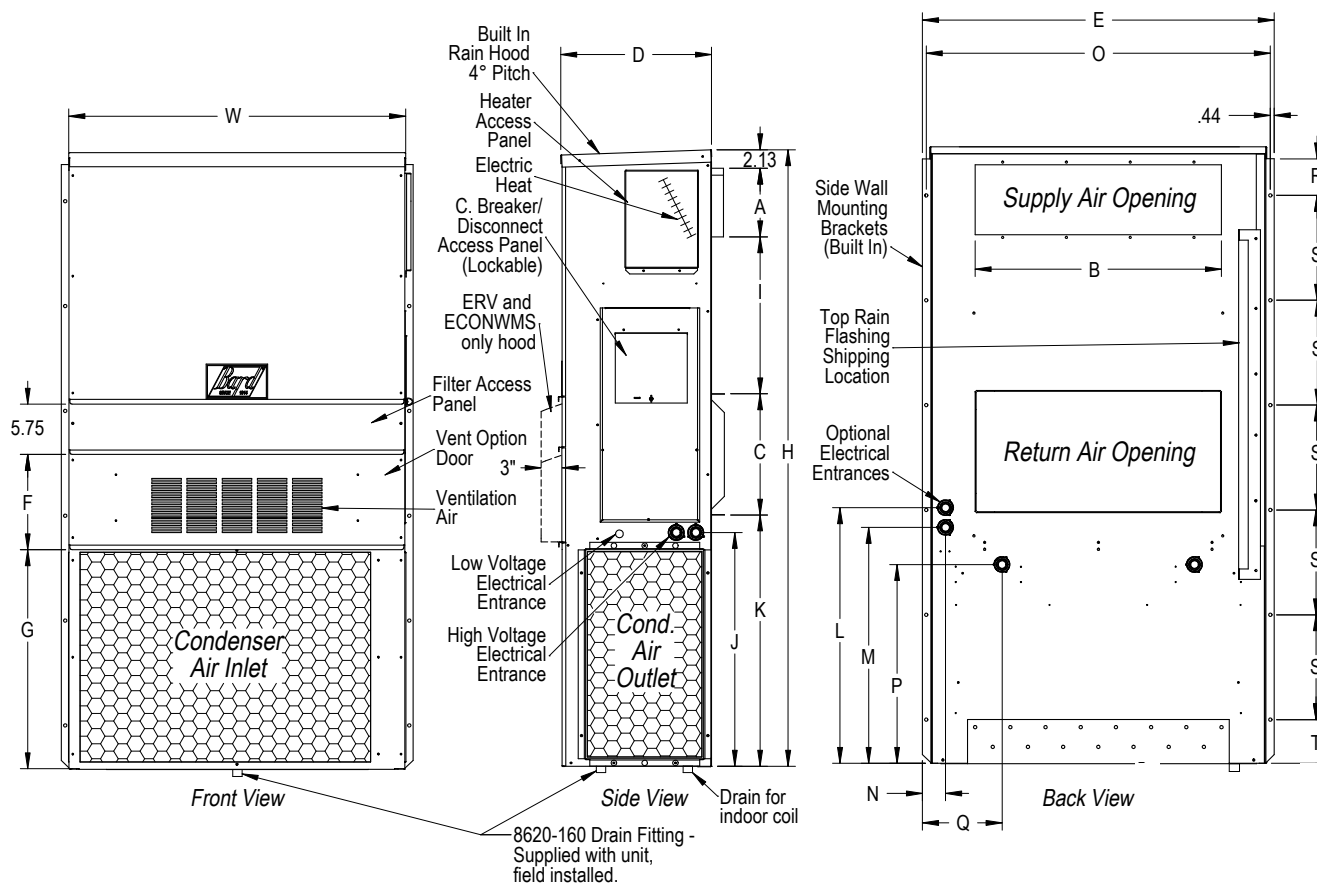
MODELS ①	SUPPLY AIR DUCT FIRST THREE FEET	CABINET
All Models	1/4"	0"

① Refer to the Installation Manual for more detailed information.

Dimensions of Basic Unit for Architectural and Installation Requirements (Nominal)

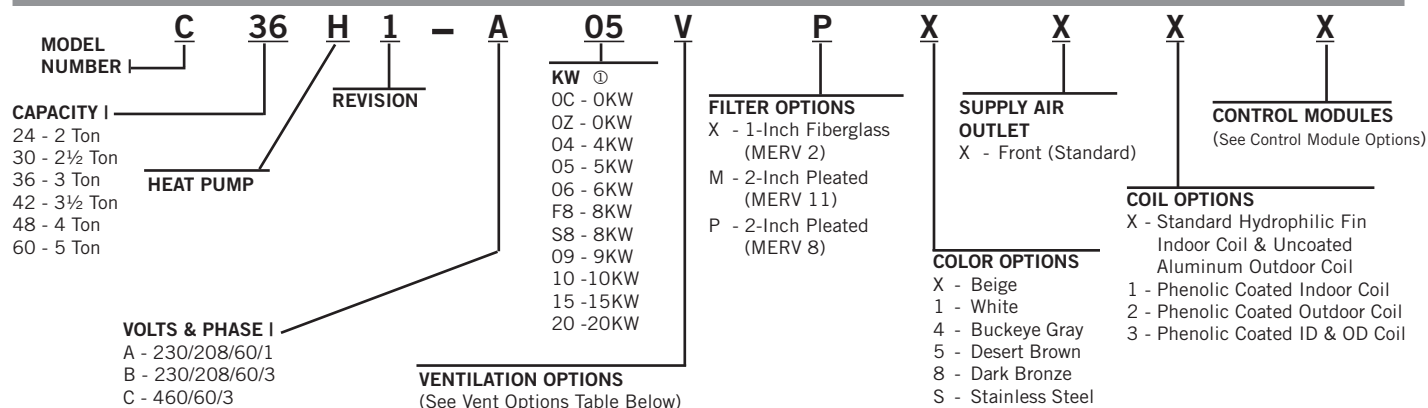
MODEL	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN		E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T
				A	B	C	B															
C24H1 C30H1	38.200	17.125	70.563	7.88	27.88	13.88	27.88	40.00	10.88	25.75	17.93	26.75	28.75	29.25	27.00	2.63	39.13	22.75	9.14	5.00	12.00	5.00
C36H1 C42H1	42.075	22.432	84.875	9.88	29.88	15.88	29.88	43.88	13.56	31.66	30.00	32.68	26.94	34.69	32.43	3.37	43.00	23.88	10.00	1.44	16.00	1.88
C48H1 C60H1	42.075	22.432	93.000	9.88	29.88	15.88	29.88	43.88	13.56	37.00	30.00	40.81	35.06	42.81	40.56	3.37	43.00	31.00	10.00	1.44	16.00	10.00

All dimensions are in inches. Dimensional drawings are not to scale.



MIS-3190

Heat Pump Wall-Mount Model Nomenclature



Note ① All 230/208V units with or without electric heat have circuit breaker. 0C is for 460V circuit breaker & 0KW. No 460V electric heat options w/circuit breaker available. 460V -0Z and all 460V KW options are with Rotary Disconnect. See Page 9 for available heater options by unit model number.

Ventilation Options

MODELS	C24H1, C30H1		C36H1, C42H1, C48H1, C60H1	
	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.
Blank-Off Plate	B	BOP-3	B	BOP-5
Commercial Ventilator - Modulating Spring Return w/Exhaust	V	CHCRV-3 ③	V	CHCRV-5
Economizer (Internal) - Fully Modulating w/Exhaust mn	S	ECONCHS-E3 ②③	S	ECONCHS-E5 ②③
Energy Recovery Ventilator - 230V ①	R	CHERV-A3 ②③	R	CHERV-A5 ②③
Energy Recovery Ventilator - 460V ①	R	CHERV-C3 ②③	R	CHERV-C5 ②③

① Intake and exhaust can be independently adjusted.

② Insert color to match unit ("X" = Beige; "4" = Buckeye Gray; etc.)

③ Requires use of TCURB, depending on unit model, when installing ECONCHS-E3, -E5 or CHCRV-3. See Page 10 for additional information.

NOTE: The WMDK Door Kit cannot be used with the CH Product-Line, due to door sizes.

All parts are included in the field installed vent kits, including door panels.

Heat Pump Control Modules

DESCRIPTION									
Low Pressure Control ①	High Pressure Control ①	Low Ambient Control & Relay ②	Start Kit ③	Start Kit ④	Outdoor Sensor	Freezestat ⑥	Dirty Filter Switch ⑦	Factory Installed Code Number	Field Installed Part Number
STD	STD							X	N/A
STD	STD	C24-48 • 230V						E	CMH-20
STD	STD	C24-48 • 460V						E	CMH-21
STD	STD	C60 • All						E	CMH-19
STD	STD		•					Field Installed Only	CMC-15 ⑤
STD	STD			•				Field Installed Only	SK111 ④
STD	STD					•		Field Installed Only	CMC-29
STD	STD						•	Field Installed Only	CMC-30
STD	STD				•			Field Installed Only	8403-061 ⑤

STD = Standard Equipment

① The high & low pressure controls are auto reset. Operating circuit includes a lockout feature and is resettable from the wall thermostat. All low pressure controls use a timed bypass circuit to prevent nuisance tripping during low temperature start-up.

② The low ambient control includes an 8201-008 (fan relay) and permits cooling operation down to 0°F.

③ PTCR start kit can be used with all -A single phase models. Increases starting torque 2-3x. Not used for -B or -C three phase models. Do not use if SK111 is used.

④ Start capacitor and potential relay start kit can be used with all -A single phase models. Increases starting torque 9x. Not used for -B or -C three phase models. Do not use if CMC-15 is used.

⑤ ODT. Outdoor thermostat. Field-installed only. Bard Part #8403-061.

Comes with weatherproof enclosure. Works in conjunction with 8403-060 multi-stage thermostats offered by Bard and can be configured for any or all of compressor cut-off in heat pump mode, minimum cooling mode and maximum electric heat operation based on outdoor temperature.

⑥ Field installed option for standard units.

⑦ Dirty Filter Switch. Adjustable for different filter media. Normally open close-on-activation dry contact rated 1.5A 24VAC. Suitable for use with appropriate thermostat or alarm panels supplied by others.

NOTE: Standard heat pump control board has a 5-minute compressor anti-short cycle timer.

LAC control is required for operation of cooling mode below 55 degrees. This option is recommended for applications throughout most of the United States & Canada.



Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardhvac.com

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.

Form No.
S3459
December 2017

Supersedes: S3459-316

BID PROPOSAL FORM

Governing Board
Arcata Elementary School District

Dear Members of the Governing Board:

The undersigned, doing business under the name of _____ having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Notice Inviting Bids, the General Conditions, the Instructions to Bidders, the Plans and Specifications, and all other Contract Documents for the proposed Proposition 39 Phase 2 HVAC Upgrade Project ("Project"), and having accurately completed the Bidder's Questionnaire, proposes to perform all work and activities in accordance with the Contract Documents, including all of its component parts, and to furnish all required labor, materials, equipment, transportation and services required for the construction of the Project in strict conformity with the Contract Documents, including the Plans and Specifications, as follows:

BASE BID:

For the sum of

Dollars (\$ _____).

ADDITIVE ALTERNATE 1:

Add: _____
Dollars (\$ _____).

The undersigned has checked carefully all the above figures and understands that the District is not responsible for any errors or omissions on the part of the undersigned in making this bid.

Enclosed find certified or cashier's check no. _____ of the _____ Bank for _____ Dollars (\$ _____) or Bidder's Bond of the _____

surety company in an amount of not less than ten percent (10%) of the entire bid. The undersigned further agrees, on the acceptance of this proposal, to execute the Contract and provide the required bonds and insurance and that in case of default in executing these documents within the time fixed by the Contract Documents, the proceeds of the check or bond accompanying this bid shall be forfeited and shall become the property of the District.

Contractor agrees to commence the work within the time specified in the Notice to Proceed. It is understood that this bid is based upon completing the work within the number of calendar days specified in the Contract Documents.

ADDENDA:

Receipt of the following addenda is hereby acknowledged:

Addendum # _____	Dated: _____	Addendum # _____	Dated: _____
Addendum # _____	Dated: _____	Addendum # _____	Dated: _____
Addendum # _____	Dated: _____	Addendum # _____	Dated: _____

Respectfully submitted,

Company: _____

Address: _____

By: _____
(Please Print Or Type)

Signature: _____

Title: _____

Date: _____

Telephone: _____

Contractor's License No: _____ Expiration Date _____

DIR Registration No. (if applicable) _____

Required Attachments: Subcontractor List Form
 Workers' Compensation Certificate
 Non-Collusion Affidavit
 Bid Bond (or Cashier's or Certified Check)
 Bidders' Questionnaire

SUBCONTRACTOR LIST FORM

Each bidder shall list below the name and location of place of business for each Subcontractor who will perform a portion of the Contract work in an amount in excess of 1/2 of 1 percent of the total contract price. The nature of the work to be subcontracted shall also be described. Per SB96 Public Contract Code 4104, please list the DIR registration number for each Subcontractor.

DESCRIPTION OF WORK	NAME	LOCATION	LICENSE # & DIR #

WORKERS' COMPENSATION CERTIFICATE

Labor Code §3700 in relevant part provides:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees."

I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract and will require all Subcontractors to do the same.

Contractor

By: _____

In accordance with Article 5 (commencing at §1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.

NON-COLLUSION AFFIDAVIT

To be executed by the bidder, notarized and submitted with the bid.

STATE OF CALIFORNIA)
) SS
COUNTY OF)

_____, declares and says that he or she is _____ of _____, the party making the foregoing bid, and affirms that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true and correct; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: _____

_____ Signature

BID BOND

We, the Contractor, _____ as principal (“Principal”), and _____, as surety (“Surety”), are firmly bound unto the Arcata Elementary School District (“District”) in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the District for the work described below for the payment of which sum in lawful money of the United States, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by this agreement.

Whereas, the Principal has submitted the accompanying bid (“Bid”) dated _____, for the following project (“Project”):

Prop 39 Phase 2 HVAC Upgrade Project

Now, therefore, if the Principal does not withdraw its Bid within the period specified, and if the Principal is awarded the Contract and within the period specified fails to enter into a written contract with District, in accordance with the Bid as accepted, or fails to provide the proof of required insurance, the performance bond and/or the payment bond by an admitted surety within the time required, or in the event of unauthorized withdrawal of the Bid, if the Principal pays the District the difference between the amount specified in the Bid and the amount for which District may otherwise procure the required work and/or supplies, if the latter amount is in excess of the former, together with all related costs incurred by District, then the above obligation shall be void and of no effect. Otherwise, the Principal and Surety shall pay to the District the penal sum described above as liquidated damages.

Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the term of the Contract or the call for bids, or to the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition.

In witness whereof the above-bound parties have executed this instrument under their several seals this _____ day of _____, 2018, the name and corporate seal of each corporate Party being hereunder affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

(Corporate Seal)

Principal/Contractor

By _____

Title: _____

(Corporate Seal)

Surety

Attach Attorney-In-Fact Certificate

By _____

Title

To be signed by Principal and Surety and Acknowledgment and Notary Seal to be attached.

BIDDER'S QUESTIONNAIRE

for

Phase 2 HVAC Upgrade Project

TO THE BIDDER:

In making its award, the Governing Board will take into consideration the Bidder's experience, financial responsibility and capability. The following questionnaire is a part of the bid. Any bid received without this completed questionnaire may be rejected as nonresponsive. The Board will use, but will not be limited to, the information provided herein for evaluating the qualifications and responsibility of the bidder and the bidder's organization to carry out satisfactorily the terms of the Contract Document. The questionnaire must be filled out accurately and completely and submitted with the bid. Any errors, omissions or misrepresentation of information may be considered as a basis for the rejection of the bid and may be grounds for the termination of any contract executed as a result of the bid.

A. Description of Bidder's Organization

1. Firm Name _____

2. Address _____

3. Telephone Number _____

4. Type of Organization

a. Corporation? Yes ____ No ____

If yes, list the officers and positions, and the State in which incorporated.

If the Bidder corporation is a subsidiary, give name and address of parent corporation.

b. Partnership? Yes ____ No ____

If yes, list partner names and addresses

General Partners:

Limited Partners:

c. Individual Proprietorship? Yes ____ No ____

If yes, list name and address of proprietor:

B. Nature of Operations

1. How long have you been engaged in the contracting business under your present business name? _____
2. How many years of experience does your business have in construction work similar to that called for under this bid? _____
3. Have you now contracts, or have you ever contracted, to provide construction for any school district, community college district or county office of education in the State of California?
Yes ____ No ____
 - a. If "yes," on a separate attached sheet, provide the following information for all construction projects you have had with school districts, community college districts and county offices of education during the last four (4) years:
 1. Year contract awarded
 2. Type of work
 3. Contract completion time called for/actual completion time
 4. Contract price

5. For whom performed, including person to call for a reference and telephone number
 6. Location of work
 7. Number of stop notices filed
 8. For each contract, list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
 9. Amount of liquidated damages assessed.
- b. On a separate attached sheet, provide the following information for all construction contracts of a similar nature as called for in this bid that you have had with entities other than school districts, community college districts and county offices of education during the last four (4) years:
1. Year contract awarded
 2. Type of work
 3. Contract completion time called for/actual completion time
 4. Contract price
 5. For whom performed, including person to call for reference and phone number
 6. Location of work
 7. Number of stop notices filed
 8. For each contract list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
 9. Amount of liquidated damages assessed.
- c. For each construction contract that you have failed to complete within the contract time in the last four years please state the reasons for the untimely performance.

C. Financial and Credit Data

1. If your bid is considered for award, and if requested by the District, will you supply the following data? Yes ____ No ____
 - a. Names and addresses of any banks where you regularly do business.
 - b. The names and addresses of any banks, finance companies, dealers, suppliers, or others where you have notes or loans.
 - c. Give credit references, including at least three trade or industry suppliers with whom you regularly deal.
2. Will you submit on request a balance sheet for the past three (3) years? Yes _ No _

3. Where have you engaged in the construction business, or any other type of business, in the last five years?

<u>Name of Business</u>	<u>Location</u>	<u>Type of Business</u>	<u>Years in Business</u>
-------------------------	-----------------	-------------------------	--------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

If any of the business endeavors referred to above are no longer operating, or you are no longer associated with them, please give brief details:

4. The following surety companies may be contacted as references as to the financial responsibility and general reliability of the bidder:

<u>Surety Name</u>	<u>Contact Person</u>	<u>Phone Number</u>
--------------------	-----------------------	---------------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

I certify under penalty of perjury that the foregoing is true and correct. Executed at _____, California, on _____, 20____.

Signature of Bidder _____

Name (*print*) _____

Company _____

CONTRACT

This Contract ("Contract") is made by and between the Arcata Elementary School District ("District"), and <Contractor Name> ("Contractor").

District and Contractor hereby agree as follows:

1. **Description of Work**

The Contractor agrees to furnish all labor, materials, equipment, tools, supervision, appurtenances, and services, including transportation and utilities, required to perform and satisfactorily complete all work required for the following project ("Project") in full conformance with the Contract Documents:

Proposition 39 Phase 2 HVAC Upgrade Project

2. **Contract Documents**

The Contract Documents consist of the executed Contract and all Addenda, all approved change orders, the completed Bid Form, the required Bonds and the Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the Notice of Award, the Notice to Proceed, the General Conditions and any supplemental conditions, the Technical Specifications, the Drawings the completed Bidder's Questionnaire and Disabled Veteran Business Enterprises Requirements (if applicable).

3. **Compensation**

As full compensation for the Contractor's complete and satisfactory performance of the work and activities described in the Contract Documents, the District agrees to pay Contractor, and Contractor agrees to accept the sum of xxxxxxxxxx Dollars (\$xxxx), which shall be paid to the Contractor according to the Contract Documents.

4. **Prevailing Wages**

This Project is subject to prevailing wage requirements and Contractor and its Subcontractors are required to pay all workers employed for the performance of this Contract no less than the applicable prevailing wage rate for each such worker. Contractor acknowledges that the project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations in accordance with SB 854.

5. **Time for Completion**

The starting date of the Contract shall be the day listed by the District in the Notice to Proceed and the Contractor shall fully complete all the work before the expiration of the "Installation Complete" date listed in the Schedule shown in the Invitation for Bids, and as modified by any subsequent addenda or change orders. Time is of the essence in the performance of this Contract.

6. Liquidated Damages

Liquidated damages for the Contractor's failure to complete the Contract within the time fixed for completion are established in the amount of \$200.00 per calendar day.

IN WITNESS WHEREOF, the parties agree to the terms of this Contract on the day and year written below.

District Authorized Signature

Contractor

Resolution No. xxxxxx

Contractor License No. and Expiration Date

Date: xx/xx/xx

By: _____
Individual Signature

Title

Date

For use by NCSIG Members:

Certificates of Insurance and Bonds Approved

By: _____
Director, JPA Services

Date: _____

For: _____
Corporation or Partnership

If Corporation, Seal Below.

General Conditions

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NOTICE OF AWARD

NOTICE TO PROCEED

PERFORMANCE BOND

PAYMENT BOND

GUARANTEE

GENERAL CONDITIONS TO CONTRACT

1. DEFINITIONS

Addendum: A written change or revision to the Contract Documents issued to the prospective bidders prior to the time of receiving bids.

Alternate: The sum to be added to or deducted from the base Bid if the change in scope of work as described in Alternates is accepted by the District.

Approved: Approved by the District or the District's authorized representative unless otherwise indicated in the Contract Documents.

Architect: The person or firm holding a valid license to practice architecture or engineering which has been designated (if any designated) to provide architectural or engineering design services on this Project. When Architect is referred to within the Contract Documents and no architect or engineer has in fact been designated, then the matter shall be referred to the District Superintendent or designee.

As Directed: As directed by the District or its Project Manager, unless otherwise indicated in the Contract Documents.

As Selected: As selected by the District or its Project Manager, unless otherwise indicated in the Contract Documents.

Bid: The properly completed and signed proposal to perform the construction work for the Project as described in the Contract Documents.

Contract: The legally binding agreement between the District and the Contractor wherein the Contractor agrees to furnish the labor, materials, equipment, and appurtenances required to perform the work described in the Contract Documents and the District agrees to pay the Contractor for such work.

Contract Documents: The Contract Documents are described in the Contract for this Project.

Contractor: The person or entity holding a valid license in the State of California required for performing this Project and who has contracted with the District to perform the construction work described in the Contract Documents. The term Contractor shall be construed to mean all of the officers, employees, Subcontractors, suppliers, or other persons engaged by the Contractor for the work of this Project.

District and/or Owner: The Arcata Elementary School District, its Governing Board, authorized officers and employees, and authorized representatives.

DSA: The State of California Division of the State Architect.

Final Completion: Final Completion is achieved when the Contractor has fully completed all Contract Document requirements, including, but not limited to, all final punch list items and project closeout, to the District's satisfaction.

Furnish: Purchase and deliver to the site of installation.

Governing Board: The Governing Board of the Arcata Elementary School District.

Indicated or As Shown: Shown on drawings and/or as specified.

Inspector: The person engaged by the District to conduct the inspections required by the Education Code and Title 24.

Project: The total construction work and activities described in these Contract Documents.

Project Manager: Redwood Coast Energy Authority (RCEA) serves as the Proposition 39 Project Manager for this Project.

Secure: Obtain.

Subcontractor: A person, firm, or corporation, duly licensed by the State of California, who has a contract with the Contractor regarding the Project.

2. PROJECT MANAGER

The Project Manager is responsible for the overall management of the Project. The scope of work, specifications, incentive requirements and other information necessary to define the work have been prepared by the Project Manager or Project Manager/Engineer working as a subcontractor for the Project Manager. The Project Manager shall visit, inspect and observe the construction to determine general compliance with the Contract Documents, and interpret the scope and Specifications consistent with their intent. The Project Manager shall evaluate the samples and other submittals required in the technical Specifications, and maintain an up-to-date log of all such items processed. The Project Manager will consult with the District, Contractor, and any state, county or city agency having jurisdiction over the work whenever necessary to further the best interests of the Project.

3. CONTRACT DOCUMENTS

a. Contents and Precedence

The Contract Documents consist of the executed Contract and all Addenda, all approved change orders, the completed Bid Form, the required Bonds and the Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the Notice of Award, the Notice to Proceed, the General Conditions, any supplemental Conditions, and the Technical Specifications, the Drawings and the completed Bidder's Questionnaire. The Contract Documents are

complementary and anything required by one shall be as binding as if required by all. In case of conflicts within the Contract Documents, the order of precedence of interpretation shall be as listed above, with the executed Contract and any change order thereto having priority, and subsequent Addenda having priority over prior Addenda only to the extent modified by the subsequent Addenda. In case of conflict within the drawings, larger scale drawings shall govern smaller scale drawings, and written dimensions shall govern over scaled dimensions.

b. Ambiguities, Errors, and Inconsistencies

If, in the opinion of the Contractor, the construction details indicated on the drawings or otherwise specified are in conflict with accepted industry standards for quality construction and therefore might interfere with its full guarantee of the work involved, the Contractor shall promptly bring this information to the attention of the Project Manager for appropriate action before submittal of the bid. Contractor's failure to request clarification or interpretation of an apparent ambiguity, error or inconsistency waives that Contractor's right to thereafter claim any entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Contractor, subject to the limitations of Public Contract Code §1104. During the Project, should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Contract Documents, the matter shall be promptly referred to the Project Manager, who will issue instructions or corrections.

c. Lines and Planes

All lines and planes appearing on Contract drawings to be horizontal or vertical and not explicitly indicated otherwise shall be constructed true and plumb. All lines and planes appearing on Contract drawings to intersect at right angles and not explicitly indicated otherwise shall be constructed at true right angles. Where details are indicated covering specific conditions, such details also apply to all similar conditions not specifically indicated.

d. Standards

The specification standards of the various sections of the Specifications shall be the procedural, performance, and material standards of the applicable association publications identified and shall be the required level of installation, materials, workmanship, and performance for the applicable work. Except where a specific date of issue is mentioned hereinafter, references to specification standards shall mean the edition, including amendments and supplements, in effect on the date of the Notice Inviting Bids. Where no standard is identified and a manufacturer is specified, the manufacturer's specifications are the standards. All standards shall be subordinate to the requirements of the applicable codes and regulations.

e. Reference to the Singular

Wherever in the Specifications an article, device or piece of equipment is referred to in the singular, such reference shall include as many such items as are shown on drawings or required to complete the installation.

4. INTENT OF DRAWINGS AND SPECIFICATIONS

- a. Drawings and Specifications are to be read as an integrated document. The Contractor shall promptly report to the Project Manager any ambiguities, discrepancies, or errors which come to the Contractor's attention.
- b. Figured dimensions shall be followed in preference to scaled dimensions, and the Contractor shall make all additional measurements necessary for the work and shall be responsible for their accuracy. Before ordering any material or doing any work, the Contractor shall verify all measurements at the Project site and shall be responsible for the correctness of same.
- c. It is the intent of the drawings and Specifications to show and describe complete installations. Items shown but not specified, or specified but not shown, shall be included unless specifically omitted.
- d. The Specifications shall be deemed to include and require everything necessary and reasonably incidental to the completion of all work described and indicated on the drawings, whether particularly mentioned or shown, or not.

5. TRADE DIVISIONS

Segregation of the Specifications into the designated trade divisions is only for the purpose of facilitating descriptions and shall not be considered as limiting the work of any subcontract or trade. Subject to other necessary provisions set forth in the Specifications, the terms and conditions of such limitations or inclusions shall lie solely between the Contractor and its Subcontractors. "Scope" as indicated in each section of the Specifications shall serve only as a general guide to what is included in that section. Neither the stated description nor the division of the plans and Specifications to various sections, which is done solely for convenience, shall be deemed to limit the work required, divide or indicate it by labor jurisdiction or trade practice, or set up any bidding barriers to the various sub-contractors or suppliers.

- a. The Contractor shall be responsible for the proper execution of all work required by the Contract Documents and for allocating such portions as the Contractor sees fit to the various Subcontractors, subject to applicable law. The Contractor is cautioned that the various individual sections may not contain all work that the Contractor may wish to allocate to a particular Subcontractor or everything bearing on the work of a particular trade, some of which may appear in other portions of the plans or Specifications.

- b. If the Contractor elects to enter into any subcontract for any section of the work the Contractor assumes all responsibility for ascertaining that the Subcontractor for the work is competent, licensed, solvent, thoroughly acquainted with all conditions and legal requirements of the work, has included all materials and appurtenances in connection therewith in the subcontract, and has performed its work in strict compliance with the Contract Documents.
- c. It shall be the responsibility of the Contractor to notify each prospective Subcontractor at the time of request for bids of all portions of the Contract Documents, including the General Conditions, Supplementary Conditions and any parts of sections of Specifications or plans that the Contractor intends to include as part of the subcontract.

6. MASTER MANDATORY PROVISIONS

- a. Any material, item, or piece of equipment mentioned, listed or indicated without definition of quality, shall be consistent with the quality of adjacent or related materials, items, or pieces of equipment on the Project and in accordance with best practices.
- b. Any method of installation, finish, or workmanship of an operation called for, without definition of standard of workmanship, shall be followed or performed and finished in accordance with best practices and consistent with adjacent or related installations on the Project.
- c. Any necessary material, item, piece of equipment or operation not called for but reasonably implied as necessary for proper completion of the work shall be furnished, installed or performed and finished; and shall be consistent with adjacent or related materials, items, or pieces of equipment on the Project, and in accordance with best practices.
- d. Names or numbered products are to be used according to the manufacturers' directions or recommendations unless otherwise specified.

7. CONTRACTOR

- a. The Contractor shall perform all the work and activities required by the Contract Documents and furnish all labor, materials, equipment, tools and appurtenances necessary to perform the work and complete it to the District's satisfaction within the time specified. The Contractor shall at all times perform the work of this Contract in a competent and workmanlike manner and, if not specifically stated, accomplish the work according to the best standards of construction practice. The Contractor in no way is relieved of any responsibility by the activities of the Project Manager, engineer, inspector or DSA in the performance of such duties.
- b. The Contractor shall employ a full-time competent superintendent and necessary assistants who shall have complete authority to act for the Contractor on all matters pertaining to the work. The superintendent shall be satisfactory to the District and, if not satisfactory, shall

be replaced by the Contractor with one that is acceptable. Also, the superintendent shall not be changed without the written consent of the District unless the superintendent ceases to be employed by the Contractor.

- c. Contractor shall make the layout of lines and elevations and shall be responsible for the accuracy of both the Contractor's and the Subcontractors' work resulting there from. All dimensions affecting proper fabrication and installation of all Contract work must be verified by the Contractor prior to fabrication and installation by taking field measurements of the true conditions. The Contractor shall take, and assist Subcontractors in taking, all field dimensions required in performance of the work, and shall verify all dimensions and conditions on the site. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the work, the Contractor shall promptly bring such discrepancies to the attention of the Project Manager for adjustment before proceeding with the work. Contractor shall be responsible for the proper fitting of all work and for the coordination of all trades, Subcontractors and persons engaged upon this Contract.
- d. Contractor shall do all cutting, fitting, or patching of Contractor's work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors as shown, or reasonably implied by, the drawings and Specifications for the completed work. Any cost incurred by the District due to defective or ill-timed work shall be borne by the Contractor.

8. RESPONSIBILITY OF CONTRACTOR

- a. Contractor shall be held strictly responsible for the proper performance of all work covered by the Contract Documents, including all work performed by Subcontractors. All work performed under this Contract shall comply in every respect to the rules and regulations of all agencies having jurisdiction over the Project or any part thereof.
- b. Contractor shall perform the duties and shall submit Verified Reports as required by Title 24, California Code of Regulations ("CCR") if applicable for this project.
- c. Where, because of short supply, any item of fabricated materials and/or equipment, indicated on drawings or specified is unobtainable and it becomes necessary, with the consent of the Project Manager, to substitute equivalent items differing in details or design, the Contractor shall promptly submit complete drawings and details indicating the necessary modifications of the work. This provision shall be governed by the terms of the General Conditions regarding Substitutions & Submittals: Shop Drawings, Cuts and Samples.
- d. With respect to work performed at and near a school site, Contractor shall at all times take all appropriate measures to ensure the security and safety of students and staff, including, but not limited to, ensuring that all of Contractor's employees, Subcontractors, and suppliers entering school property strictly adhere to all applicable District policies and procedures, e.g., sign-in requirements, visitor badges, and access limitations.

9. SUBCONTRACTORS

- a. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. The District shall be deemed to be the third party beneficiary of the contract between the Contractor and each Subcontractor. If the Contractor does not specify a Subcontractor for any portion of the work to be performed under this Contract, as required by law, Contractor shall perform that portion of the work with its own forces. The Contractor shall not substitute any other person or firm as a Subcontractor for those listed in the bid submitted by the Contractor, without the written approval of the District and in conformance with the requirements of the Public Contract Code. The District reserves the right of approval of all Subcontractors proposed for use on this Project, and to this end, may require financial, performance, and such additional information as is needed to secure this approval. If a Subcontractor is not approved, the Contractor shall promptly submit another firm of the same trade for approval.
- b. The Contractor shall insert appropriate provisions in all subcontracts pertaining to work on this Project requiring the Subcontractors to be bound by all applicable terms of the Contract Documents. The Contractor shall be as fully responsible for the acts and omissions of the Subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

10. PERFORMANCE AND PAYMENT BONDS

- a. If this amount specified in the Notice of Award is \$25,000 or more, as directed in the Notice of Award, the Contractor shall file with the District the following bonds, using the bond forms provided with these Contract Documents:
 - 1) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the faithful performance of the Contract.
 - 2) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in the performance of the Contract.
- b. Corporate sureties on these bonds and on bonds accompanying bids shall be admitted sureties as defined by law, legally authorized to engage in the business of furnishing surety bonds in the State of California. All sureties and bond forms must be satisfactory to the District. Failure to submit the required bonds within the time specified by the Notice of Award, using the forms provided by the District, may result in cancellation of the award of Contract and forfeiture of the Bid Bond.
- c. The amount of the Contract, as used to determine the amounts of the bonds, shall be the total amount fixed in the Contractor's proposal for the performance of the required work.

- d. During the period covered by the Contract, if any of the sureties upon the bonds shall become insolvent or unable, in the opinion of the District, to pay promptly the amount of such bonds to the extent to which surety might be liable, the Contractor, within thirty (30) days after notice given by the District to the Contractor, shall provide supplemental bonds or otherwise substitute another and sufficient surety approved by the District in place of the surety becoming insolvent or unable to pay. If the Contractor fails within such thirty (30) day period to substitute another and sufficient surety, the Contractor shall, if the District so elects, be deemed to be in default in the performance of its obligations hereunder and upon the bid bond, and the District, in addition to any and all other remedies, may terminate the Contract or bring any proper suit or other proceedings against the Contractor and the sureties or any of them, or may deduct from any monies then due or which thereafter may become due to the Contractor under the Contract, the amount for which the surety, insolvent or unable to pay, shall have been liable on the bonds, and the monies so deducted shall be held by the District as collateral security for the performance of the conditions of the bonds.
- e. Provide one electronic copy and two hardcopy set of bonds to the Project Manager to send to the District for wet signatures.

11. INSURANCE

- a. Contractor shall obtain insurance from a company or companies acceptable to District. All required insurance must be written by an admitted company licensed to do business in the State of California at the time the policy is issued. All required insurance shall be equal to or exceed an A VIII rating as listed in Best's Insurance Guide's latest edition. Required documentation of such insurance shall be furnished to the District at the time Contractor returns the executed Contract or within 10 days of receipt of Notice of Award. On a case-by-case basis, the District may accept insurance written by a company listed on the State of California Department of Insurance List of Eligible Surplus Lines ("LESLI List") with a rating of A VIII or above as listed in Best's Insurance Guides' latest edition. Contractor shall not commence work nor shall it allow its employees or Subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved by the District and a notice to proceed has been issued.
- b. Contractor shall take out and maintain at all times during the life of this Contract, up to the date of acceptance of the work by the District, the following policies of insurance:
 - 1) General Liability Insurance: Personal injury and replacement value property damage insurance for all activities of the Contractor and its Subcontractors arising out of or in connection with this Contract, written on a comprehensive general liability form including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, in an amount no less than either:

- a. \$1,000,000.00 combined single limit personal injury and property damage for each occurrence and \$2,000,000.00 annual aggregate with a \$0 umbrella/excess; or
- b. \$2,000,000.00 annual combined single limit.

2) Builders Risk Insurance:

X Contractor is not required to procure and maintain builders' risk insurance (all-risk coverage).

____ Contractor shall procure and maintain builders' risk insurance (all-risk coverage) on a one hundred percent completed value basis on the insurable portion of the project for the benefit of the District, and the Contractor and subcontractor as their interest may appear.

3) Automobile Liability Insurance: Covering bodily injury and property damage in an amount no less than \$1,000,000 combined single limit for each occurrence. Such insurance shall include coverage for owned, hired, and non-owned vehicles and be included on the umbrella/excess policy.

- c. The certificate(s) for both the General Liability Policy(ies) and the Automobile Liability Policy specified above must state that the insurance is under an occurrence based, and not claims made, policy(ies) and shall be endorsed with the following specific language:

“The Arcata Elementary School District is named as additional insured for all liability arising out of the operations by or on behalf of the named insured, and this policy protects the additional insured, its officers, agents and employees against liability for bodily injuries, deaths or property damage or destruction arising in any respect directly or indirectly in the performance of the Contract.”

- d. The certificate(s) for both the General Liability Policy and the Automobile Liability Policy, as well the Builders' Risk Policy (if required above), shall be endorsed with the following specific language:

- 1) The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured and the coverages afforded shall apply as though separate policies have been issued to each insured.
- 2) The insurance provided herein is primary and no insurance held or owned by the District shall be called upon to contribute to a loss.
- 3) Coverage provided by this policy shall not be reduced or canceled without thirty (30) days written notice given to the Owner by certified mail.

- 4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.
 - 5) The certificates must state that the insurance is under an occurrence based, and not a claims-made, or "modified occurrence," policy (policies).
- e. Within ten (10) days following issuance of the Notice of Award of the Contract, the following documentation of insurance shall be submitted to Project Manager and District electronically for approval prior to issuance of the Notice to Proceed: Certificates of insurance showing the limits of insurance provided, certified copies of all policies, and signed copies of the specified endorsements for each policy. At the time of making application for an extension of time, the Contractor shall submit evidence that the insurance policies will be in effect during the requested additional period of time.
- f. If the Contractor fails to maintain such insurance, the District may take out such insurance to cover any damages of the above mentioned classes for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premiums from any sums due the Contractor under the Contract.
- g. Workers' Compensation Insurance:
 - 1) Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the Contractor shall submit to Project Manager electronically in order to send to the District satisfactory proof that the Contractor and all Subcontractors it intends to employ have procured, for the period covered by the Contract, full Workers' Compensation insurance and employer's liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the District for all persons whom the Contractor may employ in carrying out the work contemplated under this Contract in accordance with the Workers' Compensation Insurance and Safety Act, approved May 26, 1913, and all acts amendatory or supplemental thereto (the "Act"). Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, Contractor shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.
 - 2) If the Contractor fails to maintain such insurance, the District may take out worker's compensation insurance to cover any compensation which the District might be liable to pay under the provisions of the Act, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under the Contract, or otherwise recover that amount from the Contractor or the Surety.
 - 3) If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to

compensation under the provisions of the Act, or for which compensation is claimed from the District, the District may retain from the sums due the Contractor under this Contract an amount sufficient to cover such compensation, as fixed by the Act, until such compensation is paid, or until it is determined that no compensation is due, and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid, or otherwise recover this sum from the Contractor or its Surety.

- 4) The policies represented by the certificates shall be endorsed with a Waiver of Subrogation and must contain the provision (and the certificates must so state) that the insurance cannot be canceled until thirty (30) days after written notice of intended cancellation has been given to the District by certified mail.

12. CODES AND REGULATIONS

- a. The Contractor shall be knowledgeable regarding and shall comply with applicable portions of Code of Regulations Title 24, the applicable Building Codes, and all other codes, ordinances, regulations or orders of properly constituted authority having jurisdiction over the work of this Project. The Contractor shall examine the Contract Documents for compliance with these codes and regulations and shall promptly notify the Project Manager of any discrepancies.
- b. All work and materials shall be in full accordance with the latest rules and regulations of the Safety Orders of the Division of Industrial Safety and the applicable State laws and/or regulations. Nothing in the Project plans or Specifications is to be construed to permit work not conforming to the applicable Codes. Buildings and/or all other construction covered by this Contract shall meet all the regulations for access by the physically handicapped as administered by the Division of the State Project Manager and as may be required by federal or state law.
- c. If the work under this Contract is for the construction of a school building as defined by the Education Code, then the following provisions shall apply to the Contract:
 - 1) All work shall be executed in accordance with the current requirements of the Education Code and California Code of Regulations: Title 24 and Title 19. No deviations from the (DSA) approved plans and Specifications will be permitted except upon a Change Order or Addenda, signed by the District and Project Manager and approved by the Division of the State Project Manager and the State Fire Marshal, if applicable.

13. PERMITS AND TAXES

- a. The Contractor shall obtain and pay for all permits, fees and licenses that are required in order to perform the work under this Contract if applicable. The District shall pay connection charges and meter costs for new permanent utilities required by these Contract Documents.

- b. The Contractor shall pay for all applicable taxes on materials and equipment.

14. PATENTS AND ROYALTIES

All fees or claims for patents, royalties or licenses on materials, equipment or processes used in the performance of work on this Project shall be included in the amount of the Bid. The Contractor shall indemnify, defend, and hold harmless the District, its Governing Board, the Project Manager, and their officers and employees, from all claims or liability, including costs and expenses, which may arise from the use on this Project of any patented or copyrighted materials, equipment, or processes.

15. SAFETY AND FIRE PREVENTION

- a. The Contractor, Subcontractors and all of their agents and employees shall fully comply with all of the provisions and requirements of CAL/OSHA, Title 8, California Code of Regulations and all other safety codes applicable to the Project. The Contractor shall take thorough precautions at all times for the protection of persons and property, and shall be liable for all damages to persons or property, either on or off the site, which occur as a result of Contractor's prosecution of the work. The Contractor shall obtain permits for, install and maintain in safe condition barricades, walkways, fences, railings, and whatever other safeguards that may be necessary to protect persons and property from damage as a result of the construction under this Contract.
- b. Contractor is required to ensure Material Safety Data Sheets ("MSDS") are available in a readily accessible place at the work site for any material requiring a MSDS pursuant to the federal "Hazard Communication" standard or employee "right to know" laws. Contractor is also required to ensure proper labeling on materials brought on the job site such that any person working with the material or within the general area of the material is informed of the hazards of the material and follows proper handling and protection procedures. A copy of the MSDS shall also be promptly submitted directly to the District.
- c. Contractor shall not endanger any work by cutting, excavating, or otherwise altering the work and shall not cut or alter the work of any other contractor except with the written consent of the Project Manager, nor overload any new or existing structures by the placing or storage of materials, equipment, or other items thereon, and, if necessary, shall provide calculations proving the safety in so doing.
- d. If it is necessary to work at night, or where daylight is obscured, the Contractor shall provide and maintain lighting of an adequate level to properly prosecute the work, to permit the thorough inspection of same, and to ensure the safety to workers and others.
- e. Contractor shall take extraordinary care to prevent fires and keep all flammable materials and oily rags in tightly closed metal containers. Contractor shall exercise particular care when welding or cutting, and with regard to the disposition of waste materials, the nature and quantity of which might create or increase a fire hazard.

16. HAZARDOUS MATERIALS

Unless otherwise specified, this Contract does not include the removal, handling, or disturbance of any hazardous substances or materials encountered in the new construction or on the Project grounds. If such substances or materials are encountered, work shall cease in that area and the District shall be promptly notified to take appropriate action for removal or otherwise abating the condition in accordance with current regulations applicable to the District. No asbestos, asbestos-containing products or other hazardous materials shall be used in this construction or in any tools, devices, clothing or equipment used to further this construction. Asbestos and/or asbestos-containing products shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremo-lite or actinolite.

17. TEMPORARY FACILITIES

- a. The Contractor shall obtain permits for, install and maintain in safe condition all scaffolds, hoisting equipment, barricades, walkways, or other temporary structures that may be required to accomplish the work. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable codes and regulations.
- b. The Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the work it may become necessary for curing, drying or warming spaces as may be required for the proper installation of materials or finishes. The Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, the Contractor shall have on hand whatever spare parts or equipment that may be required to avoid interruption of service or work.
- c. The Contractor shall promptly remove all such temporary facilities when they are no longer needed for the work or on completion of the Project. The Contractor shall repair any damage to premises or property which resulted from the construction, use, or removal of temporary facilities and shall restore the premises and property to their original condition.
- d. See the Supplemental General Conditions and/or specifications for requirements concerning temporary sanitary facilities and utilities.

18. SIGNS

No signs may be displayed on or about the District's property (except those which may be required by law) without the District's prior written approval of size, content and location. Any signs required by the District will be designated in the Supplemental General Conditions.

19. TIME

- a. The Contractor shall commence the work on the date indicated in the Notice to Proceed. Time is of the essence regarding the Contract work, and the Contractor shall prosecute the work diligently and regularly at such a rate of progress as to ensure completion of this Project within, or sooner than, the time specified.
- b. The Contractors and Subcontractors shall investigate and become aware of the amount of time required for the delivery of all equipment and materials required to perform the work under this Contract, and no extension of time shall be granted due to failure to order the equipment and materials sufficiently before their incorporation into the work so as to avoid delay to the Project.
- c. The Contractor and Subcontractors shall provide and maintain enough manpower, materials and equipment to ensure a rate of construction progress that will complete the Project within or sooner than the time specified and according to the schedule of work. If, in the District's opinion, the Contractor and/or Subcontractors are not prosecuting the work at a sufficient rate of progress to meet the Project schedule, the District may direct the Contractor to provide additional manpower, materials or equipment, or to work additional hours, holidays or weekends without additional cost to the District until the work is progressing in a manner satisfactory to the District. Failure to prosecute the work in a timely manner according to the Project schedule is considered a breach of Contract and shall be cause for termination of the Contract.

20. CONSTRUCTION SCHEDULE

- a. Within fifteen (15) calendar days after the award of the Contract, the Contractor shall prepare and submit to the Project Manager and District an electronic version of the as-planned construction schedule showing in detail how the Contractor plans to prosecute the work within the time set for Final Completion. The schedule shall include the work of all trades necessary for construction of the Project, and shall be sufficiently complete and comprehensive to enable progress to be monitored on a day-by-day basis. The information for each activity shall include at a minimum the activity description, duration, start date and completion date.
- b. The Contractor shall take care in the preparation of the schedule to ensure that it represents an accurate and efficient plan for accomplishing the work. If the Project is more than one week behind schedule, it must be promptly revised showing how the Contractor plans to complete the work, but in no case shall it show a completion date later than that required by the Contract, unless a time extension has been granted. The current schedule shall be kept posted in the Contractor's project office on site.
- c. The Contractor shall be responsible for the coordination of all work necessary and pertaining to the construction whether actually a part of this Contract or attendant thereto. The Contractor shall notify the District and various utility companies, as far as possible in

advance of their required work, in order that work schedules may be developed for all concerned, which will permit the most effective and timely accomplishment of the entire Project.

21. DELAYS AND TIME EXTENSIONS

- a. The Contractor may be granted a time extension if the Contractor encounters an unavoidable delay of the work due to causes completely beyond the Contractor's control and which the Contractor could not have avoided by the exercise of reasonable care, prudence, foresight and diligence. Causes for which a claim for extension of time may be made include: acts of the public enemy, acts of another contractor in the performance of another contract with the District, priority of a governmental agency for materials or equipment, fire, flood, violent wind storm, epidemic, quarantine restriction, strike, freight embargo, or weather of an unusually severe nature. The Contractor will not be granted time extensions for weather conditions which are normal for the location of the Project, according to the U. S. Weather Bureau Records.
- b. A request for extension of time and compensation related thereto shall be made in writing to the Project Manager and District within ten (10) calendar days of the date the delay is encountered, or shall be deemed waived. The request shall include a detailed description of the reasons for the delay and corrective measures by the Contractor. In order for the Project Manager to consider a request for time extension, the Contractor must prove that the reasons stated for the delay actually caused a delay in portions of the work which will result in completion beyond the date specified in the Contract. The Contractor may also be granted a time extension for a significant change in the scope of work which request for extension of time shall be included in a Contract modification proposal.
- c. No damages or compensation or any kind shall be paid to a Contractor because of delays in the progress of work, whether such delays be avoidable or unavoidable, that are not the responsibility of District. District's liability to Contractor for delays for which District is responsible shall be limited to an extension of time unless such delays were unreasonable under the circumstances involved and were not within the contemplation of the parties when the Contract was awarded. Delay damages shall not include Contractor or Subcontractor markup for overhead and profit, but only actual, documented, and direct actual costs. The District shall not be liable for any damages which the Contractor could have avoided by any reasonable means including, but not limited to, the more judicious handling of forces or equipment.

22. LIQUIDATED DAMAGES

- a. The parties understand and agree that the goodwill, educational process, and other business of District will be damaged if the Project is not completed within the time limits required. The parties have further agreed that the exact amount of damages for failure to complete the Work within the time specified is, in some cases, extremely difficult, impractical, or impossible to determine. As to those damages that are difficult, impractical, or impossible

to determine, Should the Contractor fail to achieve Final Completion of this Contract within the time fixed for Final Completion, together with extensions granted by the District for unavoidable delays, Contractor shall become liable to the District in the amount specified in the Contract per calendar day for each day the Contract remains incomplete beyond the time for Final Completion, as liquidated damages and not as a penalty. Contractor shall not be charged with liquidated damages when the delay in completion of the work beyond the time for Final Completion is due to acts of the District.

- b. In addition to any liquidated damages which may be assessed, if Contractor fails to achieve Final Completion of this Contract within the time fixed for Final Completion, together with extensions granted by the District for unavoidable delays, and if as a result District finds it necessary to incur any costs and/or expenses, or if District receives any claims by other contractors, subcontractors, or third parties claiming time or other compensation by reason of Contractor's failure to complete work on time, Contractor shall pay all those costs and expenses incurred by District. These costs and expenses may include but are not limited to such items as rental payments, inspection fees, and additional architectural fees, whether related to the acquisition of facilities or caused by the delay in completion.
- c. Any money due or to become due the Contractor may be retained to cover liquidated and other delay damages. Should such money not be sufficient to cover those damages, the District shall have the right to recover the balance from the Contractor or Contractor's sureties.
- d. Should the District authorize suspension of the work for any cause, the time work is suspended will be added to the time for completion. Suspension of the work by the District shall not be a waiver of the right to claim liquidated or other delay damages as set forth in this section.

23. DISTRICT'S RIGHT TO STOP WORK; TERMINATION OR SUSPENSION OF THE CONTRACT

a. District's Right to Stop Work:

In addition to or as an alternative to any and all other remedies available to the District, if the Contractor fails to correct work which is not performed in accordance with the Contract Documents, or if the Contractor persistently fails to perform the work in accordance with the Contract Documents, the District may by written order direct the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated to the satisfaction of the District. However, the right of the District to stop the work shall not give rise to a duty on the part of the District to exercise this right for the benefit of the Contractor or any other person or entity, and the failure of the District to do so shall not be raised as a defense to the Contractor's failure to perform the work in accordance with the Contract Documents.

b. Termination for Cause:

- 1) If the Contractor refuses or fails to furnish sufficient materials, work force, equipment, and appurtenances to properly prosecute the work in a timely manner, or if Contractor refuses or fails to comply with any provisions of the Contract Documents, or if Contractor should file a bankruptcy petition or make a general assignment for the benefit of Contractor's creditors or if a receiver should be appointed on account of Contractor's insolvency, then the District may give the Contractor and Contractor's Surety written notice of intention to terminate the Contract. Unless within seven (7) calendar days after the serving of such notice upon the Contractor and Contractor's Surety such violation shall cease and arrangements for correction of such conditions shall be made satisfactory to the District, the Contract shall cease and terminate. In the event of such termination, the District shall immediately serve written notice thereof upon the Contractor and Contractor's Surety.
- 2) In the event of termination for cause, in addition to all remedies available to the District, the Contractor's Surety shall have the right to take over and perform the Contract; provided, however, that if the Surety does not commence performance within five (5) calendar days from the date of the issuance of such notice of termination, the District may take over the work and prosecute the same to completion by letting another Contract, or by any other method that the District deems advisable. The Contractor and Contractor's Surety shall be liable for any excess cost incurred by the District thereby, and in any such event the District may take possession of such materials, equipment, and other property belonging to the Contractor as may be on the site and use same in completing the work.

c. Termination or Suspension for Convenience:

The District reserves the right, in its sole discretion, to terminate or suspend all or part of the Contract for convenience following three (3) days written notice to the Contractor. In the event of termination or suspension for convenience, Contractor shall have no claims against the District, except:

- 1) The actual cost of labor, materials and services provided pursuant to the Contract, and which have not yet been paid for, as documented by timesheets, invoices, receipts and the like; and
- 2) Five percent (5%) of the total cost of the work performed as of the date of notice of termination or suspension or five percent (5%) of the value of the work yet to be completed, whichever is less. The parties agree that this amount shall constitute full and fair compensation for all of Contractor's lost profits and other damages resulting from the termination or suspension for convenience.

24. ASSIGNMENT OF CONTRACT

The Contractor may not assign or delegate all or any portion of this Contract without the written consent of the District and no such consent shall be given which would relieve the Contractor or its Surety of their responsibilities under the Contract. The Contractor may assign, without liability to the District, monies due the Contractor under the Contract to banks, trust companies or other financial institutions provided written notice thereof is promptly delivered to the District. Assignment of monies earned by the Contractor shall be subject to the same retention as other payments made to Contractor, and shall also be subject to setoffs and back charges as provided by this Contract.

25. COORDINATION WITH OTHER CONTRACTS

- a. The District reserves the right to do other work or award other contracts in connection with this Project. By entering into this Contract, Contractor acknowledges that there may be other contractors on or adjacent to the Project site whose work must be coordinated with that of its own. Contractor expressly warrants and agrees that it will cooperate with other contractors and will do nothing to delay, hinder, or interfere with the work of other contractors, or that of the District and its Project Manager. Contractor also expressly agrees that in the event its work is hindered, delayed, interfered with, or otherwise affected by a separate contractor, its sole remedy will be a direct action against the separate contractor. To the extent allowed by law, the Contractor expressly waives any remedy against the District and its Project Manager on account of delay, hindrance, interference or other such events caused by a separate contractor.
- b. If any part of Contractor's work depends upon the work of a separate contractor, Contractor shall inspect such other work and promptly report in writing to the District and Project Manager any defects in such other work that render it unsuitable to receive the work of Contractor. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor's work, except as to defects which the Contractor could not have detected through the reasonable inspection of the other contractor's work prior to the execution of Contractor's work.
- c. If Contractor is aware of a current or potential conflict between Contractor's work and the work of another contractor on the site, and is unable to informally resolve the conflict directly with the other contractor, Contractor shall promptly provide written notice to the District, with a copy to the Project Manager and the other contractor, specifying the nature of the conflict, the date upon which the conflict arose, and the steps taken to attempt to resolve the conflict. The District may issue written instructions to address the conflict.
- d. If, through Contractor's negligence, any other contractor or subcontractor shall suffer loss or damage to the work, Contractor shall make a reasonable effort to settle with such other contractor and subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any claim against the District or Project Manager, on account of any damage alleged to have been so sustained, the District or Project Manager shall notify

the Contractor, who shall defend such proceedings at Contractor's own expense and save harmless and indemnify the District and the Project Manager from any such claim.

26. SUBMITTALS: SHOP DRAWINGS, CUTS AND SAMPLES

- a. One electronic copy of shop drawings, brochures and cuts and samples in quantities specified by the Project Manager shall be submitted to the Project Manager for all items for which they are required by the plans and Specifications. Prior to transmittal, the Contractor shall examine all submittals for accuracy, notation and completeness in order to verify their suitability for the work and compliance with the Contract Documents and shall sign and date each submittal. Submittals shall be given to the Project Manager for review within 15 days of the Notice of Award in order to be approved sufficiently before the items are required for the work so as to cause no delay and shall be in accordance with the Project construction schedule.
- b. In addition to information furnished as common practice, submittals shall contain the Project name and location, Contractor's name and address, Subcontractor's or supplier's name and address, date of submittal and any revisions, and reference to appropriate specification section, and/or drawing and detail numbers. The Contractor and/or the Subcontractors shall verify in the field all dimensions and relationships to adjacent work necessary to ensure the proper fit of the items submitted. If necessary, the Contractor shall make any corrections required and resubmit with all due haste in the same number as initially required.
- c. Review of submittals, shop drawings, cuts or samples by the District or Project Manager shall not relieve the Contractor from complying with the requirements of the Contract Documents.
- d. Any materials or equipment installed without approval shall be at the Contractor's own risk, and Contractor may be required to remove any such materials or equipment and install the specified items at Contractor's own cost, including repairs to adjacent work.

27. PAYMENTS

a. Cost Breakdown:

Prior to submitting Contractor's first request for payment, the Contractor shall prepare and submit to the Project Manager and District a cost breakdown (schedule of values) if there are more than one trade required in construction of the Project or a sample invoice whichever is applicable. If the scope of work calls for more than one trade, please show the major work items for each trade or operation required in construction of the Project on a cost breakdown (schedule of values). The work items will be sufficiently detailed to enable the Project Manager to accurately evaluate the completion percentages requested by the Contractor. The cost for each work item shall include overhead and profit. The total of all work item costs shall equal the amount of the Contract.

b. Progress Payments:

The Contractor will, on or about the 25th of each month, make an estimate of the value of the work completed by Contractor in the performance of the Contract. These estimates shall be subject to the review and approval of the Project Manager. The first such estimate will be of the value of the work completed after the Contractor commenced the performance of the Contract, and every subsequent estimate, except the final estimate, will be of the value of the work completed since the immediately preceding estimate. Such estimates will be based on labor, materials and equipment incorporated into the work, and items of materials and equipment delivered to the Project. The Contractor shall be responsible for the security and protection of such materials and equipment delivered to the Project and not incorporated in the work. Within thirty (30) calendar days after the approval of each estimate for progress payment, the District will pay to the Contractor an amount equal to ninety five (95) percent of the approved estimate, unless a different retention amount is stated in the notice inviting bids, in which case that sum shall control. Payments may at any time be withheld if in the judgment of the District the work is not proceeding in accordance with the Contract Documents, the Contractor is not complying with the requirements of the Contract, stop notices have been timely filed, the estimate contains an error, or the District has incurred costs or requests reasonable financial assurances regarding defective work by the Contractor.

c. Final Payment:

Within thirty (30) days after all required work is fully completed in accordance with the Contract Documents, the Contractor shall submit a final invoice for the total value of the work completed in accordance with the Contract, which shall be subject to review and approval by the District. As required by law, District shall pay Contractor the unpaid balance of the Contract price of the work, or the whole Contract price of the work if no progress payment has been made, determined in accordance with the terms of the Contract, less such sums as may be lawfully retained under any provision of the Contract, including, but not limited to, amounts retained as liquidated damages, for stop notices, for third-party claims for which the Contractor is required to indemnify the District, for defective work and costs incurred by the District in connection therewith, or for other such claims and damages attributable to the Contractor ("Final Payment"). Prior progress estimates and payments are subject to correction in the Final Payment. Tender of the Final Payment shall constitute denial by the District of any unresolved claim. Contractor's acceptance of the Final Payment shall operate as a full and final release to the District and its agents from any and all unasserted claims Contractor has, or may have, related to this Contract.

d. Payments Do Not Imply Acceptance of Work:

The granting of any progress payment or payments by the District or the receipt thereof by the Contractor shall not constitute acceptance of the work or of any portion thereof, and shall in no way lessen the liability of the Contractor to replace unsatisfactory work or material, whether or not the unsatisfactory character of such work or material was apparent or detected at the time such payment was made.

e. Retention of Sums Charged Against Contractor:

It is mutually understood and agreed that when under any provision of this Contract the District shall charge any sums of money against the Contractor, the amount of such charge shall be deducted and retained by the District from the amount of the next succeeding progress estimate, or from any other monies due or that may become due the Contractor on account of the Contract. If on completion or termination of the Contract such monies due the Contractor are found insufficient to cover the District's charges against the Contractor, the District shall have the right to recover the balance from the Contractor or the Contractor's Sureties.

f. Release:

The Contractor and each assignee under an assignment in effect at the time of Final Payment shall, if required by the District, execute and deliver at the time of Final Payment and as a condition precedent to Final Payment, a release in form and substance satisfactory to and containing such exemptions as may be found appropriate by the District, discharging the District, its officers, agents and employees of and from liabilities, obligations and claims arising under this Contract.

g. Payment to Subcontractors and Suppliers:

The Contractor shall pay each Subcontractor and supplier promptly on receipt of each progress payment from the District for the materials, labor and equipment delivered to the site or incorporated in the work by each Subcontractor during the period for which the progress payment is made, less any retention as provided above.

h. Stop Notice Costs:

The District reserves the right to charge the Contractor or Surety, or to withhold from release of retention, all costs incurred by the District, including attorney's fees, for processing and defending stop notice claims.

28. MODIFICATIONS OF CONTRACT

a. Changes In The Work:

- 1) The District, before the date of acceptance of the work, may, without notice to the Sureties, order changes in the work ("Modifications"), may order extra materials and extra work in connection with the performance of the Contract, and the Contractor shall promptly comply with such orders. All Modifications must be approved by DSA and the State Fire Marshall, if applicable, as required by law.
- 2) If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the work, the price fixed in the Contract

shall be increased or decreased by such amount as represents the reasonable and proper allowance for the increase or decrease in the cost of the work in accordance with the provisions of this Article, and any other applicable terms of the Contract, including, but not limited to, the Contractor's schedule of values and the price for allowances, if any. Except as provided by law, the total cost of all Modifications shall not exceed ten (10) percent of the original Contract price.

- 3) In the case of a disputed work item, the District may direct the Contractor to perform the disputed work at no additional cost to the District on the grounds that the work is adequately indicated in the Contract Documents, and therefore already included in the Contract price. If the Contractor maintains that the disputed work represents a modification to the Contract, Contractor may submit a claim in accordance with Article 40, Resolution of Construction Claims. Notwithstanding any dispute regarding the requirements of the Contract Documents, Contractor shall promptly and fully comply with the District's directive. Contractor's failure to do so shall be deemed a material breach of this Contract, and in addition to all other remedies, District may, at its sole discretion, hire another contractor and/or use its own forces to complete the disputed work at Contractor's sole expense, and may deduct the cost of such work from the Contract price.

b. Cost Breakdown:

When the Modification is proposed, the Contractor shall furnish a complete breakdown of actual costs of both credits and extras, itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated. All costs must be fully documented. The following limitations shall apply:

- 1) Limitations Where Contract Price Changes are Involved:
 - (a) Overhead and Profit for the Contractor. The Contractor's overhead and profit on the cost of subcontracts shall be a sum not exceeding ten percent (10%) of such costs. The Contractor's overhead and profit on the costs of work performed by the Contractor shall be a sum not exceeding fifteen percent (15%) of such costs. Overhead and profit shall not be applied to the cost of taxes and insurance by Contractor or Subcontractors or to credits. No processing or similar fees may be charged by the Contractor in connection with the Modification.
 - (b) Bond Premiums. The actual rate of bond premiums as paid on the total cost (including taxes) will be allowed, but with no markup for profit and overhead.
 - (c) Taxes. State and city sales taxes should be indicated. Federal excise tax shall not be included. (District will issue an exemption on request.)

2) Change Order Certification:

All change orders and requests for proposed change orders shall be deemed to include the following certification by the Contractor:

"The undersigned Contractor approves the foregoing as to the changes in work, if any, and as to the Contract price specified for each item and as to the extension of time allowed, if any, for completion of the Project as stated herein, and agrees to furnish all labor, materials, and service and to perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of claims which have no basis in fact or which Contractor knows are false are made at the sole risk of the Contractor and may be a violation of the False Claims Act, as set forth in Government Code §§12650 *et seq.* It is understood that the changes to the Contract Documents set forth herein shall only be effective upon approval by the Governing Board of the District.

"It is expressly understood that the value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages, or time extensions not included herein are deemed waived."

c. Unit Prices, Schedule of Values, or Allowances:

Where Unit Prices, a Schedule of Values, and/or Allowances are required by the Contract Documents, that pricing shall govern in computing any additions to or deductions from the Contract price on account of any added or omitted work. Unit Prices listed in the original bid include all costs and no addition of any description will be allowed.

d. Time and Materials:

If it is impractical, because of the nature of the work, or for any other reason, to fix an increase in price in advance, the Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for at the actual necessary cost as determined by the sum of the following items (1) to (5) inclusive:

- 1) Labor, including premium on compensation insurance and charge for Social Security taxes, and other taxes pertaining to labor.
- 2) Material, including sales taxes and other taxes pertaining to materials.
- 3) Plant and equipment rental, to be agreed upon in writing before the work is begun. No charge for the cost of repairs to plant or equipment will be allowed.

- 4) Overhead and profit computed at fifteen percent (15%) of the total of Items (1) to (3) inclusive.
- 5) The proportionate cost of premiums on bonds computed at one and one-half percent (1-1/2%) of the total of items (1) to (4) inclusive.

If the Time and Materials work is done by a Subcontractor, the amount shall be determined as set forth above under items (1) to (5) inclusive. The Contractor's overhead and profit on the costs of subcontracts (exclusive of taxes and insurance) shall not exceed ten percent (10%) of such costs.

The District reserves the right to furnish such materials as it may deem expedient and no allowance will be made for profit thereon. The above-described methods of determining the payment for work and materials shall not apply to the performance of any work or the furnishing of any material which, in the judgment of the District, may properly be classified under items for which prices are established in the Contract.

e. Oral Modifications:

No oral statements of any person shall in any manner or degree modifies or otherwise affects the terms of the Contract.

29. INDEMNITY

Contractor shall defend with counsel acceptable to the District, indemnify and hold harmless to the full extent permitted by law, the District and its Board of Trustees, officers, agents, Project Manager, employees and volunteers from and against any and all liability, loss, damage, claims, expenses, fines, judgments and costs (including, without limitation, attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Project or its failure to comply with any of its obligations contained in these Contract Documents, except such Liability caused by the sole negligence or willful misconduct of the District. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the project as well as during the progress of the work. Pursuant to Public Contract Code §9201, District shall timely notify Contractor of receipt of any third-party claim relating to this Project.

30. WARRANTY OF TITLE

Contractor warrants that title to all work, materials or equipment included in a request for payment shall pass and transfer to the District whether or not they are installed or incorporated in the Project, free from any claims, liens or encumbrances, when such payment is made to the Contractor. Contractor further warrants that no such work, materials or equipment have been purchased for work under the Contract subject to an agreement by which an interest therein or an encumbrance thereon is retained by the seller or supplier.

31. USE OF COMPLETED PARTS OF THE WORK BEFORE ACCEPTANCE

Whenever the work or any part thereof is in a condition suitable for use, and the best interest of the District requires such use, as determined by the District, the District may take possession of, connect to, open for public use, or use the work or a part thereof. When so used, maintenance and repairs due to ordinary wear and tear or vandalism will be made at District's expense. The use by the District of the work or part thereof as contemplated in this section shall in no case be construed as constituting acceptance of the work or any part thereof, including, but not limited to, the right to assess liquidated damages. Such use shall neither relieve the Contractor of any of Contractor's responsibilities under the Contract nor act as a waiver by the District of any of the conditions thereof. Contractor shall continue to maintain all insurance, including Builder's Risk insurance, on the entire Project, and diligently pursue full completion of the work.

32. GUARANTEE AND WARRANTY

- a. By signing this Contract, Contractor agrees to the following guarantee and warranty:

Guarantee & Warranty

Contractor hereby guarantees and warrants its work on the Project for a period of two (2) years from the date of the filing of the Notice of Completion as follows.

Contractor shall promptly repair or replace to the satisfaction of the District any or all work that appears defective in workmanship, equipment and/or materials for whatever reason, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing.

Contractor agrees to promptly correct and remedy any failure by the Contractor to conform its work, activities and services to the requirements of the Contract Documents.

In the event of the Contractor's failure to comply with the above-mentioned obligations within ten (10) calendar days of notice, or sooner if required by an emergency, Contractor hereby authorizes the District to have the defects or deficiencies repaired, remedied, corrected and made good at Contractor's expense, and Contractor shall pay the costs and charges therefore upon demand. The Surety agrees to be responsible for these costs and charges as well.

33. PROTECTION OF WORK AND PROPERTY

- a. The Contractor shall be responsible for each operation and all work on the Project, both permanent and temporary. The Contractor shall protect the work and materials from damage due to negligence, the action of the elements, the carelessness of third parties, vandalism, or any other cause whatsoever, until the final completion and acceptance of the Project. Should improper work by the Contractor be covered by another contractor and damage or defects result, the whole work affected shall be made good by the Contractor to the satisfaction of the Project Manager and District without expense to the District. The Contractor shall take reasonable care to avoid damage to existing facilities or utilities, whether on the Project or adjacent to it, and Contractor shall be liable for any damage thereto or interruption of service due to Contractor's operations. If the Contractor encounters any facilities or utilities not shown on the drawings or not reasonably inferable there from, Contractor shall promptly notify the Project Manager about them, and shall do no further work which may cause damage to same. If it is determined that some action needs to be taken regarding facilities not shown, the Contractor will be given directives on what action to take, and any additional cost to the Contractor incurred thereby will be handled by Change Order.
- b. The property limits of the area of the Project are indicated on the drawings. Except for work specifically shown or noted, Contractor shall confine Contractor's operations within the indicated property limits. The Contractor shall provide, install, and maintain all shoring, bracing and underpinning necessary to support adjacent property, streets, buildings and structures, that may be affected by building operations for this work; shall serve or cause to be served all legal notices to adjoining property owners that may be necessary for their protection; and shall protect from damage all adjacent buildings, fences, landscaping, and repair or replace any such property damaged in the course of work under the Contract.

34. MATERIALS

- a. Unless explicitly stated otherwise, all specified equipment and material comprising the work of this Contract, as being provided or furnished or installed, shall imply the inclusion of all components, hardware and accessories, required for complete installation and satisfactory operation as intended by the manufacturer. Wherever the method of installation of any material is not explicitly specified, the installation shall be as recommended by manufacturer.
- b. Wherever in the Contract Documents it is provided that the Contractor shall furnish materials or equipment for which no detailed specifications are set forth, such materials or equipment shall be new and of the best grade for the purpose for which they will be used when incorporated in the work. Materials specified by reference to a number or symbol of a specific standard, such as A.S.M., Federal Specification, State Standard, Trade Association, or similar standards, shall comply with requirements in the latest revision thereof and any amendment or supplement in effect on the date of the notice inviting bids.
- c. None of the materials to be provided furnished or installed on this project shall contain asbestos or any other "hazardous substance" as that term is defined by federal or state law.

35. SUBSTITUTIONS

- a. Wherever in the drawings or Specifications a material or product is called for by trade or brand names or manufacturer and model number, alternative items of equal quality and purpose may be proposed for use by the Contractor. The burden of proof of equality is on the Contractor, and Contractor shall furnish all information and supplies necessary for the Project Manager to make a thorough evaluation of the proposed substitution. The Project Manager's decision about the equality of the proposed substitution is final, and if the proposed substitution is not approved, the Contractor shall install the item called for. Proposed substitutions and any changes in adjacent work caused by them shall be made by the Contractor at no additional cost to the District.
- b. Proposed substitutions shall be submitted sufficiently before actual need to allow time for thorough evaluation. Substitutions shall not be proposed for the reason that submittals were not made early enough to avoid delay. Project Manager's review of substitutions shall not relieve the Contractor from complying with the requirements of the drawings and Specifications. Requests for substitution will be considered if received within 30 days after receipt of the Notice of Award. Requests received more than 30 days after receipt of the Notice of Award may be considered or rejected at the discretion of the Project Manager. Contractor shall identify the product, or the fabrication or installation method to be replaced in the request. Contractor shall also provide complete documentation showing compliance with the requirements for substitutions, as set forth herein, and the following information, as appropriate:
 - Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - Samples, where applicable or requested.
 - A detailed comparison on the same page of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect. All differences in products shall be noted.
 - A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - Certification by the Contractor that the substitution proposed complies in every significant respect to that required by the Contract Documents, and that it shall:
 - Be equal to or better in every significant respect to specified material or product, and shall perform adequately in the intended application.
 - Provide the same or greater warranty for the substitution as for the specified product.
 - Provide the same required fire rating for the substitution as for the specified product.
 - Coordinate installation and make changes to other Work, which may be required for the Work to be complete with no additional costs to Owner.
- c. In the event Contractor makes substitutions in materials, equipment, or designs, with or without the District's approval, other than those authorized herein, the Contractor shall then assume full responsibility for the effects of such substitutions on the entire Project, including the design, and shall reimburse the District for any charges resulting from such substitutions,

including any charges for modifications in the work of other trades, and including any charges for additional design and review, plus reasonable and customary mark-ups.

36. TESTING

- a. Materials, equipment, or other work requiring tests may be specified in the Contract Documents, and they shall be adequately identified and delivered to the site in ample time before intended use to allow for testing. If such materials, equipment or other work should be covered without required testing and approval, they shall be uncovered at the Contractor's expense, including any repairs or replacement resulting therefrom. The Contractor shall notify the District and Project Manager when and where such materials, equipment or other work are ready for testing, and Contractor shall bear the cost of making them available for testing. The Contractor shall notify the District and Project Manager sufficiently before the need for testing so as to cause no delay in the work and, in any case, at least forty-eight (48) hours prior to the need for testing.
- b. The cost of initial tests called for will be paid by the District and will be performed by independent testing consultants retained by the District, but if so specified by the District, the amount paid, or a portion thereof may be collected from the Contractor. All other tests and inspections specified or otherwise required to substantiate compliance with specified requirements for quality of material or performance of operation shall be paid for by the District, but if so specified by the District, the amount paid may be collected from the Contractor. If retesting or additional testing is necessary because of substandard initial test results, the costs thereof shall be paid by the District, but if so specified by the District, the amount paid may be collected from the Contractor, including any repairs or replacement resulting there from.

37. INSPECTION

- a. All materials, equipment and workmanship used in the work of the Project shall be subject to inspection or testing at all times and locations during construction and/or manufacture. The District's and Project Manager's authorized representatives and representatives of other agencies having authority over the work shall have access to the work for the above purposes at all reasonable times and locations. Any material or work found to be unsatisfactory or not according to the Contract Documents shall be replaced with the correct material or work and the defective items promptly removed, all at the Contractor's expense, when directed to do so by any of the above-named persons having authority over the work. The cost of review time and analysis by the Project Manager or other District consultants necessitated by incomplete or defective work by the Contractor shall be charged to the Contractor.
- b. Inspection and testing by the District or its representatives shall not relieve the Contractor from complying with the requirements of the Contract Documents. The Contractor is responsible for its own quality control.

38. CLEANUP

- a. The Contractor shall maintain the premises and area of the work in a neat and clean condition. No burning of rubbish on site shall be allowed. The Contractor shall control dust on the site by sprinkling at whatever intervals are necessary to keep it laid down and shall take measures to prevent dust and debris from being accidentally transported outside the area of the work.
- b. Final cleaning, such as sweeping, dusting, vacuuming, dry and wet mopping, and other finish operations normally required on newly installed work shall be taken to indicate the finished conditions of the various new and existing surfaces to restore area to condition was in at the time of acceptance. After the time of acceptance, all marks, stains, fingerprints, dust, dirt, splattered paint and blemishes resulting from the various operations shall be removed throughout the Project.

39. INSTRUCTIONS AND MANUALS

One electronic copy of all maintenance instructions, application/installation instructions and service manuals called for in the Specifications shall be provided by the Contractor. These shall be complete as to drawings, details, parts lists, performance data and other information that may be required for the District to easily maintain and service the materials and equipment installed under this Contract. All manufacturer's application/installation instructions shall be given to the Project Manager at least ten (10) days prior to first material application or installation of the item. The maintenance instructions and manuals, along with any specified guarantees, shall be delivered to the Project Manager for review prior to submitting to District, and the Contractor or appropriate Subcontractors shall instruct District's personnel in the operation and maintenance of the equipment prior to final acceptance of the Project. All documentation must be received by the Project Manager within thirty (30) calendar days after District's notice of completion.

40. AS-BUILT DRAWINGS

The Contractor and all Subcontractors shall maintain on the work site a separate complete set of contract drawings which will be used solely for the purpose of recording changes made in any portion of the work during the course of construction, regardless of the reason for the change. As changes occur, there will be included or marked on this record set on a daily basis if necessary to keep them up to date at all times. Actual locations to scale shall be identified on the drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, and furred spaces, or otherwise concealed. Deviations from the drawings shall be shown in detail. All main runs, whether piping, conduit, duct work, drain lines, etc., shall be located in addition by dimension and elevation. Progress payments may be delayed or withheld until such time as the record set is brought up to date to the satisfaction of the Project Manager. The Contractor shall verify that all changes in the work are included in the "AS-BUILT" drawings and deliver an electronic version of the complete set thereof to the Project Manager for review and approval within thirty (30) calendar days after District's notice of completion. District's acceptance and approval of the "AS-BUILT" drawings are a necessary condition precedent to the release of the final retention.

41. SUBSTITUTION OF SECURITIES

- a. Pursuant to Public Contract Code §22300, Contractor may request in writing that it be allowed at its own expense to substitute securities for moneys withheld by District to ensure performance under this Contract. Only securities listed in Government Code §16430 and bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and District shall qualify under this Article. Securities equivalent to the amount withheld shall be deposited with the District or with a state or federally chartered bank in California as the escrow agent. Upon satisfactory completion of the Contract and on written authorization by the District, the securities shall be returned to Contractor. Contractor shall be the beneficial owner of the securities and shall receive any interest thereon. The Contractor may alternatively request District to make payment of retentions earned directly to the escrow agent at the expense of the Contractor.
- b. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for above for securities deposited by Contractor. Upon satisfactory completion of the Contract, Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the District. The Contractor shall pay to each Subcontractor, not later than 20 days of receipt of payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention.
- c. Any escrow agreement entered into pursuant to this Article shall comply with Public Contract Code §22300 and shall be subject to approval by District's counsel.

42. NO DISCRIMINATION

It is the policy of the District that, in connection with all work performed under this public works contract, there shall be no discrimination against any prospective or active employee or any other person engaged in the work because of actual or perceived race, color, ancestry, national origin, ethnic group identification, religion, sex, gender, sexual orientation, age, physical or mental disability, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code §12900, Government Code §11135, and Labor Code §§ 1735, 1777.5, 1777.6 and 3077.5. In addition, the Contractor agrees to require like compliance by all Subcontractors and suppliers.

43. LABOR STANDARDS

a. Work Hours:

In accordance with Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work under this Contract. Contractor and any Subcontractor shall pay workers overtime pay as required by Labor Code §1815. The Contractor shall pay each worker, laborer, mechanic

or persons performing work under this Contract at a rate not less than the prevailing wage for each craft or classification covering the work actually performed.

b. Penalty:

Contractor shall forfeit to District as a penalty the sum of fifty dollars (\$50.00) for each worker employed in the execution of this Contract by Contractor or any Subcontractor for each calendar day during which the worker is required or permitted to work more than eight (8) hours in any one (1) calendar day or more than forty (40) hours per calendar week in violation of Article 3, Division 2, Part 7, Chapter 1 of the California Labor Code.

c. Employment of Apprentices:

Contractor shall comply with Labor Code §§1773.3, 1777.5 and 1777.6, and 3077 *et. seq.*, each of which is incorporated by reference into this Contract. These sections require that contractors and subcontractors employ apprentices in apprenticeable occupations in a ratio of not less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman, unless an exception is granted and that Contractors and Subcontractors shall not discriminate against otherwise qualified employees as apprentices on any public works solely on the ground of actual or perceived race, religion, color, national origin, ethnic group identification, sex, gender, sexual orientation, age, or physical or mental disability. Only apprentices who are in training under written apprenticeship occupations shall be employed. The responsibility for compliance with these provisions for all apprenticeable occupations rests with Contractor.

d. The Contractor shall be knowledgeable of and comply with Labor Code §§1727, 1773.5, 1775, 1777, 1777.5, 1810, 1813, 1860, including all amendments thereto; each of these sections is incorporated by reference into this Contract.

44. GENERAL RATE OF PER DIEM WAGES

a. On File:

As required by Labor Code §1773.2, the District has available copies of the general prevailing rate of per diem wages for workers employed on public work as determined by the Director of the Department of Industrial Relations, which shall be available to any interested party on request. Contractor shall post a copy of the document at each job site.

b. Prevailing Wage Rate:

The Contractor and each Subcontractor shall pay each worker performing work under this Contract at a rate not less than the prevailing wage as defined in Labor Code §1771 and 1774 and §16000(a) of Title 8, California Code of Regulations.

c. Penalty:

In accordance with §1775 of the Labor Code, the Contractor shall forfeit to the District as penalty, the sum of \$200 for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates, as determined by the Director of the California Department of Industrial Relations, for any work done under this Contract by Contractor or by any Subcontractor. Contractor shall also pay each worker the difference between the stipulated prevailing wages rates and the amount actually paid to such worker.

45. RECORD KEEPING

- a. The Contractor agrees to comply with the provisions of §§1776 and 1812 of the Labor Code. The Contractor and each Subcontractor shall keep or cause to be kept an accurate record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week of all workers employed by Contractor in connection with the execution of this Contract or any subcontract thereunder and showing the actual per diem wages paid to each of such workers. These records shall be certified and shall be open at all reasonable hours to the inspection of the District awarding the Contract, its officers and agents, and to the Chief of the Division of Labor Statistics and Law Enforcement of the State Department of Industrial Law Enforcement of the State Department of Industrial Relations, and his or her other deputies and agents.
- b. In addition, copies of the above records shall be available as follows:
 - 1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request;
 - 2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations;
 - 3) An electronic certified copy of all payroll records shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, Project Manager, the Division of Apprenticeship Standards, or the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided, the requesting party shall, prior to being provided the records, reimburse the costs of the Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the Contractor.
- c. The Contractor shall file a certified copy of the records with the entity requesting the records within ten days after receipt of a written request. Any copy of records made available for

inspection as copies and furnished upon request to the public or any public agency by the District, shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the Contract or performing the Contract shall not be marked or obliterated.

- d. The Contractor shall inform the Owner of the location of the records, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
- e. In the event of noncompliance with the requirements of this section, the Contractor shall have ten days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this section. Should noncompliance still be evident after the ten day period, the Contractor shall, as a penalty to the District, forfeit one hundred dollars (\$100.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.
- f. Responsibility for compliance with this provision shall be with the Contractor.

46. PROJECT COMPLETION

- a. When all of the work to be performed under this Contract has been fully completed, the Contractor shall notify the Project Manager and District, in writing, setting a date for inspection. The Contractor and Subcontractor representatives shall attend the inspection. As a result of this inspection, the Project Manager will prepare a list of items ("punch list") that are incomplete or not installed according to the Contract Documents. Failure to include items on this list does not relieve the Contractor from fulfilling all requirements of the Contract Documents.
- b. The Project Manager will promptly deliver the punch list to the Contractor and it will include a period of time by which the Contractor shall complete all items listed thereon. On completion of all items on the punch list, verified by a final inspection, and all other Contract requirements, so that Final Completion has been achieved to the District's satisfaction, the District will file a Notice of Completion with the County Recorder. Payment of retention from the Contract, less any sums withheld pursuant to the terms of this Contract or applicable law, shall not be made sooner than thirty-five (35) calendar days after the date of filing of Notice of Completion.
- c. District reserves the right to occupy buildings and/or portions of the site at any time before Completion, and occupancy shall not constitute final acceptance of any part of the Work covered by the Contract Documents, nor shall such occupancy extend the date specified for completion of the Work. Beneficial occupancy of building(s) does not commence any warranty period or entitle Contractor to any additional compensation due to such occupancy, or affect in any way or amount Contractor's obligation to pay liquidated damages for failure to complete the Project on time.

47. TRENCHING OR OTHER EXCAVATIONS

a. Excavations or Trenches Deeper than Four Feet:

If the Project involves digging trenches or other excavations that extend deeper than four feet, the following provisions shall be a part of this Contract:

- 1) The Contractor shall promptly, and before the following conditions are disturbed, provide written notice to the District if the Contractor finds any of the following conditions:
 - (a) Material that the Contractor believes may be a hazardous waste, as defined in §25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.
 - (b) Subsurface or latent physical conditions at the site which are different from those indicated or expected.
 - (c) Unknown physical conditions at the site of any unusual nature or which are materially different from those ordinarily encountered and generally recognized as inherent in work which the Contractor generally performs.
- 2) In the event that the Contractor notifies the District that Contractor has found any of the conditions specified in subparagraphs (a), (b) or (c), above, the District shall promptly investigate the condition(s). If the District finds that the conditions are materially different or that a hazardous waste is present at the site which will affect the Contractor's cost of, or the time required for, performance of the Contract, the District shall issue a change order in accordance with the procedures set forth in this Contract.
- 3) In the event that a dispute arises between the District and the Contractor regarding any of the matters specified in Paragraph (2), above, the Contractor shall proceed with all work to be performed under the Contract and the Contractor shall not be excused from completing the Project as provided in the Contract. In performing the work pursuant to this Paragraph, the Contractor retains all rights provided by Article 40 which pertains to the resolution of disputes between the contracting parties.

- b. Regional Notification Center: The Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center.

c. Existing Utility Lines:

- 1) Pursuant to Government Code §4215, the District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines and facilities located on the construction site at the time of commencement of construction under this Contract with respect to any such utility facilities that are not identified in the plans and Specifications.
- 2) Locations of existing utilities provided by the District shall not be considered exact, but approximate within reasonable margin and shall not relieve Contractor of responsibilities to exercise reasonable care nor costs of repair due to Contractor's failure to do so.
- 3) No provision herein shall be construed to preclude assessment against Contractor for any other delays in completion of the Project. Nothing in this section shall be deemed to require the District to indicate the presence of existing service laterals, appurtenances, or other utility lines, with the exception of main or trunklines, whenever the presence of such utilities on the site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the construction.
- 4) If Contractor, while performing work under this Contract, discovers utility facilities not identified by the District in the Project plans and Specifications, Contractor shall immediately notify the District and the utility in writing. The cost of repair for damage to above-mentioned visible facilities without prior written notification to the District shall be borne by the Contractor.

d. Trenches Five Feet and Deeper:

Pursuant to Labor Code §6705, if the Contract price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Project Manager, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

48. RESOLUTION OF CONSTRUCTION CLAIMS

- a. Public work claims of \$375,000 or less between the Contractor and the District are subject to the provisions of Article 1.5 (commencing with §20104) of Chapter 1 of Part 2 of the Public Contract Code ("Article 1.5 claim"). For purposes of Article 1.5, "public work" has the same meaning as set forth in §§3100 and 3106 of the Civil Code; "claims" means a separate demand by Contractor for a time extension or payment of money or damages arising from work done by or on behalf of Contractor pursuant to the Contract and payment of which

is not otherwise expressly provided for or the claimant is not otherwise entitled to or the amount of the payment which is disputed by the District.

- b. All Article 1.5 claims shall be submitted on or before the date of the Final Payment and shall include all documents necessary to substantiate the claim. District shall respond in writing within 45 days of receipt of claim if the claim is less than or equal to \$50,000 ("\$50,000 claim") or within 60 days if the claim is over \$50,000 but less than or equal to \$375,000 ("50,000 - \$375,000 claim"). In either case, District may request in writing within 30 days of receipt of claim any additional documentation supporting the claim or relating to any defenses to the claim which the District may have against the Contractor. Any additional information shall be requested and provided upon mutual agreement of the District and the Contractor. District's written response to the claim shall be submitted to Contractor within 15 days after receipt of the further documentation for \$50,000 claims or within 30 days after receipt of the further documentation for \$50,000 - \$375,000 claims or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.
- c. Within 15 days of receipt of the District's response, if Contractor disputes the District's written response, or within 15 days of the District's failure to respond within the time prescribed, the Contractor shall provide written notification to District demanding an informal conference to meet and confer ("conference") to be scheduled by District within 30 days. Following the conference, if any claim or portion remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the period of time within which a claim must be filed is tolled from the time the claimant submits a written claim pursuant to this section until the time that claim is denied as a result of the conference process, including any period of time utilized by the meet and confer process.
- d. Pursuant to Public Contract Code §20104.2(f), this section does not apply to tort claims and does not change the period for filing claims or actions specified by Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
- e. If a civil action is filed, within 60 days, but no earlier than 30 days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide that both parties select a disinterested third person mediator within 15 days, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days of the commencement of the mediation unless time is extended upon a good cause showing to the court or by stipulation of the parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
- f. If the matter remains in dispute, the case shall be submitted to judicial arbitration as set forth in Public Contract Code §§20104.4 (b)(1) through (b)(3).

- g. For any claim in excess of \$375,000, the Contractor and the District shall follow the same process as for an Article 1.5 claim. The District will forward a response within 60 days of submittal of any such claim. Judicial arbitration is not required for claims in excess of \$375,000.

Claims shall also be processed consistent with Public Contract Code section 9204, which provides processing timelines and procedures, and requires that undisputed claims be promptly paid in accordance with this code provision.

- h. In addition, for all unresolved claims that the Contractor wishes to pursue, the Contractor shall file a timely claim pursuant to the Government Claims Act and shall otherwise comply with the procedures set forth in that Act prior to commencing any litigation against the District. The accrual date for any such claim is the date the dispute or controversy first arose regarding the issues raised in the claim.
- i. "The date of Final Payment," as used in this Article 40, means the date the public entity is required to release retention proceeds in accordance with Public Contract Code §7107 regardless of whether any payment is made to the Contractor at that time.
- j. The claims required by this Article are jurisdictional and conditions precedent to the commencement of any further legal proceedings. Strict compliance with all filing deadlines is mandatory.

49. FINGERPRINTING

(Applies to K-12 districts only.)

The District has considered the totality of the circumstances concerning the Project and has determined that the Contractor and Contractor's employees (which includes Subcontractor employees):

 are subject to the requirements of Education Code §45125.2 and Paragraph (a) below, is applicable.

 X are not subject to the requirements of Education Code §45125.2, and Paragraph (b) below, is applicable.

- a. Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility Involving More than Limited Contact with Students (§45125.2)

By execution of the Contract, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation, or repair of a school facility where the Contractor and/or Contractor's employees will have more than limited contact with students and the services to be provided do not constitute an emergency or exceptional situation. In accordance with Education Code §45125.2 the Contractor shall, at Contractor's

own expense, (1) install a physical barrier to limit contact with students by Contractor and/or Contractor's employees, and/or (2) provide for the continuous supervision and monitoring of the Contractor and/or Contractor's employees by an employee of the Contractor who has received fingerprint clearance from the California Department of Justice, and/or (3) provide for the surveillance of the Contractor and Contractor's employees by a District employee.

- b. Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility Involving Only Limited Contact With Students (§45125.2)

By execution of the Contract, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation or repair of a school facility involving only limited contact with students. Accordingly, the parties agree that the following conditions apply to any work performed by the Contractor and Contractor's employees on a school site: (1) Contractor and Contractor's employees shall check in with the school office each day immediately upon arriving at the school site; (2) Contractor and Contractor's employees shall inform school office staff of their proposed activities and location at the school site; (3) Once at such location, Contractor and Contractor's employees shall not change locations without contacting the school office; (4) Contractor and Contractor's employees shall not use student restroom facilities; and (5) If Contractor and/or Contractor's employees find themselves alone with a student, Contractor and Contractor's employees shall immediately contact the school office and request that a member of the school staff be assigned to the work location.

50. LABOR COMPLIANCE PROGRAM

If this Contract is for a public works project over \$25,000 or for a maintenance project over \$15,000, Contractor acknowledges that the project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations in accordance with California Labor Code sections 1725.5 and 1770 *et seq.* All bidders, contractors and subcontractors working at the site shall be duly registered with the Department of Industrial Relations at time of bid opening and at all relevant times. Proof of registration shall be provided as to all such contractors prior to the commencement of any work. Contractor shall coordinate with the Architect to ensure that DIR is advised of the award of the construction contract in a timely manner by filing form PWC-100 with DIR within thirty days of award of the contract, but no later than the first day in which the Contractor has workers employed upon the project.

51. DRUG-FREE WORKPLACE CERTIFICATION

Contractor certifies all of the following:

- 1) Contractor is aware of the provisions and requirements of California Government Code §§ 8350 *et seq.*, the Drug Free Workplace Act of 1990.
- 2) Contractor is authorized to certify, and does certify, that a drug free workplace will be provided by doing all of the following:

- a) Publishing a statement notifying all employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for a violation of the prohibition;
 - b) Establishing a drug-free awareness program to inform employees about all of the following:
 - (i) The dangers of drug abuse in the workplace;
 - (ii) Contractor's policy of maintaining a drug-free workplace;
 - (iii) The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - (iv) The penalties that may be imposed upon employees for drug abuse violations;
 - c) Requiring that each employee engaged in the performance of Work on the Project be given a copy of the statement required by subdivision (a), above, and that as a condition of employment by Contractor in connection with the Work on the Project, the employee agrees to abide by the terms of the statement.
- 3) Contractor understands that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of Government Code §§ 8350 et seq., the Contract is subject to termination, suspension of payments, or both. Contractor further understands that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of Government Code §§ 8350, et seq.

52. OTHER PROVISIONS

- a. This contract is ☐/is not ☒ subject to Disabled Veteran Business Enterprise requirements. If this contract is subject to those requirements, the following apply:
 - 1) In accordance with Education Code §17076.11, this District has a participation goal for disabled veteran business enterprises (“DVBE”) of at least 3 percent (3%) per year of the overall dollar amount of funds allocated to the District by the State Allocation Board pursuant to the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the District. Prior to, and as a condition precedent for final payment under any contract for such project, the Contractor shall provide appropriate documentation to the District identifying the amount paid to DBVE in conjunction with the Contract, so that the District can assess its success at meeting this goal.

- 2) The Contractor agrees that, for all contracts subject to DVBE participation goals, the State and the District have the right to review, obtain and copy all records pertaining to performance of the contract in accordance with DVBE requirements. The Contractor agrees to provide the State or the District with any relevant information requested and shall permit the State or District access to its premises upon reasonable notice for purposes of interviewing employees and inspecting records. The Contractor agrees to maintain such records for a period of three years after final payment under the Contract.
- b. The project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations. In accordance with SB 854, all bidders, contractors and subcontractors working at the site shall be duly registered with the Department of Industrial Relations at time of bid opening and at all relevant times if the project is valued over \$25,000.00. Proof of registration shall be provided as to all such contractors prior to the commencement of any work.
- c. If this project total cost is over \$25,000.00, Contractor shall coordinate with the Project Manager to ensure that DIR is advised of the award of the construction contract in a timely manner by filing form PWC-100 with DIR within five days of award of the contract.

53. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted, and this Contract shall be read and enforced as though it were included, and if through mistake or otherwise any provision is not inserted or is not correctly inserted, upon application of either party the Contract shall be amended to make the insertion or correction. All references to statutes and regulations shall include all amendments, replacements, and enactments on the subject which are in effect as of the date of this Contract.

54. GENERAL PROVISIONS

a. Assignment and Successors:

Neither party may transfer or assign its rights or obligations under the Contract Documents, in part or in whole, without the other party's prior written consent. The Contract Documents are binding on the successors, and permitted assigns of the parties hereto.

b. Third Party Beneficiaries:

There are no intended third party beneficiaries to the Contract.

c. Choice of Law and Venue

The Contract Documents shall be governed by California law, and venue shall be in the Superior Court of the county in which the project is located, and no other place.

d. Severability

If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in part or in whole, the remaining provisions, or portions of the Contract Documents shall remain in full force and effect.

e. Entire Agreement

The Contract Documents constitute the final, complete, and exclusive statement of the terms of the agreement between the parties regarding the subject matter of the Contract Documents and supersedes all prior written or oral understandings or agreements of the parties.

f. Waiver

No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy.

g. Headings

The headings in the Contract Documents are included for convenience only and shall neither affect the construction or interpretation of any provision in the Contract Documents nor affect any of the rights or obligations of the parties to the Contract.

--END--

NOTICE OF AWARD

To: <Contractor Name>

Project Description: Proposition 39 Phase 2 HVAC Upgrade Project

The District has considered the bid submitted by you for the above described work in response to its Notice Inviting Bids for the Project.

You are hereby notified that your bid has been accepted in the amount of: xxxxx (\$xx,xxx).

You are required to execute the Contract and furnish the required Performance Bond and Payment Bond using the bond forms provided in the Contract Documents and the required certificates of insurance within ten (10) calendar days from the date of issuance of this Notice.

If you fail to execute the Contract and to furnish the bonds and insurance within ten (10) calendar days from the date of issuance of this Notice, the District will be entitled to consider all your rights arising out of its acceptance of your bid as abandoned and your Bid Bond forfeited. The District will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the District.

Dated this xxxx day of xxxxx, 2018.

By: David Lonn
Authorized District Signature

Receipt of this above Notice of Award is hereby acknowledged by:

xxxxx, this is the xxth day of xxxx, 2018.

By: _____

Title: _____

NOTICE TO PROCEED

To: <Contractor Name>

Date: xx/xx/xx

PROJECT: Proposition 39 Phase 2 HVAC Upgrade Project

You are hereby notified to commence work in accordance with the Contract dated Month DD, 2018, on or before Month DD, 2018, and you shall complete the work ____ consecutive calendar days thereafter.

By: _____
Authorized District Signature

PERFORMANCE BOND

WHEREAS, the Governing Board of the Arcata Elementary School District ("District"), at its meeting on _____, 2018 has awarded to <Contractor Name> ("Principal"), the Contract for performance of the following project ("Project"):

Proposition 39 Phase 2 HVAC Upgrade Project

WHEREAS, the Principal is required under the terms of the Contract to furnish a bond to the District as obligee ensuring its full and faithful performance of the Contract Documents, which are fully incorporated herein by this reference,

NOW, THEREFORE, we, the Principal and _____, as Surety, hereby guarantee the Principal's full, faithful and complete performance of the Contract Document requirements in the penal sum of _____ dollars (\$_____) for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators and successors, jointly, severally, and firmly by this agreement to perform or have performed all of the work and activities required to complete the Project pursuant to the Contract Documents and to pay to the District all damages the District incurs as a result of the Principal's failure to fully perform in accordance with the Contract Documents.

The condition of the obligation is such that if the Principal, its heirs, executors, administrators, successors or assigns shall in all things abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any amendment thereof made as therein provided, on its or their parts to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall insure and indemnify and save harmless the District, its officers and agents, as therein stipulated, then this obligation shall become null and void. Otherwise, it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the Contract Documents shall in any way affect its obligations on this bond and it does hereby waive notice of any such change, extension of time, alteration or addition.

Principal and Surety further agree to pay all costs incurred by the District in connection with enforcement of this bond, including, but not limited to the District's reasonable attorney's fees and costs incurred, with or without suit, in addition to any other sum required by this bond. Surety further agrees that death, dissolution, or bankruptcy of the Principal shall not relieve the Surety of its obligations hereunder.

In witness whereof, this instrument has been duly executed by the Principal and Surety on the _____ day of _____, 2018.

*To be signed by
Principal and Surety
and acknowledgment
and notarial seal to
be attached.*

PRINCIPAL

By: _____

TITLE _____

SURETY

By: _____

TITLE _____

The above bond is accepted and approved this _____ day of _____, 2018.

By: _____
Authorized District Signature

PAYMENT BOND

WHEREAS, the Governing Board of the Arcata Elementary School District ("District") and the Contractor, <Contractor Name> ("Principal") have entered into a contract ("Contract") for the furnishing of all materials, labor, services, equipment, tools, supervision and transportation necessary, convenient and proper for the Proposition 39 Phase 2 HVAC Upgrade Project ("Project") which Contract dated _____, 2018, and all of the Contract Documents made part thereof are fully incorporated herein by this reference; and

WHEREAS, Contractor/Principal is required by Division 4, Part 6, Title 3, Chapter 5 (commencing at Section 9550) of the California Civil Code to furnish a bond in connection with the contract;

NOW, THEREFORE, we, the Contractor/Principal and _____ as Surety, are held firmly bound unto Owner in the penal sum of _____ Dollars (\$ _____), lawful money of the United States of America for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Contractor/Principal, his/her or its heirs, executors, administrators, successors, or assigns, or a subcontractor, shall fail to pay any person or persons named in Civil Code Section 9100 or fail to pay for any materials or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code with respect to work or labor thereon of any kind, or shall fail to deduct, withhold, and pay over to the Employment Development Department any amounts required to be deducted, withheld, and paid over by Section 13020 of the Unemployment Insurance Code with respect to work and labor thereon of any kind, then said Surety will pay for the same, in or to an amount not exceeding the amount set forth above, and in case suit is brought upon this bond Surety will also pay such reasonable attorney's fees as shall be fixed by the court, awarded and taxed as provided in Division 4, Part 6, Title 3, Chapter 5 (commencing at Section 9550) of the California Civil Code.

This bond shall inure to the benefit of any of the persons named in Section 9100 of the California Civil Code so as to give a right of action to such person or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration, or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement described above or pertaining or relating to the furnishing of labor, materials, or equipment therefor, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement described above, nor by any rescission or attempted rescission of the contract, agreement, or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond, and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any

breach of contract between the Owner and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 8400 and 8402 of the California Civil Code and has not been paid the full amount of his/her or its claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration, or modification.

In witness whereof, this instrument has been duly executed by the Principal and Surety this _____ day of _____, 2018.

*To be signed by
Principal and Surety
and acknowledgment
and notarial seal to
be attached.*

PRINCIPAL

By: _____

TITLE _____

SURETY

By: _____

TITLE _____

The above bond is accepted and approved this _____ day of _____, 2018.

By: _____
Authorized District Signature

GUARANTEE

Guarantee for Arcata Elementary School District. We hereby guarantee that the Phase 2 HVAC Upgrade Project, which we have installed in Arcata Elementary School has been done in accordance with the Contract Documents, including without limitation, the drawings and specifications, and that the work as installed will fulfill the requirements included in the bid documents. The undersigned and its surety agrees to repair or replace any or all such work, together with any other adjacent work, which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of two years from the date of the Notice of Completion of the above-mentioned structure by the Arcata Elementary School District, ordinary wear and tear and unusual abuse or neglect excepted.

In the event the undersigned or its surety fails to comply with the above-mentioned conditions within a reasonable period of time, as determined by the District, but not later than ten (10) days after being notified in writing by the District or within forty-eight (48) hours in the case of an emergency or urgent matter, the undersigned and its surety authorizes the District to proceed to have said defects repaired and made good at the expense of the undersigned and its surety, who will pay the costs and charges therefore upon demand. The undersigned and its surety shall be jointly and severally liable for any costs arising from the District's enforcement of this Guarantee.

Countersigned

(Signature of Subcontractor)

(Signature of General Contractor if for Subcontractor)

(Company Name)

(Company Name)

By: _____

By: _____

Representatives to be contacted for service:

Name: _____

Address: _____

Phone Number: _____