Bolingbrook Park District

Bidder Name: _____

Address: _____

_____

Phone #:_____

CONTRACT DOCUMENTS AND SPECIFICATIONS

FOR

ASHBURY'S AT BOUGHTON RIDGE HVAC REPLACEMENT

BOLINGBROOK PARK DISTRICT
301 RECREATION DRIVE
BOLINGBROOK, IL 60440
(630) 739-4696

OCTOBER 26, 2023

ADVERTISEMENT FOR BID

The Bolingbrook Park District will accept sealed bids for 'Ashbury's at Boughton Ridge HVAC Replacement' until 9:00 am, Thursday, October 26, 2023.

The proposed work consists of the provision of materials, labor, and equipment necessary to remove and replace package heating and air conditioning units, curb adapters, convenience outlets and related equipment at Ashbury's at Boughton Ridge. Contractor must provide pre-balance & post balance reports for Unit #4. Work to also include all required electrical and gas connections. All bidders shall have their own service department with mechanical technicians that can respond to all heating or cooling issues within 24 hours. Contractors are required to perform an on-site visit to inspect existing RTU's / AAON's and controls.

As of 9:00 am, Monday, October 2, 2023, Bid Documents are available at the Buildings & Grounds Facility offices, 301 Recreation Drive, Bolingbrook, Illinois 60440, (630) 739-4696.

Bids will be publicly opened and read at 9:00 am, Thursday, October 26, 2023 at the Buildings & Grounds Facility, 301 Recreation Drive, Bolingbrook, Illinois 60440. Bids received after this time will be returned unopened. No oral proposals or modifications will be considered. The park district reserves the right to reject any and/or all bids, to waive any informality, and to accept the bid that is in the best interest of the Bolingbrook Park District. All contracts for the construction of public works are subject to the Illinois Prevailing Wage Act (820 ILCS 130/1-12).

All proposals must include a ten percent (10%) Bid Guarantee. No bidder may withdraw his proposal after the hour set for the opening thereof, or before award of the contract, unless said award is delayed for a period exceeding thirty (30) calendar days.

INSTRUCTIONS TO BIDDERS

Project Name:	Ashbury's at Boughton Ridge HVAC Replacement
Project Owner:	Bolingbrook Park District 201 Recreation Drive; Bolingbrook, Illinois 60440
Project Location:	Ashbury's at Boughton Ridge, 335 E. Boughton Road
Bid Opening:	Thursday, October 26, 2023 at 9:00 am Bolingbrook Park District - Building & Grounds Facility 301 Recreation Drive; Bolingbrook, Illinois 60440
Project Scope:	The proposed work consists of the provision of materials, labor, and equipment necessary to remove and replace package heating and air conditioning units, curb adapters, convenience outlets and related equipment at Ashbury's at Boughton Ridge. Contractor must provide pre-balance & post balance reports for Unit #4. Work to also include all required electrical and gas connections. All bidders shall have their own service department with mechanical technicians that can respond to all heating or cooling issues within 24 hours. Contractors are required to perform an on-site visit to inspect existing RTU's / AAON's and controls.
Begin Work:	Work can commence on or after April 1, 2024. Once work begins, the entire project must be completed within five calendar days. Each specific unit may be requested to be fully operational prior to the next unit's install work commencing.
Deadline for Questions:	End of day on Friday, October 20, 2023.
Completion Deadline:	No later than May 31, 2024.

Contract Documents

The work shall be performed in accordance with the plans and specifications entitled 'Ashbury's at Boughton Ridge HVAC Replacement'.

Bid Security and Surety

A ten percent (10%) bid security in the form of a bid bond, postal money order, certified check, or cashier's check made payable to the Owner must accompany the bid. Failure to furnish a bid security in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid, in the absolute discretion of the Owner.

The bid security of the successful Bidder will be returned after acceptance by the Park District of an acceptable Performance Bond, Labor and Materials/Payment Bond and a certificate of insurance naming the Bolingbrook Park District as the certificate holder and as additional insured, and the successful Bidder has executed and returned to the Park District the Contract for the Work presented by the Park District.

Prior to beginning Work, the successful Bidder shall furnish a Performance Bond, and Labor and Materials/Payment Bond in the amount of 110% of the Contract Sum, using a form similar to the AIA-A312-2010 form, or its current equivalent, or one acceptable to Owner, cosigned by a surety company licensed to conduct business in the State of Illinois and with at least an "A" rating and a financial rating of at least "X" in the latest edition of the Best Insurance Guide. Said bond shall guarantee the faithful performance of the Work in accordance with the Contract, the payment of all indebtedness incurred for labor and materials, and guarantee correction of Work. The cost of each bond shall be included in the Contract Sum. The Bidder and all Subcontractors shall name the Park District as an obligee on all bonds. Said bonds shall meet the requirements of the Illinois Public Construction Bond Act, 30 ILCS 550/0.01 et seq. and any further amendments thereto. Bidder shall include in its Performance Bond and Labor and Material Payment Bond such language as shall guarantee the faithful performance of the Prevailing Wage Act as required in these Bid Documents.

The Performance Bond and Labor and Material Payment Bond will become a part of the Contract. The failure of the successful Bidder to enter into the Contract and supply the required bonds and evidence of insurance within ten (10) days after the Contract is presented for signature, or within such extended period as the Park District may grant, shall constitute a default, and the Park District may either award the Contract to the next responsible Bidder, or re-advertise for bids. In the event of a default, the Owner need not return the defaulting Bidder's bid surety and may charge against the defaulting Bidder for the full difference between the amount for the bid and the amount for which a Contract for the Work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the defaulting Bidder's bid surety.

Preparation and Submission of Bids

Before submitting proposal, each bidder shall examine carefully all documents pertaining to the work and visit the site to verify conditions under which work will be performed. This includes a site inspection of the roof and existing RTU's and controls. The site visit is essential to determine the appropriate crane size. Failure to visit the site and access the roof prior to bidding shall cause the bid to be rejected. Submission of bid will be considered presumptive evidence that the Bidder has visited the site and is conversant with local facilities and difficulties, the requirements of the documents and of pertinent State or Local Codes, State of Labor and Material Markets, and has made due allowance in his bid for all contingencies. Include in bid all costs of labor, material, equipment, allowance, fees, permits, guarantees, applicable taxes, insurance and contingencies, with overhead and profit necessary to produce a complete project, or to complete those

portions of the work covered by the specifications on which proposal is made, including all trades, without further cost to the Owner. Obtain all permits and arrange for all inspections. Pay all fees and costs incurred. No compensation will be allowed by reason of any difficulties which the Bidder could have discovered or reasonably should have discovered prior to bidding.

All proposals must be made upon the bid form furnished by the Owner included herewith and should give the amounts bids for work, in numbers, and must be signed and acknowledged by the Contractor. The proposal submitted must not contain erasures, inter-lineations, or other corrections unless each correction is suitably authenticated by affixing in the margin immediately opposite the correction the surname or surnames of the person or persons signing the bid. The bid form should not be removed from the specification's booklet.

On a separate sheet, list all administrative proceedings and litigation filed by or against Bidder in the past five (5) years, including the name and case number, name/jurisdiction of the court or administrative agency, and a summary of each claim/case, including current status and if no longer pending, the disposition. The foregoing includes but is not limited to information regarding any proceedings and actions taken by any governmental agency to debar or disqualify the Bidder from bidding on public contracts, including the name of the agency initiating the proceeding/action, the nature of the proceeding/action, the claimed basis for the proceeding/action and the current status or disposition of the proceeding/action.

On a separate sheet, indicate all instances in which Bidder has been rejected for not being a responsible bidder, giving the name of the project, project description, project address, owner and telephone number, architect and telephone number, contract amount, and an explanation of the circumstances surrounding the rejection.

On a separate sheet, provide a list of all contracts to which you were a party and with respect to which you were declared to be in breach of one or more provisions, giving the type of contract, the project location where applicable, the names and addresses of the parties to the contract, the name of the party declaring the breach, the nature of the claimed breach and current status or resolution of the claim. If a construction contract, also provide the name, address and telephone number of the architect and, if applicable also the construction manager or owner's representative.

Award of Contract

Award of the contract will be made to the lowest responsive, responsible bidder, as determined by the Owner. The Owner may reject any or all of the bids on any basis and without disclosure of a reason. The failure to make such a disclosure shall not result in accrual of any right, claim, or cause of action by any unsuccessful bidder against the Owner.

The District reserves the right to waive all technicalities, to accept or reject any or all bids, or to accept only portions of a bid and reject the remainder without disclosure for any reason. Failure to make such a disclosure will not result in accrual of any right, claim or cause of action by any Bidder against the District. The District will award the Contract to the lowest most responsible and responsive Bidder, as determined by District. In considering the Bidder's responsibility, the District may evaluate, among other factors, the ability of the Bidder to provide experienced labor sufficient in numbers to timely and properly complete the Work, the financial capability of the Bidder, and the performance of the Bidder on other projects.

After the bid opening, no bid may be withdrawn or canceled for a period of (60) calendar days.

Non-Discrimination

During the performance of this contract, the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoffs or termination; rates of pay or other forms of compensation; and, selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

The Contractor will comply with all provisions of the Equal Employment Opportunity Clause as required by the Human Rights Act and rules and regulations of the Illinois Department of Human Rights published at 44 Il Administrative Code Section 750, *et seq.*

Pursuant to the Illinois Human Rights Act (775 ILCS 5/2-105), Contractor has a written sexual harassment policy that includes, at a minimum, the following information: (i) a statement on the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment utilizing examples; (iv) the Contractor's internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Human Rights Commission and directions on how to contact both; and (vi) protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act. Contractor further certifies that such policy shall remain in full force and effect. A copy of the policy shall be provided to the Illinois Department of Human Rights upon request.

Contract and Insurance

The accepted bidder shall enter into a written contract; provide the Owner with copies of Workman's Compensation and Public Liability Insurance Policies or certificates therefore, within ten (10) calendar days of the "Written Notice to Proceed" and prior to the commencement of work.

Sales Tax Exemption

The Bolingbrook Park District is a municipal tax-exempt body. Proof of tax-exempt status is available upon request. Taxes should not be reflected in the bid price.

GENERAL REQUIREMENTS

Provisions Included

In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order:

First	Agreement
Second	Laws and Regulations
Third	General Requirements
Fourth	Specifications
Fifth	Contract Drawings
Sixth	Provisions Included

Extra Work

The Contractor must have a work order for extra work in writing indicting such work and same must be signed by the Owner prior to construction of such work.

Definitions

a. Contractor - The person, firm or corporation with whom Owner has entered into the Agreement.

b. Owner - The Bolingbrook Park District

c. Contract Documents - The Invitation to Bidders, Instructions to Bidders, Contractor's Bid (including documentation accompanying the Bid any post Bid documentation submitted prior to the Notice of Award), Addenda (which pertain to the Contract Documents), Agreement, Bonds, General Requirements including materials incorporated by the Provisions Included section, Specifications, Plans and/or Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications, and/or supplements issued on or after the execution of the Agreement.

d. Subcontractor - Any person, firm or corporation with a direct contract with the Contractor who acts for or on behalf of the Contractor in executing any part of the Contract, but does not include one who merely furnishes the material.

Payment

At least ten (10) days before each progress payment fall due (but no more than once a month), the Contractor will submit to the Owner a partial payment estimate filled out and signed by the Contractor covering the work performed during the periods covered by partial payment estimate and supported by such data as the Owner may reasonably require. The Owner will within ten (10) days after receipt of each partial payment estimate, either indicate his approval of payment or present the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Owner will pay the Contractor within forty-five (45) days of presentation of an approved partial estimate submitted by the last day of the month.

The Owner shall retain ten (10) percent of the amount of each payment until final completion and acceptance of all work covered by the Contract Documents. The Owner at any time, however, after fifty (50) percent of the work has been completed, if he finds that satisfactory progress is being made, may reduce retainage to five (5) percent on the current and remaining estimates. On completion of the work, payment will be made in full including retained percentages less authorized deductions.

The Contractor shall submit Partial Waivers of Lien, including the first payout, from Contractors, Subcontractors, and Materials Suppliers for each payout. Final Payment will be made within approximately thirty (30) days of final inspection and approval and receipt of all waivers, sworn statements, guarantee statements, and other documents set forth in the Contract Documents submitted by the last day of the month.

Payments shall be made in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*. Therefore, any bill or invoice provided from Contractor to Owner which has been approved for payment shall be paid within 30 days after such date of approval.

Indemnification

To the fullest extent permitted by law, the Contractor shall waive all right of contribution and shall indemnify and hold harmless the Owner and its officers, officials, employees, volunteers and agents from and against all claims, damages, losses and expenses, including but not limited to legal fees (attorney's and paralegals fees and court costs), caused by, growing out of , or incidental to, the performance of the Work covered by these Contract documents, provided that any such claim, damage, loss or expense (i) is attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property, other than the work itself, including the loss of use resulting therefrom and (ii) is caused in whole or in part by any wrongful or negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph. Contractor shall similarly protect, indemnify and hold and save harmless the Owner, its officers, officials, employees, volunteers and agents against and from any and all claims, costs, causes, actions and expenses including but not limited to legal fees, incurred by reason of Contractor's breach of any of its obligations under, or Contractor's default of, any provision of the Contract. In any and all claims against the Owner, their respective agents, employees, and representatives in their personal capacities as individuals as well as in their public and official capacities, made by any employee of the Contractor, and Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under any Workman's Compensation Act, any Disability Benefit Act or any other Employee Benefit Act. The Contractor shall not be required to indemnify and hold harmless Owner for such claims or demands which result solely from Owner's own negligence.

In the event of any such injury (including death) or loss or damage (or claims therefore), the Contractor shall give immediate notice thereof to Owner.

Permits, Fees and Inspection

The Contractor shall obtain all permits and arrange for all inspections required by State, County, Local and other authorities having lawful jurisdiction. The Contractor will pay all permit fees.

Subcontracts

Contractor operating under direct contracts with the Owner may let Subcontractors for the performance of such portions of the work as are usually executed by special trades. All such Subcontractors shall be based on conformance with all pertinent conditions set forth in the Contract Documents. The Contractor shall not, without written consent of the Owner, make any assignments or subcontracts for the execution of any of the works hereby quoted.

Bidder's Representative

Bidder shall, at all times, utilize competent employees, to perform the specified work. The site supervisor shall be authorized to act on behalf of the Bidder and to supervise the work in a manner that will comply with all requirements of the plans and specifications.

Materials and Workmanship

All materials shall conform to the requirements of the Contract Documents. All materials are subject to the approval by the Owner both before and after incorporation into the project. All materials shall be new, of first quality, the best workmanship, and of the latest design. This does not apply to the incorporation of existing or salvaged materials into the project if specified in the Contract Documents. Any item of labor or material not shown as a separate pay item in the Bid shall be supplies as shown on the plans or required for construction and installed as incidental to the contract.

Abandonment

Should the Bidder abandon or neglect the work, or if the Owner at any time is convinced that the work is unreasonably delayed, or that the conditions of the contract is being willfully violated, or executed carelessly, or in bad faith, he may notify the Bidder in writing, and if his notification be without effect within twenty-four (24) hours after the delivery hereof, then and in that case the contractor shall discontinue all work under the contract and the Owner shall have full authority to make arrangements for the completion of the contract at the expense of the Bidder.

Pre-Construction Meeting

Contractor shall attend a pre-construction meeting with the Owner prior to initiation of the work. At the meeting the Contractor shall present his schedule for performing the work as well as discuss his proposed methodology for performing the work.

Protection of the Public, Work, and Property

The Contractor shall provide and maintain all necessary watchmen, barricades, lights, warning signs, and other signals and take all necessary precautions for the protection of all work from damages, and shall take all reasonable precautions to protect the project property from injury or loss arising in connection with his contract.

The Contractor shall make good any damage, injury or loss to his work and to the property of the Owner resulting from lack of reasonable protective precautions, except such as may be caused by agents or employees of the Owner. He shall adequately protect adjacent private and public property, as provided by law and these specifications.

Site Clean-Up

The Contractor shall keep the site free from accumulations of debris, rubbish, and waste materials at all times. The Contractor shall arrange for the removal and disposition of debris, rubbish, and waste materials at no cost to the Owner. If the Contractor fails to remove any debris, rubbish, or waste materials within five (5) days of written notice to clean the site, the Owner may remove the materials and charge the cost thereof to the Contractor.

When the Contractor's equipment is operated upon an existing pavement used by traffic, the Contractor shall clean the pavement of all dirt and debris at the end of each day's operations, and at other times as directed by the Owner, the Engineer, or the roads governing authority. The cleaning work shall be considered as incidental to the contract.

Insurance

Contractor shall procure and maintain for the duration of the contract, insurance against claims for death, injuries to persons, or damages to property which may arise from or in connection with the performance of work hereunder by the Contractor, his agents, representatives, employees or subcontractors of the types and in the amounts listed below.

A. Commercial General and Umbrella Liability Insurance. Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than $3,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project/location. CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01, or a substitute form providing equivalent coverage, and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). Owner, its elected and appointed officials, officers, employees and agents shall be included as an insured under the CGL, using ISO additional insured endorsement CG 20 10 or a substitute providing equivalent coverage, and under the commercial umbrella, if any. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance afforded to Owner. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, or underground property damage.

B. Continuing Completed Operations Liability Insurance. Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance with a limit of not less than $3,000,000 each occurrence for at least three years following substantial completion of the work. Continuing CGL insurance shall be written on ISO occurrence form CG 00 01, or substitute form providing equivalent coverage, and shall, at minimum, cover liability arising from products-completed operations and liability assumed under an insured contract. Continuing CGL insurance shall have a products-completed operations aggregate of at least two times its each occurrence limit. Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed work equivalent to that provided under ISO form CG 00 01.

C. Business Auto and Umbrella Liability Insurance. Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident. Such insurance shall cover liability arising out of any auto including owned, hired and non-owned autos. Business auto insurance shall be written on Insurance Services Office (ISO) form CA 00 0 I, CA 00 05, CA 00 12, or a substitute form providing equivalent liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

D. Workers Compensation Insurance. Contractor shall maintain workers compensation as required by statute and employer's liability insurance. The commercial umbrella and/or employers liability limits shall not be less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease. If Owner has not been included as an insured under the CGL using ISO additional insured endorsement CG 20 10 under the Commercial General and Umbrella Liability Insurance required in this Contract, the Contractor waives all rights against Owner and its officers, officials, employees, volunteers and agents for recovery of damages arising out of or incident to the Contractors work.

E. General Insurance Provisions.

1. Evidence of Insurance. Prior to beginning Work, Contractor shall furnish Owner with a certificate of insurance and applicable policy endorsements, executed by a duly authorized

representative of each insurer, showing compliance with the insurance requirements set forth above. All certificates shall provide for 30 days written notice to Owner prior to the cancellation or material change of insurance referred to therein. Written notice to Owner shall be by certified mail, return receipt requested. Failure of Owner to demand such certificate, endorsement or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance. Owner shall have the right, but not the obligation, of prohibiting Contractor or any subcontractor from entering the Project site until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by Owner. Failure to maintain the required insurance may result in termination of this Contract at Owner's option. With respect to insurance maintained after final payment in compliance with a requirement above, an additional certificate shall provide certified copies all insurance policies required above within 10 days of Owner's written request for said copies.

2. Acceptability of Insurers. For insurance companies which obtain a rating from A.M. Best, that rating should be no less than A VII using the most recent edition of the A.M. Bests Key Rating Guide. If the Bests rating is less than A VII or a Best's rating is not obtained, the Owner has the right to reject insurance written by an insurer it deems unacceptable.

3. Cross-Liability Coverage. If Contractor's liability policies do not contain the standard ISO separation of insureds provision, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

4. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to the Owner. At the option of the Owner, the Contractor may be asked to eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees, volunteers and agents or required to procure a bond guaranteeing payment of losses and other related costs including but not limited to investigations, claim administration and defense expenses.

5. Subcontractors. Contractor shall cause each subcontractor employed by Contractor to purchase and maintain insurance of the type specified above. When requested by the Owner, Contractor shall furnish copies of certificates of insurance evidencing coverage for each subcontractor.

Within ten (10) calendar days after receipt of the " Notice of Award", the Contractor shall file with the Owner, a Certificate of Insurance showing complete coverage of all insurance required by this Section signed by the insurance companies or their authorized agents, certifying to the name and address of the party insured, the description of the work covered by such insurance, the insurance policy numbers, the limits of liability of the policies and the dates of their expirations, with a further certification from said insurance companies that their policies will not be modified amended, changed, canceled or terminated without 30 business days prior written notice to the Owner. Such certification must be in the form acceptable to the Owner. If any form of umbrella or excess coverage policy is utilized by the Contractor, the Owner reserves the right to require a copy of the entire policy. The Bolingbrook Park District shall be named as additional insured. (Use additional insured endorsement - Owners, Lessees or Contractors (Form B) a sample is included in this bid packet).

Construction Schedule

The Contractor shall submit to the Superintendent of Projects & Loss Prevention within ten (10) days after the effective date of award a schedule outlining construction methods and a timetable for completion of the project. The construction schedule must be approved by the Superintendent of Projects & Loss Prevention prior to commencing work. All work on the project, including punch list, shall be complete by the date indicated in "Instructions to Bidders".

Construction Observation

The Superintendent of Projects & Loss Prevention shall observe the work on behalf of the Bolingbrook Park District and will provide general assistance during construction insofar as proper interpretation of the Contract Documents is affected. The Superintendent of Projects & Loss Prevention shall not be responsible for the acts of omission of the Contractor's superintendent or other employees.

All materials used and all completed work by the Contractor shall be subject to the observation of the Superintendent of Projects & Loss Prevention. The Contractor shall furnish such samples of materials for examination and tests as may be requested by the Superintendent of Projects & Loss Prevention and shall furnish information required concerning the nature or source of any materials or equipment which he proposes to use. Any material, equipment, or work which does not satisfactorily meet the Contract Documents may be rejected by the Superintendent of Projects & Loss Prevention by giving written notice to the Contractor. All rejected materials, equipment, or work shall be promptly removed and replaced at the Contractor's expense.

Force Majeure

Neither party will be liable for failure or delay to perform obligations under this Agreement, which have become practicably impossible because of circumstances beyond the reasonable control of the applicable party. Such circumstances include without limitation natural disasters or acts of God; acts of terrorism; labor disputes or stoppages; war; government acts or orders or any other cause, whether similar in kind to the foregoing or otherwise, beyond the party's reasonable control. The parties acknowledge, and have specifically bargained for in this Agreement, that Contractor shall be responsible and obligated to perform all of its obligations under this Agreement in the event of any epidemic or pandemic, including, but not limited to, the COVID-19 outbreak and similar outbreaks and during any national, state, or local emergency relating thereto, and such events shall not fall within the definition of a force majeure event under this Agreement or under law for the purposes of Contractor's performance obligations under this Agreement, and Vendor shall be required to fulfill and perform all of its duties and obligations in such event.

Written notice of a party's failure or delay in performance due to force majeure must be given to the other party no later than five (5) business days following the force majeure event commencing, which notice shall describe the force majeure event and the actions taken to minimize the impact thereof. All delivery dates under this Agreement affected by force majeure shall be tolled for the duration of such force majeure. The parties hereby agree, when feasible, not to cancel but reschedule the pertinent obligations and deliverables for mutually agreed dates as soon as practicable after the force majeure condition ceases to exist.

Laws and Certification

The Bidder shall at all times observe and comply with all Federal, State and Local laws, regulations and ordinances which in any manner affect the conduct of the work. Any complaint, claim or action brought against the Bidder for failing to observe or comply with any law, ordinance, or regulation shall be the sole responsibility of the Bidder and shall in no way extend to or expose the Owner to liability and the Bidder shall indemnify and hold harmless the Owner from any and all such

complaints, claims, or actions. All workmanship and materials shall conform and comply with the requirements of the building ordinances and rules and regulations of all departments and bureaus of the county, city and state having lawful jurisdiction. All of which are hereby made a part of these specifications, or indicated on the drawings.

Change Orders

Changes to facilitate the seal coating project which is in the best interest of the Owner may be made by the Superintendent of Projects & Loss Prevention, with the understanding of both parties that no change in contract price is involved. Where proposed changes involve a modification to the contact sum, the contract time, or material change in the work (i.e., other than minor field changes) a written change order shall be prepared by the Bidder and approved by the Superintendent of Projects & Loss Prevention prior to any change taking place.

Field Representative

Field representatives may be appointed by the Owner to see that the work is performed in accordance with the Contract Documents. Field representatives shall have the authority to condemn and/or reject defective work and materials. Field representatives shall have no authority to permit deviation from the Contract Documents and the Contractor shall be liable for any deviations made without a written order from the Superintendent of Projects & Loss Prevention.

Guarantee-Warranty

The Contractor shall guarantee-warranty all materials for a period of one (1) year from date of acceptance by the Bolingbrook Park District. The warranty shall include all labor and material costs associated with repairs or replacement.

Vendor Information Reporting

Pursuant to P.A. 102-0265, (35 ILCS 200/18-50.2) contractors and their subcontractors performing work on this Project for the Owner are responsible for certifying whether they are a minority-owned, women-owned or veteran-owned business; (2) whether the contractor or subcontractor holds any certifications for those categories; and (3) whether the business has annual gross sales of less than $75,000,000 as evidenced by the federal income tax return of the business.

Substance Abuse Prevention Policy

Pursuant to P.A. 95-0635 (the "Substance Abuse Prevention on Public Works Project Act"), employees of the contractor and the employees of the subcontractor are prohibited from the use of drugs or alcohol, as defined in the Act, while performing work on any public works project. Before the contractor or subcontractor commences work, the Contractor and any Subcontractor shall have in place a written Substance Abuse Prevention Program for the prevention of substance abuse among its employees which meets or exceeds the requirements in P.A. 95-0635 or shall have a collective bargaining agreement in effect dealing with the subject matter of P.A. 95-0635.

The Contractor and any Subcontractor shall file with the public body engaged in the construction of the public works: a copy of the substance abuse prevention program along with a cover letter certifying that their program meets the requirements of the Act or a letter certifying that the Contractor or Subcontractor has a collective bargaining agreement in effect dealing with the subject matter of this Act. A certification form is attached and must be completed by the Contractor and each Subcontractor to this Contract.

Drug-Free Workplace Act

Pursuant to 30, ILCS 580/1 *et seq*. ("Drug Free Workplace Act"), the Contractor shall certify with the Owner that it will provide a drug-free workplace by taking actions required under, and otherwise implementing on a continuing basis, Section 3 of the Drug Free Workplace Act. A certification form is attached to this document and must be completed by the Bidder.

Wage Rates/Prevailing Wage Ordinance

Each Contractor or Subcontractor performing Work on this project shall comply in all respects with all laws governing the employment of labor, Social Security, and Unemployment Insurance of both the State and Federal government. There shall be paid to each employee engaged in Work under this Contract at the site of the Project, no less than the minimum wage for the classifications of labor employed in compliance with 820 ILCS 130/1 et seq., as now existing or hereafter amended. A copy of the "General Prevailing Hourly Rates" is hereafter included.

In accordance with 820 ILCS 130/5, The Contractor and each subcontractor shall make and keep, for a period of not less than 5 years, records of all laborers, mechanics and other workers employed by them on the Project. The records must include the worker's name, the worker's address, the worker's telephone number when available, the last four digits of the worker's social security number, the worker's gender, the worker's race, the worker's ethnicity, veteran status, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, the worker's starting and ending times of work each day, the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable.

The Contractor and each subcontractor must, no later than the fifteenth day of each calendar month, file a certified payroll for the immediately preceding month with the IDOL using its online database and also with the Public Agency in charge of the project. A certified payroll must be filed for only those calendar months during which construction on a public works project has occurred. The certified payroll must consist of a complete copy of the records required by 820 ILCS 130/5(a)(1), except the starting and ending times of each work day. The certified payroll must also be accompanied by a statement signed by the Contractor or subcontractor or an officer, employee, or agent of the Contractor or subcontractor representing that:

(i) he or she has examined the certified payroll records required to be submitted by the Wage Act and such records are true and accurate;
(ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by the Wage Act; and
(iii) the Contractor or the subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class A misdemeanor.

The Contractor must also post, at a location on the project site of the public works that is easily accessible to the workers engaged on the project, the prevailing wage rates for each craft or type of worker or mechanic needed to execute the Contract or project or work to be performed. In lieu of posting on the project site, a Contractor which has a business location where laborers, workers, and mechanics regularly visit may: (1) post in a conspicuous location at that business the current prevailing wage rates for each county in which the Contractor is performing work; or (2) provide such laborer, worker, or mechanic engaged on the public works project a written notice indicating the prevailing wage rates for the public works project. The failure to post or provide the requisite prevailing wage rate is a violation of the Wage Act.

Upon seven business days' notice, the Contractor and each subcontractor shall make available for inspection and copying at a location within this State during reasonable hours, the records identified in 820 ILCS 130/5(b) to the Bolingbrook Park District, its officers and agents, and to the Director of Labor and his deputies and agents. The Contractor and each subcontractor shall permit his or her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor.

TECHNICAL SPECIFICATIONS
SCOPE OF WORK

The work included in this contract includes but is not limited to furnishing the necessary labor, materials, supplies and equipment to complete the project as described below.

Replace six (6) RTU's and two (2) AAON units at Ashbury's at Boughton Ridge as displayed below in the chart. New Unit Model specs are included in bid packet to be bid.

UNIT TAGS	NEW UNIT MODEL NUMBER
RTU-1 (Grill Room)	YSH150G4RHC
AAON-2 (Bar)	RN-010-3-0-EA09-3KB:A000-Y00-DGD-000-0DV000E-00-0000000VB
RTU-3 (Pro Shop)	YSC036G4RHB
RTU-4 (Multi-Zone Unit)	YSC060G4RHB (ensure comply with existing VariTrac)
RTU-5 (Banquet Room East)	YSC048G4RHB
RTU-6 (Banquet Room West)	YSJ072A4S0H
AAON-7 (Kitchen)	RN-008-3-0-EA09-3LB:A000-U00-DHD-000-0DV000F-00-0000000VB
RTU-8 (Upstairs Bar / Restroom)	YSC048G4RHB

Scope of Work:

1. Permits will be obtained by Owner with Village of Bolingbrook prior to work.
2. Contractor to submit registration paperwork with the Village of Bolingbrook upon contract and pay any applicable fees associated with said registration. Permits will not be issued by Village of Bolingbrook to Owner until Contractor is registered.
3. Apply for and receive approval on Inspection with Village of Bolingbrook upon completion.
4. Take airflow readings, along with reviewing original construction documents to use as a baseline for balancing new RTU #4 only (multi-zone system that utilizes the VariTrac system) prior to new install. Airflow readings to use as baseline include supply airflow, static pressure and outside air airflow. Balance reports to be provided at baseline readings, along with post-installation readings to comply. RTU #4 has seven (7) VAV dampers and one (1) bypass damper. All dampers are working at the time of bid release.
    a. RTU #4 supplies the following areas with VAV dampers… (SEE IMAGE)
        i. Men's & Women's Restrooms (First Floor)
        ii. Main Hall (First Floor)
        iii. Managers Office (First Floor)
        iv. Banquet Services Office (First Floor)
        v. Head Chef Office (First Floor)
        vi. Meeting Space Near Pro Shop (First Floor)
        vii. Work Room (First Floor)
5. Remove existing RTU / AAON units shown in table above.
6. Provide and install new curb adapters for RTU's / AAON's – only where direct replacement is not possible
7. If the bid includes the use of a crane (or helicopter) to remove existing RTU's / AAON's and install new curb adapters and RTU's / AAON's. The crane shall be located on the asphalt

pavement area. Crane location to be agreed upon by Owner at time of install. If helicopter is used, proper communication for safety needs to be addressed to the Park District throughout the process. Park District not responsible for relocation of crane or crane size upgrade if changed due to Owner's request on placement.

8. Provide and install new RTU's / AAON's and set on curb adaptors
    a. New RTU's (must be Trane or American Standard) / new AAON's (must be AAON brand only) and are to have the following features – factory installed, no exceptions.
        i. Compliant with 2018 International Energy Conservation Code
        ii. Economizer Fault Detection
        iii. Low Leak economizer with power exhaust
        iv. Gas heat
        v. Return smoke detector
        vi. 460v/3ph power
        vii. UL Listing with electrical phase monitor
        viii. Hailguards
        ix. Touchscreen 7-day programmable thermostat – field installed (see #13)
        x. Hinged Access Panels
        xi. MERV 8 filters
        xii. Frostat DX protection or hot-gas bypass
        xiii. Condensate overflow switch
        xiv. OEM Start-up
        xv. 4 hr. owner training session by employed technician
        xvi. First year labor warranty
9. Confirm electrical panel fuse sizes are adequate and replace as necessary
10. Reconnect to electrical power
11. Provide new disconnects and convenience outlets per Village of Bolingbrook code.
12. Extend exhaust stacks on roof to ensure proper distance from intake on each unit. (if required)
13. Label new units placed on roof with appropriate label (3" x 5")
14. Provide one-year guarantee-warranty for a period of one (1) year from date of acceptance by the Bolingbrook Park District. The warranty shall include all labor and material costs associated with repairs or replacement. Bidders shall have their own service department with mechanical technicians which will respond to heating or cooling outages or issues within 24 hours. Service contracts through the RTU manufacturer shall not be allowed due to long response times. In extreme cases, subcontracting repairs during the warrantee period may be considered if the contractor is unable to respond within 24 hours, however, the subcontractor shall be first approved by the owner and be certified in Trane & American Standard equipment.

<u>Thermostats:</u>

1. Install new 7-day programmable touch screen thermostats in existing thermostat locations other than in locations listed below. Run new wiring if necessary due to the addition of economizer fault detection.
2. Install new sensor/thermostat in existing locations associated with unit # 2 and unit # 7 (AAON Units). – see IMAGE attached to bid specs with current sensor/thermostat.
3. Thermostat for Unit #3 (Pro Shop) to be hard-wired at a placement approved by Owner at time of install. All expenses / wiring to be at the expense of Contractor per bid. New wiring to be concealed within facility utilizing proper clips / rings for securing.

MISC. CONTRACTOR INFORMATION / REQUIREMENTS

1. Facility will be operable to the public during construction. Contractor to ensure areas are kept clean, safe.
2. Superintendent of Projects & Loss Prevention will dictate order of units to be installed upon placement based on facility scheduling at the time of install. Contractor must comply with order of requested installations post units placed on curbs.
3. All units to be placed, installed and fully operable within five calendar days. Contractor to associate bid amounts to accommodate such request.
4. Any items found to be in violation upon inspection by the Village of Bolingbrook or third-party inspector are to be resolved of at the sole expense of the Contractor.

Trane Voyager Gas/Electric Packaged Rooftop

Unit Overview - YSH150G4RHC**07000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight		EER	IEER/SEER	Elevation
		Airflow	External Static Pressure	Height	Width	Length	Minimum	Maximum			
Gas/Electric	12.5 Ton										

Unit Features

SupplyFan/Drive/ MotorType	Two speed fan standard motor

Unit Electrical

Voltage/phase/hertz	460/60/3

Controls

Unit Controls	Reliatel

Cooling Section

Entering Dry Bulb	80.00 F
Entering Wet Bulb	67.00 F
Ambient Temp	95.00 F

Fan Section

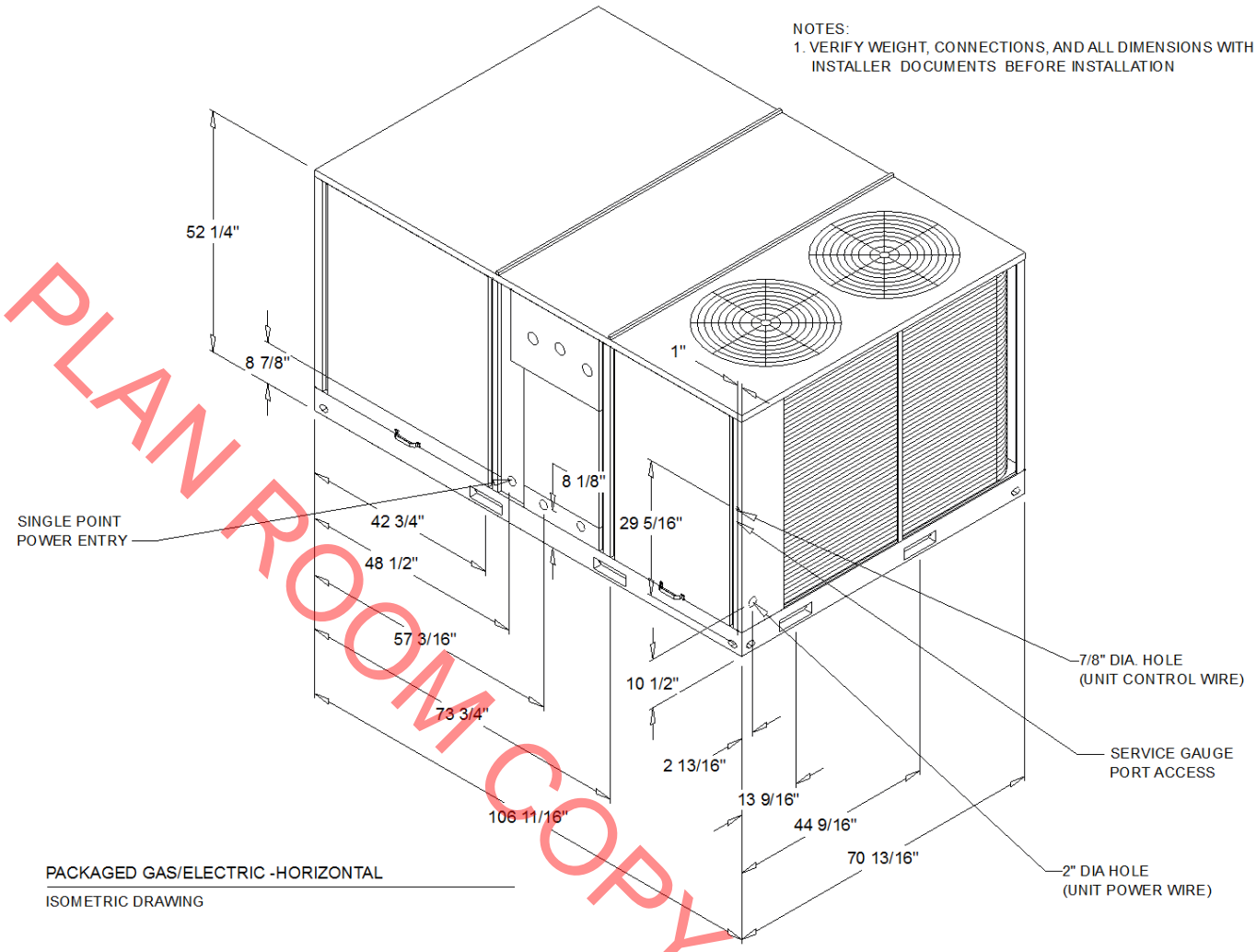
Indoor Fan Data

Compressor Section

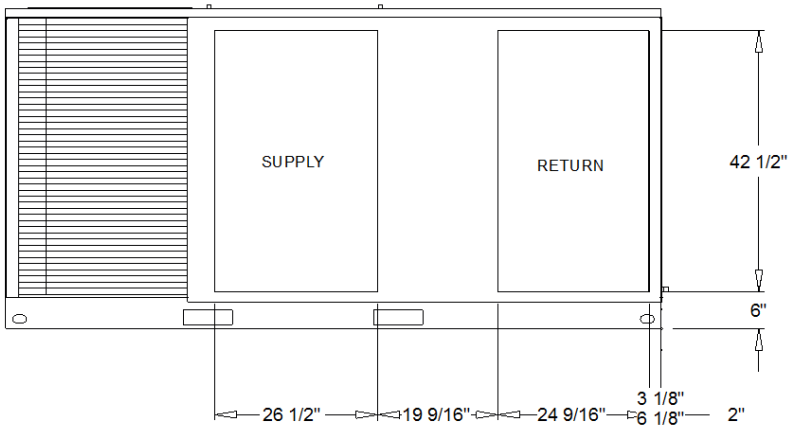
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz

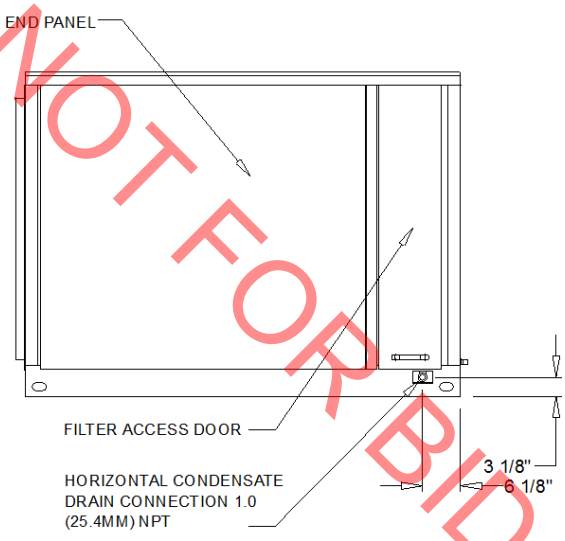
NOTES:
1. VERIFY WEIGHT, CONNECTIONS, AND ALL DIMENSIONS WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



PACKAGED GAS/ELECTRIC -HORIZONTAL
ISOMETRIC DRAWING



PACKAGED GAS/ELECTRIC -HORIZONTAL
AIR FLOW SIDE



HORIZONTAL CONDENSATE DRAIN AND FILTER ACCESS
SIDE VIEW

ELECTRICAL / GENERAL DATA

GENERAL PERFORMANCE

Model (Ton):	YSH150G (12.5)
Unit Operating Voltage Range:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage:	-
Unit Hertz:	60
Unit Phase:	3
EER: (5)	11.0

Standard Motor (1) (3)

Minimum Circuit Ampacity:	29.0
Maximum Fuse Size:	40.0
Maximum (HACR) Circuit Breaker:	40.0

Oversized Motor (1) (4)

MCA:	N/A
MFS:	N/A
MCB (HACR):	N/A

Field Installed Oversized Motor (1) (4)

MCA:	N/A
MFS:	N/A
MCB (HACR):	N/A

GAS HEATING

Heating Models:	High
Heating and 1 Stage Input (Btu/h)	250000/175000
Heating and 1 Stage Output (Btu/h):	200000/140000
Min./Max. Gas Input -	
Pressure Natural or LP:	2.5 / 14.0
Gas Connection Pipe Size:	1/2"

COMPRESSOR

	Circuit(s)
Number:	2
Horsepower:	6.9/3.5
Phase:	3
Rated Load Amps:	12.2/6.2
Locked Rotor Amps:	100.0/41.0

INDOOR MOTOR

Number: (3)	1
Horsepower:	3.00
Motor Speed (RPM):	1,740
Phase:	3
Full Load Amps:	4.8
Locked Rotor Amps:	40.5

Oversized Motor (4)

Number:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

Field Installed Oversized Motor (4)

Number:	N/A
Hp:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
FLA:	N/A
LRA:	N/A

OUTDOOR MOTOR

Number:	2
Horsepower:	0.50
Motor speed (RPM):	1,100
Phase:	3
Full Load Amps:	1.3
Locked Rotor Amps:	4.2

POWER EXHAUST

(Field Installed Power Exhaust)

Horsepower:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

COMBUSTION BLOWER MOTOR

(Gas-Fired Heating only)

Horsepower:	0.05
Motor Speed (RPM):	3,500/2,800
Phase:	1
Full Load Amps:	0.5
Locked Rotor Amps:	0.78

FILTER

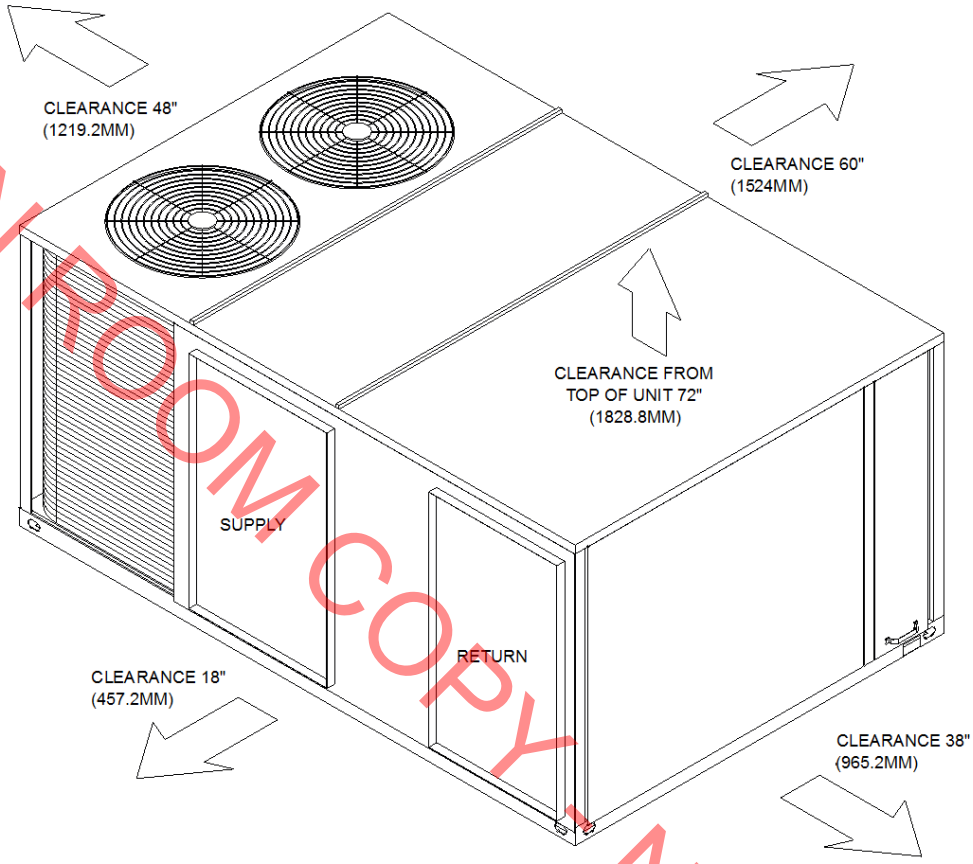
Type:	Throwaway
Furnished:	Yes
Number:	2 / 4
Recommended Size:	20"x20"x2" / 20"x25"x2"

REFRIGERANT (2)

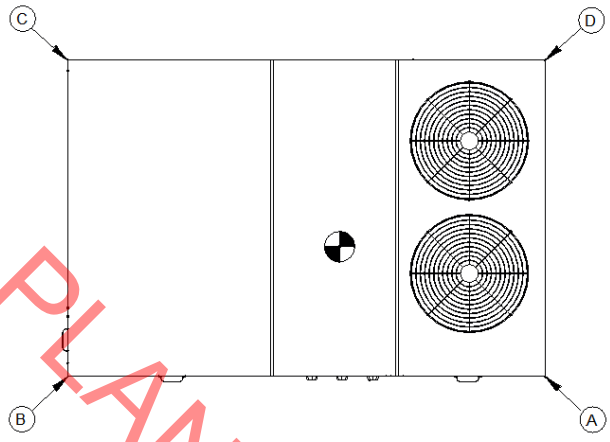
	Circuit #1 / 2
Type:	R410
Factory Charge Circuit #1 / 2:	8.1 lb / 5.2 lb

NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value includes oversized motor.
4. Value does not include Power Exhaust Accessory.
5. EER is rated at AHRI conditions and in accordance with DOE test procedures.



HORIZONTAL-PACKAGED GAS/ELECTRIC CLEARANCE



CORNER WEIGHT

Base Unit and Corner Weights Only

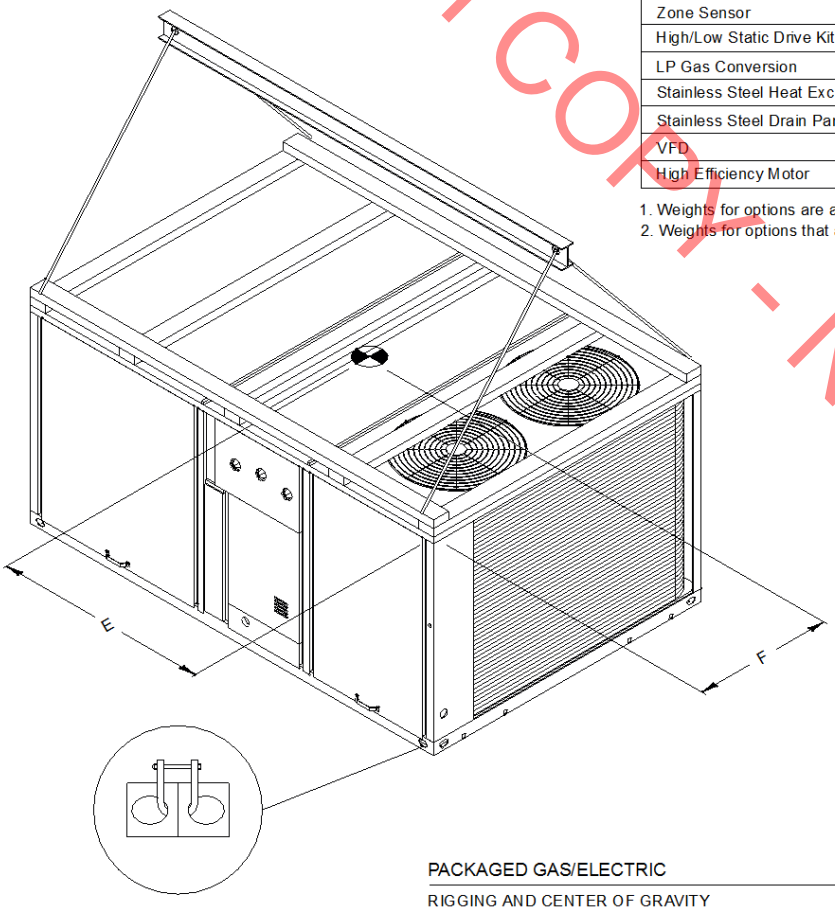
Base unit weights		Corner Weights				Center of Gravity	
SHIPPING	NET	A	B	C	D	E	F
1820.0 lb	1448.0 lb	537.0 lb	381.0 lb	225.0 lb	306.0 lb	45"	26

1. All weights are approximate.
2. The actual weight are listed on the unit nameplate.
3. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
4. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
5. Verify weight, connection, and all dimension with installer documents before installation.
6. Corner weights are given for information only.
7. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.

Installed Options Net Weight Data

Accessory	Weight
Economizer, Manual and Motorized Outside Air Damper	
Power Exhaust	
Roof Curb	
Oversized Motor	
Hail Guard	
Hinged Access Doors	
Power Conv. Outlet	
Through the Base Electrical	
Circuit Breaker	
Disconnect	
Smoke Detector	
Novar	
Zone Sensor	
High/Low Static Drive Kit	
LP Gas Conversion	
Stainless Steel Heat Exchanger	
Stainless Steel Drain Pan	
VFD	34.0 lb
High Efficiency Motor	

1. Weights for options are approximate.
2. Weights for options that are not list refer to Installation guide.



PACKAGED GAS/ELECTRIC

RIGGING AND CENTER OF GRAVITY

General - 60 Hz Horizontal Unit

The units shall be dedicated horizontal airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for all units. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation and control sequence, before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. 60 Hz units shall be UL listed and labeled, classified in accordance to UL 1995/C 22.2, 236-05 3rd Edition.

Packaged Rooftop units cooling, heating capacities, and efficiencies are AHRI certified within scope of AHRI Standard 340/360 (I-P) and ANSIZ21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces (gas heating units).

Casing - Horizontal

Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. In order to ensure a water and air tight seal, service panels shall have lifting handles and no more than three screws to remove. All exposed vertical panels and top covers in the indoor air section shall be insulated with a 1/2 inch, 1 pound density foil-faced, fire-resistant, permanent, odorless, glass fiber material. The base of the unit shall have provisions for forklift and crane lifting.

Unit Top

The top cover shall be one piece, or where seams exist, double hemmed and gasket sealed to prevent water leakage.

Filters

Two inch standard filters shall be factory supplied on all units

Compressors

All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of nameplate voltage. Internal overloads shall be provided with the scroll compressors. All models shall have crankcase heaters, phase monitors and low and high pressure control as standard. Dual compressors are available on all standard efficiency models and 12.5 to 20 tons high efficiency models and allow for efficient cooling utilizing 3 stages of compressor operation (high efficiency models only). 25 tons high efficiency units have 3 compressors for up to 4 stages of compressor operation.

Crankcase Heaters

These band heaters provide improved compressor reliability by warming the oil to prevent migration during off-cycles or low ambient conditions.

Refrigerant Circuits

Each refrigerant circuit shall have service pressure ports, and refrigerant line filter driers factory installed as standard. An area shall be provided for replacement suction line driers.

Evaporator and Condenser Coils

Evaporator Coils (only on T/YS*150, 180, 210, 240, 300G models)-
Microchannel evaporator coils will be burst tested by the manufacturer. Internally finned, 5/16"copper tubes mechanically bonded to a configured aluminum plate fin shall be standard for evaporator coils. Coils shall be leak tested to ensure the pressure integrity. The evaporator coil shall be leak tested to 225 psig and pressure tested to 450 psig.

Condenser Coils (available on T/Y**150, 180, 210, 240, 300G models) - Microchannel condenser coils shall be standard on all units. Coils shall be leak tested to ensure the pressure integrity. The condenser coil shall be leak tested to 225 psig and pressure tested to 450 psig.

Gas Heating Section
The heating section shall have a drum and tube heat exchanger design using corrosion resistant steel components. A forced combustion blower shall supply premixed fuel to a single burner ignited by a pilotless hot surface ignition system.

In order to provide reliable operation, a negative pressure gas valve shall be used on standard furnaces and a pressure switch on furnaces with modulating heat that requires blower operation to initiate gas flow. On an initial call for heat, the combustion blower shall purge the heat exchanger 45 seconds before ignition.

After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat. Units shall be suitable for use with natural gas shall also comply with California requirements for low NOx emissions.

Condenser Coil
The microchannel type condenser coil is standard for the standard efficiency models.
Due to flat streamlined tubes with small ports, and metallurgical tube-tofin bond, microchannel coil has better heat transfer performance. Microchannel condenser coil can reduce system refrigerant charge by up to 50% because of smaller internal volume, which leads to better compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. All-aluminum construction improves re-cyclability. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig.

Outdoor Fans
The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor(s) shall be permanently lubricated and shall have built-in thermal overload protection.

Indoor Fan
Units above shall have belt driven, FC centrifugal fans with adjustable motor sheaves. Units with standard motors shall have an adjustable idler-arm assembly for quick-adjustment of fan belts and motor sheaves. All motors shall be thermally protected. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Multi-Speed Indoor Fan System
Multi-speed indoor fan system is designed for use in applications for meeting the minimum requirement of CA Title 24. This system incorporates a multi-speed fan control to change the speed of the fan to 66% of full airflow based off of compressor stages.

Variable Frequency Drive
Variable Frequency Drives are factory installed and tested to provide supply fan motor speed Modulation. VFDs on the supply fan, as compared to inlet guide vanes or discharge dampers, are quieter, more efficient, and are eligible for utility rebates. All VFDs are designed to allow bypass if required. Bypass control will simply provide full nominal airflow in the event of drive failure. Bypass mode is indicated in the unit wiring manual. Modulating gas heat models with SZVAV allow tighter space temperature control with less temperature swing.

Controls
Unit shall be completely factory wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. ReliaTel controls shall be provided for all 24 volt control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized control shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection.

High Pressure Cutout
This option is offered for units that do not have High Pressure cutout as standard.

Discharge Line Thermostat

A bi-metal element discharge line thermostat is installed as a standard option on the discharge line of each system. This standard option provides extra protection to the compressors against high discharge temperatures in case of loss of charge, extremely high ambient and other conditions which could drive the discharge temperature higher. Discharge line thermostat is wired in series with high pressure control. When the discharge temperature rises above the protection limit, the bi-metal disc in the thermostat switches to the off position, opening the 24 VAC circuit. When the temperature on the discharge line cools down, the bi-metal disc closes the contactor circuit, providing power to the compressor. When the thermostat opens the fourth time, the ReliaTel control must be manually reset to resume operation on that stage.

Sequence of Operation (if applied in a SINGLE-ZONE CONSTANT-VOLUME SYSTEM or a CHANGEOVER BYPASS SYSTEM)

B. SINGLE-ZONE CONSTANT-VOLUME SYSTEM

1. OCCUPIED HEAT/COOL:
The RTU shall operate the supply fan continuously and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing to maintain zone temperature at setpoint. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
The RTU shall operate the supply fan and modulate (or cycle) compressors or modulate (or stage) heat to raise/lower zone temperature to its occupied setpoint. The OA damper shall remain closed, unless economizing.

D. CHANGEOVER BYPASS SYSTEM

1. OCCUPIED HEAT/COOL:
Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

RTU #2

Unit Rating

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	N	-	0	1	0	-	3	-	0	-	E	A	0	9	-	3	K	B	:	A	0	0	0	-	Y	0	0	-	D	H	D	-	0	0	0	-	0	D	V	0	0	0	E	-	0	0	-	0	0	0	0	0	0	0	V	B

Tag: RTU-2 BAR

Job Information

Job Name:	*Ashbury at Boughton Ridge - Bolingbrook*
Job Number:	*PD*
Site Altitude:	*BID*
Refrigerant	*673 ft*
	R-410A

Unit Information

Approx. Op./Ship Weights:	*1319 / 1319 lbs. (±5%)*
Supply CFM/ESP:	
Final Filter FV / Qty:	*2000 / 1.1 in. wg.*
Outside CFM:	*225.00 fpm / 4*
Ambient Temperature:	*500*
Return Temperature:	*95 ºF DB / 75 ºF WB*
	75 ºF DB / 62 ºF WB

Static Pressure

External:	*1.10 in. wg.*
Evaporator:	*0.20 in. wg.*
Filters Clean:	*0.08 in. wg.*
Dirt Allowance	*0.35 in. wg.*

Economizer:	*0.05 in. wg.*
Heating:	*0.02 in. wg.*
Cabinet:	*0.06 in. wg.*
Re-Heat Coil:	*0.03 in. wg.*
Total:	*1.89 in. wg.*

Cooling Section

	Gross	Net
Total Capacity:	*104.02*	*101.07 MBH*
Sensible Capacity:	*68.99*	*66.03 MBH*
Latent Capacity:	*35.04 MBH*	
Mixed Air Temp:	*80.00 ºF DB*	*65.61 ºF WB*
Entering Air Temp:	*80.00 ºF DB*	*65.61 ºF WB*
Lv Air Temp (Coil):	*46.56 ºF DB*	*46.25 ºF WB*
Lv Air Temp (Unit)	*47.94 ºF DB*	*46.89 ºF WB*
Digital Comp. Capacity Ratio:	*100%*	
Supply Air Fan:	*1 x RNA185D70 @ 1.00 BHP*	
SA Fan RPM / Width:	*1575 / 2.898"*	
Evaporator Coil:	*8.5 ft² / 4 Rows / 14 FPI*	
Evaporator Face Velocity:	*235.1 fpm*	

Heating Section

PreHeat Type:	*Std (No Preheat)*
Heating Type:	*Nat. Gas Heat*
Heating CFM:	*2000*
Total Capacity:	*120.0 MBH*
OA Temp:	*-10.0 ºF DB / -11.0 ºF WB*
RA Temp:	*68.0 ºF DB / 62.0 ºF WB*
Entering Air Temp:	*48.5 ºF DB / 48.5 ºF WB*
Leaving Air Temp:	*104.0 ºF DB / 69.0 ºF WB*
Input:	*150.0 MBH*
Heater Qty:	*1*
Consumption:	*150.0 MBH*
Total Turndown Ratio:	*8:1*

Re-Heat Coil:

Capacity:	*49 MBH*
LA DB / WB:	*70.00 ºF / 56.21 ºF*
RH:	*42%*

Rating Information

Cooling Capacity (MBH):	*115.0*
Cooling EER:	*11.9*
Cooling IEER:	*15*
Rated in accordance with AHRI 340/360	
Application EER @ Op. Conditions:	*10.3*

Electrical Data

Rating:	*460/3/60*
Unit FLA:	*20*
SCCR:	*5 KAIC*

Minimum Circuit Amp:	*24*
Maximum Overcurrent:	*35*

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	1		460	3			14.7
Condenser Fans:	2	0.33	460	1	1080	1.1	
Supply Fan:	1	2.00	460	3	1760	3.4	
Combustion:	1	0.09	460	1	3010	0.7	

Cabinet Sound Power Levels*

Octave Bands:	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Discharge LW(dB):	82	80	83	78	71	69	65	59
Return LW(dB):	75	74	72	64	61	57	51	42

**Sound power levels are given for informational purposes only. The sound levels are not guaranteed.*

18.5" STAR Plenum

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

JOB INFORMATION:

Job Name:	*Ashbury at Boughton Ridge*
Job Tag:	*- Bolingbrook PD*
Rep Firm:	*RTU-2 BAR*
Date:	*899*
	01/30/2023

WHEEL SPECIFICATION:

Max RPM:	*2,200*
Diameter x Qty:	
CFM:	*18.5 in. x 1*
Tip Speed:	*2000*
Inertia:	*7,628 FPM*
	3 WR²

OPERATING CONDITIONS:

Air Flow:	*2,000 CFM*
Static Pressure:	*1.89 in. Wg.*
Plenum DP:	*0.00 in. Wg.*
Inlet Grill DP:	*0.00 in. Wg.*
TSP:	*1.89 in. Wg.*
Site Altitude:	*673.00 Ft*
TSP @ Sea Level:	*1.94 in. Wg.*

MOTOR SELECTION:

Rated HP / Bypass:	*2 / No*
Frame Size:	*145T*
Nominal RPM:	*1760*
VAC/PH/HZ:	*460/3/60*
Efficiency	*Premium / 0.865*
Enclosure Type:	*ODP*
Max Inertial Load:	*27 WR²*

FAN PERFORMANCE:

RPM:	*1575*
BHP:	*1.00*
Efficiency:	*59.3%*
In/Out Velocity:	*1143/1198 FPM*
Plenum Out Velocity:	*33 FPM*

Max Duct SP with Blocked Airway: **2.7 in. Wg. @ 1575 rpm**

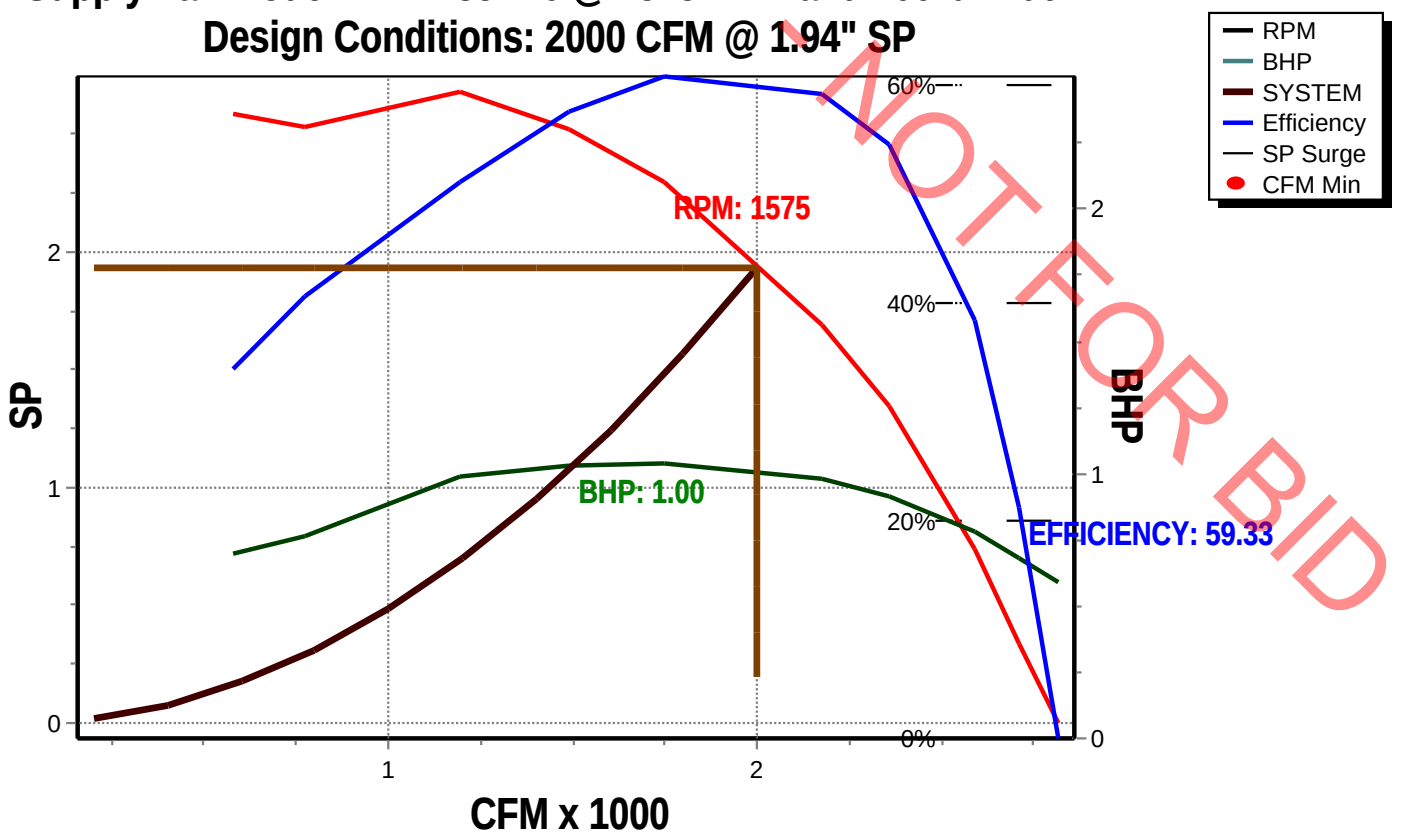
FAN SOUND POWER (Inlet/Outlet):

Octave Band: **(Re 10^-12 watts)**

1	2	3	4	5	6	7	8
82	*80*	*83*	*80*	*74*	*72*	*69*	*63*
82	*80*	*83*	*80*	*74*	*72*	*69*	*63*

SOUND POWER A-Weighted: 83 / 83 dB

Supply Fan Model: RNA185D70 @ 1575 RPM and 100% Width
Design Conditions: 2000 CFM @ 1.94" SP



Unit Submittal

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 12 13 14A 14B 15 16 17 18 19 20 21 22 23

RN-010-3-0-EA09-3KB:A000-Y00-DHD-000-0DV000E-00-0000000VB

Tag: RTU-2 BAR

Job Name: *Ashbury at Boughton Ridge - Bolingbrook PD*
Job Number: *BID*
Unit Submittal For:
Unit Submittal Date: *January 30, 2023*

	Base Option	Description
R	Series	Roof Top Unit
N	Generation	Ninth Generation
010	Unit Size	Ten
3	Voltage	460V/3Ø/60Hz
0	Interior Protection	Standard
E	Refrigerant Style	R-410A VCC - High Efficiency
A	Unit Configuration	Air-Cooled Cond. + Std Evap. Coil
0	Coil Coating	Standard
9	Cooling/Heat Pump Staging	Modulating - 1 Variable Capacity Compressor
3	Heating Type	Natural Gas Stainless Steel
K	Heating Designation	Heat K - 150 MBtuh
B	Heating Staging	High Turndown Modulating Gas - Temperature Control

	Feature Option	Description
A	**1A.** RA/OA Section	Economizer
0	**1B.** RA/EA Blower Configuration	Standard - None
0	**1C.** RA/EA Blower	Standard - None
0	**1D.** RA/EA Blower Motor	Standard - None
Y	**2.** OA Control	Fault Detection and Diagnostics Controller (FDD) Fully Modulating Actuator - Sensible Limit
0	**3.** Heat Options	Standard
0	**4.** Maintenance Options	Standard
D	**5A.** SA Blower Configuration	1 Blower + Premium Efficiency Motor + 1 VFD
H	**5B.** SA Blower	18.5" Direct Drive Backward Curved Plenum - 70% Width
D	**5C.** SA Motor	2.0 hp - 1760 rpm
0	**6A.** Pre Filter Type	Standard - None
0	**6B.** Unit Filter Type	2" Pleated - 30% Eff
0	**6C.** Filter Options	Standard
0	**7.** Refrigeration Control	Standard - Adj Comp. Cooling Lock Out Through Unit Controls
D	**8.** Refrigeration Options	Modulating Hot Gas Reheat
V	**9.** Refrigeration Accessories	ECM Dual Condenser Fan - Head Pressure Control
0	**10.** Power Options	Standard Power Block
0	**11.** Safety Options	Standard
0	**12.** Controls	Standard
E	**13.** Special Controls	Constant Volume (CV) Unit Controller - CV Cool + CV Heat
0	**14A.** Outside Air Configuration	Standard - None
0	**14B.** Preheat Sizing	Standard - None
0	**15.** Glycol Percent	Water or No WSHP
0	**16.** Interior Cabinet Options	Standard - Double Wall + R-13 Foam Insulation + Stainless Steel Drain Pan
0	**17.** Exterior Cabinet Options	Standard
0	**18.** Electrical Rating	Standard - 5 KAIC
0	**19.** Code Options	Standard - ETL U.S.A. Listing
0	**20.** Crating	Standard
0	**21.** Water-Cooled Cond.	Standard - None
V	**22.** Control Vendors	VCC-X Controls + Integrated BACnet MSTP
B	**23.** Type	Standard - Includes AAON Gray Paint

VCCX Components

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	N	-	0	1	0	-	3	-	0	-	E	A	0	9	-	3	K	B	:	A	0	0	0	-	Y	0	0	-	D	H	D	-	0	0	0	-	0	D	V	0	0	0	E	-	0	0	-	0	0	0	0	0	0	0	V	B

Tag: RTU-2 BAR

Job Name: ***Ashbury at Boughton Ridge - Bolingbrook PD BID***

VCCX For:

Job Number:

VCCX Date: ***January 30, 2023***

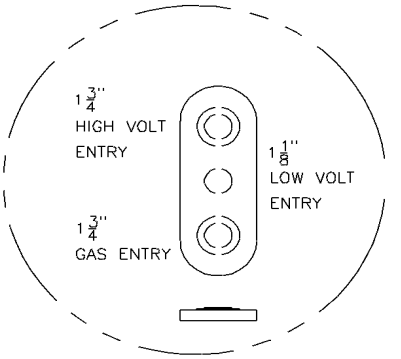
Hardware Included For VCCX Controller

Part #	Included Parts	Assigned Channel	BACnet Point
ASM01698	VCCX2 CONTROLLER		
ASM01820	Space Digital Temp/Hum Sensor	EBUS3 communicating sensor	AI:12,AI:13
R82890	Supply Temp Sensor - Field Installed	VCCX control point AI 3	AI:9
R82890	Return Temp Sensor	VCCX control point AI 4	AI:14
R81550	Outside Temp Sensor	VCCX control point AI 7	AI:16
	Supply Fan Control Signal 0-10VDC	VCCX control point AO 1	AI:22
	Economizer	VCCX control point AO 2	AI:30
R62330	Proof of Air Flow	VCCX control point BI 1	BI:6, BI:24
	Safety Shut Down	VCCX control point BI 8	BI:26
	Supply Fan	Configured Relay Point	BI:47
ASM01691	EM1 EXPANSION MODULE		
	Economizer Position Feedback (title 24)	EM1 expansion point AI4	AI:31
ASM02201	DIGITAL REFRIGERATION MODULE		
R42680	Comp Discharge Temp A	RSMD point TEMP1	AI:66
V38391	Suction Pressure Sensor A	RSMD point SP-1	AI:48
	Comp Status Input A	RSMD point BIN1	BI:77
	Emergency Shutdown	RSMD point BIN4	BI:83
	Comp Unload Signal A	RSMD point T1	AI:44
	Comp Enable A	RSMD Fixed Relay point	BI:84
ASM01670	MODULATING HOT GAS REHEAT MODULE		
	Reheat HGR Valve	MHGRV-X	AI:42
ASM01695	MODULATING GAS MODULE		
	Gas Valve Signal 1B	MODGAS-XWR Gas Valve 2	
	Gas Valve Signal 1A	MODGAS-XWR Gas Valve 1	
	Proof of Ignition 1B	MODGAS-XWR BI4	
	Proof of Ignition 1A	MODGAS-XWR BI3	
	Mod Heat Stage 2 (IGN 1B)	MODGAS-XWR Heat 2 Relay	
	Mod Heat Stage 1 (IGN 1A)	MODGAS-XWR Heat 1 Relay	
	Low Speed Enable	MODGAS-XWR Low Speed Relay	

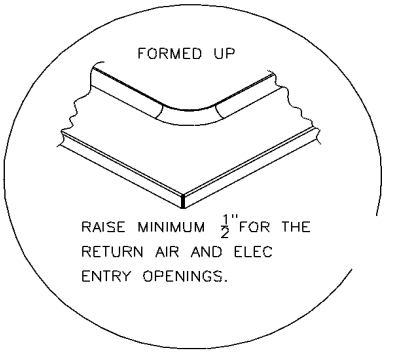
RN SERIES
A - CABINET ECONOMIZER ~ 6-10 TON

CLEARANCES

LOCATION	• UNIT SIZE • 6 - 10 TON
OUTSIDE AIR (BACK)	36*
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED
*CLEARANCE IS MEASURED FROM THE END OF THE OUTSIDE AIR RAIN HOOD	

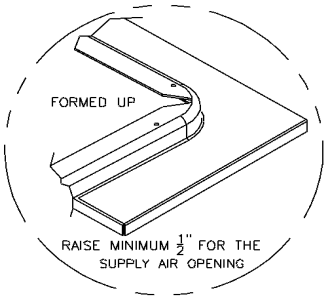


DETAIL A

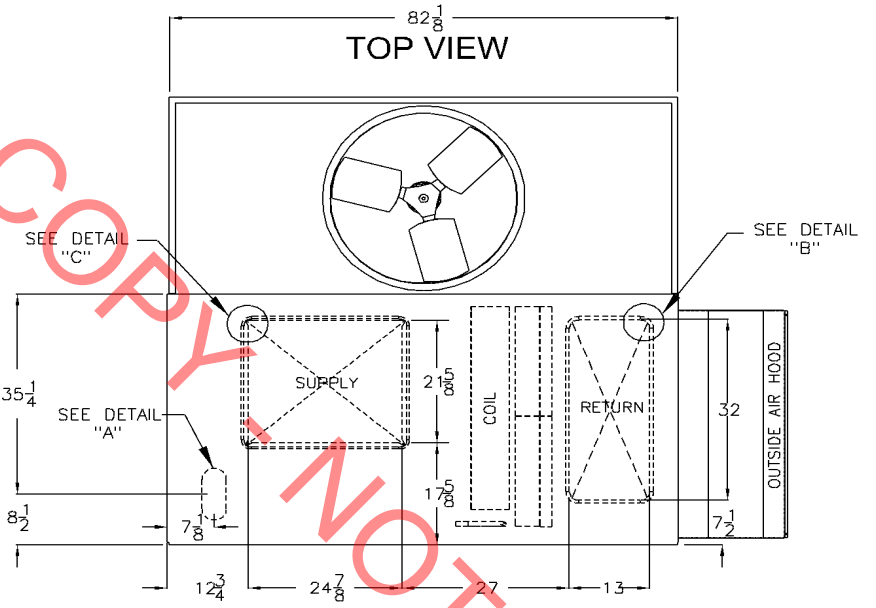


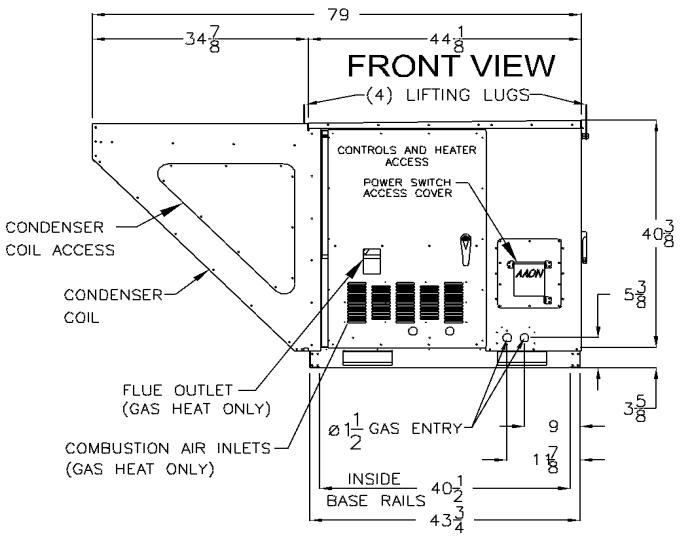
DETAIL B

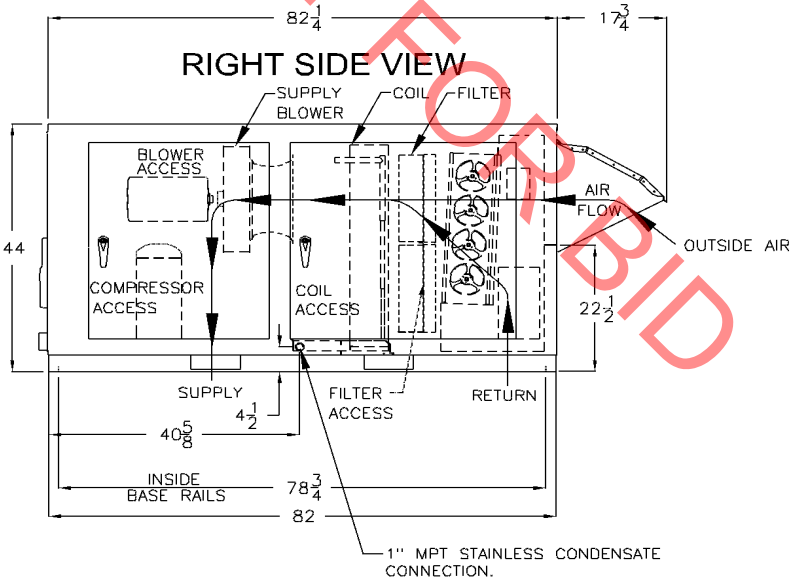
NOTE: THE RNA UNIT IS NOT COMPATIBLE WITH PREVIOUS GENERATIONS OF AAON CURBS. AN ADAPTER CURB IS AVAILABLE IN ECAT.



DETAIL C





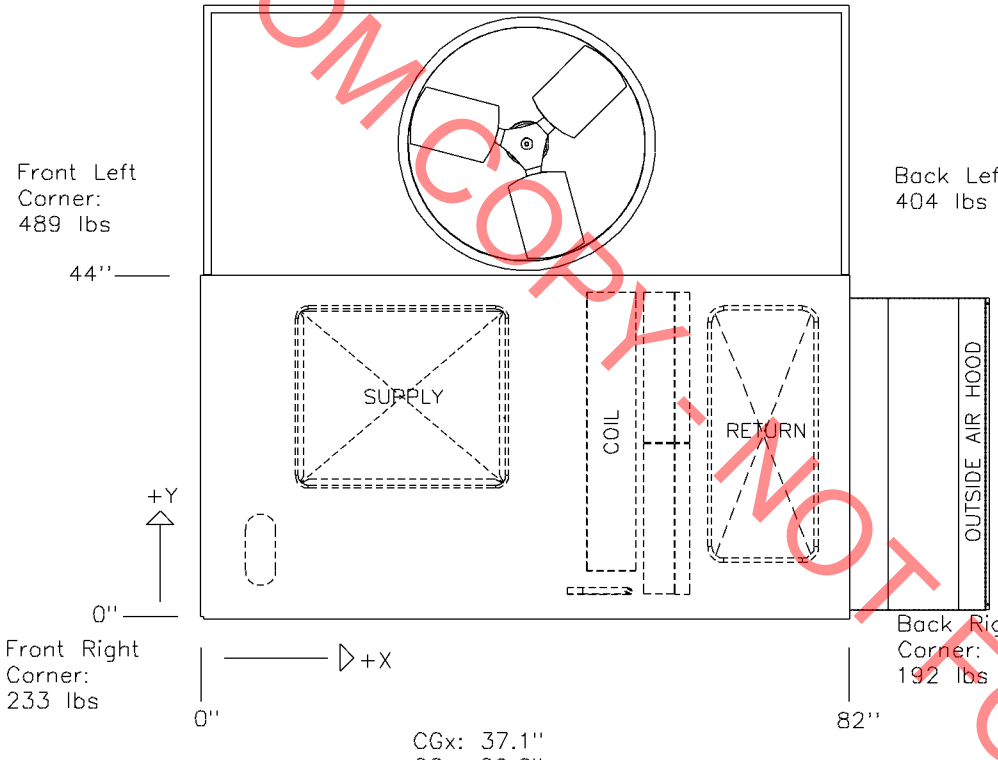


RNA-00013 REV:B 05/18/15 MLW

NOTE: ALL DIMENSIONS ARE IN INCHES

RNA CABINET
AIR COOLED CONDENSING UNIT

RN-010-3-0-EA09-3KB:A000-Y00-DHD-000-0DV000E-00-0000000VB



CGx: 37.1''
CGy: 29.6''

Total Weight:
1319 lbs (±5%)

Disclaimer:
This weight estimate does not account for any SPAs.

UNIT #3

Trane Precedent Gas/Electric Packaged Rooftop

Unit Overview - YSC036G4RHB**0000000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight		EER	IEER/SEER	Elevation
		Airflow	External Static Pressure	Height	Width	Length	Minimum	Maximum			
DX cooling, gas heat	3 Ton (036)	1000 cfm	0.500 in H2O	3.41 ft	3.69 ft	5.82 ft	472.0 lb	747.0 lb	12.0 EER	14.00	650.00 ft

Unit Features

Unit Electrical

Voltage/phase/hertz	460/60/3
MCA	10.00 A
MOP	15.00 A

Controls

Unit Controls	Microprocessor controls

Cooling Section

Entering Dry Bulb	80.00 F	Capacity	
Entering Wet Bulb	67.00 F	Gross Total	35.94 MBh
Ambient Temp	95.00 F	Gross Sensible	26.27 MBh
Leaving Coil Dry Bulb	55.37 F	Net Total	35.15 MBh
Leaving Coil Wet Bulb	55.37 F	Net Sensible	25.49 MBh
Leaving Unit Dry Bulb	57.26 F	Fan Motor Heat	0.79 MBh
Leaving Unit Wet Bulb	56.11 F	Refrig Charge-circuit 1	3.2 lb
Refrigeration System Options			
Leaving Dew Point	55.37 F		

Heating Section

Heat Type	Gas Heat
Heating Stages	2
Output Heating Capacity	97.20 MBh
Output Heating Capacity with Fan	98.15 MBh
Heating EAT	70.00 F
Heating LAT	160.00 F
Heating Temp Rise	90.00 F

Fan Section

Indoor Fan Data		Outdoor Fan Data	
Type	FC Centrifugal	Type	Propeller
Drive Type	Direct	Fan Quantity	1
Evap Fan FLA	1.70 A	Drive Type	Direct
Indoor Fan Performance		Outdoor Fan Performance	
Airflow	1000 cfm	Condenser Fan FLA	0.55 A
Design ESP	0.500 in H2O		
Component SP	0.000 in H2O		
Total SP	0.500 in H2O		
Supply Motor Horsepower	0.750 hp		
Indoor Motor Operating Power	0.29 bhp		
Indoor Motor Power	0.22 kW		
Indoor RPM	851 rpm		

Compressor Section

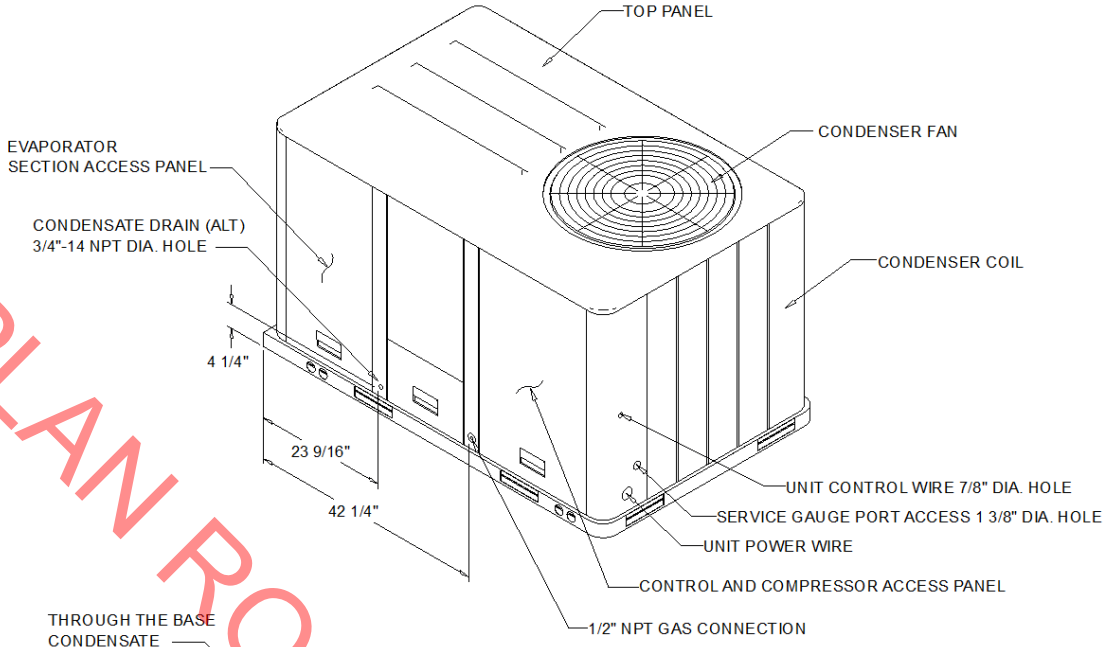
Power	2.45 kW
Circuit 1 RLA	5.80 A
Circuit 2 RLA	0.00 A

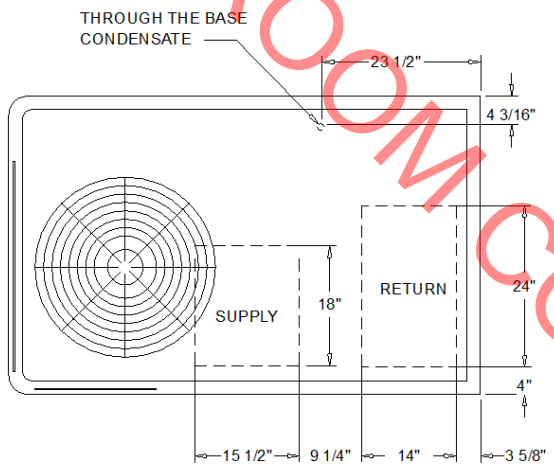
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Ducted Discharge	89 dB	70 dB	68 dB	58 dB	54 dB	49 dB	44 dB	36 dB
Ducted Inlet	89 dB	72 dB	60 dB	52 dB	47 dB	43 dB	41 dB	36 dB
Outdoor Noise	79 dB	85 dB	79 dB	79 dB	77 dB	71 dB	67 dB	58 dB

Note:Ducted Inlet and Ducted Discharge Sound Power Levels are in accordance with AHRI 260.

Note:Outdoor Sound Power Levels are in accordance with AHRI 270.

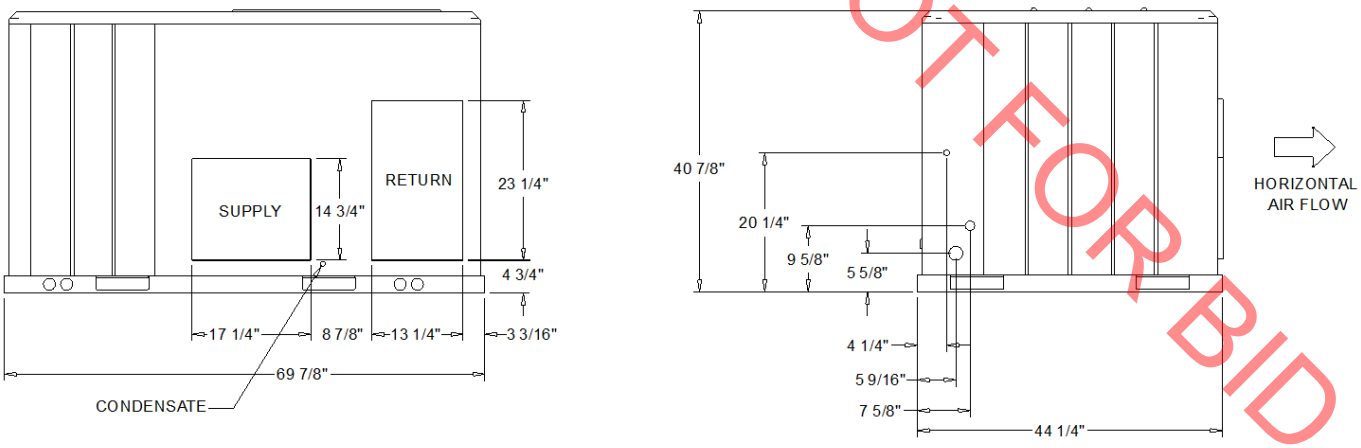




NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

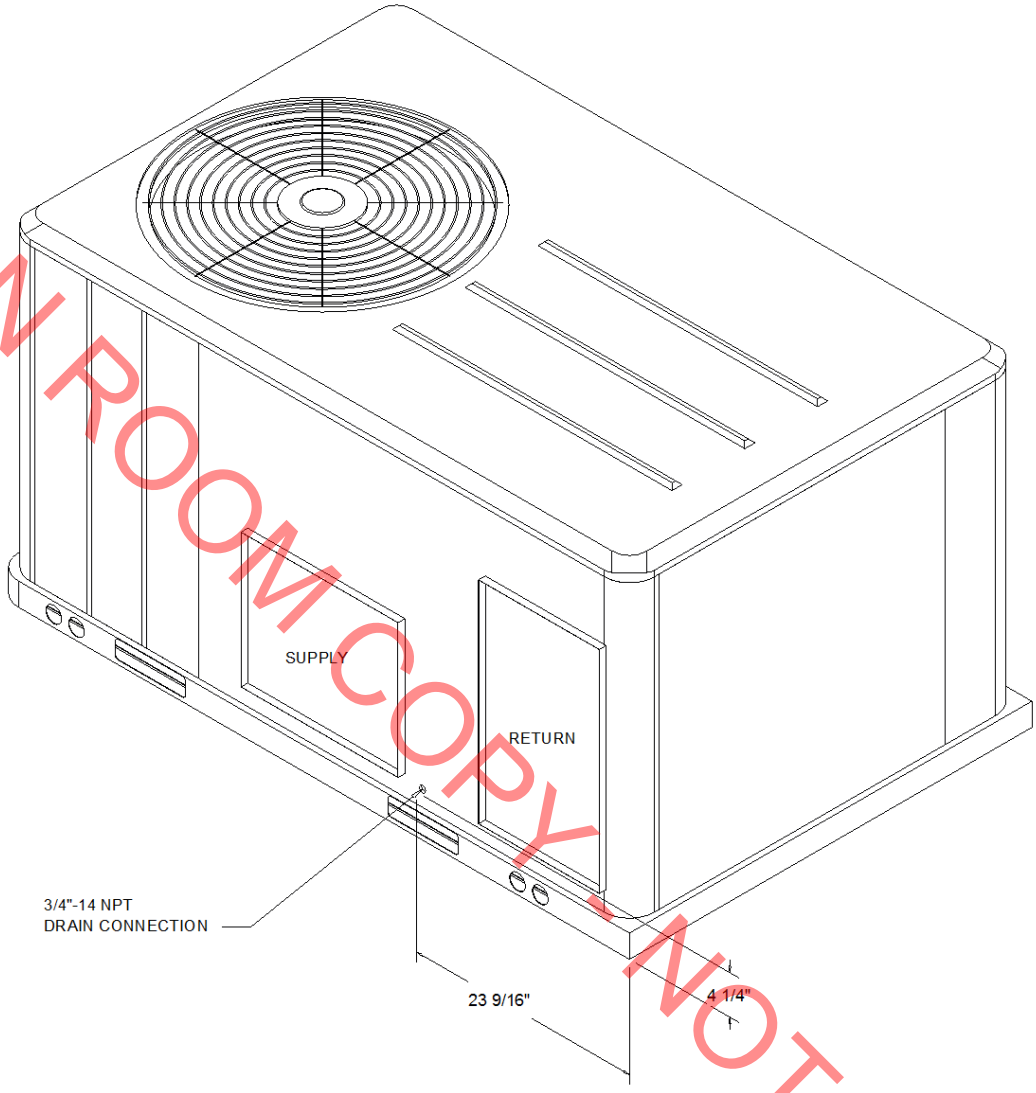
PLAN VIEW UNIT

DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING



ISOMETRIC-PACKAGED COOLING

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

Model:	YSC036G
Unit Operating Voltage:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage	--
Unit Hertz:	60
Unit Phase:	3
EER/SEER	12.0/14.0

Oversized Motor
MCA: N/A
MFS: N/A
MCB: N/A

Standard Motor		Field Installed Oversized Motor	
MCA:	10.0	MCA:	N/A
MFS:	15.0	MFS:	N/A
MCB:	15.0	MCB:	N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	High
Heating Input (BTU):	120,000/84,000
Heating Output (BTU):	97,200/68,040
No. Burners:	4
No. Stages	2

Gas Inlet Pressure

Natural Gas (Min/Mix):	4 1/2"/14"
LP (Min/Max)	11"/14"
Gas Pipe Connection Size:	1/2"

INDOOR MOTOR

Standard Motor		Oversized Motor		Field Installed Oversized Motor	
Number:	1	Number:	N/A	Number:	
Horsepower:	0.75	Horsepower:	N/A	Horsepower:	
Motor Speed (RPM):	--	Motor Speed (RPM):	N/A	Motor Speed (RPM):	
Phase	1	Phase	N/A	Phase	
Full Load Amps:	1.7	Full Load Amps:	N/A	Full Load Amps:	
Locked Rotor Amps	--	Locked Rotor Amps	N/A	Locked Rotor Amps	

COMPRESSOR Circuit 1/2

Number:	1
Horsepower:	2.8
Phase:	3
Rated Load Amps:	5.8
Locked Rotor Amps	45.0

OUTDOOR MOTOR

Number:	
Horsepower:	
Motor Speed (RPM):	
Phase:	
Full Load Amps:	
Locked Rotor Amps	

POWER EXHAUST ACCESSORY (3,7)

(Field Installed Power Exhaust)

Phase:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

FILTERS

Type:	Throwaway
Furnished:	Yes
Number	2
Recommended	20"x35"x2"

REFRIGERANT (2)

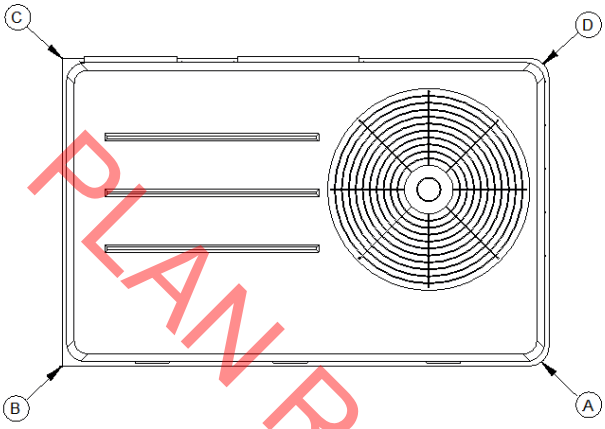
Type

Factory Charge

Circuit #1	3.2 lb
Circuit #2	N/A

NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value does not include Power Exhaust Accessory.
6. EER is rated at AHRI conditions and in accordance with DOE test procedures.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.



PACKAGED GAS / ELECTRICAL

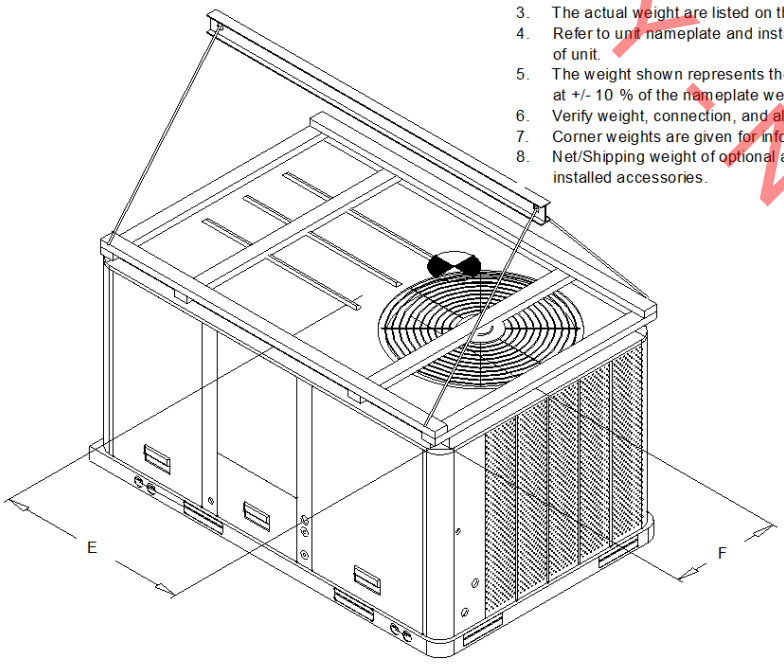
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	
POWERED CONVENIENCE OUTLET (FIOPS)	
HINGED DOORS (FIOPS)	
HAIL GUARD	
SMOKE DETECTOR, SUPPLY / RETURN	
NOVAR CONTROL	
STAINLESS STEEL HEAT EXCHANGER	
REHEAT	
ROOF CURB	

BASIC UNIT WEIGHTS		CORNER WEIGHTS				CENTER OF GRAVITIY	
SHIPPING	NET	(A)	193.0 lb	(C)	45.0 lb	(E) LENGHT	(F) WIDTH
577.0 lb	472.0 lb	(B)	178.0 lb	(D)	55.0 lb	33"	9"

NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



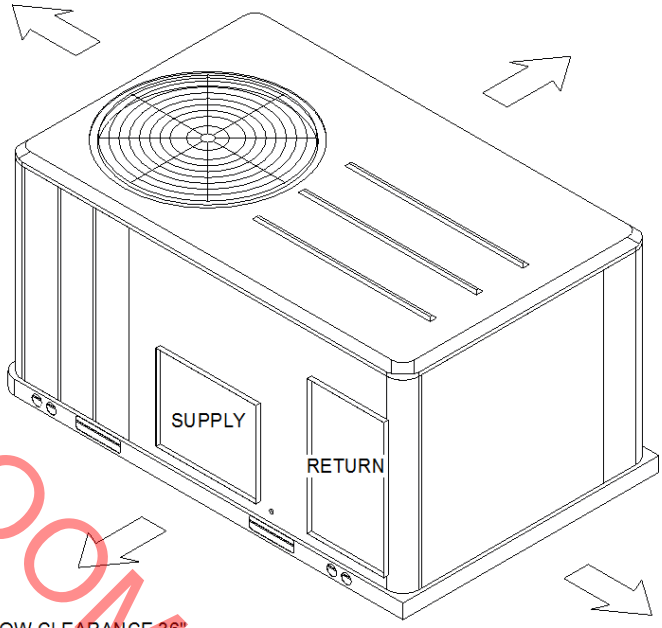
PACKAGED GAS / ELECTRICAL

RIGGING AND CENTER OF GRAVITY

CLEARANCE FROM TOP OF UNIT 72"

CLEARANCE 36"

CLEARANCE 48"



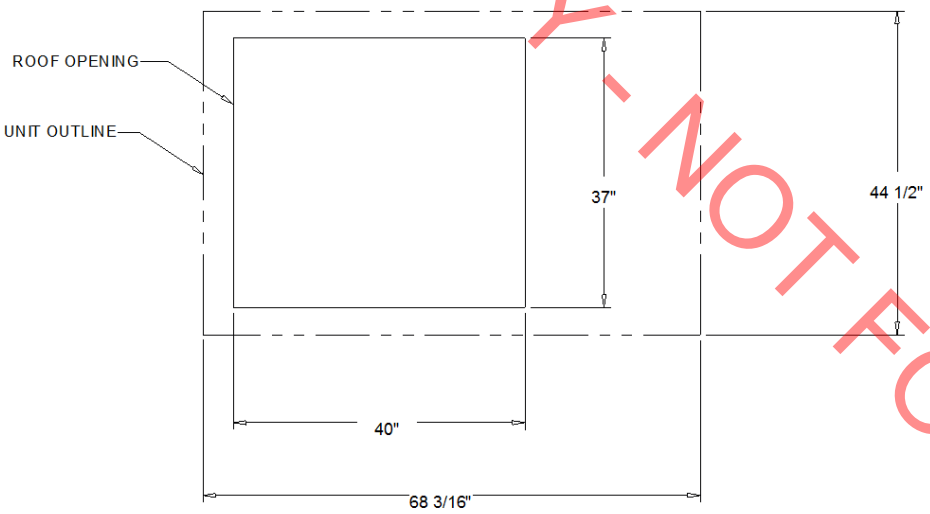
DOWNFLOW CLEARANCE 36"

HORIZONTAL CLEARANCE 18"

CLEARANCE 36"

PACKAGED GAS / ELECTRIC

CLEARANCE



PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

General
The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for units with microprocessor controls. Operating range for units with electromechanical controls shall be between 115°F and 40°F. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Casing
Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. Service panels shall have lifting handles and be removed and reinstalled by removing two fasteners while providing a water and air tight seal. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material. The base of the unit shall be insulated with 1/8", foil-faced, closed-cell insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8" high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit.

Unit Top
The top cover shall be one piece construction or, where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and enhances water removal from unit top.

Filters
Throwaway filters shall be standard on all units. Optional 2-inch MERV 8 and MERV 13 filters shall also be available.

Compressors
All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications. Dual compressors are available on 7½-10 ton models and allow for efficient cooling utilizing 3-stages of compressor operation for all high efficiency models.

Indoor Fan
The following units shall be equipped with a direct drive plenum fan design (T/YSC120F,T/YHC074F, T/YHC092F,T/YHC102F, 120F). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

3 to 5 ton units (high efficiency 3-phase with optional motor) are belt driven, FC centrifugal fans with adjustable motor sheaves. 3 to 5 ton units (standard and high efficiency 3-phase) have multispeed, direct drive motors. All 6 to 8½ ton units (standard efficiency) shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All motors shall be thermally protected. All 10 tons, 6 ton (074), 7½ to 8½ (high efficiency) units have variable speed direct drive motors. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Outdoor Fans
The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor shall be permanently lubricated and shall have built-in thermal overload protection.

Evaporator and Condenser Coils
Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard. Evaporator coils are standard for all 3 to 10 ton standard efficiency models. Microchannel condenser coils are standard for all 3 to 10 ton standard efficiency models and 4, 5, 6, 7.5, 8.5 ton high efficiency models. The microchannel type condenser coil is not offered on the 4 and 5 ton dehumidification model. Due to flat streamlined tubes with small ports, and metallurgical tube-to-fin bond, microchannel coil has better heat transfer performance. Microchannel condenser coil can reduce system refrigerant charge by up to 50% because of smaller internal volume, which leads to better compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. These all aluminum coils are recyclable. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A plastic, dual-sloped, removable and reversible condensate drain pan with through-the-base condensate drain is standard.

Controls
Unit shall be completely factory-wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. A choice of microprocessor or electromechanical controls shall be available. Microprocessor controls provide for all 24V control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection. 24-volt electromechanical control circuit shall include control transformer and contactor

High Pressure Control
All units include High Pressure Cutout as standard.

Phase monitor
Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator. There are no field adjustments. The module will automatically reset from a fault condition.

Refrigerant Circuits
Each refrigerant circuit offer thermal expansion valve as standard. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

Gas Heating Section
The heating section shall have a progressive tubular heat exchanger design using stainless steel burners
and corrosion resistant steel throughout. An induced draft combustion blower shall be used to pull the combustion products through the firing tubes. The heater shall use a direct spark ignition (DSI) system. On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat/zone sensor. Units shall be suitable for use with natural gas or propane (field-installed kit) and also comply with the California requirement for low NOx emissions (Gas/Electric Only).

ATTENTION
For installation in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 14 ng/J NOx emission limit, and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

Sequence of Operation (if applied in a SINGLE-ZONE CONSTANT-VOLUME SYSTEM or a CHANGEOVER BYPASS SYSTEM)

B. SINGLE-ZONE CONSTANT-VOLUME SYSTEM

1. OCCUPIED HEAT/COOL:
The RTU shall operate the supply fan continuously and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing to maintain zone temperature at setpoint. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
The RTU shall operate the supply fan and modulate (or cycle) compressors or modulate (or stage) heat to raise/lower zone temperature to its occupied setpoint. The OA damper shall remain closed, unless economizing.

D. CHANGEOVER BYPASS SYSTEM

1. OCCUPIED HEAT/COOL:
Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

UNIT #4

Trane Precedent Gas/Electric Packaged Rooftop

Unit Overview - YSC060G4RHB**0000000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight		EER	IEER/SEER	Elevation
		Airflow	External Static Pressure	Height	Width	Length	Minimum	Maximum			
DX cooling, gas heat	5 Ton (060)	2000 cfm	0.500 in H2O	3.41 ft	3.69 ft	5.82 ft	522.0 lb	797.0 lb	12.0 EER	14.00	650.00 ft

Unit Features

Unit Electrical

Voltage/phase/hertz	460/60/3
MCA	13.00 A
MOP	15.00 A

Controls

Unit Controls	Microprocessor controls

Cooling Section

Entering Dry Bulb	80.00 F	**Capacity**	
Entering Wet Bulb	67.00 F	**Gross Total**	59.87 MBh
Ambient Temp	95.00 F	**Gross Sensible**	48.27 MBh
Leaving Coil Dry Bulb	57.49 F	**Net Total**	57.68 MBh
Leaving Coil Wet Bulb	57.49 F	**Net Sensible**	46.08 MBh
Leaving Unit Dry Bulb	59.30 F	**Fan Motor Heat**	2.19 MBh
Leaving Unit Wet Bulb	58.18 F	**Refrig Charge-circuit 1**	4.8 lb
Refrigeration System Options			
Leaving Dew Point	57.50 F		

Heating Section

Heat Type	Gas Heat
Heating Stages	2
Output Heating Capacity	121.50 MBh
Output Heating Capacity with Fan	123.74 MBh
Heating EAT	70.00 F
Heating LAT	126.40 F
Heating Temp Rise	56.40 F

Fan Section

Indoor Fan Data		**Outdoor Fan Data**	
Type	FC Centrifugal	**Type**	Propeller
Drive Type	Direct	**Fan Quantity**	1
Evap Fan FLA	2.50 A	**Drive Type**	Direct
Indoor Fan Performance		**Outdoor Fan Performance**	
Airflow	2000 cfm	**Condenser Fan FLA**	0.70 A
Design ESP	0.500 in H2O		
Component SP	0.000 in H2O		
Total SP	0.500 in H2O		
Supply Motor Horsepower	1.000 hp		
Indoor Motor Operating Power	0.73 bhp		
Indoor Motor Power	0.54 kW		
Indoor RPM	1025 rpm		

Compressor Section

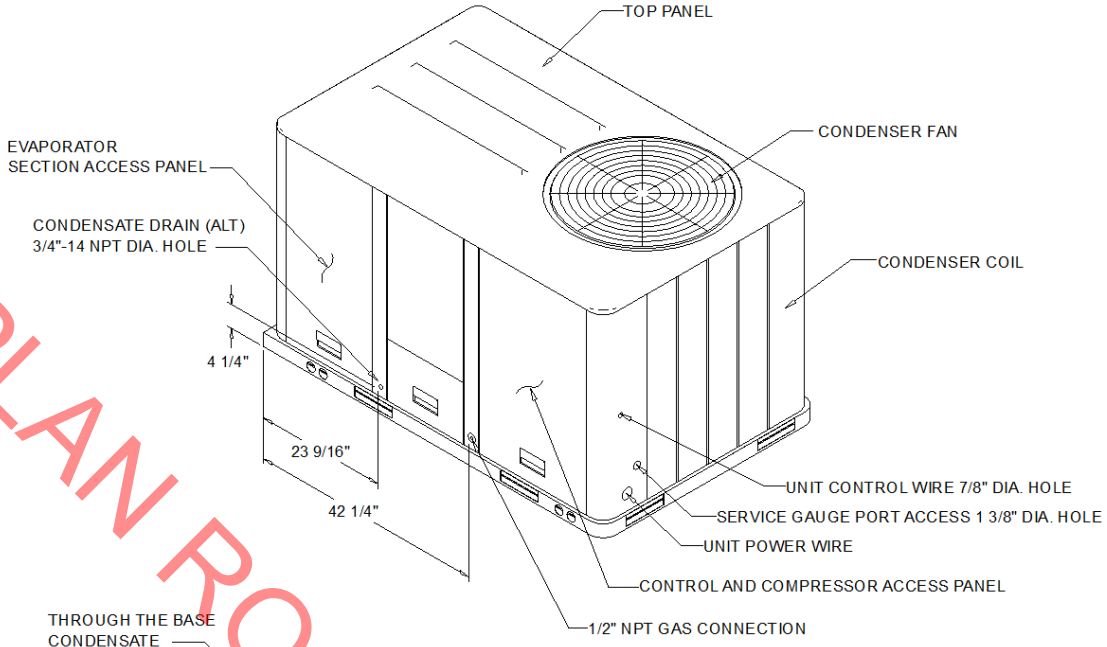
Power	3.96 kW
Circuit 1 RLA	7.10 A
Circuit 2 RLA	0.00 A

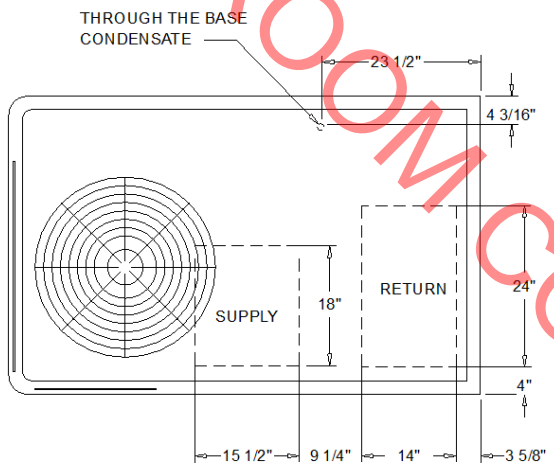
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Ducted Discharge	90 dB	76 dB	75 dB	63 dB	61 dB	57 dB	54 dB	47 dB
Ducted Inlet	91 dB	75 dB	67 dB	57 dB	53 dB	51 dB	50 dB	45 dB
Outdoor Noise	85 dB	82 dB	81 dB	81 dB	77 dB	72 dB	67 dB	61 dB

Note:Ducted Inlet and Ducted Discharge Sound Power Levels are in accordance with AHRI 260.

Note:Outdoor Sound Power Levels are in accordance with AHRI 270.

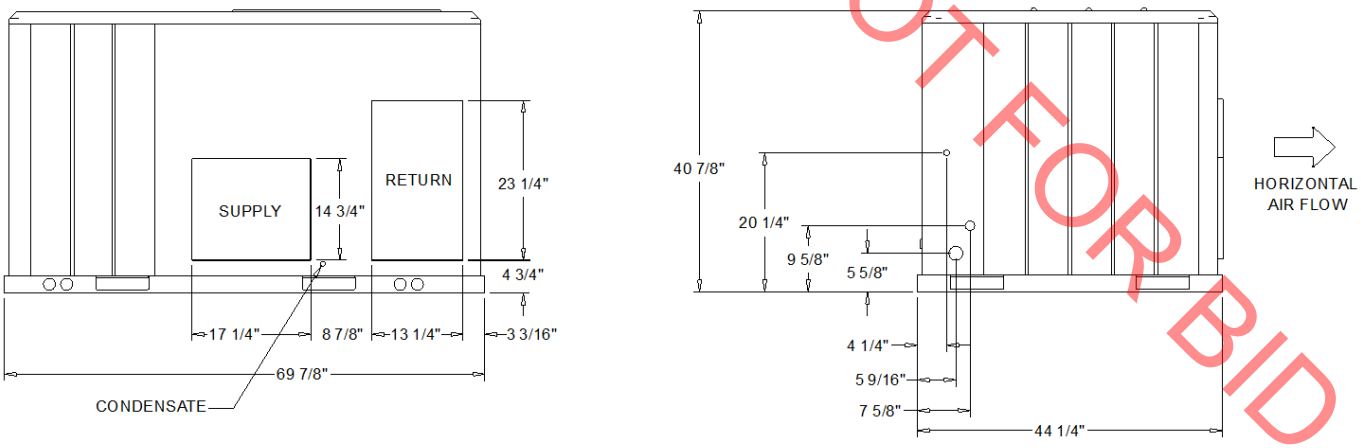




NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

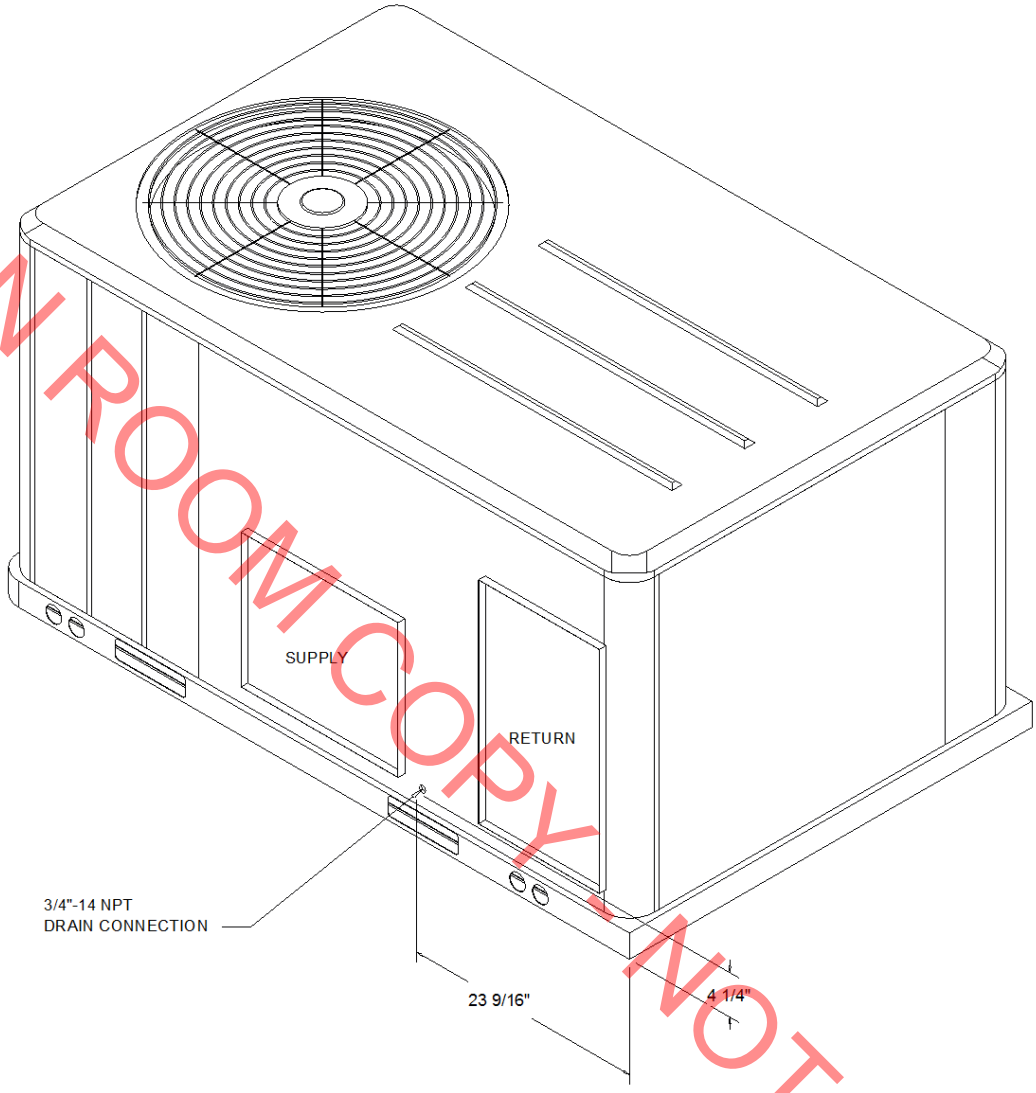
PLAN VIEW UNIT

DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING



ISOMETRIC-PACKAGED COOLING

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

Model:	YSC060G
Unit Operating Voltage:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage	--
Unit Hertz:	60
Unit Phase:	3
EER/SEER	12.0/14.0

Oversized Motor
MCA: N/A
MFS: N/A
MCB: N/A

Standard Motor

MCA:	13.0
MFS:	15.0
MCB:	15.0

Field Installed Oversized Motor
MCA: N/A
MFS: N/A
MCB: N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	High
Heating Input (BTU):	150,000/105,000
Heating Output (BTU):	121,500/85,050
No. Burners:	4
No. Stages	2

Gas Inlet Pressure

Natural Gas (Min/Mix):	4 1/2"/14"
LP (Min/Max)	11"/14"
Gas Pipe Connection Size:	1/2"

INDOOR MOTOR

Standard Motor

Number:	1
Horsepower:	1.0
Motor Speed (RPM):	--
Phase	1
Full Load Amps:	4.2
Locked Rotor Amps	--

Oversized Motor

Number:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Phase	N/A
Full Load Amps:	N/A
Locked Rotor Amps	N/A

Field Installed Oversized Motor

Number:	
Horsepower:	
Motor Speed (RPM):	
Phase	
Full Load Amps:	
Locked Rotor Amps	

COMPRESSOR Circuit 1/2

Number:	1
Horsepower:	4.3
Phase:	3
Rated Load Amps:	7.1
Locked Rotor Amps	52.0

OUTDOOR MOTOR

Number:	1
Horsepower:	0.40
Motor Speed (RPM):	1100
Phase:	1
Full Load Amps:	0.7
Locked Rotor Amps	2.6

POWER EXHAUST ACCESSORY (3,7)

(Field Installed Power Exhaust)

Phase:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

FILTERS

Type:	Throwaway
Furnished:	Yes
Number	2
Recommended	20"x35"x2"

REFRIGERANT (2)

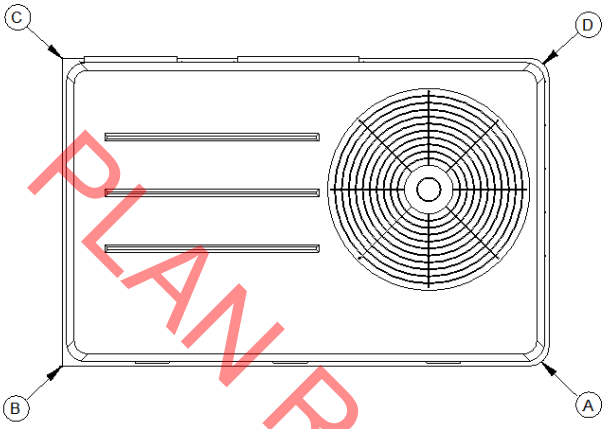
Type

Factory Charge

Circuit #1	4.8 lb
Circuit #2	N/A

NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value does not include Power Exhaust Accessory.
6. EER is rated at AHRI conditions and in accordance with DOE test procedures.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.



PACKAGED GAS / ELECTRICAL

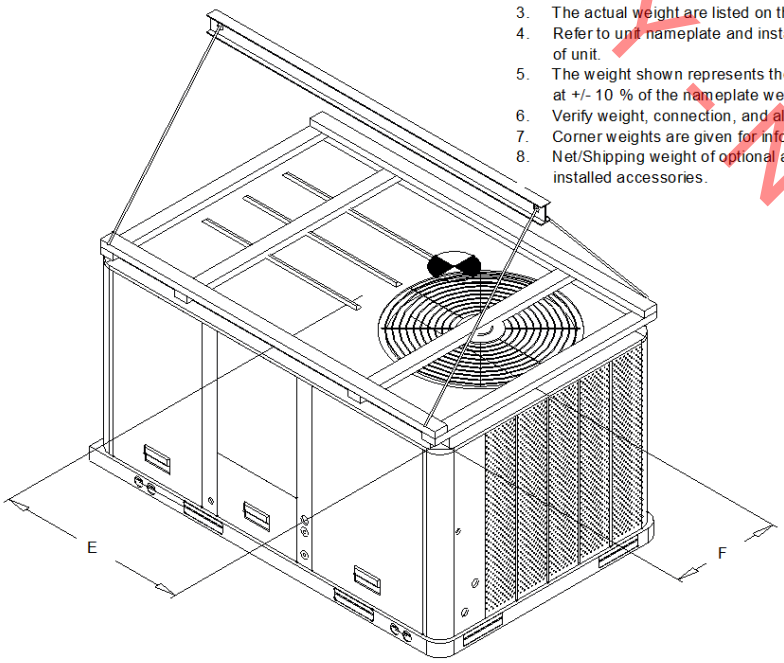
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	
POWERED CONVENIENCE OUTLET (FIOPS)	
HINGED DOORS (FIOPS)	
HAIL GUARD	
SMOKE DETECTOR, SUPPLY / RETURN	
NOVAR CONTROL	
STAINLESS STEEL HEAT EXCHANGER	
REHEAT	
ROOF CURB	

BASIC UNIT WEIGHTS		CORNER WEIGHTS				CENTER OF GRAVITIY	
SHIPPING	NET	(A)	214.0 lb	(C)	52.0 lb	(E) LENGHT	(F) WIDTH
627.0 lb	522.0 lb	(B)	193.0 lb	(D)	63.0 lb	33"	10"

NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



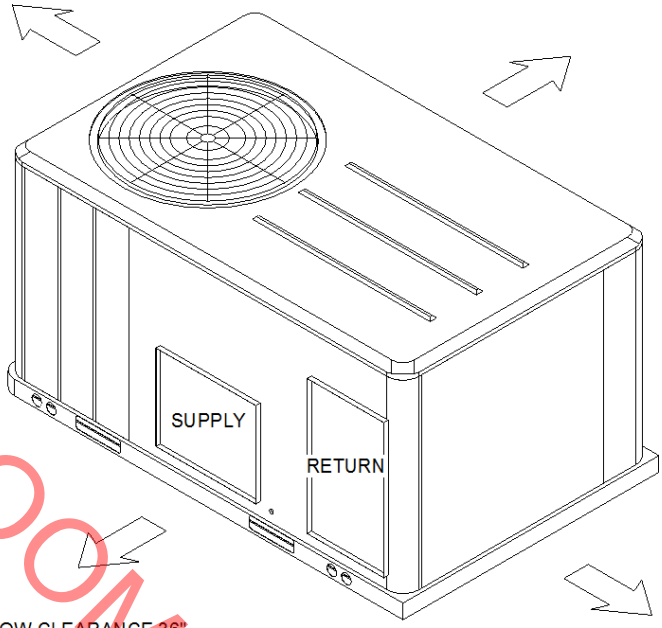
PACKAGED GAS / ELECTRICAL

RIGGING AND CENTER OF GRAVITY

CLEARANCE FROM TOP OF UNIT 72"

CLEARANCE 36"

CLEARANCE 48"



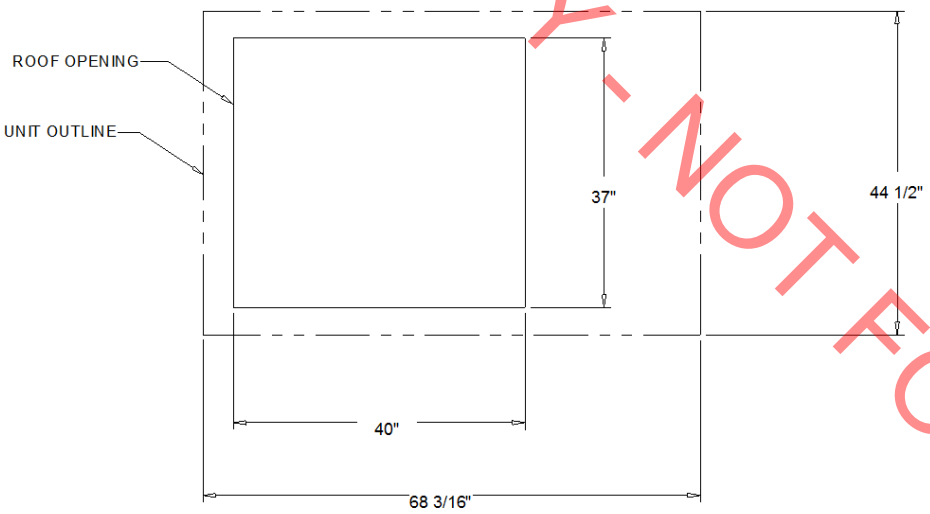
DOWNFLOW CLEARANCE 36"

HORIZONTAL CLEARANCE 18"

CLEARANCE 36"

PACKAGED GAS / ELECTRIC

CLEARANCE



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Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

UNIT #5

Trane Precedent Gas/Electric Packaged Rooftop

Unit Overview - YSC048G4RHB**0000000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight		EER	IEER/SEER	Elevation
		Airflow	External Static Pressure	Height	Width	Length	Minimum	Maximum			
DX cooling, gas heat	4 Ton (048)	1500 cfm	0.500 in H2O	3.41 ft	3.69 ft	5.82 ft	492.0 lb	767.0 lb	12.0 EER	14.00	650.00 ft

Unit Features

Unit Electrical

Voltage/phase/hertz	460/60/3
MCA	11.00 A
MOP	15.00 A

Controls

Unit Controls	Microprocessor controls

Cooling Section

Entering Dry Bulb	80.00 F	Capacity	
Entering Wet Bulb	67.00 F	Gross Total	48.44 MBh
Ambient Temp	95.00 F	Gross Sensible	36.57 MBh
Leaving Coil Dry Bulb	56.20 F	Net Total	47.29 MBh
Leaving Coil Wet Bulb	56.20 F	Net Sensible	35.42 MBh
Leaving Unit Dry Bulb	58.00 F	Fan Motor Heat	1.15 MBh
Leaving Unit Wet Bulb	56.90 F	Refrig Charge-circuit 1	3.5 lb
Refrigeration System Options			
Leaving Dew Point	56.21 F		

Heating Section

Heat Type	Gas Heat
Heating Stages	2
Output Heating Capacity	105.30 MBh
Output Heating Capacity with Fan	106.67 MBh
Heating EAT	70.00 F
Heating LAT	135.20 F
Heating Temp Rise	65.20 F

Fan Section

Indoor Fan Data		Outdoor Fan Data	
Type	FC Centrifugal	Type	Propeller
Drive Type	Direct	Fan Quantity	1
Evap Fan FLA	2.50 A	Drive Type	Direct
Indoor Fan Performance		Outdoor Fan Performance	
Airflow	1500 cfm	Condenser Fan FLA	0.70 A
Design ESP	0.500 in H2O		
Component SP	0.000 in H2O		
Total SP	0.500 in H2O		
Supply Motor Horsepower	1.000 hp		
Indoor Motor Operating Power	0.42 bhp		
Indoor Motor Power	0.32 kW		
Indoor RPM	931 rpm		

Compressor Section

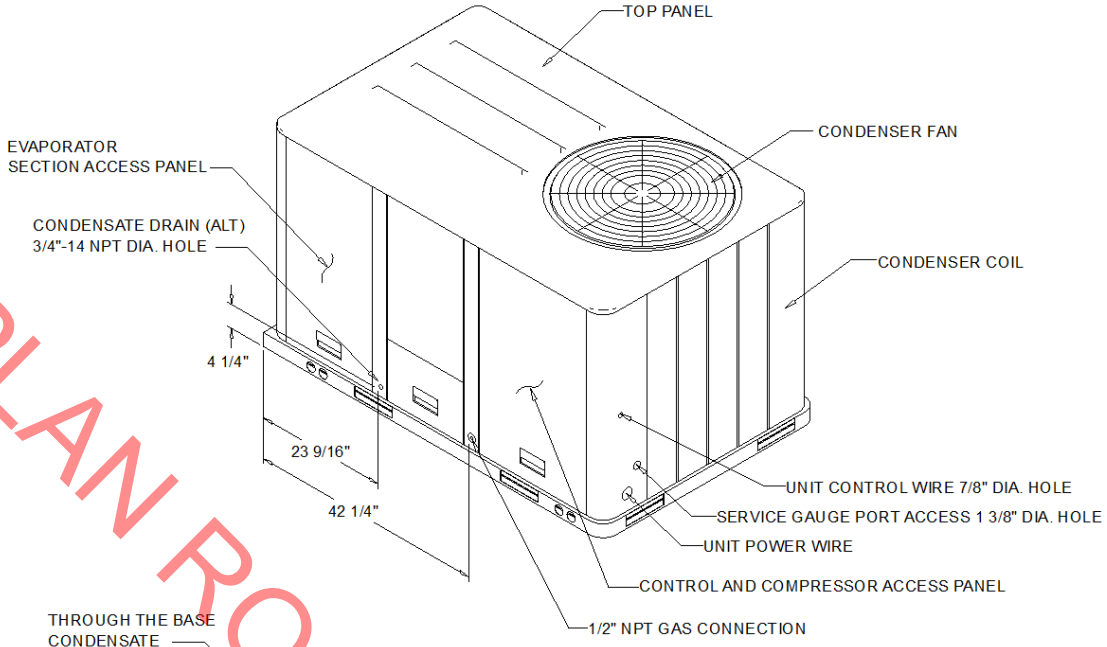
Power	3.40 kW
Circuit 1 RLA	6.20 A
Circuit 2 RLA	0.00 A

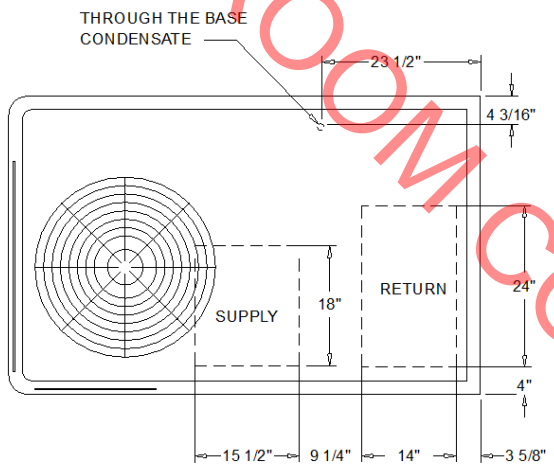
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Ducted Discharge	89 dB	69 dB	67 dB	60 dB	56 dB	52 dB	51 dB	45 dB
Ducted Inlet	91 dB	70 dB	65 dB	55 dB	51 dB	48 dB	45 dB	41 dB
Outdoor Noise	81 dB	82 dB	83 dB	81 dB	77 dB	72 dB	66 dB	59 dB

Note:Ducted Inlet and Ducted Discharge Sound Power Levels are in accordance with AHRI 260.

Note:Outdoor Sound Power Levels are in accordance with AHRI 270.

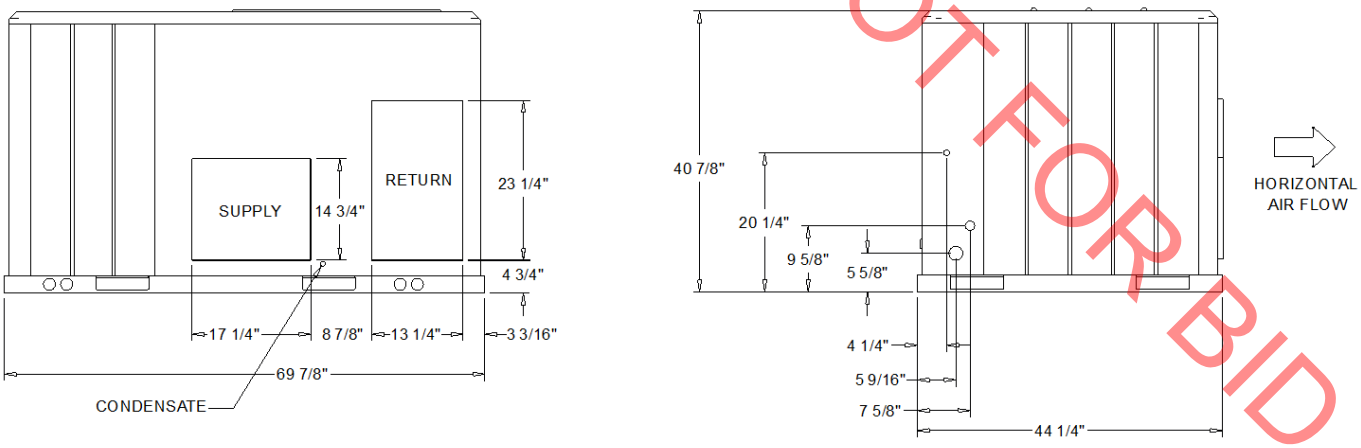




NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

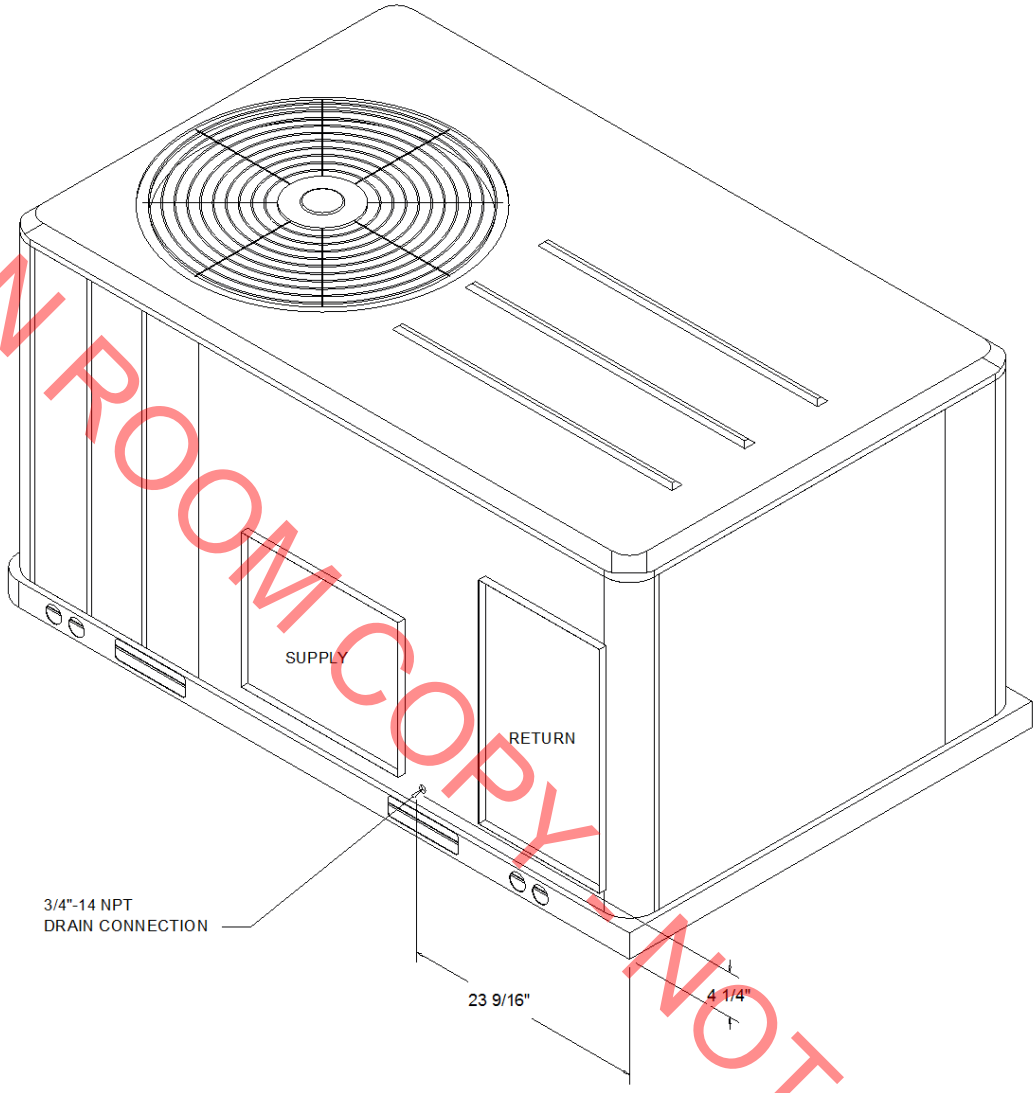
PLAN VIEW UNIT

DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING



ISOMETRIC-PACKAGED COOLING

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

Model:	YSC048G
Unit Operating Voltage:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage	--
Unit Hertz:	60
Unit Phase:	3
EER/SEER	12.0/14.0

Oversized Motor
MCA: N/A
MFS: N/A
MCB: N/A

Standard Motor		Field Installed Oversized Motor	
MCA:	11.0	MCA:	N/A
MFS:	15.0	MFS:	N/A
MCB:	15.0	MCB:	N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	High
Heating Input (BTU):	130,000/91,000
Heating Output (BTU):	105,300/73,710
No. Burners:	4
No. Stages	2

Gas Inlet Pressure

Natural Gas (Min/Mix):	4 1/2"/14"
LP (Min/Max)	11"/14"
Gas Pipe Connection Size:	1/2"

INDOOR MOTOR

Standard Motor		Oversized Motor		Field Installed Oversized Motor	
Number:	1	Number:	N/A	Number:	
Horsepower:	1.0	Horsepower:	N/A	Horsepower:	
Motor Speed (RPM):	--	Motor Speed (RPM):	N/A	Motor Speed (RPM):	
Phase	1	Phase	N/A	Phase	
Full Load Amps:	2.5	Full Load Amps:	N/A	Full Load Amps:	
Locked Rotor Amps	--	Locked Rotor Amps	N/A	Locked Rotor Amps	

COMPRESSOR Circuit 1/2

Number:	1
Horsepower:	3.6
Phase:	3
Rated Load Amps:	6.2
Locked Rotor Amps	41.0

OUTDOOR MOTOR

Number:	1
Horsepower:	0.33
Motor Speed (RPM):	1100
Phase:	1
Full Load Amps:	0.7
Locked Rotor Amps	2.3

POWER EXHAUST ACCESSORY (3,7)

(Field Installed Power Exhaust)

Phase:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

FILTERS

Type:	Throwaway
Furnished:	Yes
Number	2
Recommended	20"x35"x2"

REFRIGERANT (2)

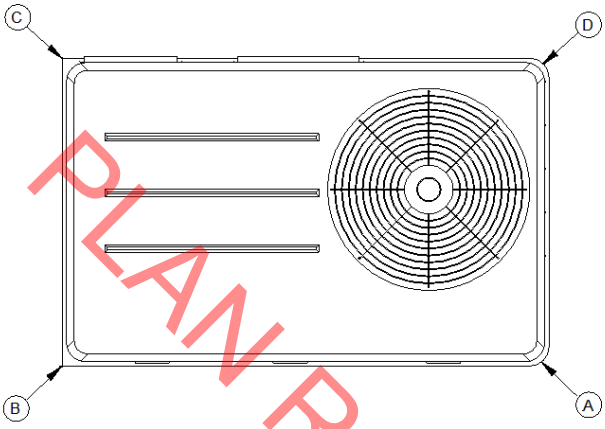
Type

Factory Charge

Circuit #1	3 1/2"
Circuit #2	N/A

NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value does not include Power Exhaust Accessory.
6. EER is rated at AHRI conditions and in accordance with DOE test procedures.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.



PACKAGED GAS / ELECTRICAL

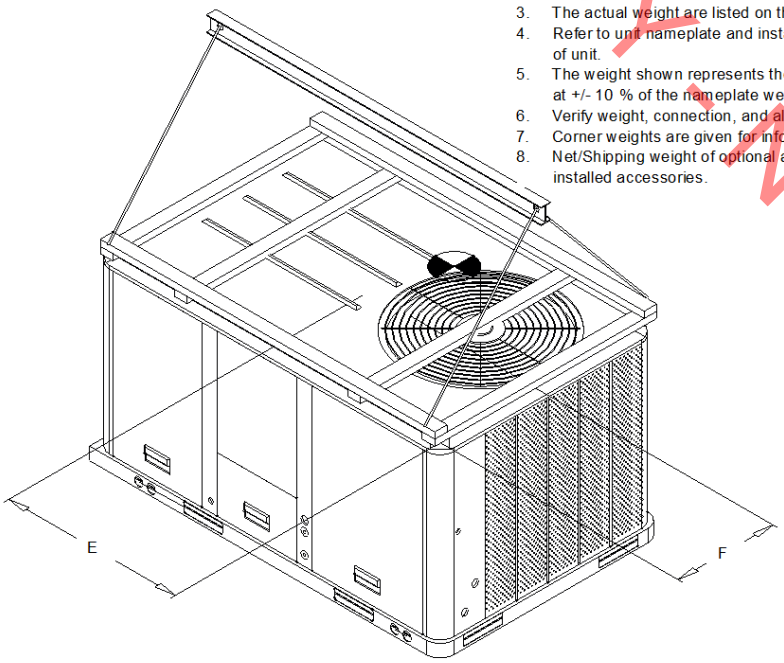
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	
POWERED CONVENIENCE OUTLET (FIOPS)	
HINGED DOORS (FIOPS)	
HAIL GUARD	
SMOKE DETECTOR, SUPPLY / RETURN	
NOVAR CONTROL	
STAINLESS STEEL HEAT EXCHANGER	
REHEAT	
ROOF CURB	

BASIC UNIT WEIGHTS		CORNER WEIGHTS				CENTER OF GRAVITIY	
SHIPPING	NET	A	205.0 lb	C	46.0 lb	(E) LENGHT	(F) WIDTH
598.0 lb	492.0 lb	B	183.0 lb	D	58.0 lb	33"	9"

NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



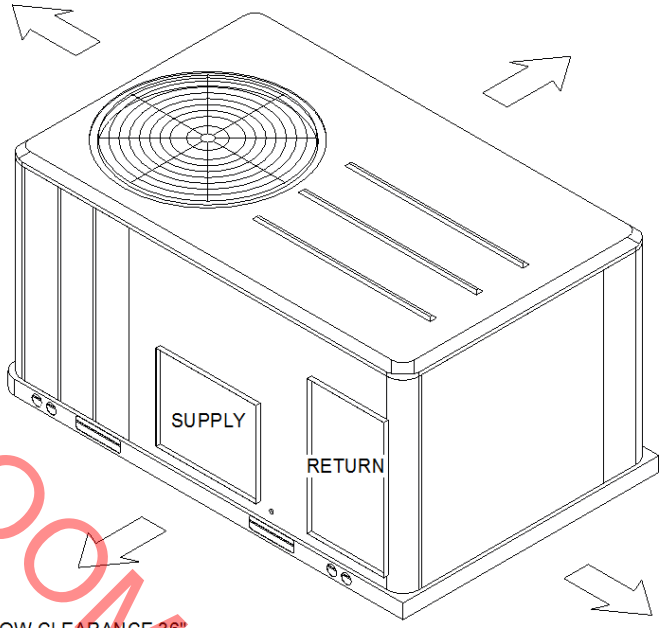
PACKAGED GAS / ELECTRICAL

RIGGING AND CENTER OF GRAVITY

CLEARANCE FROM TOP OF UNIT 72"

CLEARANCE 36"

CLEARANCE 48"



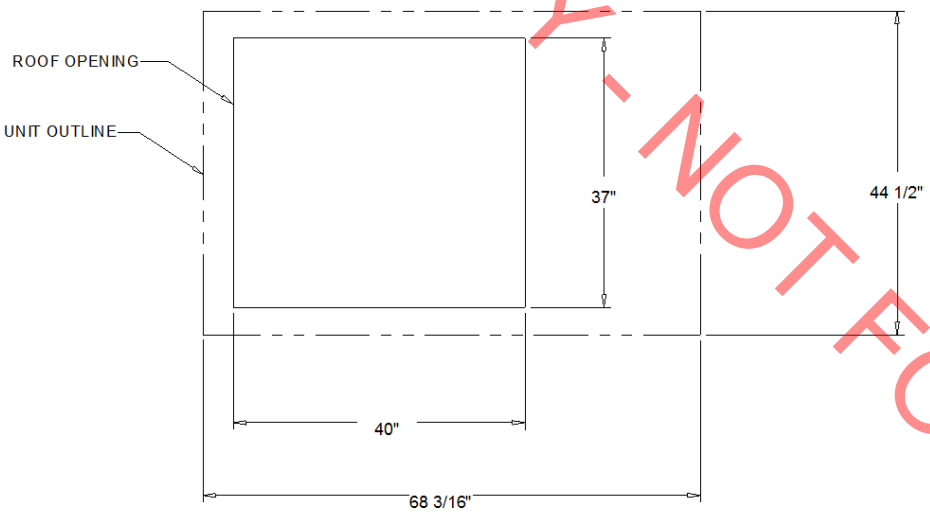
DOWNFLOW CLEARANCE 36"

HORIZONTAL CLEARANCE 18"

CLEARANCE 36"

PACKAGED GAS / ELECTRIC

CLEARANCE



PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

General
The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for units with microprocessor controls. Operating range for units with electromechanical controls shall be between 115°F and 40°F. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Casing
Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. Service panels shall have lifting handles and be removed and reinstalled by removing two fasteners while providing a water and air tight seal. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material. The base of the unit shall be insulated with 1/8", foil-faced, closed-cell insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8" high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit.

Unit Top
The top cover shall be one piece construction or, where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and enhances water removal from unit top.

Filters
Throwaway filters shall be standard on all units. Optional 2-inch MERV 8 and MERV 13 filters shall also be available.

Compressors
All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications. Dual compressors are available on 7½-10 ton models and allow for efficient cooling utilizing 3-stages of compressor operation for all high efficiency models.

Indoor Fan
The following units shall be equipped with a direct drive plenum fan design (T/YSC120F,T/YHC074F, T/YHC092F,T/YHC102F, 120F). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

3 to 5 ton units (high efficiency 3-phase with optional motor) are belt driven, FC centrifugal fans with adjustable motor sheaves. 3 to 5 ton units (standard and high efficiency 3-phase) have multispeed, direct drive motors. All 6 to 8½ ton units (standard efficiency) shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All motors shall be thermally protected. All 10 tons, 6 ton (074), 7½ to 8½ (high efficiency) units have variable speed direct drive motors. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Outdoor Fans
The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor shall be permanently lubricated and shall have built-in thermal overload protection.

Evaporator and Condenser Coils
Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard. Evaporator coils are standard for all 3 to 10 ton standard efficiency models. Microchannel condenser coils are standard for all 3 to 10 ton standard efficiency models and 4, 5, 6, 7.5, 8.5 ton high efficiency models. The microchannel type condenser coil is not offered on the 4 and 5 ton dehumidification model. Due to flat streamlined tubes with small ports, and metallurgical tube-to-fin bond, microchannel coil has better heat transfer performance. Microchannel condenser coil can reduce system refrigerant charge by up to 50% because of smaller internal volume, which leads to better compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. These all aluminum coils are recyclable. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A plastic, dual-sloped, removable and reversible condensate drain pan with through-the-base condensate drain is standard.

Controls
Unit shall be completely factory-wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. A choice of microprocessor or electromechanical controls shall be available. Microprocessor controls provide for all 24V control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection. 24-volt electromechanical control circuit shall include control transformer and contactor

High Pressure Control
All units include High Pressure Cutout as standard.

Phase monitor
Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator. There are no field adjustments. The module will automatically reset from a fault condition.

Refrigerant Circuits
Each refrigerant circuit offer thermal expansion valve as standard. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

Gas Heating Section
The heating section shall have a progressive tubular heat exchanger design using stainless steel burners
and corrosion resistant steel throughout. An induced draft combustion blower shall be used to pull the combustion products through the firing tubes. The heater shall use a direct spark ignition (DSI) system. On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat/zone sensor. Units shall be suitable for use with natural gas or propane (field-installed kit) and also comply with the California requirement for low NOx emissions (Gas/Electric Only).

ATTENTION
For installation in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 14 ng/J NOx emission limit, and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

Sequence of Operation (if applied in a SINGLE-ZONE CONSTANT-VOLUME SYSTEM or a CHANGEOVER BYPASS SYSTEM)

B. SINGLE-ZONE CONSTANT-VOLUME SYSTEM

1. OCCUPIED HEAT/COOL:
The RTU shall operate the supply fan continuously and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing to maintain zone temperature at setpoint. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
The RTU shall operate the supply fan and modulate (or cycle) compressors or modulate (or stage) heat to raise/lower zone temperature to its occupied setpoint. The OA damper shall remain closed, unless economizing.

D. CHANGEOVER BYPASS SYSTEM

1. OCCUPIED HEAT/COOL:
Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

UNIT #6

Trane Precedent Gas/Electric/Cooling Only Packaged Rooftop

Unit Overview - YSJ072A4S0H**0000000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight	EER	IEER/SEER	Elevation
		Airflow	Total External Static Pressure	Height	Width	Length				
DX Cooling / Gas	6 Ton	1860 cfm	0.500 in H2O	4.24 ft	4.44 ft	7.34 ft	1043.0 lb	11.0	14.6	0.00 ft

Unit Features

Unit Electrical

Voltage/phase/hertz	460/60/3
MCA	18.00 A
MOP	20.00 A
Compressor 1 RLA	6.50 A
Compressor 2 RLA	3.60 A

Controls

Unit Controls	Symbio 700

Cooling Section

Entering Dry Bulb	80.00 F	**Capacity**	
Entering Wet Bulb	67.00 F	**Gross Total**	72.96 MBh
Ambient Temp	95.00 F	**Gross Latent**	22.26 MBh
Leaving Coil Dry Bulb	53.89 F	**Gross Sensible**	50.70 MBh
Leaving Coil Wet Bulb	53.57 F	**Net Total**	71.64 MBh
Leaving Unit Dry Bulb	55.85 F	**Net Sensible**	49.39 MBh
Leaving Unit Wet Bulb	54.38 F	**Net Sensible Heat Ratio**	68.93 %
Saturated Discharge Temperature	112.22 F	**Fan Motor Heat**	1.32 MBh
Saturated Suction Temperature	49.31 F	**Refrig Charge-Circuit 1**	9.0 lb

Heating Section

Heating Stages	High Gas Heat
Output Heating Capacity	121.50 MBh
Heating EAT	64.00 F
Heating LAT	124.48 F
Heating Temp Rise	60.48 F

Fan Section

Indoor Fan Data		Indoor Fan Performance	
Airflow Application	Downflow	**Airflow**	1860 cfm
Design ESP	0.500 in H2O	**Supply Motor Horsepower**	3.100 hp
Component SP	0.000 in H2O	**Indoor Motor Operating Power**	0.330 hp
Heat SP	0.000 in H2O	**Indoor RPM**	786 rpm
Total External SP	0.500 in H2O	**Indoor Fan FLA**	1.00 Number
Supply Fan Count	1.00 Number	**Evap Fan FLA**	4.60 A

Compressor Section

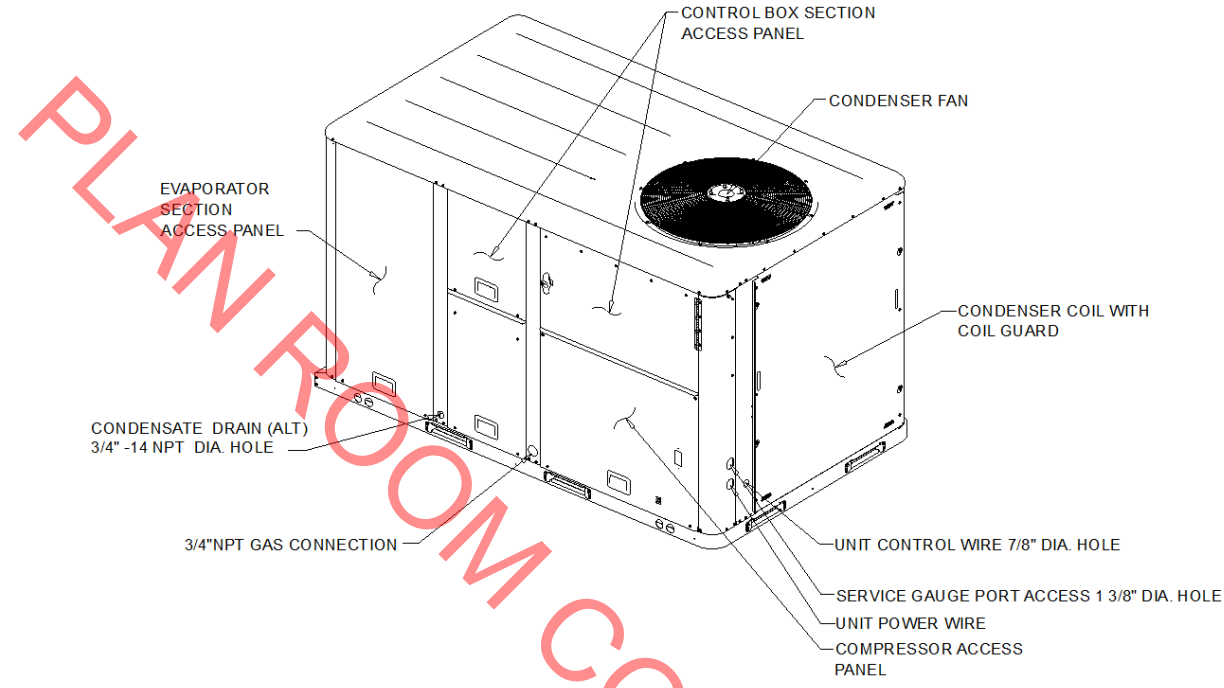
Field Installed Accessories

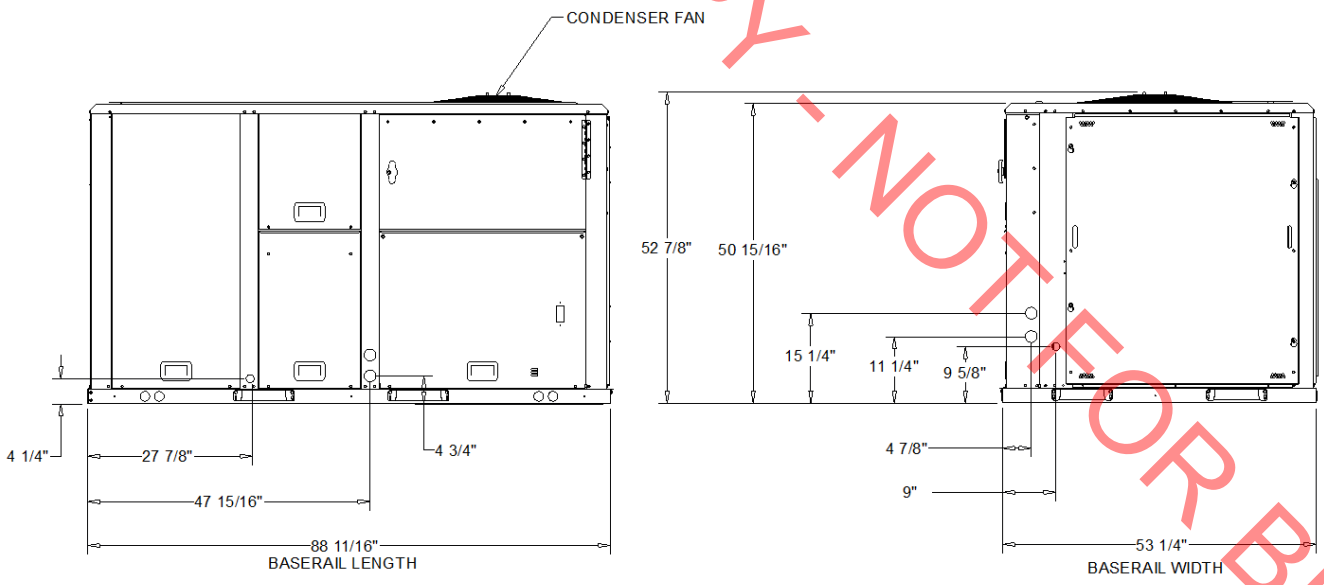
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Ducted Discharge	78 dB	72 dB	67 dB	63 dB	58 dB	54 dB	51 dB	50 dB
Ducted Inlet	75 dB	66 dB	64 dB	56 dB	50 dB	46 dB	42 dB	41 dB
Outdoor Noise	84 dB	88 dB	89 dB	90 dB	87 dB	82 dB	78 dB	72 dB

Note:Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017
Note:Outdoor Sound in accordance with AHRI 270-2015

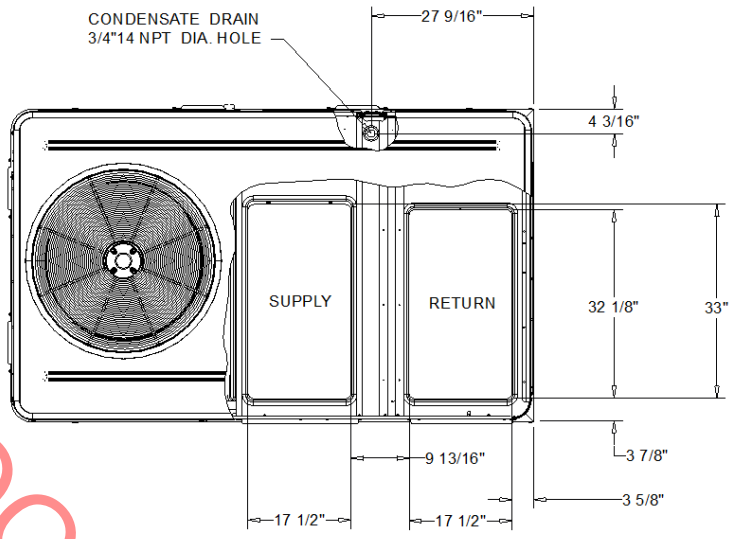
NOTES:
1. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



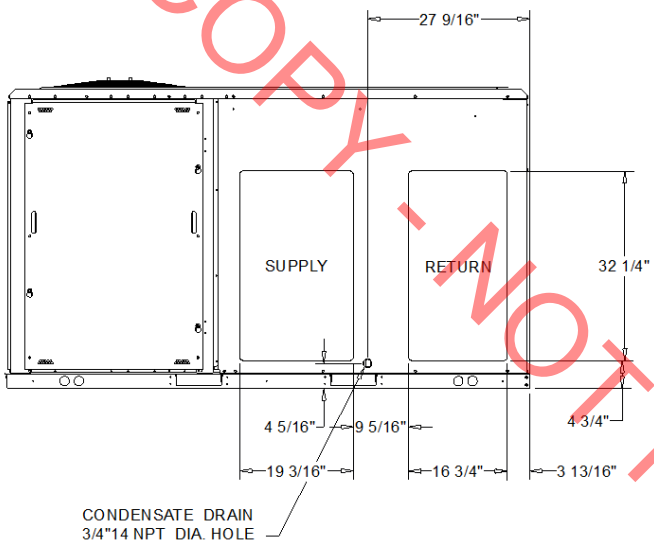


6 TON STANDARD GAS/ELECTRIC UNIT

DIMENSION DRAWING



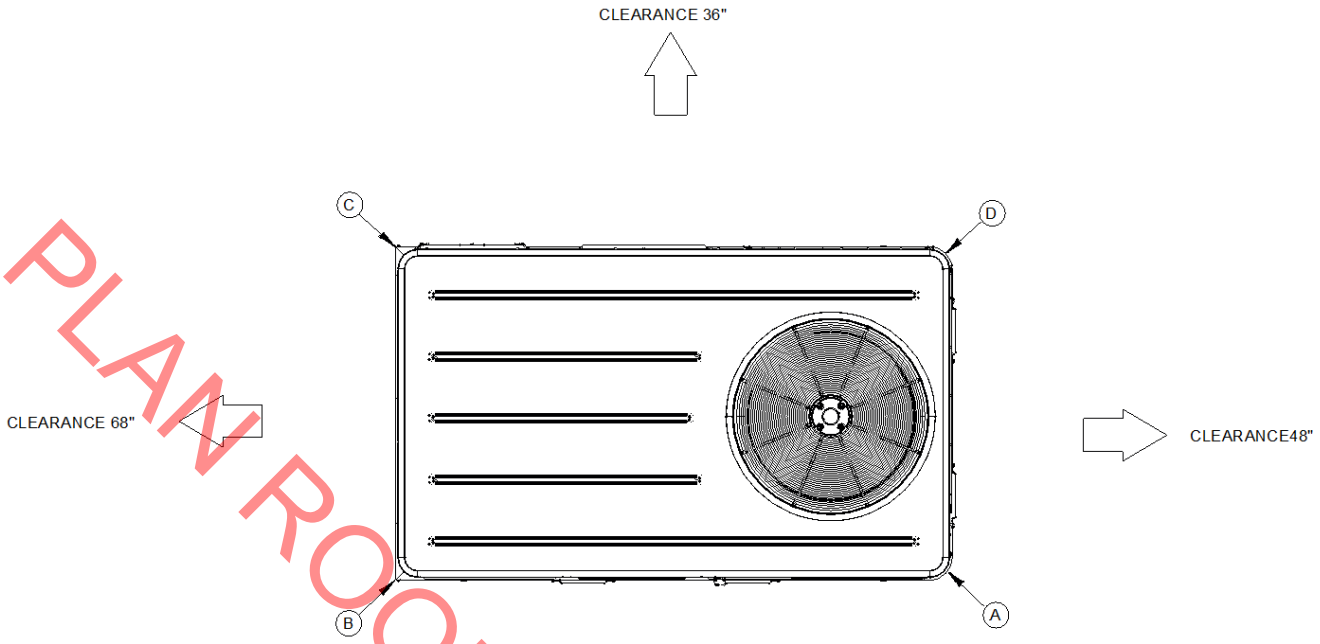
PLAN VIEW OF DOWNFLOW OPENINGS



HORIZONTAL AIR FLOW OPENING

6 TON STANDARD GAS/ELECTRIC UNIT

DIMENSION DRAWING



Approx Total Shipping Weight: 976.0 lb

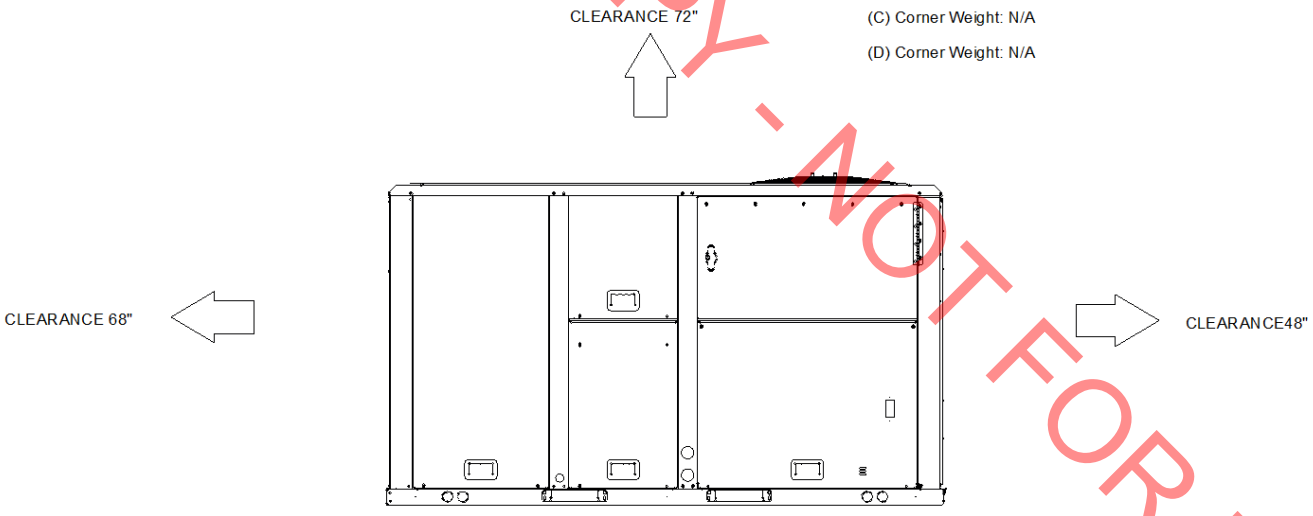
Approx Installed Weight: 976.0 lb

(A) Corner Weight: N/A

(B) Corner Weight: N/A

(C) Corner Weight: N/A

(D) Corner Weight: N/A



6 TON STANDARD GAS/ELECTRIC UNIT

WEIGHTS AND CLEARANCES

General
- Packaged rooftop units cooling, heating capacities, and efficiencies are AHRI Certified within scope of AHRI Standard 210-240 for 6 to 25 Tons and ANSIZ21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces (all gas heating units).
-Convertible airflow.
-Symbio controls operating range between 0°F and 125°F in cooling mode standard from the factory.
-Factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory.
-Colored and numbered wiring internal to the unit for simplified identification.
-Units cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Hail Guards
-Provides condenser coil protection.

Powered or Unpowered Convenience Outlet
-Powered GFCI, 120V/15A, 2 plug, convenience outlet or unpowered GFCI, 120V/20A, 2 plug, convenience outlet.
-When convenience outlet is powered, a service receptacle disconnect will be available.
-Convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker.
-Available to order when through-the-base electrical with disconnect switch or circuit breaker option is ordered.

Casing
-Zinc coated, heavy gauge, galvanized steel.
-Weather resistant pre-painted metal with galvanized substrate.
-Meets ASTM B117, 672 hour salt spray test.
-Removable single side maintenance access panels.
-Lifting handles in maintenance access panels (can be removed and reinstalled by removing fasteners while providing a water and air tight seal).
-Exposed vertical panels and top covers in the indoor air section insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material.
-Base pan shall have no penetrations within the perimeter of the curb other than the raised 1 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up.
-Base of the unit insulated with 1/8 inch, foil-faced, closed-cell insulation.
-Unit base provisions for forklift and/or crane lifting on three sides of unit.

Microchannel Coils
-Optimal heat transfer performance due to flat, streamlined tubes with small ports, and metallurgical tube-to-fin bond.
-Reduce system refrigerant charge by up to 50% leading to better compressor reliability.
-Compact all-aluminum microchannel coils reduce the unit weight.
-Recyclable all aluminum coils All aluminium construction minimizes galvanic corrosion.
-Strong aluminum brazed structure provides better fin protection.
-Flat streamlined tubes more dust resistant and easy to clean.
-Coils leak tested at the factory to ensure the pressure integrity.

Compressors
-All units have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps.
-Suction gas-cooled motor with voltage utilization range of plus or minus 10 percent of unit nameplate voltage.
-Internal overloads standard with scroll compressors.
-Crankcase heaters are standard on all compressors.
-All units have dual compressors.
-Three stages of cooling available on 6 to 17.5 tons units and four stages of cooling available on 20 and 25 tons units.

Filters
-Standard throwaway filters.
-Optional 2-inch MERV 8 and MERV 13 filters.

Frostat

-Utilized as a safety device.
-Opens to prevent freezing temperatures on evaporator coil.
-Temperature will need to rise to 50°F before closing.
-Utilized in low airflow or high outside air applications (cooling only).

Gas Heating Section
-The heating section shall have a progressive tubular heat exchanger with corrosion-resistant aluminized steel tubes and burners as standard on all models.
-Stainless steel heat exchanger with 409 stainless steel tubes and 439 stainless steel burners shall be optional.
-Induced draft combustion blower shall be used to pull the combustion products through the firing tubes.
-Heater shall use a direct spark ignition (DSI) system.
-On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition.
-After three unsuccessful ignition attempts, entire heating system shall be locked out until manually reset at the thermostat/zone sensor.
-Units shall be suitable for use with natural gas or propane (field-installed kit).

Heat Exchanger
-Compact cabinet features a tubular heat exchanger in low, medium and high heat capacities.
-Corrosion-resistant aluminized steel tubes and burners are standard on all models.
-Induced draft blower to pull the gas mixture through the burner tubes.
-Direct spark ignition and a flame sensor as a safety device to validate the flame.

UNIT #7

Unit Rating

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	N	-	0	0	8	-	3	-	0	-	E	A	0	9	-	3	L	B	:	A	0	0	0	-	U	0	0	-	D	H	D	-	0	0	0	-	0	D	V	0	0	0	F	-	0	0	-	0	0	0	0	0	0	0	V	B

Tag: RTU-7 KITCHEN

Job Information

Job Name:	*Ashbury at Boughton Ridge - Bolingbrook*
Job Number:	*PD*
Site Altitude:	*BID*
Refrigerant	*673 ft*
	R-410A

Unit Information

Approx. Op./Ship Weights:	*1227 / 1227 lbs. (±5%)*
Supply CFM/ESP:	
Final Filter FV / Qty:	*1580 / 0.75 in. wg.*
Outside CFM:	*177.75 fpm / 4*
Ambient Temperature:	*1580*
	95 ºF DB / 75 ºF WB

Static Pressure

External:	*0.75 in. wg.*
Evaporator:	*0.10 in. wg.*
Filters Clean:	*0.07 in. wg.*
Dirt Allowance	*0.35 in. wg.*

Economizer:	*0.04 in. wg.*
Heating:	*0.02 in. wg.*
Cabinet:	*0.03 in. wg.*
Re-Heat Coil:	*0.02 in. wg.*
Total:	*1.38 in. wg.*

Cooling Section

	Gross	Net
Total Capacity:	*95.02*	*93.32 MBH*
Sensible Capacity:	*60.76*	*59.07 MBH*
Latent Capacity:	*34.26 MBH*	
Mixed Air Temp:	*95.00 ºF DB*	*75.00 ºF WB*
Entering Air Temp:	*95.00 ºF DB*	*75.00 ºF WB*
Lv Air Temp (Coil):	*56.68 ºF DB*	*55.94 ºF WB*
Lv Air Temp (Unit)	*57.68 ºF DB*	*56.33 ºF WB*
Digital Comp. Capacity Ratio:	*100%*	
Supply Air Fan:	*1 x RNA185D70 @ 0.58 BHP*	
SA Fan RPM / Width:	*1303 / 2.898"*	
Evaporator Coil:	*8.5 ft² / 3 Rows / 14 FPI*	
Evaporator Face Velocity:	*185.7 fpm*	

Heating Section

PreHeat Type:	*Std (No Preheat)*
Heating Type:	*Nat. Gas Heat*
Heating CFM:	*1580*
Total Capacity:	*168.0 MBH*
OA Temp:	*-10.0 ºF DB / -11.0 ºF WB*
RA Temp:	*68.0 ºF DB / 62.0 ºF WB*
Entering Air Temp:	*-10.0 ºF DB / -11.0 ºF WB*
Leaving Air Temp:	*88.5 ºF DB / 52.4 ºF WB*
Input:	*210.0 MBH*
Heater Qty:	*1*
Consumption:	*210.0 MBH*
Total Turndown Ratio:	*11:1*

Re-Heat Coil:

Capacity:	*22 MBH*
LA DB / WB:	*70.00 ºF / 60.88 ºF*
RH:	*60%*

Rating Information

Cooling Capacity (MBH):	*91.0*
Cooling EER:	*12.5*
Cooling IEER:	*15.1*
Rated in accordance with AHRI 340/360	
Application EER @ Op. Conditions:	*11.6*

Electrical Data

Rating:	*460/3/60*
Unit FLA:	*18*
SCCR:	*5 KAIC*

Minimum Circuit Amp:	*21*
Maximum Overcurrent:	*30*

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	1		460	3			12.6
Condenser Fans:	2	0.33	460	1	1080	1.1	
Supply Fan:	1	2.00	460	3	1760	3.4	
Combustion:	1	0.09	460	1	3010	0.7	

Cabinet Sound Power Levels*

Octave Bands:	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Discharge LW(dB):	77	77	79	72	67	64	60	54
Return LW(dB):	72	72	68	59	58	55	47	38

**Sound power levels are given for informational purposes only. The sound levels are not guaranteed.*

18.5" STAR Plenum

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

JOB INFORMATION:

Job Name:	*Ashbury at Boughton Ridge*
Job Tag:	*- Bolingbrook PD*
Rep Firm:	*RTU-7 KITCHEN*
Date:	*899*
	01/30/2023

WHEEL SPECIFICATION:

Max RPM:	*2,200*
Diameter x Qty:	
CFM:	*18.5 in. x 1*
Tip Speed:	*1580*
Inertia:	*6,311 FPM*
	3 WR²

OPERATING CONDITIONS:

Air Flow:	*1,580 CFM*
Static Pressure:	*1.38 in. Wg.*
Plenum DP:	*0.00 in. Wg.*
Inlet Grill DP:	*0.00 in. Wg.*
TSP:	*1.38 in. Wg.*
Site Altitude:	*673.00 Ft*
TSP @ Sea Level:	*1.41 in. Wg.*

MOTOR SELECTION:

Rated HP / Bypass:	*2 / No*
Frame Size:	*145T*
Nominal RPM:	*1760*
VAC/PH/HZ:	*460/3/60*
Efficiency	*Premium / 0.865*
Enclosure Type:	*ODP*
Max Inertial Load:	*27 WR²*

FAN PERFORMANCE:

RPM:	*1303*
BHP:	*0.58*
Efficiency:	*59.6%*
In/Out Velocity:	*903/946 FPM*
Plenum Out Velocity:	*26 FPM*

Max Duct SP with Blocked Airway: **1.8 in. Wg. @ 1303 rpm**

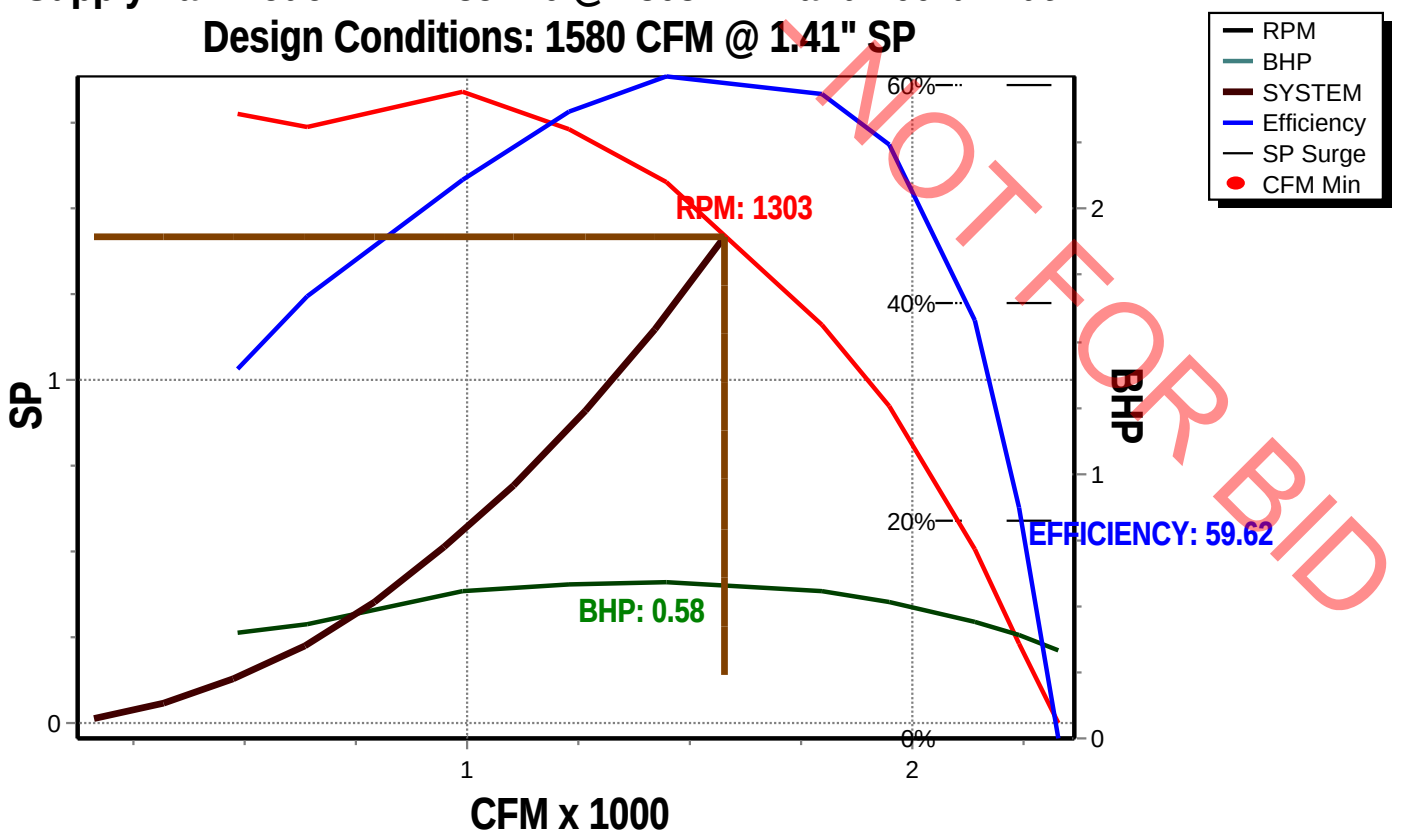
FAN SOUND POWER (Inlet/Outlet):

Octave Band: **(Re 10^-12 watts)**

1	2	3	4	5	6	7	8
77	*77*	*79*	*74*	*70*	*68*	*64*	*58*
77	*77*	*79*	*74*	*70*	*68*	*64*	*58*

SOUND POWER A-Weighted: 78 / 78 dB

Supply Fan Model: RNA185D70 @ 1303 RPM and 100% Width
Design Conditions: 1580 CFM @ 1.41" SP



Unit Submittal

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

1A	1B	1C	1D	2	3	4	5A	5B	5C	6A	6B	6C	7	8	9	10	11	12	13	14A	14B	15	16	17	18	19	20	21	22	23
R	N	0	0	8	3	0	E	A	0	9	3	L	B	A	0	0	-	U	0	0	D	H	D	0	0	0	D	V	0	0	0	0	0	F	0	0	0	0	0	0	0	0	V	B

RN-008-3-0-EA09-3LB:A000-U00-DHD-000-0DV000F-00-0000000VB

Tag: RTU-7 KITCHEN

Job Name: *Ashbury at Boughton Ridge - Bolingbrook PD*
Job Number: *BID*
Unit Submittal For:
Unit Submittal Date: *January 30, 2023*

	Base Option	Description
R	Series	Roof Top Unit
N	Generation	Ninth Generation
008	Unit Size	Eight
3	Voltage	460V/3Ø/60Hz
0	Interior Protection	Standard
E	Refrigerant Style	R-410A VCC - High Efficiency
A	Unit Configuration	Air-Cooled Cond. + Std Evap. Coil
0	Coil Coating	Standard
9	Cooling/Heat Pump Staging	Modulating - 1 Variable Capacity Compressor
3	Heating Type	Natural Gas Stainless Steel
L	Heating Designation	Heat L - 210 MBtuh
B	Heating Staging	High Turndown Modulating Gas - Temperature Control

	Feature Option	Description
A	**1A.** RA/OA Section	Economizer
0	**1B.** RA/EA Blower Configuration	Standard - None
0	**1C.** RA/EA Blower	Standard - None
0	**1D.** RA/EA Blower Motor	Standard - None
U	**2.** OA Control	2 Position Actuator
0	**3.** Heat Options	Standard
0	**4.** Maintenance Options	Standard
D	**5A.** SA Blower Configuration	1 Blower + Premium Efficiency Motor + 1 VFD
H	**5B.** SA Blower	18.5" Direct Drive Backward Curved Plenum - 70% Width
D	**5C.** SA Motor	2.0 hp - 1760 rpm
0	**6A.** Pre Filter Type	Standard - None
0	**6B.** Unit Filter Type	2" Pleated - 30% Eff
0	**6C.** Filter Options	Standard
0	**7.** Refrigeration Control	Standard - Adj Comp. Cooling Lock Out Through Unit Controls
D	**8.** Refrigeration Options	Modulating Hot Gas Reheat
V	**9.** Refrigeration Accessories	ECM Dual Condenser Fan - Head Pressure Control
0	**10.** Power Options	Standard Power Block
0	**11.** Safety Options	Standard
0	**12.** Controls	Standard
F	**13.** Special Controls	Make Up Air Unit Controller - CV Cool + CV Heat
0	**14A.** Outside Air Configuration	Standard - None
0	**14B.** Preheat Sizing	Standard - None
0	**15.** Glycol Percent	Water or No WSHP
0	**16.** Interior Cabinet Options	Standard - Double Wall + R-13 Foam Insulation + Stainless Steel Drain Pan
0	**17.** Exterior Cabinet Options	Standard
0	**18.** Electrical Rating	Standard - 5 KAIC
0	**19.** Code Options	Standard - ETL U.S.A. Listing
0	**20.** Crating	Standard
0	**21.** Water-Cooled Cond.	Standard - None
V	**22.** Control Vendors	VCC-X Controls + Integrated BACnet MSTP
B	**23.** Type	Standard - Includes AAON Gray Paint

VCCX Components

2425 South Yukon Ave - Tulsa, Oklahoma 74107-2728 - Ph. (918) 583-2266 Fax (918) 583-6094
AAONEcat32 Ver. 4.330 (SN: 6918384-NWSVJ8FL)

1A 1B 1C 1D 2 3 4 5A 5B 5C 6A 6B 6C 7 8 9 10 11 12 13 14A 14B 15 16 17 18 19 20 21 22 23

RN-008-3-0-EA09-3LB:A000-U00-DHD-000-0DV000F-00-0000000VB

Tag: RTU-7 KITCHEN

Job Name: ***Ashbury at Boughton Ridge - Bolingbrook PD***

Job Number: ***BID***

VCCX For:

VCCX Date: ***January 30, 2023***

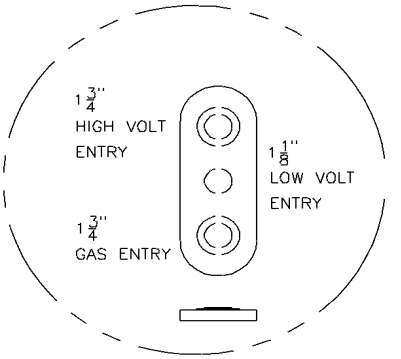
Hardware Included For VCCX Controller

Part #	Included Parts	Assigned Channel	BACnet Point
ASM01698	VCCX2 CONTROLLER		
ASM01692	OSA Temp/Hum Sensor	EBUS2 communicating sensor	AI:16,AI:17,AI:18,AI:19
R82890	Supply Temp Sensor - Field Installed	VCCX control point AI 3	AI:9
	Supply Fan Control Signal 0-10VDC	VCCX control point AO 1	AI:22
	Economizer	VCCX control point AO 2	AI:30
R62330	Proof of Air Flow	VCCX control point BI 1	BI:6, BI:24
	Safety Shut Down	VCCX control point BI 8	BI:26
	Supply Fan	Configured Relay Point	BI:47
ASM02201	DIGITAL REFRIGERATION MODULE		
R42680	Comp Discharge Temp A	RSMD point TEMP1	AI:66
V38391	Suction Pressure Sensor A	RSMD point SP-1	AI:48
	Comp Status Input A	RSMD point BIN1	BI:77
	Emergency Shutdown	RSMD point BIN4	BI:83
	Comp Unload Signal A	RSMD point T1	AI:44
	Comp Enable A	RSMD Fixed Relay point	BI:84
ASM01670	MODULATING HOT GAS REHEAT MODULE		
	Reheat HGR Valve	MHGRV-X	AI:42
ASM01695	MODULATING GAS MODULE		
	Gas Valve Signal 1B	MODGAS-XWR Gas Valve 2	
	Gas Valve Signal 1A	MODGAS-XWR Gas Valve 1	
	Proof of Ignition 1B	MODGAS-XWR BI4	
	Proof of Ignition 1A	MODGAS-XWR BI3	
	Mod Heat Stage 2 (IGN 1B)	MODGAS-XWR Heat 2 Relay	
	Mod Heat Stage 1 (IGN 1A)	MODGAS-XWR Heat 1 Relay	
	Low Speed Enable	MODGAS-XWR Low Speed Relay	

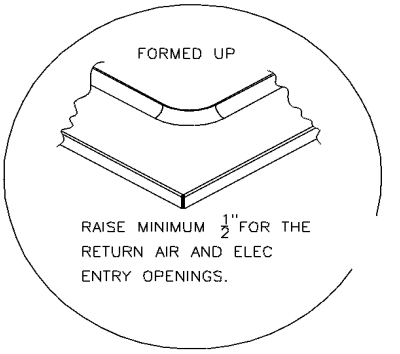
RN SERIES
A - CABINET ECONOMIZER ~ 6-10 TON

CLEARANCES

LOCATION	• UNIT SIZE • 6 - 10 TON
OUTSIDE AIR (BACK)	36*
CONTROLS SIDE (FRONT)	48
LEFT SIDE	6
RIGHT SIDE	48
TOP	UNOBSTRUCTED
*CLEARANCE IS MEASURED FROM THE END OF THE OUTSIDE AIR RAIN HOOD	

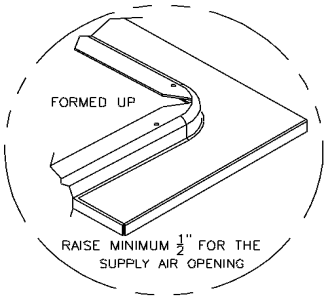


DETAIL A



DETAIL B

NOTE: THE RNA UNIT IS NOT COMPATIBLE WITH PREVIOUS GENERATIONS OF AAON CURBS. AN ADAPTER CURB IS AVAILABLE IN ECAT.



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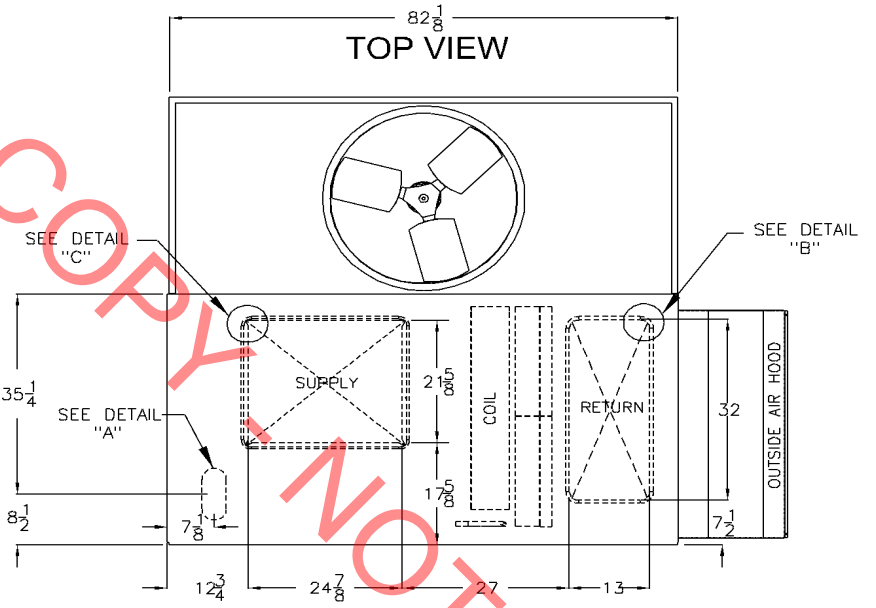
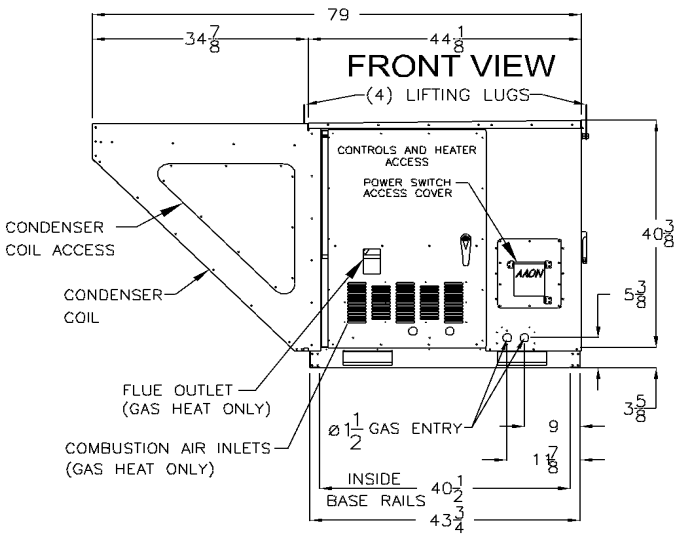
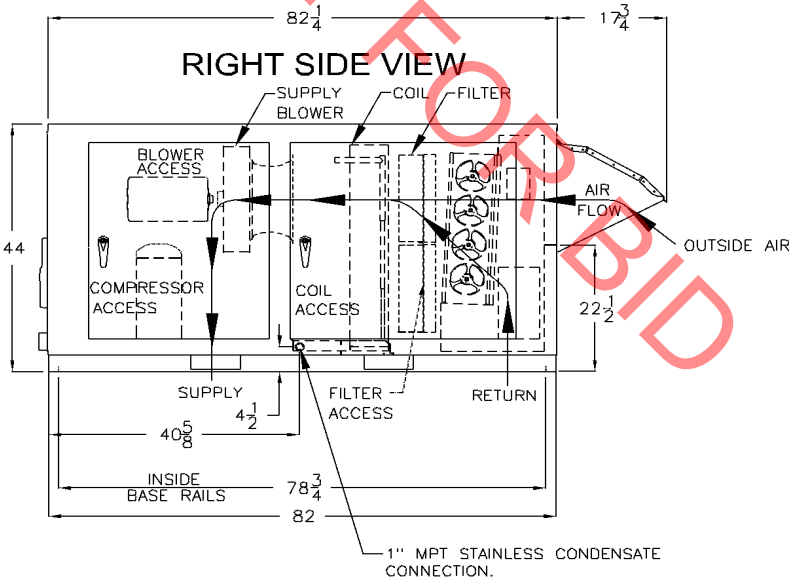




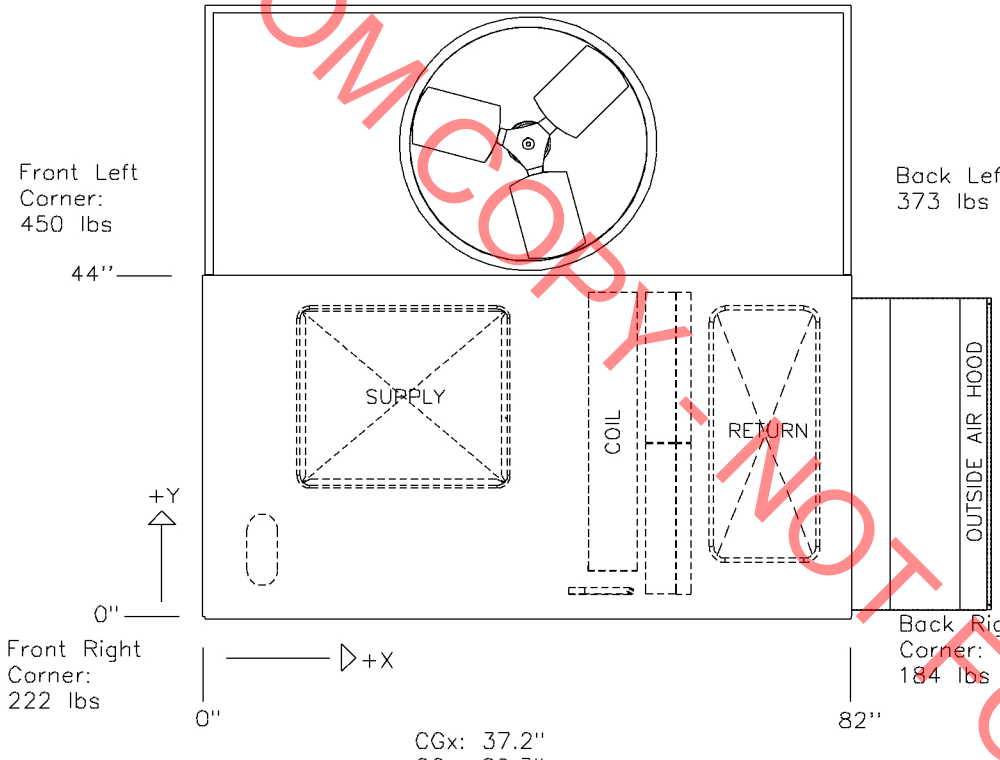


RNA-00013 REV:B 05/18/15 MLW

NOTE: ALL DIMENSIONS ARE IN INCHES

RNA CABINET
AIR COOLED CONDENSING UNIT

RN-008-3-0-EA09-3LB:A000-U00-DHD-000-0DV000F-00-0000000VB



CGx: 37.2''
CGy: 29.3''

Total Weight:
1227 lbs (±5%)

Disclaimer:
This weight estimate does not account for any SPAs.

UNIT #8

Trane Precedent Gas/Electric Packaged Rooftop

Unit Overview - YSC048G4RHB**0000000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight		EER	IEER/SEER	Elevation
		Airflow	External Static Pressure	Height	Width	Length	Minimum	Maximum			
DX cooling, gas heat	4 Ton (048)	1500 cfm	0.500 in H2O	3.41 ft	3.69 ft	5.82 ft	492.0 lb	767.0 lb	12.0 EER	14.00	650.00 ft

Unit Features

Unit Electrical

Voltage/phase/hertz	460/60/3
MCA	11.00 A
MOP	15.00 A

Controls

Unit Controls	Microprocessor controls

Cooling Section

Entering Dry Bulb	80.00 F	Capacity	
Entering Wet Bulb	67.00 F	Gross Total	48.44 MBh
Ambient Temp	95.00 F	Gross Sensible	36.57 MBh
Leaving Coil Dry Bulb	56.20 F	Net Total	47.29 MBh
Leaving Coil Wet Bulb	56.20 F	Net Sensible	35.42 MBh
Leaving Unit Dry Bulb	58.00 F	Fan Motor Heat	1.15 MBh
Leaving Unit Wet Bulb	56.90 F	Refrig Charge-circuit 1	3.5 lb
Refrigeration System Options			
Leaving Dew Point	56.21 F		

Heating Section

Heat Type	Gas Heat
Heating Stages	2
Output Heating Capacity	105.30 MBh
Output Heating Capacity with Fan	106.67 MBh
Heating EAT	70.00 F
Heating LAT	135.20 F
Heating Temp Rise	65.20 F

Fan Section

Indoor Fan Data		Outdoor Fan Data	
Type	FC Centrifugal	Type	Propeller
Drive Type	Direct	Fan Quantity	1
Evap Fan FLA	2.50 A	Drive Type	Direct
Indoor Fan Performance		Outdoor Fan Performance	
Airflow	1500 cfm	Condenser Fan FLA	0.70 A
Design ESP	0.500 in H2O		
Component SP	0.000 in H2O		
Total SP	0.500 in H2O		
Supply Motor Horsepower	1.000 hp		
Indoor Motor Operating Power	0.42 bhp		
Indoor Motor Power	0.32 kW		
Indoor RPM	931 rpm		

Compressor Section

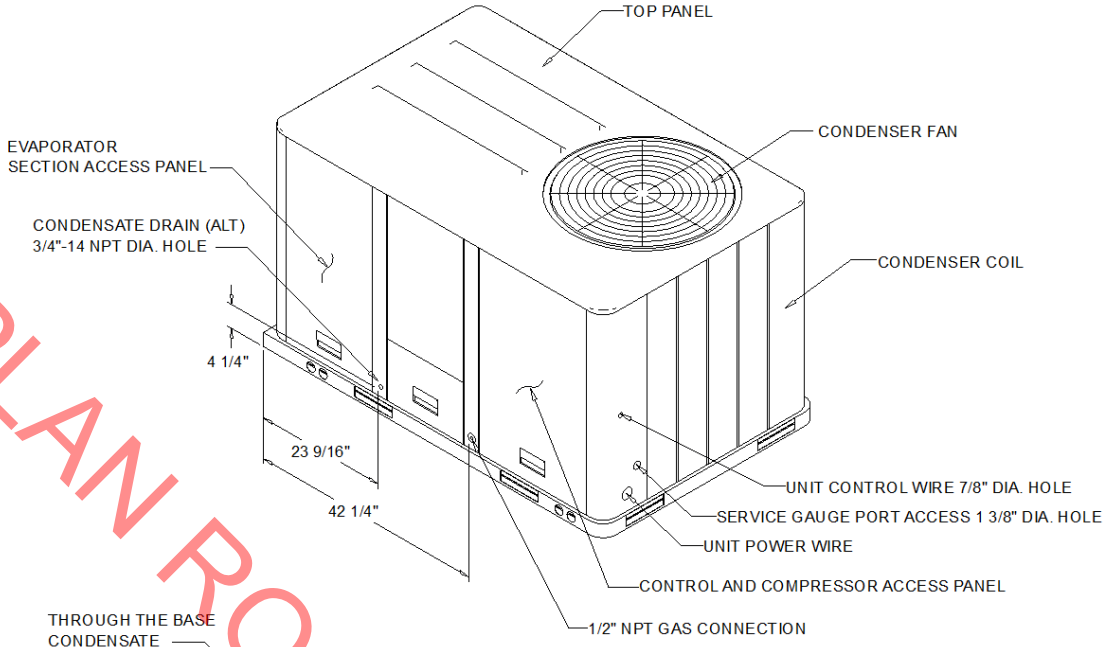
Power	3.40 kW
Circuit 1 RLA	6.20 A
Circuit 2 RLA	0.00 A

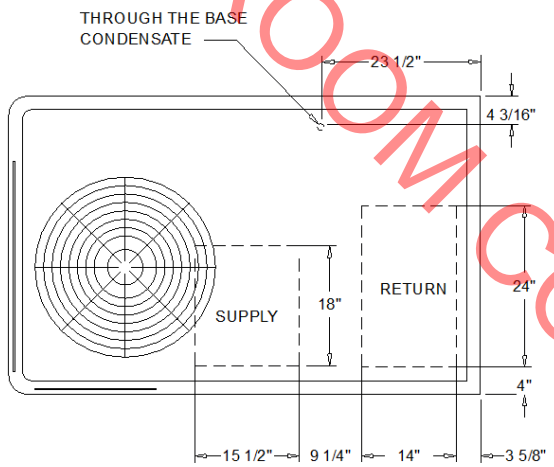
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Ducted Discharge	89 dB	69 dB	67 dB	60 dB	56 dB	52 dB	51 dB	45 dB
Ducted Inlet	91 dB	70 dB	65 dB	55 dB	51 dB	48 dB	45 dB	41 dB
Outdoor Noise	81 dB	82 dB	83 dB	81 dB	77 dB	72 dB	66 dB	59 dB

Note:Ducted Inlet and Ducted Discharge Sound Power Levels are in accordance with AHRI 260.

Note:Outdoor Sound Power Levels are in accordance with AHRI 270.

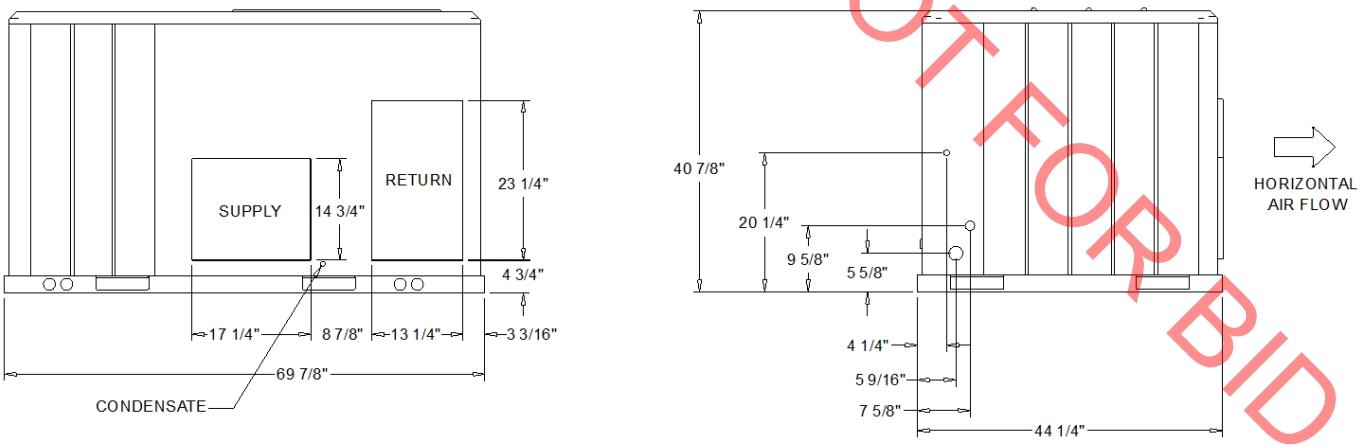




NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

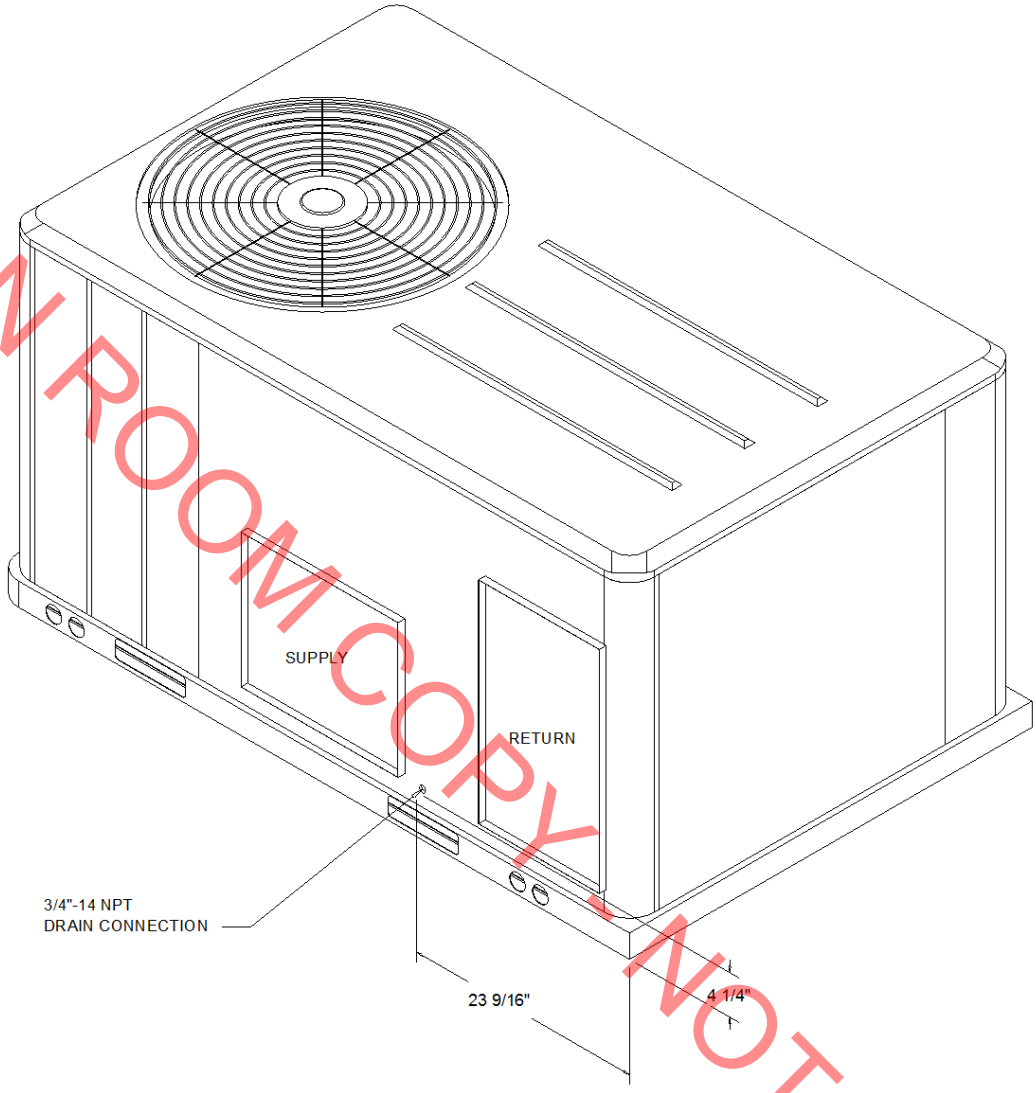
PLAN VIEW UNIT

DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING



ISOMETRIC-PACKAGED COOLING

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

Model:	YSC048G
Unit Operating Voltage:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage	--
Unit Hertz:	60
Unit Phase:	3
EER/SEER	12.0/14.0

Oversized Motor
MCA: N/A
MFS: N/A
MCB: N/A

Standard Motor		Field Installed Oversized Motor	
MCA:	11.0	MCA:	N/A
MFS:	15.0	MFS:	N/A
MCB:	15.0	MCB:	N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	High
Heating Input (BTU):	130,000/91,000
Heating Output (BTU):	105,300/73,710
No. Burners:	4
No. Stages	2

Gas Inlet Pressure

Natural Gas (Min/Mix):	4 1/2"/14"
LP (Min/Max)	11"/14"
Gas Pipe Connection Size:	1/2"

INDOOR MOTOR

Standard Motor		Oversized Motor		Field Installed Oversized Motor	
Number:	1	Number:	N/A	Number:	
Horsepower:	1.0	Horsepower:	N/A	Horsepower:	
Motor Speed (RPM):	--	Motor Speed (RPM):	N/A	Motor Speed (RPM):	
Phase	1	Phase	N/A	Phase	
Full Load Amps:	2.5	Full Load Amps:	N/A	Full Load Amps:	
Locked Rotor Amps	--	Locked Rotor Amps	N/A	Locked Rotor Amps	

COMPRESSOR Circuit 1/2

Number:	1
Horsepower:	3.6
Phase:	3
Rated Load Amps:	6.2
Locked Rotor Amps	41.0

OUTDOOR MOTOR

Number:	1
Horsepower:	0.33
Motor Speed (RPM):	1100
Phase:	1
Full Load Amps:	0.7
Locked Rotor Amps	2.3

POWER EXHAUST ACCESSORY (3,7)

(Field Installed Power Exhaust)

Phase:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

FILTERS

Type:	Throwaway
Furnished:	Yes
Number	2
Recommended	20"x35"x2"

REFRIGERANT (2)

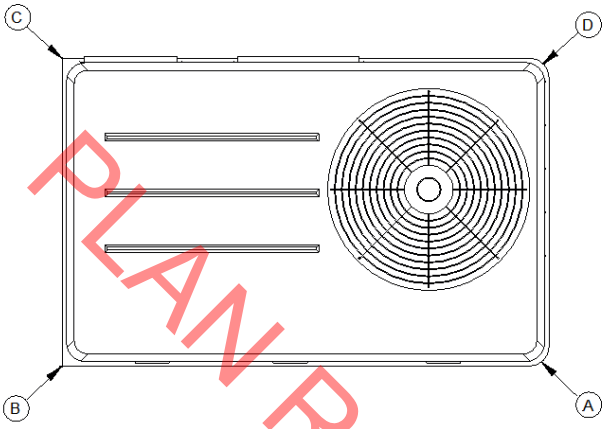
Type

Factory Charge

Circuit #1	3 1/2"
Circuit #2	N/A

NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value does not include Power Exhaust Accessory.
6. EER is rated at AHRI conditions and in accordance with DOE test procedures.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.



PACKAGED GAS / ELECTRICAL

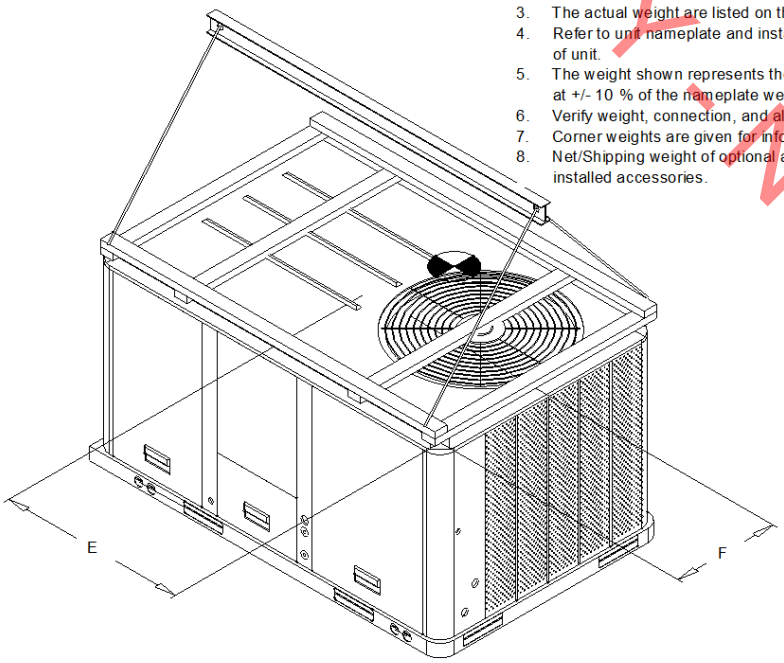
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	
POWERED CONVENIENCE OUTLET (FIOPS)	
HINGED DOORS (FIOPS)	
HAIL GUARD	
SMOKE DETECTOR, SUPPLY / RETURN	
NOVAR CONTROL	
STAINLESS STEEL HEAT EXCHANGER	
REHEAT	
ROOF CURB	

BASIC UNIT WEIGHTS		CORNER WEIGHTS				CENTER OF GRAVITIY	
SHIPPING	NET	A	205.0 lb	C	46.0 lb	(E) LENGHT	(F) WIDTH
598.0 lb	492.0 lb	B	183.0 lb	D	58.0 lb	33"	9"

NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



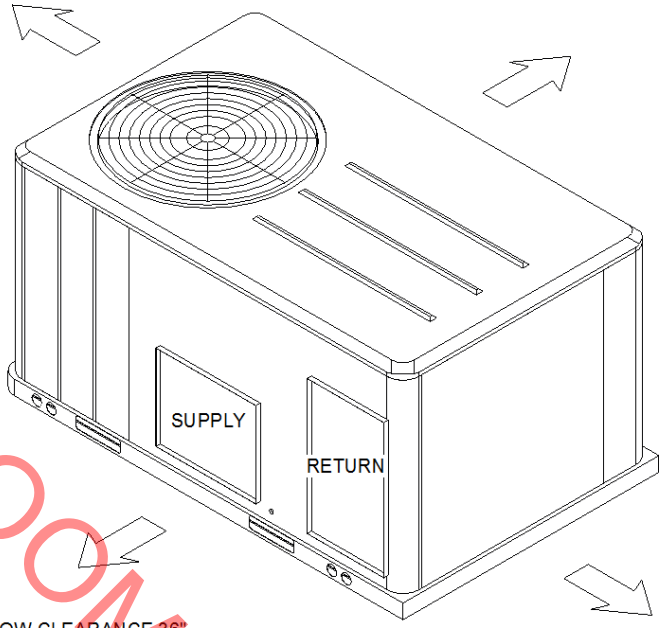
PACKAGED GAS / ELECTRICAL

RIGGING AND CENTER OF GRAVITY

CLEARANCE FROM TOP OF UNIT 72"

CLEARANCE 36"

CLEARANCE 48"



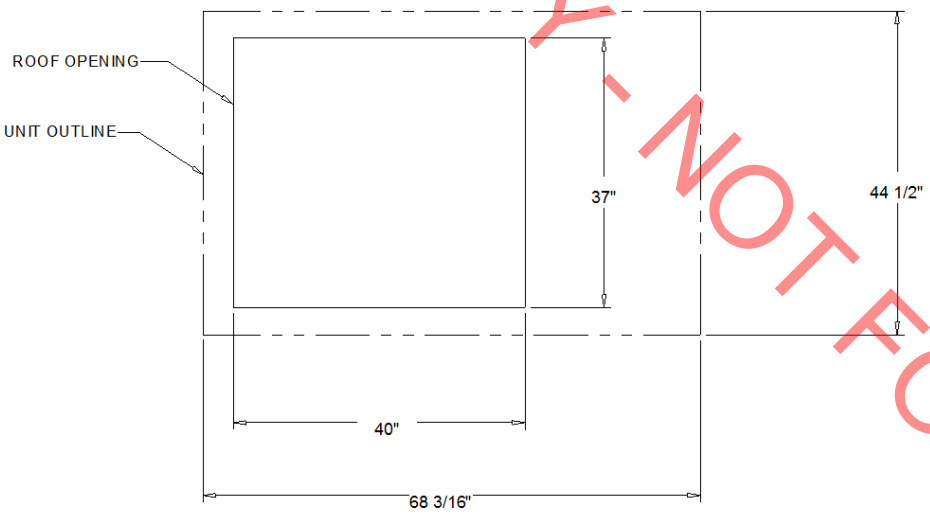
DOWNFLOW CLEARANCE 36"

HORIZONTAL CLEARANCE 18"

CLEARANCE 36"

PACKAGED GAS / ELECTRIC

CLEARANCE



PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

General
The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for units with microprocessor controls. Operating range for units with electromechanical controls shall be between 115°F and 40°F. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Casing
Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. Service panels shall have lifting handles and be removed and reinstalled by removing two fasteners while providing a water and air tight seal. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material. The base of the unit shall be insulated with 1/8", foil-faced, closed-cell insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8" high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit.

Unit Top
The top cover shall be one piece construction or, where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and enhances water removal from unit top.

Filters
Throwaway filters shall be standard on all units. Optional 2-inch MERV 8 and MERV 13 filters shall also be available.

Compressors
All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications. Dual compressors are available on 7½-10 ton models and allow for efficient cooling utilizing 3-stages of compressor operation for all high efficiency models.

Indoor Fan
The following units shall be equipped with a direct drive plenum fan design (T/YSC120F,T/YHC074F, T/YHC092F,T/YHC102F, 120F). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

3 to 5 ton units (high efficiency 3-phase with optional motor) are belt driven, FC centrifugal fans with adjustable motor sheaves. 3 to 5 ton units (standard and high efficiency 3-phase) have multispeed, direct drive motors. All 6 to 8½ ton units (standard efficiency) shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All motors shall be thermally protected. All 10 tons, 6 ton (074), 7½ to 8½ (high efficiency) units have variable speed direct drive motors. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Outdoor Fans
The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor shall be permanently lubricated and shall have built-in thermal overload protection.

Evaporator and Condenser Coils
Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard. Evaporator coils are standard for all 3 to 10 ton standard efficiency models. Microchannel condenser coils are standard for all 3 to 10 ton standard efficiency models and 4, 5, 6, 7.5, 8.5 ton high efficiency models. The microchannel type condenser coil is not offered on the 4 and 5 ton dehumidification model. Due to flat streamlined tubes with small ports, and metallurgical tube-to-fin bond, microchannel coil has better heat transfer performance. Microchannel condenser coil can reduce system refrigerant charge by up to 50% because of smaller internal volume, which leads to better compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. These all aluminum coils are recyclable. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A plastic, dual-sloped, removable and reversible condensate drain pan with through-the-base condensate drain is standard.

Controls
Unit shall be completely factory-wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. A choice of microprocessor or electromechanical controls shall be available. Microprocessor controls provide for all 24V control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection. 24-volt electromechanical control circuit shall include control transformer and contactor

High Pressure Control
All units include High Pressure Cutout as standard.

Phase monitor
Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator. There are no field adjustments. The module will automatically reset from a fault condition.

Refrigerant Circuits
Each refrigerant circuit offer thermal expansion valve as standard. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

Gas Heating Section
The heating section shall have a progressive tubular heat exchanger design using stainless steel burners
and corrosion resistant steel throughout. An induced draft combustion blower shall be used to pull the combustion products through the firing tubes. The heater shall use a direct spark ignition (DSI) system. On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat/zone sensor. Units shall be suitable for use with natural gas or propane (field-installed kit) and also comply with the California requirement for low NOx emissions (Gas/Electric Only).

ATTENTION
For installation in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 14 ng/J NOx emission limit, and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

Sequence of Operation (if applied in a SINGLE-ZONE CONSTANT-VOLUME SYSTEM or a CHANGEOVER BYPASS SYSTEM)

B. SINGLE-ZONE CONSTANT-VOLUME SYSTEM

1. OCCUPIED HEAT/COOL:
The RTU shall operate the supply fan continuously and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing to maintain zone temperature at setpoint. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
The RTU shall operate the supply fan and modulate (or cycle) compressors or modulate (or stage) heat to raise/lower zone temperature to its occupied setpoint. The OA damper shall remain closed, unless economizing.

D. CHANGEOVER BYPASS SYSTEM

1. OCCUPIED HEAT/COOL:
Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:
Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

Ashbury's Boughton Ridge

Legend

Ashbury's at Boughton Ridge

E Boughton Rd

Winston Dr

Portillo's Bolingbrook

The Promenade Bolingbrook

Meijer

Bass Pro Shops

Aloft Bolingbrook

James Ave

The Brook on Janes Apartments

N Pinecrest Rd

Rockhurst Rd

Menards

Woodward Ave

55

355

N

3000 ft

Google Earth

Image Landsat / Copernicus

Ashbury's Boughton Ridge

Legend

RTU #8

RTU #4

RTU #3

RTU #5

RTU #6

Boughton Ridge Golf Course

RTU #2

RTU #1

RTU #7

Google Earth

Image Landsat / Copernicus

N

90 ft

VariTrac Zones 5-7

AAON Unit Thermostats
(Unit #2 & #7)

CONTRACTORS BID
ASHBURY'S AT BOUGHTON RIDGE HVAC REPLACEMENT

Name of Bidder: _____

Address: _____

Phone: _____ Fax: _____

Email: _____

Having examined the Contract Documents and having thoroughly examined the site and pertinent areas adjacent thereto, acknowledging the same to be accurate and complete insofar as pertinent details are concerned, we the undersigned agree to furnish all labor, materials, equipment, tools and services or whatever else is required for construction of the project in accordance with the Contract Documents, within the time set forth therein and at the prices included herewith.

The Bidder acknowledges receipt of the following Addenda, which are part of the Contract Documents: Numbers ___, ____, ___, ____, ___.

The undersigned agrees to execute a Contract for this work and present the same to the Owner within five (5) days after the date of written notice of the award of the Contract to him. The undersigned further agrees that he will commence work not later than ten (10) days after written notice to proceed and execution and approval of the Contract and the Contract Bond(s) unless otherwise provided, and will diligently prosecute the work in such a manner and with such materials, equipment, and labor as will insure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the Contract.

Accompanying this bid is a bid security complying with the requirements of the Contract Documents, for ten percent (10%) of the total base bid price. The amount of the bid security is:

_____
(Contractor to Fill in Amount)

If this Bid is accepted and the undersigned fails to execute a Contract as required herein, it is hereby agreed that the amount of the check or draft shall become the property of the Owner and shall be considered as payment of damages due to delay of said Contract. In submitting this Bid, it is understood that the right is reserved by the Owner to reject any and all Bids and it is agreed that this Bid may not be withdrawn during the period of days provided in the Contract Documents.

The Bidder agrees to perform all the work described in the Contract Documents for the following price. (All substitutions or deviations from the specifications must be noted and attached to this bid document).

Total Base Bid $_____

Base Bid Amount In Writing _____

Bidder Hereby Certifies:

a. That this Bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation.
b. That he has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid.
c. That he has not solicited or induced any person, firm, or corporation to refrain from Bidding.
d. That he has not sought by collusion or otherwise to obtain for himself any advantage over any other Bidder or over the Owner.
e. That all contractors and subcontractors rendering services under this contract shall comply with all provisions of the Illinois Prevailing Wage Act to the extent applicable, 820 ILCS 130/.01 et seq.
f. That he is not barred from Bidding for this Contract as a result of the violation of Section 33E-3 or Section 33E-4 of the Illinois Criminal Code of 2012 720 ILCS 5/1 et seq.
g. That he shall comply with provisions of the Veterans Preference Act 330 ILCS 55/1 et seq.
h. That he shall comply with the Employment of Illinois Workers on Public Works Act, 30 ILCS 570/0.01 et seq.
i. That he shall comply with the Illinois Human Rights Act and the rules and Regulations of the Illinois Department of Human Rights published at 44 Illinois Administrative Code Section 750, et seq.

FIRM NAME: _____ **(SEAL)**

ADDRESS: _____

SIGNED BY: _____
(Signature and Date)

_____
(Printed Name)

_____
(Title)

ATTEST: _____
(Secretary)

Subscribed and Sworn to me before this _____day of _____, 20_____

_____
(Notary Public)

BOLINGBROOK PARK DISTRICT
CONTRACTOR'S CERTIFICATION

(1) Pursuant to P.A. 85-1295 (720 ILCS 5/33E-1 *et seq.)* the undersigned contractor hereby certifies to the Bolingbrook Park District that the contractor is not barred from bidding on the contract as a result of violation of either Section 33 E-3 or 33-4 or that Act.

(2) The contractor further certifies that the contractor is not delinquent in the payment of any tax administered by the Illinois Department of Revenue or,

a) is contesting such liability or the amount of tax in accordance with procedures established by the appropriate revenue act, or

b) has entered into an agreement with the Department of Revenue for payment of all taxes due and is in compliance with that Agreement.

Dated: _____

_____
(Company)

_____
(Mailing Address)

_____

_____
(Phone Number)

_____
Primary Contract (Signature), Title

BOLINGBROOK PARK DISTRICT
ANTI-COLLUSION AFFIDAVIT OF COMPLIANCE

_____, being first and duly sworn, deposes and says:

That he is_____of

_____

(Partner, Officer, Owner, etc.)

_____

(Contractor)

The party making the foregoing proposal or bid, that such bid or proposal is genuine and not collusive, or sham: that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any contractor or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any person, to fix the bid price element or said bid, or that of any other contractor, or to secure any advantages against any other or any person interested in the proposed contract.

_____

(Name of Contractor, if Contractor is an Individual)
(Name of Partner, if Partner is a Partnership)
(Name of Officer, if Contractor is a Corporation)

The above statements must be subscribed and sworn to before a notary public.
Subscribed and sworn to

This_____day of _____,_____.

By _____

_____

(Notary Public)

BOLINGBROOK PARK DISTRICT
INDEMNITY HOLD HARMLESS AGREEMENT

To the fullest extent permitted by law, the Contractor shall waive all right of contribution and shall indemnify and hold harmless the Owner and its officers, officials, employees, volunteers and agents from and against all claims, damages, losses and expenses, including but not limited to legal fees (attorney's and paralegals fees and court costs), caused by, growing out of , or incidental to, the performance of the Work covered by these Contract documents, provided that any such claim, damage, loss or expense (i) is attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property, other than the work itself, including the loss of use resulting therefrom and (ii) is caused in whole or in part by any wrongful or negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph. Contractor shall similarly protect, indemnify and hold and save harmless the Owner, its officers, officials, employees, volunteers and agents against and from any and all claims, costs, causes, actions and expenses including but not limited to legal fees, incurred by reason of Contractor's breach of any of its obligations under, or Contractor's default of, any provision of the Contract. In any and all claims against the Owner, their respective agents, employees, and representatives in their personal capacities as individuals as well as in their public and official capacities, made by any employee of the Contractor, and Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under any Workman's Compensation Act, any Disability Benefit Act or any other Employee Benefit Act. The Contractor shall not be required to indemnify and hold harmless Owner for such claims or demands which result solely from Owner's own negligence.
In the event of any such injury (including death) or loss or damage (or claims therefore), the Contractor shall give immediate notice thereof to Owner.

Contractor expresses, understands and agrees that any performance bond or insurance policies required by this contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep and save harmless and defend the Bolingbrook Park District, its officials, agents and employees as herein provided.

CONTRACTOR:

_____

ATTEST:

_____
(Notary Public)

STATEMENT OF EXPERIENCE

List four commercial package roof top AC & heating unit projects of similar or greater size your organization has completed in the last 12 months.

1. Company Name:
   Contact Person:
   Phone:
   Project Description:
   Date of Completion:

2. Company Name:
   Contact Person:
   Phone:
   Project Description:
   Date of Completion:

3. Company Name:
   Contact Person:
   Phone:
   Project Description:
   Date of Completion:

4. Company Name:
   Contact Person:
   Phone:
   Project Description:
   Date of Completion:

SUBCONTRACTORS

The following list includes all subcontractors who will perform work representing five percent or more of the total base bid. The Bidder represents that the subcontractors are qualified to perform the work required.

	Category/Trade	Subcontractor Name	Address
1.			
2.			
3.			
4.			

SUBSTANCE ABUSE PREVENTION PROGRAM

Pursuant to Public Act 95-0635, the undersigned hereby certifies that it is in compliance with the terms and provisions of the Substance Abuse Prevention on Public Works Projects Act. In particular, the undersigned hereby represents and warrants to the Bolingbrook Park District as follows:

[Complete either A or B below]

A. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has signed collective bargaining agreements that are in effect for all of its employees, and that deal with the subject matter of Public Act 95-0635.

_____
Contractor/Subcontractor

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

Date: _____ _____
Signature of Authorized Representative

B. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has in place for all of its employees not covered by a collective beginning agreement that deals with the subject of the Act, the attached substance abuse prevention program that meets or exceeds the requirement of Public Act 95-0635 **[attach a copy of the program]**.

_____
Contractor/Subcontractor

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

Date: _____ _____
Signature of Authorized Representative

CONTRACTOR'S DRUG-FREE WORKPLACE CERTIFICATION

Pursuant to 30 ILCS 580/1 et seq. ("Drug-Free Workplace Act), the undersigned contractor hereby certifies to the contracting agency that it will provide a drug-free workplace by:

(a) Publishing a statement:

(1) Notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance, including cannabis, is prohibited in the grantee's or contractor's workplace.

(2) Specifying the actions that will be taken against employees for violations of such prohibition.

(3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will:

(A) Abide by the terms of the statement; and

(B) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction.

(b) Establishing a drug free awareness program to inform employees about:

(1) The dangers of drug abuse in the workplace;

(2) The grantee's or contractor's policy of maintaining a drug free workplace;

(3) Any available drug counseling, rehabilitation, and employee assistance program; and

(4) The penalties that may be imposed upon employees for drug violations.

(c) Making it a requirement to give a copy of the statement required by subsection (a) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.

DRUG FREE WORKPLACE CERTIFICATION
PAGE TWO

(d) Notifying the contracting agency within 10 day after receiving notice under part (B) of paragraph (3) of subsection (a) from an employee or otherwise receiving actual notice of such conviction.

(e) Imposing a sanction on or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by any employee who is so convicted, as required by Section 5 (30 ILCS 580/5).

(f) Assisting employees in selecting a course of action in the event drug counseling treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of this Section.

Failure to abide by this certification shall subject the Contractor to the penalties provided in Section 6 (30 ILCS 580/6).

_____
Contractor

ATTEST:

_____

DATE: _____

Bolingbrook Park District
Prevailing Wage Act
Contractor/Subcontractor Requirements

The Illinois Prevailing Wage Act, 820 ILCS 130/.01 *et seq.* ("the Act") required contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less that the "prevailing rate of wages" (hourly cash wages plus fringe benefits) in the county where the work is performed. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website at:

https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Rates.aspx

All contractors and subcontractors rendering services under this contract shall comply with all requirements of the Act to the extent applicable, *including but not limited to,* all wage, notice and record keeping duties.

IMPORTANT NOTICE OF RESPONSIBILITY FOR PERIODIC REVISIONS TO PREVAILING WAGE RATES

Revisions of the following Prevailing Wage Rates are made periodically by the Illinois Department of Labor. These may be accessed by computer at https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Rates.aspx. As required by the Prevailing Wage Act, any and all such revisions supersede the Department of Labor's December determination. Bidders and Contractors performing work on this Project are responsible for determining the applicable prevailing wage rates at the time of bid submission and performance of the Work. Failure of a Bidder/Contractor to make such determination shall not relieve it of its obligations in accordance with the Contract Documents. In consideration for the award to it of the Contract for this Project, the Contractor agrees that the foregoing notice satisfies any obligation of the public body in charge of this Project to notify the Contractor of periodic changes in the prevailing wage rates and the Contractor agrees to assume and be solely responsible for, as a material obligation of the Contractor under the Contract, the obligation to determine periodic revisions of the prevailing wage rates, to notify its subcontractors of such revisions, to post such revisions as required for the posting of wage rates under the Act, and to pay and require its subcontractors to pay wages in accordance with such revised rates.

I hereby agree to adhere to all requirements of the State of Illinois Prevailing Wage Act.

Contractor: _____ Date: _____

Contractor Representative Signature: _____

Printed Name: _____

Will County Prevailing Wage Rates posted on 8/15/2023

						Overtime										
Trade Title	**Rg**	**Type**	**C**	**Base**	**Foreman**	**M-F**	**Sa**	**Su**	**Hol**	**H/W**	**Pension**	**Vac**	**Trng**	**Other Ins**	**Add OT 1.5x owed**	**Add OT 2.0x owed**
ASBESTOS ABT-GEN	All	ALL		48.90	49.90	1.5	1.5	2.0	2.0	17.37	15.91	0.00	0.91		0.00	0.00
ASBESTOS ABT-MEC	All	BLD		40.59	43.84	1.5	1.5	2.0	2.0	15.22	15.16	0.00	0.88		2.80	5.60
BOILERMAKER	All	BLD		54.71	59.63	2.0	2.0	2.0	2.0	6.97	25.06	0.00	2.83		0.00	0.00
BRICK MASON	All	BLD		50.81	55.89	1.5	1.5	2.0	2.0	12.50	23.01	0.00	1.16	0.00	0.00	0.00
CARPENTER	All	ALL		53.51	58.86	2.0	2.0	2.0	2.0	12.29	29.38	0.25	0.81		0.00	0.00
CEMENT MASON	All	ALL		46.25	48.25	2.0	1.5	2.0	2.0	12.39	31.82	0.00	0.80	0.00	0.00	0.00
CERAMIC TILE FINISHER	All	BLD		45.62	45.62	1.5	1.5	2.0	2.0	12.75	15.64	0.00	1.04	0.00	0.00	0.00
CERAMIC TILE LAYER	All	BLD		53.14	58.14	1.5	1.5	2.0	2.0	12.75	19.41	0.00	1.12	0.00	0.00	0.00
COMMUNICATION TECHNICIAN	All	BLD		43.00	47.30	1.5	1.5	2.0	2.0	16.89	16.10	0.00	0.75	2.37	0.00	0.00
ELECTRIC PWR EQMT OP	All	ALL		60.15	66.00	1.5	1.5	2.0	2.0	13.08	20.29	0.00	3.25	0.00	0.00	0.00
ELECTRIC PWR GRNDMAN	All	ALL		46.92	66.00	1.5	1.5	2.0	2.0	10.21	15.83	0.00	2.54	0.00	0.00	0.00
ELECTRIC PWR LINEMAN	All	ALL		60.15	66.00	1.5	1.5	2.0	2.0	13.08	20.29	0.00	3.25	0.00	0.00	0.00
ELECTRICIAN	All	BLD		52.00	56.68	1.5	1.5	2.0	2.0	17.34	21.56	0.00	1.35	4.76	0.00	0.00
ELEVATOR CONSTRUCTOR	All	BLD		65.12	73.26	2.0	2.0	2.0	2.0	16.08	20.56	5.20	0.70		0.00	0.00
GLAZIER	All	BLD		49.75	51.25	1.5	2.0	2.0	2.0	15.44	25.36	0.00	2.07	0.00	0.00	0.00
HEAT/FROST INSULATOR	All	BLD		54.12	57.37	1.5	1.5	2.0	2.0	15.22	17.86	0.00	0.88		4.15	8.30
IRON WORKER	All	ALL		49.00	53.90	2.0	2.0	2.0	2.0	13.81	29.18	0.00	1.00	0.00	0.00	0.00
LABORER	All	ALL		48.90	49.65	1.5	1.5	2.0	2.0	17.37	15.91	0.00	0.91		0.00	0.00
LATHER	All	ALL		53.51	58.86	2.0	2.0	2.0	2.0	12.29	29.38	0.25	0.81		0.00	0.00
MACHINIST	All	BLD		55.74	59.74	1.5	1.5	2.0	2.0	9.93	8.95	1.85	1.47		0.00	0.00
MARBLE FINISHER	All	ALL		38.75	52.46	1.5	1.5	2.0	2.0	12.50	20.95	0.00	0.66	0.00	0.00	0.00
MARBLE SETTER	All	BLD		49.96	54.96	1.5	1.5	2.0	2.0	12.50	22.31	0.00	0.85	0.00	0.00	0.00
MATERIAL TESTER I	All	ALL		38.90		1.5	1.5	2.0	2.0	17.37	15.91	0.00	0.91		0.00	0.00
MATERIALS TESTER II	All	ALL		43.90		1.5	1.5	2.0	2.0	17.37	15.91	0.00	0.91		0.00	0.00
MILLWRIGHT	All	ALL		53.51	58.86	2.0	2.0	2.0	2.0	12.29	29.38	0.25	0.81		0.00	0.00
OPERATING ENGINEER	All	BLD	1	56.60	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00

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OPERATING ENGINEER	All	BLD	2	55.30	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	BLD	3	52.75	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	BLD	4	51.00	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	BLD	5	60.35	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	BLD	6	57.60	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	BLD	7	59.60	60.60	2.0	2.0	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	FLT	1	64.55	64.55	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	FLT	2	63.05	64.55	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	FLT	3	58.55	64.55	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	FLT	4	54.05	64.55	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	FLT	5	66.05	64.55	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	FLT	6	54.05	64.55	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	1	54.80	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	2	54.25	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	3	52.20	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	4	50.80	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	5	49.60	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	6	57.80	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
OPERATING ENGINEER	All	HWY	7	55.80	58.80	1.5	1.5	2.0	2.0	22.95	20.05	2.00	2.70		0.00	0.00
PAINTER	All	ALL		51.55	57.99	1.5	1.5	1.5	2.0	14.76	15.69	0.00	1.86	0.00	0.00	0.00
PAINTER - SIGNS	All	BLD		41.55	46.67	1.5	1.5	2.0	2.0	3.04	3.90	0.00	0.00	0.00	0.00	0.00
PILEDRIVER	All	ALL		53.51	58.86	2.0	2.0	2.0	2.0	12.29	29.38	0.25	0.81		0.00	0.00
PIPEFITTER	All	BLD		55.00	58.00	1.5	1.5	2.0	2.0	12.65	22.85	0.00	3.12	0.00	0.00	0.00
PLASTERER	All	BLD		48.75	51.68	1.5	1.5	2.0	2.0	17.33	20.33	0.00	1.15	0.00	0.00	0.00
PLUMBER	All	BLD		56.80	60.20	1.5	1.5	2.0	2.0	17.00	17.29	0.00	1.73		0.00	0.00
ROOFER	All	BLD		49.00	54.00	1.5	1.5	2.0	2.0	11.83	15.56	0.00	0.99	0.00	0.00	0.00
SHEETMETAL WORKER	All	BLD		54.25	56.96	1.5	1.5	2.0	2.0	13.60	19.43	0.00	1.59	2.62	0.00	0.00
SPRINKLER FITTER	All	BLD		56.70	59.45	1.5	1.5	2.0	2.0	14.45	18.70	0.00	0.75	0.00	0.00	0.00
STONE MASON	All	BLD		50.81	55.89	1.5	1.5	2.0	2.0	12.50	23.01	0.00	1.16	0.00	0.00	0.00
TERRAZZO FINISHER	All	BLD		46.94	46.94	1.5	1.5	2.0	2.0	12.75	17.73	0.00	1.07	0.00	0.00	0.00

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TERRAZZO MECHANIC	All	BLD		50.85	54.35	1.5	1.5	2.0	2.0	12.75	19.12	0.00	1.10	0.00	0.00	0.00
TRAFFIC SAFETY WORKER I	All	HWY		40.10	41.70	1.5	1.5	2.0	2.0	10.60	9.35	0.00	1.00	0.00	0.00	0.00
TRAFFIC SAFETY WORKER II	ALL	HWY		41.10	42.70	1.5	1.5	2.0	2.0	10.60	9.35	0.00	1.00	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	1	43.70	44.25	1.5	1.5	2.0	2.0	11.15	13.26	0.00	0.15	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	2	43.85	44.25	1.5	1.5	2.0	2.0	11.15	13.26	0.00	0.15	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	3	44.05	44.25	1.5	1.5	2.0	2.0	11.15	13.26	0.00	0.15	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	4	44.25	44.25	1.5	1.5	2.0	2.0	11.15	13.26	0.00	0.15	0.00	0.00	0.00
TUCKPOINTER	All	BLD		50.53	51.53	1.5	1.5	2.0	2.0	9.55	21.72	0.00	1.11	0.00	0.00	0.00

Legend

Rg Region
Type Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers
C Class
Base Base Wage Rate
OT M-F Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.
OT Sa Overtime pay required for every hour worked on Saturdays
OT Su Overtime pay required for every hour worked on Sundays
OT Hol Overtime pay required for every hour worked on Holidays
H/W Health/Welfare benefit
Vac Vacation
Trng Training
Other Ins Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

Explanations WILL COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

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ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice, sound and vision production and reproduction, telephone and telephone interconnect, facsimile, equipment and appliances used for domestic, commercial, educational and entertainment purposes, pulling of wire through conduit but not the installation of conduit.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with

attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

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OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

Class 6. ROV Pilot, ROV Tender

TRAFFIC SAFETY Worker I

Traffic Safety Worker I - work associated with the delivery, installation, pick-up and servicing of safety devices during periods of roadway construction, including such work as set-up and maintenance of barricades, barrier wall reflectors, drums, cones, delineators, signs, crash attenuators, glare screen and other such items, and the layout and application or removal of conflicting and/or temporary roadway markings utilized to control traffic in construction zones, as well as flagging for these operations.

TRAFFIC SAFETY WORKER II

Work associated with the installation and removal of permanent pavement markings and/or pavement markers including both installations performed by hand and installations performed by truck.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yeards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

Will County Prevailing Wage Rates posted on 8/15/2023

EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT CERTIFICATION

_____, being first and duly sworn, deposes and says:

That he is_____ of

_____

(Partner, Officer, Owner, etc.)

_____

(Contractor)

The undersigned hereby agrees that, to the extent required by the Employment of Illinois Workers on Public Works Act (30 ILCS 570/1 et seq.), as now existing or hereafter amended, the undersigned shall comply with the Illinois labor employment requirements as set forth in the Act.

_____

(Name of Contractor, if Contractor is an Individual)
(Name of Partner, if Partner is a Partnership)
(Name of Officer, if Contractor is a Corporation)

The above statements must be subscribed and sworn to before a notary public.
Subscribed and sworn to

This_____day of _____,_____.

By_____

_____

(Notary Public)

151439

BOLINGBROOK PARK DISTRICT
FAIR EMPLOYMENT PRACTICES
AFFIDAVIT OF COMPLIANCE

NOTE: THIS AFFIDAVIT MUST BE EXECUTED AND SUBMITTED WITH THE SIGNED CONTRACT FORM. NO CONTRACTS WILL BE ACCEPTED BY THE BOARD OF COMMISSIONERS OF THE BOLINGBROOK PARK DISTRICT UNLESS SAID AFFADIVIT IS SUBMITTED CONCURRENTLY WITH THE CONTRACT.

_____
(Name)

being first duly sworn, deposes and says that he/she is the

_____
(Title)

of_____
(Name of Company)

and that he/she has the authority to make the following affidavit, that he/she has knowledge of the Bolingbrook Park District Bid Specifications and Documents and Ordinances relating to Fair Employment Practices and knows and understands the contents thereof: that he/she certifies hereby that it is the policy of

_____
(Name of Company)

to comply with the Equal Employment Opportunity requirements in 44 Illinois Administrative Code Section 750 *et seq*.

Section I. This EQUAL EMPLOYMENT OPPORTUNITY CLAUSE is required by the Illinois Human Rights Act and the Rules and Regulations of the Illinois Department of Human Rights published at 44 Illinois Administrative Code Section 750, *et seq*.

Section II. In the event of the Contractor's noncompliance with any provision of this Equal Employment Opportunity Clause, the Illinois Human Right Act, or the Rules and Regulations for Public Contracts of the Department of Human Rights (hereinafter referred to as the Department) the Contractor may be declared non-responsible and therefore ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and this agreement may be canceled or voided in whole or in part, and other sanctions or penalties may be imposed or remedies involved as provided by statute or regulation.
During the performance of this Agreement, the Contractor agrees:

A. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, legal source of income, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service; and,

further, that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate action to rectify any underutilization.

B. That, if it hires additional employee in order to perform this Agreement, or any portion hereof, it will determine the availability (in accordance with the Department's Rules and Regulations for Public Contracts) of minorities and women in the area from which it may reasonably recruit and it will hire for each job classification for which employees are hired in a way that minorities and women are not underutilized.

C. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, legal source of income, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service.

D. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and Department's Rules and Regulations for Public Contract.

E. That it will submit reports as required by the Department's Rules and Regulations for Public Contracts, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and Department's Rules and Regulations for Public Contracts.

F. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and Department's Rules and Regulations for Public Contracts.

G. That it will include verbatim or by reference the provisions of this Equal Employment Opportunity Clause in every subcontract it awards under which any portion of this Agreement obligations are undertaken or assumed, so that such provisions will be binding upon such subcontractor. In the same manner as the other provisions of this Agreement, the Contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Department to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

Section III. For the purposes of subsection G of Section II, "subcontract" means any agreement, arrangement or understanding, written or otherwise, between the Contractor and any person under which any portion of the Contractor's obligations under one or more public contracts is performed, undertaken or assumed; the term "subcontract", however, shall not include any agreement, arrangement or understanding in which the parties stand in the relationship of an employer and an employee, or between a Contractor or other organization and its customers.

_____
(Signature)

SUBSCRIBED and sworn to before me this _____ day of _____, _____

_____
(Notary Public)

#171277

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That _____

as Principal, hereinafter called Contractor, and_____
as Surety, hereinafter call Surety, are held and firmly bound unto the Bolingbrook Park District as Oblige, hereinafter call Owner, in the amount of_____(Dollars)
$_____ (One Hundred Ten Percent of the Contract Price) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by a written agreement dated the _____day of _____, 2023 entered into a contract with Owner for:

BOLINGBROOK PARK DISTRICT
ASHBURY'S AT BOUGHTON RIDGE HVAC REPLACEMENT

In accordance with Contract Documents prepared by:

Bolingbrook Park District
201 Recreation Drive
Bolingbrook, Illinois 60440

which contract is by reference made a part hereof, and is hereinafter referred as the Contract.

NOW THEREFORE, the condition of this obligation is such that if the said Contractor shall in all respects well and truly keep and perform the said Contract, and shall pay all sums of money due or to become due, for any labor, materials, apparatus, fixtures or equipment furnished for the purpose of constructing the work provided in said contract, and shall defend, indemnify and save harmless the Owner against any and all liens, encumbrances, damages, claims, demands, expenses, costs and charges of every kind except as otherwise provided in said Contract Documents arising out of or in relation to the performance of said work and the provisions of said contract, and shall remove and replace any defects in workmanship or materials which may be apparent or may develop within a period of one (1) year from the date of final acceptance, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same shall in any ways affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

Surety companies executing Bonds must hold Certificates or Authority as Acceptable Sureties (31 CFR 223) and be authorized to transport business in the State where the Project is located.

Signed and sealed the _____day of _____, 2023.

_____
(Contractor)

_____ (SEAL)
(Witness)

_____
(Title)

_____
(Surety)

_____ (SEAL)
(Witness)

_____
(Title)

LABOR AND MATERIALS BOND

KNOW ALL MEN BY THESE PRESENTS: That _____

Principal, hereinafter called Contractor, and _____as Surety, hereinafter called Surety, are held and firmly bound unto the Bolingbrook Park District as Obligee, hereinafter called the Owner, in the amount of _____(Dollars) $_____ (One Hundred Ten Percent of the Contract Price) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by a written agreement dated the _____ day of _____, 2023 entered into a contract with Owner for:

BOLINGBROOK PARK DISTRICT
ASHBURY'S AT BOUGHTON RIDGE HVAC REPLACEMENT

In accordance with Contract Documents prepared by:

BOLINGBROOK PARK DISTRICT
201 RECREATION DRIVE
BOLINGBROOK, IL 60440

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW THEREFORE, the condition of this obligation is such that, if Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. Claimant is defined as one having a direct contract with the Contractor or with a Subcontractor of the Contractor for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Contractor and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of one hundred eighty (180) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

    a) Unless claimant, other than one having a direct contract with the Contractor, shall have given written notice to any two of the following: the Contractor, the Owner, or the Surety above named, within one hundred eighty (180) days after such claimant did or performed

the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Contractor, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration on one (1) year following the date on which Contractor ceased Work on said Contract it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien by presented under and against this bond.

Surety companies executing Bonds must hold Certificates of Authority as Acceptable Sureties (31 CFR 223) and be authorized to transact business in the State where the Project is located. Contractor shall include such language as shall guarantee the faithful performance of the Prevailing Wage Act as required in these Bid Documents.

Signed and sealed the _____ day of _____, 2023.

_____
(Contractor)

_____ (SEAL)
(Witness)

_____
(Title)

_____
(Surety)

_____ (SEAL)
(Witness)

_____
(Title)

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement).

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

The General Aggregate Limit under LIMITS OF INSURANCE (SECTION III) applies separately to each of your projects away from premises owned by or rented to you.

AGREEMENT

BOLINGBROOK PARK DISTRICT
ASHBURY'S AT BOUGHTON RIDGE HVAC REPLACEMENT

This Agreement, made and concluded this _____day of _____, 2023 between the Bolingbrook Park District, party of the first part hereinafter referred to as the Owner, and _____his/their executors, administrators, successors or assigns, known as the party of the second part, hereinafter referred to as the Contractor.

WITNESSETH: That for and in consideration of the payments and agreement mentioned in the Proposal hereto attached, to be made and performed by the Owner, and according to the terms expressed in the Bond referring to these presents, the Contractor agrees with said Owner at his/their own proper cost and expense to do all the work, furnish all materials and all labor necessary to complete the work in accordance with the Contract Documents hereinafter described and in full compliance with all of the plans of this agreement.

And it is also understood the Contract Documents as defined in the General Requirement are all essential documents of this Contract and are part thereof.

In witness thereof, the said parties have executed these presents on the date above mentioned.

BOLINGBROOK PARK DISTRICT (OWNER) **(SEAL)**

By: _____ Attest: _____

Name: _____ Name: _____
(Type or Print) (Type or Print)

Title: _____ Title: _____

_____ (CONTRACTOR) **(SEAL)**

By: _____ Attest: _____

Name: _____ Name: _____
(Type or Print) (Type or Print)

Title: _____ Title: _____