

PROJECT PROPOSAL



Hall County Court House – Turnkey Project Daikin Chillers and AHUs replacement

OMNIA[®]
PARTNERS

Proposal #: Q-00096640
License #: CN007270
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Prepared for:

Kevin Ivey
Hall County Commissioners
225 Green St.
Gainesville, GA 30501
8/18/2022

Prepared by:

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A Proven Partner

Our customers count on Daikin Applied to design and manufacture technologically advanced commercial HVAC systems that deliver the highest efficiency and solutions that extend the life of their building systems.

Our Company

Daikin Applied is a wholly owned subsidiary of Daikin Industries, Ltd. the largest air conditioning manufacturer in the world. Product innovation is a hallmark at Daikin Applied. Customers rely on products like Magnitude® magnetic bearing chillers, Pathfinder® air cooled chillers, Rebel® rooftop units, SmartSource® water source heat pumps, and Modular Central Plants for exceptional efficiency, reliability, and sustainability.

Our Values

Quality and comfortable air is central to our lives – at work and at play. We strive to improve Indoor Environmental Air Quality in the buildings we serve. Quality people delivering quality products. From concept and design through production and delivery we are committed to making the products you receive a reliable component of your building system.

We continue to challenge ourselves to develop new technologies that minimize energy usage and maximize comfort. Across Daikin, we believe little efforts that individuals can make to protect the environment can add up to big things.

Locations

Daikin Applied has more than six million square feet of manufacturing facilities at 12 plants on three continents. We have locations with more than 5,000 dedicated employees around the world. All our manufacturing facilities in the United States are ISO 9001 certified. For more information, visit www.DaikinApplied.com.

The award-winning Daikin Applied Development Center, at our headquarters in Plymouth, Minnesota, is the world's most advanced facility for HVAC research and development. Every day our people work to develop HVAC technologies that reduce energy consumption and the carbon footprint of the buildings where they will be used.

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Executive Summary

The existing chillers are 20 years old, and inefficient, especially at low load conditions. The long-term reliability, availability of repair parts, and efficiency make these chillers expensive to support. The replacement chiller will increase efficiency and reliability while reducing operational cost and potential for catastrophic failure resulting in negative tenant impact.

A new Daikin chiller with frictionless magnetic bearings will minimize the risk of down time with its inherent dual compressor design and built-in variable speed drive technology. This machine increases in efficiency as the load decreases and has a superior turn down ratio. It has potential to impact significant operation and maintenance cost savings in the form of reduced service, maintenance, repair, and energy usage.

Thank you again for your interest in working with Daikin Applied. We are pleased to have this opportunity to offer solutions that will significantly improve the operating efficiency at Hall County Commissioners

Sincerely,

Omar Singh
Phone: (770) 514-5880 Mobile: (678) 858-3635
Email: omar.singh@daikinapplied.com
www.daikinapplied.com

Service Capabilities

Extend the life of your equipment with Daikin Applied Service Group

Keep your building's HVAC system running at its best with world-class Daikin Applied Service Care programs. Daikin Applied Comprehensive Care programs and can save you money on energy and repair costs by optimizing system performance, reducing the number of unexpected breakdowns, and minimizing downtime for repairs. Plus, Daikin Applied Comprehensive Care programs can be tailored to fit your unique building needs and budget.

- Comprehensive maintenance agreements
- Planned inspections
- System upgrades
- Equipment replacement

Daikin Rental Solutions

Daikin Rental Solutions can provide and temporarily install a complete line of HVAC products designed to keep your building or process going when unexpected circumstances or catastrophic failure occurs. The need for additional cooling will occasionally arise due to planned down time of the facility's equipment and or simply supplementing aging or inefficient existing systems during periods of heavy loads. In order to help customers properly prepare for disaster recovery, Daikin can develop a contingency plan for securing their facility's HVAC needs no matter the situation. This proactive planning will greatly reduce the time, and expense needed to get the building or process operational in the event of failure.

Quality repair service you can count on

When something breaks, count on Daikin Applied's service professionals to be there when you need us. Available 24/7/365, our factory trained technicians have extensive knowledge of HVAC systems and controls to perform maintenance and repairs in your building. We arm our technicians with the technology and skills to quickly diagnose and repair your equipment – whatever the make or model – our mission is to fix it right the first time.

Safety... never compromised

Safety is a core value across our business. Daikin Applied is committed to protecting the health and safety of our employees, customers, and the public.

At the jobsite – training, knowledge, awareness

All service supervisors are OSHA 30 hr certified and technicians must complete the D&B Service Safety Management Program which includes monthly OSHA compliant safety training, toolbox safety, and auditing. Before starting work, a Job Hazard Analysis assessment is completed. Personnel are equipped with Personal Protective Equipment that include NFPA-70E compliant fire rated uniforms and Arc flash for electrical tasks.

Environmental

Our technicians are fully trained in the proper handling and recovery of refrigerants to comply with EPA Clean Air Act regulations during service, repair, or disposal of air conditioning equipment.

With Daikin Applied Comprehensive Care Programs, you can expect

- Preferred service scheduling – Daikin Applied Comprehensive Care Program customers receive priority service
- Regularly scheduled maintenance or inspection – Optimized operation and reduced repair costs
- System monitoring reports – Designed to keep you aware of potential repairs or suggested upgrades
- Technical support - Backed by Daikin Applied design and manufacturing expertise

Operational instruction – Factory trained technicians are available to instruct your staff on-site

Project Management Approach

Daikin Applied employs a collaborative project management approach and strives for the highest customer satisfaction throughout the pre-construction, construction, and close out of our projects for our customers.

As seen in the project organization chart, we emphasize to the project team that all activities on and off the project site are driven in a consistent communication protocol. Daikin Applied Project Manager and Support Team will drive the consultants and contractors towards the successful and timely completion of the project.

Project Communication

Daikin Applied believes that thorough and consistent project communication is the key to making sure the project is executed with the Customer's Business Metrics in mind. We will organize and conduct with your team and our team members a Project Expectations Kick-Off Meeting. This is a great time for us to establish the business goals for the project from your team's perspectives and will help to define your team's expectations for us throughout the project. Daikin Applied will also communicate to all representatives our expectations for safety, customer satisfaction, quality, and performance.

We expect to have formal, in-person weekly meetings for the active participants at a minimum. In addition to the scope, schedule, and coordination topics, a weekly safety topic will be discussed with the representatives and reinforced with the on-site personnel.

Scope of Services

Daikin Applied Americas, Inc. is pleased to offer the following Project proposal for your consideration. Thank you for selecting Daikin Applied Service Group to care for your building's system. Our factory-trained service personnel have the knowledge and experience to deliver the best support available. Daikin will perform all services using factory-trained technicians who specialize in HVAC, refrigeration and electronic system maintenance and repair services. Daikin is pleased to offer this proposal for your consideration.

DAIKIN'S PROPOSED PROJECT TEAM

Daikin Applied

Mark Schnetzka	<i>General Manager</i>	mark.schnetzka@daikinapplied.com
		470-562-2440
Blake Dickey	<i>District Manager</i>	blake.dickey@daikinapplied.com
		404-290-5630
Joseph Williams	<i>Service Sales Manager</i>	Joseph.williams@daikinapplied.com
		404-210-8293

Daikin Applied

Matthew Prather	<i>Equipment Engineer (PE)</i>	matthew.prather@daikinapplied.com
		470-270-3700

Daikin Service

Omar Singh	<i>Project Manager</i>	Omar.Singh@daikinapplied.com
		404-230-4215
Frank Camis	<i>Operation Manager</i>	frank.camis@daikinapplied.com
		678-767-0997
Dustin Brock	<i>Service Coordinator</i>	dustin.brock@daikinapplied.com
		404-308-5925

SUBCONTRACTOR PLAN

PRE-QUALIFYING PACKAGING PLAN

A pre-qualifying packaging plan will be performed with subcontractors by providing them with detailed plans and specs for each day of work. Detailed scope of work will be developed utilizing the design criteria documents for architectural, electrical, and mechanical provided in the Turnkey Quote to enable firm pricing. Once the final design is completed Daikin will follow a similar process as noted below in the subcontractor plan.

Extensive construction management and project management experience along with solid contractor relationships will be critical to the success of Hall County Chiller Plant replacement. Pre-qualifying subcontractors is an important step in any project, specifically ones with a tight schedule. Daikin Applied utilizes predefined qualification tools in conjunction with verifications processes to ensure all subcontractors are evaluated for ability to perform and successfully complete the proposed scope of work.

Daikin Applied Subcontractor Pre-Qualification Application Criteria

1. **TOP SAFETY STANDARDS** are required, and current safety rating supplied
2. **LEGAL STATUS** listing any lawsuits, performance issues and sign the CCS documentation provided in the RFQ/RFP
3. **BONDING, CREDIT, and INSURANCE CAPABILITY** confirmed by Daikin's finance department
4. **OCCUPIED GOVERNMENT BUILDING EXPERTISE** and tight schedule capabilities with references
5. **LICENSES** confirmed based upon their trade
6. **STAFFING AVAILABILITY** to meet the construction schedule is critical

Daikin Applied has a current list of subcontractors that are prequalified, and the mechanicals are local with proven track records. We will work with you to get all subcontractors approved and badged prior to work being performed in a Hall County facility. The key to any successful renovations is good subcontractors.

Scope of Services

Daikin Applied Americas, Inc. is pleased to offer the following Project proposal for your consideration. Thank you for selecting Daikin Applied Service Group to care for your building's system. Our factory-trained service personnel has the knowledge and experience to deliver the best support available. Daikin Applied will use authorized factory-trained technicians who specialize in HVAC, refrigeration, and electronic system maintenance and repair services. Daikin is pleased to offer this proposal for your consideration.

Scope of equipment

We are pleased to provide equipment pricing for your favorable consideration and review regarding the above-referenced project in accordance with the standard terms and conditions of sale attached to this document.

Major Mechanical Equipment:

1. *Daikin Chiller M/N - WMC043DDSNA..... QTY (2)*
2. *Daikin Air Handler M/N – RAH077C..... QTY (2)*
3. *ABB Variable Frequency Drives with bypass QTY (4)*
4. *Taco Condenser Water Pumps..... QTY (2)*
5. *Taco Chilled Water Pumps..... QTY (2)*
6. *Sherlock 202 Refrigerant Monitor..... QTY (1)*

Chiller and AHUs Warranties:

1. *Standard warranty..... Domestic, First Year Standard Warranty (Parts & Labor)*
2. *Extended Warranty..... 4 Years Entire Unit Parts & Labor*
3. *Refrigerant Warranty..... 5 years R-134a Warranty*
4. *AHU 4 and 5 Warranty..... First-Year Parts Only.*

Scope of Work

Daikin Applied design is based around the Oilless WMC Daikin Magnitude Water Cooled Centrifugal Chiller. The WMC Chiller has a Nominal Part load value of .35 and a decibel level of 73. Please see the energy analysis below on existing chillers vs the new magnetic bearing chiller. Daikin Applied scope will be to provide the labor, materials, and supervision required to replace two (2) existing McQuay chillers. Within our design, we are also including the replacement of the two-roof top chilled water air handlers and four pumps. Two of these are chilled water pumps and two are condenser water pumps. We believe with the rising energy cost this is the best application for the Hall County Courthouse.

2 McQuay Chiller Demo & Removal 1st Weekend Fri. 6pm – Mon. 8am

1. Schedule projects kick-off meetings before work begins.
2. Review site staging plan.
3. Provide roofing protection outside of the mechanical room.
4. The customer is to provide access to the building for after-hours work.
5. Shut down chiller & lockout tag out electrical.
6. Disconnect controls and sensors and set them aside.
7. Drain condenser and evaporator barrels prior to removal of the chillers.
8. Remove existing piping connected to the chillers.
9. Recover refrigerant and recycle the oil per EPA requirements; provide appropriate documentation.
10. Provide site safety plan for hoisting, and rigging, of the chillers.
11. Remove the chillers from the mechanical room, provide the required rigging and hoisting, and remove the chillers from the location.
12. Remove chiller from the site and dispose of it per EPA requirements & documentation.

Daikin Chiller #1 Installation 1st weekend Fri. 6pm – Mon. 8am

1. Provide (2) new Daikin WMC chiller per provided technical data sheets as attached.
2. Provide labor and materials to lift, and hoist two (2) new chillers into place.
3. Existing equipment pads to be utilized for new chillers.
4. Provide labor and materials necessary to reconfigure condenser water piping for connections to Chiller #1. (Existing piping to the building is excluded)
5. Provide necessary labor and materials to reconfigure chilled water piping for connections to chiller #1. (Existing piping to the building is excluded)
6. Provide labor and materials to install (2) two new isolation valves on the condenser and chill-water piping.
7. Provide labor and materials to remove and install new thermometers, gauges, and Pete's plugs.

8. Provide labor and materials to install one (1) sherlock 202 Refrigerant Monitor with two sensors installed one per chiller.
9. Provide labor and materials to install pipe supports, hangers & pipe stands as required for piping to chiller #1.
10. Provide labor and materials to re-insulate chilled water piping to point of connection.
11. Fill the system with water and leak check.
12. Provide labor to perform T&B across the equipment installed.
13. Provide necessary labor and materials to reconnect electrical to the new chillers.
14. Terminate electrical feeds to new chillers' internal disconnect.

Pump demolition and installation 2nd Weekend Fri. 6pm – Mon. 8am

1. Provide labor to lock out tag out four (4) pumps for energy isolation.
2. Provide labor to isolate four (4) pumps at the water isolation valves (Valves that will not hold stop checks are excluded)
3. Provide four (4) new ABB variable frequency drives with bypass.
4. Provide four (4) new Taco pumps utilizing existing equipment pads.
5. Provide necessary electrical to connect to variable frequency drives and pumps.
6. Provide necessary piping configurations to reconnect pumps.
7. Provide materials and labor to re-insulate chilled water pumps to point of connection.
8. Provide labor to start pumps and variable frequency drives up and check operations.
9. Provide submittals on pumps and variable frequency drives installed.

Daikin Chiller #2 Installation Weekday

1. Provide labor and materials necessary to reconfigure condenser water piping for connections to Chiller #2. (Existing piping to the building is excluded)
2. Provide necessary labor and materials to reconfigure chilled water piping for connections to chiller #2. (Existing piping to the building is excluded).
3. Provide labor and materials to install (2) new isolation valves on condenser and chill-water piping.
4. Provide labor and materials to remove and install new thermometers and Pete's plugs.
5. Provide labor and materials to install pipe supports, hangers & pipe stands as required for piping to chiller #2.
6. Provide labor and materials to re-insulate chilled water piping to point of connection to building piping for chiller #2.
7. Fill system with water and leak check.
8. Provide labor to perform T&B across the equipment.
9. Provide necessary electrical to reconnect the existing disconnect switch to the new chillers.
10. Terminate electrical feeds to new chillers' internal disconnect.

2 McQuay AHUs Demo & Removal 2nd Weekend Fri. 6pm – Mon. 8am

1. Provide labor to perform electrical and chill-water Lock out tag-out for (2) McQuay AHUs on the roof.
2. Provide labor to disconnect chill-water piping in the ceiling on the 4th floor below the roof penetration.
3. Provide labor to disconnect high-voltage electrical connections to both McQuay AHUs.
4. Provide labor to disconnect control wiring from air handlers (controls are being performed under a different contract).
5. Provide labor to hoist/rig (2) McQuay AHUs off the existing curb adaptor and remove them from the site.
6. Provide trucking to haul off the units from the site.
7. Provide cleanup of the work staging area.

2 Daikin AHUs Installation 2nd Weekend Fri. 6pm – Mon. 8am

1. Customer are to provide access to the building for weekend work.
2. Provide labor and transportation for (2) Daikin AHUs to the site for staging.
3. Provide labor to hoist/rig AHUs to the roof and set them on existing curbs.
4. Provide labor and materials to reconnect chill-water piping to control valves inside AHUs.
5. Provide labor and materials to reconnect the high voltage.
6. Provide labor to reconnect controls to the air handler (integration of controls by CCI on a different contract).
7. Provide labor and materials to reconnect condensate drains to existing ones.

Controls

1. iNTREO/Delta DDC – Web-Based (Niagara with Delta DDC) Controls or interlock wiring will be provided and installed for the
2. Following HVAC equipment: Communication will be via BACnet and integration with BACnet as per specifications:

Air Handling Units AHU 4 & 5 Replacement by MC

1. (4) Duct Temp Sensors
2. (2) Mixed Air Temp Sensors
3. (2) Low Temp Detectors
4. (2) Combo Temp/Humidity Duct Sensor
5. (2) DP Sensors
6. (2) OA Damper Control

Chiller Plant Controls

1. (2) new replacement Chillers (by MC)
2. (6) Immersion Sensors
3. (2) new replacement CW Pumps w/VFD's (by MC)
4. VFD Control
5. (2) new replacement CHW Pumps w/VFD's (by MC)
6. VFD Control
7. (1) new Refrigerant Monitor (by MC)
8. Alarm Contact

Factory Start-Up & Owner Training

1. Factory Start-Up, Test, Adjust & Performance evaluation performed by Daikin Applied Factory Service.
2. Completion of equipment warranty registration paperwork.
3. Provide owner/operator training to Hall County Courts personnel.
4. Provide IOM manuals, submittals, technical data & certified drawings to end-users/owners.

Add alternate options – See cost below.

1. Five (5) Annual Maintenance Agreement on the (2) Daikin WMC chillers includes (3) operational and (1) annual inspections with condenser tube brushing.
2. (1) 250-Ton Air cool rental chiller, as an emergency.

Proposal Clarifications, Exclusions, and Exceptions:

Clarifications:

1. This proposal takes precedence over any other written, verbal, or other statements of scope, schedule, and pricing.
2. Acceptance of a Notice to Proceed is not an acceptance of terms and conditions. Any Notice to Proceed will be based upon the terms and conditions contained in this proposal.
3. All working hours are estimated at regular or straight time rates. Accelerated or expedited project execution schedules and associated costs are subject to additional quotation.
4. Daikin Applied is not responsible for any delays or cost as a result of delays incurred due to limited or no access to roads, buildings or equipment required to complete the scope of work provided for in this proposal.
5. Sales taxes are not included within our pricing.
6. Costs associated with Owner directed programs or software required to fulfill project reporting, execution, safety management, and or Owner or Owner's Representative invoicing are not covered and will be invoiced in addition to the agreed proposal price.
7. Signage will not be provided or installed by Daikin Applied.
8. Staffing of onsite Safety or Security personnel during project execution or after working hours will not be provided and Daikin Applied understands this is the responsibility of the Owner or Owner's Representative.
9. Site drainage, pollution prevention plan and execution, temporary bathrooms, emergency eye-wash stations, barricades, ramps, splash-blocks, fire protection plans and systems required during construction, flagman, access controls features, trash repositories and pick services are not included. Daikin Applied understands the Owner or Owners Representative is responsible for these measures.
10. Daikin Applied understands temporary HVAC, temporary power, work site lighting, and temporary water required to perform the scope of work provided is the Owner or Owner's Representative responsibility.
11. Daikin Applied will only provide supervision for itself and its sub-contractors when we or they are on site.
12. Daikin Applied Material or Labor warranty is excluded on Owner or Owner's Representative provided equipment.
13. Scheduling is tentative based upon receipt of PO. When PO is issued and approved submittals are returned, a schedule timeline will be developed with Hall County.

Exclusions:

1. Any labor, materials, or subcontracted service not specifically provided for in the description or scope of work.
2. Identification and remediation of existing code violations.
3. Authority Having Jurisdiction required changes are not included and will be quoted as additional work scope.
4. Painting, repair work to buildings, and/or equipment which is not specifically identified in the description or scope of work.
5. Costs associated with hazardous materials identification, removal, and/or abatement.
6. Temporary or portable HVAC equipment and connections to existing systems.
7. The creation of new Building Automation Systems graphics, monitoring, trending, analysis or any other software or labor required for implementation of these items.
8. Testing and balancing for the hydronic system.
9. Commissioning plan development and execution.
10. Sound testing or acoustical treatments for any elements inside or external to the work site or equipment.
11. Seismic analysis and certification for all materials and equipment.
12. Permits, insurance coverages other than indicated in the attached Evidence of Insurance, and performance and payment bonds.
13. Professional services including Architectural, Mechanical, Electrical, Structural and other Engineering Disciplines.
14. Fire, Smoke and/or Security controls, equipment, repair, graphics, programming, replacement or upgrades.
15. Prevailing wages are excluded from this proposal.

OMNIA Pricing and Acceptance

Feel free to contact me if you have any questions or concerns regarding the information contained in this Project proposal. If you would like us to proceed with the solution presented above, sign the acceptance line below (including PO# if applicable) and return a copy so that we can begin to mobilize our efforts to complete services as quickly as possible. We appreciate the opportunity to provide you with this solution and look forward to working with you on this and servicing your needs in the future.

Investment Amount and Billing Terms:

Investment required to implement the proposed solution

\$1,385,000.00

One Million, Three Hundred Eighty-Five Thousand dollars and Zero cents

Add alternates

1 – Five (5) Annual Maintenance Agreement (2) Daikin WMC Chillers \$40,750.00

1 – Emergency Chiller Rental \$17,265.00

Proposal, inclusive of the pricing, is provided in accordance with Region 4 ESC Contract # R200401,

available via OMNIA Partners, including the terms and conditions contained therein

(<https://public.omniapartners.com/suppliers/daikin-applied/contract-documentation#c38611>) shall govern this Proposal and the corresponding scope of work as described herein which are hereby incorporated by this reference. Pricing and acceptance are subject to Daikin Applied final credit approval.

Billing/Payment Terms*: Billed in full upon completion

*All billings are due immediately upon Receipt

This proposal will be honored by Daikin Applied for 30 days from the date on the front of the proposal. After 30 days, Daikin Applied reserves the right to evaluate cost changes (both increases and decreases) from the proposal.

Kevin Ivey
Hall County Commissioners
225 Green St.
Gainesville, GA 30501

Site Address:
225 Green St.
Gainesville, GA 30501

Accepted by:

(Print Full Legal Name of Customer)

(Signature)

(Title)

Approved by:

(Print Full Legal Name of Daikin Applied Representative)

(Signature)

(Title)

Omar Singh

Omar

Account Manager

Recommended Owner's Contingency:

It is highly recommended that Hall County Courthouse includes a % contingency on the proposed value to cover costs incurred directly or indirectly from Daikin Applied or Hall County Courthouse consultants for the performance of the work. This value will be entitled "Owner's Contingency" and the recommended value for this contingency is:

\$41,550.00 Fourth One Thousand Five Hundred Fifty dollars and Zero cents.

The Owner's Contingency will be specifically reconciled each month along with the payment applications for completed work. Any portion of the Owner's Contingency not used by the Owner will be returned to the Owner (Hall County Courthouse) upon final completion of the work included in the final billing. Only Hall County Courthouse legally authorized representative may authorize Daikin Applied to apply the funds at the Owner's direction. Daikin Applied will obtain formal authorization signatures and contract change orders for any use of these funds.

The recommended sum for project financing is:

Proposal Financing Items	Investment
Daikin Applied Proposal	\$1,385,000.00
Owner's Contingency	3%
Total	\$1,426,550.00

Contractor Agreement

Project No. Q-00096640

This CONTRACTOR AGREEMENT ("Agreement"), effective this _____ day of _____, 20____ ("Effective Date"), is made and entered into by and between Hall County Commissioners (hereinafter "Owner") and Daikin Applied (hereinafter "Contractor").

WHEREAS Contractor is in the business of providing equipment, labor and/or material, which may involve subcontracting a third party ("Subcontractors") to provide labor and material, to perform the scope of work described in the Proposal No. Q-00096640 Dated: 8/19/2022 hereto ("Work"), and,

WHEREAS, Contractor has offered to perform the Work for Owner with respect to the property located at 225 Green St., City of Gainesville, State of GA (hereinafter "Property").

WHEREAS Owner desires to retain Contractor to perform the Work.

NOW, THEREFORE, in consideration of the promises and the mutual covenants and agreements of the parties, it is agreed as follows:

1. **Work. Subject to credit approval**, Contractor agrees to furnish all labor, materials, tools, equipment, and samples necessary to complete the Work. Contractor acknowledges that in providing such Work, it shall at all times comply with all laws and regulations affecting, Contractor. Owner agrees that Contractor may retain one or more subcontractors ("Subcontractors") to perform the Work through a Subcontract Agreement.
2. **Term of Agreement**. Contractor will commence Work on the commencement date ("Commencement Date"). Owner will notify Contractor of the Commencement Date in writing by issuing a Notice to Proceed. The Notice to Proceed shall be issued at least fourteen (14) days before the Commencement Date. Upon substantially completing the Work, Contractor shall present a Certificate of Substantial Completion to Owner.
3. **Contract Price**. For full performance of the Work in conformance with this Agreement, Owner shall pay the Contractor the fixed sum specified in the Proposal hereto ("Contract Price"), subject to adjustment per mutual agreement of the parties should the scope of Work change. The Contract Price does not include sales tax.
4. **Relationship of Parties**. Contractor is retained by Owner only for the purpose and to the extent set forth in this Contractor Agreement. Contractor's relationship with Owner shall, during the entire term of this Contractor Agreement, be that of an independent contractor. Contractor, and any employee, agent, servant, officer, director or shareholder of Contractor, shall not be deemed an agent, servant, or employee of Owner.
5. **Compliance with Laws**. Contractor and Owner agree that parties shall comply with all federal, state, and local laws and regulations applicable to its activities under this agreement, including without limitation to the hiring, safety, and taxation of its employees, as well as obtaining and maintenance of any applicable licenses and/or permits as required by all laws and regulations applicable to its activities under this Agreement.
6. **Insurance**. At all times while performing the Work, Contractor shall maintain, at its sole cost and expense, insurance as customary within the industry. If requested Contractor will present a copy of their certificate of insurance.
7. **Indemnification**. It is the parties' obligation to defend and indemnify upon prompt receipt of written notice to defend, indemnify, and hold harmless each other's officers, directors, employees, and agents, from and against those damages, liabilities, claims, and causes of action, for property damage, personal injury or death (including without limitation injury to or death of employees or any subcontractor thereof) (jointly referred to as "Claims"), directly caused by Contractor's negligence, gross negligence, or willful misconduct of the indemnifying party during the performance of the Work.
8. **Default.**
 - 8.1. A default occurs under the terms of this Agreement if: (a) Contractor substantially fails to perform any of its material obligations under this Agreement; (b) if Owner becomes insolvent, and/or (c) if Owner fails to tender payment to Contractor under this Agreement for thirty (30) days after the date such payment is due (together "Event of Default").
 - 8.2. Upon the occurrence of an Event of Default, the non-breaching party shall provide written notice to the breaching party ("Notice of Default"). Upon receipt of the Notice of Default, the breaching party shall immediately correct the default. If the breaching party fails to correct the default for thirty (30) days after receipt of the Notice of Default or fails to provide evidence that appropriate corrective action is in reasonable process, the non-breaching party may terminate this Agreement upon written notice ("Notice of Termination"). The parties shall have any legal remedies at their disposition, as allowed by local law.

9. **Termination.** Absent an uncured Event of Default, this Agreement may only be terminated only by the consent of the parties.
 - 9.1. The termination shall be evidenced by: (a) execution of a single writing; (b) signed by Contractor and Owner; (c) that specifically identifies this Agreement, and (d) states that Owner and Contractor terminate this Agreement as of a specified date ("Termination Agreement").
 - 9.2. Prior to execution of the Termination Agreement, Contractor shall present Owner with an Application for Payment for actual Work rendered under this Agreement as of the date the parties intend to execute the Termination Agreement, and Owner shall pay Contractor the amount requested in the Application Payment contemporaneously with the party's execution of the Termination Agreement.
10. **LIMITATION OF LIABILITY: NOTWITHSTANDING ANY OTHER PROVISION TO THE CONTRARY, UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, DELAY, LIQUIDATED, SPECIAL, OR INDIRECT DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE, REVENUE, PROFITS, GOODWILL, OR OTHER BUSINESS INTERRUPTION DAMAGES, THAT ARISE OUT OF OR RELATED IN ANY WAY TO THEIR PERFORMANCE OR LACK OF PERFORMANCE UNDER THIS AGREEMENT, WHETHER BASED ON STATUTE, TORT, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER CLAIM OR THEORY OF RECOVERY OR LIABILITY WHATSOEVER, REGARDLESS OF WHETHER THESE DAMAGES COULD HAVE BEEN FORESEEN OR NOT.**
11. **Warranty.** All equipment furnished hereunder is provided with the manufacturer's warranty as the exclusive warranty for such equipment. Contractor provides such warranty as a pass-through to Owner. The manufacturer's warranty for equipment manufactured by Daikin Applied and Daikin North America are attached hereto and incorporated herein by this reference. The Contractor agrees to perform Work in a manner which is in accordance with industry standards for the operation, appearance, and public perception established by those engaged in a business similar to that of Contractor. Subcontractor Agreements will contain warranties that Subcontractors will perform the Work in a similar manner. Valid for one year from completion of the Work.
12. **Asbestos and Hazardous Materials.** In the event Contractor encounters asbestos, lead and/or other hazardous materials, Contractor will stop work and notify Owner, and shall have the right to suspend its work at no penalty to Contractor until such products or materials and the resultant hazards are removed. Completion of the work shall be extended to the extent caused by the suspension and the contract price equitably adjusted. Owner shall remediate any asbestos, lead or other hazardous materials at Owner's expense, and shall be responsible for all costs, expenses, damages, fines, penalties, claims and liabilities associated with or incurred in connection with any hazardous materials or substances, upon, beneath, about or inside Owner's equipment or property, shall bear title to, ownership of, and legal responsibility and liability for any and all such hazardous materials or substances, and shall be responsible for the removal, handling and disposal of all hazardous materials and substances in accordance with all applicable Governmental Regulations. Owner shall defend, indemnify, reimburse and hold harmless Contractor and its officers, directors, agents, and employees from and against any and all claims, damages, costs, expenses, liabilities, actions, suits, fines and penalties (including without limitation, attorneys' fees and expenses) suffered or incurred by any such indemnified parties, based upon, arising out of or in any way relating to exposure to, handling of, or disposal of any hazardous materials or substances, in connection with the services performed hereunder. Contractor reserves the right to engage others in a subcontractor status to perform the work hereunder.
13. **Confidentiality.** Owner agrees to keep confidential and use its best efforts to cause any sales representative and employees to keep confidential all trade secrets, proprietary, and confidential information (hereinafter "Confidential Information") related to Daikin Applied and safeguard all Confidential Information from disclosure or use by any person directly or indirectly under Owner's control. Confidential Information does not include (i) information which is in the public domain other than through a breach of this clause and (ii) information which was received by Owner independently of Daikin Applied. Neither expiration nor termination of this Agreement for any reason shall release Owner from the obligations of this Section.
14. **Notices.** Any information or notices required to be given under this Agreement shall be in writing and shall be delivered either by (a) certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid, in the U.S. mail; (b) a reputable messenger service or a nationally recognized overnight courier, in which case notice shall be deemed delivered one (1) business day after deposit with such messenger or courier; or (c) personal delivery with receipt acknowledged in writing, in which case notice shall be deemed delivered when received. All notices shall be addressed as follows:

If to Contractor: Daikin Applied Americas Inc.
Attn: Legal Department
13600 Industrial Park Blvd
Plymouth, MN 55340

If to Owner: Hall County Commissioners
Attn: Kevin Ivey
225 Green St.
Gainesville, GA 30501

The foregoing addresses may be changed from time to time by notice to the other party in the manner hereinbefore provided for.

15. **No Waiver.** A party's failure or neglect to enforce any provision hereof shall in no way constitutes a waiver of said party's rights under any other provision.
16. **Severability.** If any provision hereof is deemed to be invalid or unenforceable under applicable law, the remaining provisions of this Agreement shall continue to be enforceable.
17. **Applicable Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Minnesota, except conflicts of law which may require the application of another jurisdiction's laws.
18. **Miscellaneous.**

- 18.1. **Force Majeure.** Notwithstanding anything to the contrary contained in the Agreement, Daikin Applied shall have a reasonable opportunity to cure any alleged unmet performance obligations thereunder. Additionally, in the event either party is delayed in its performance due to causes outside its reasonable control, the time for such party's performance will be extended for a period of time reasonably necessary to overcome the delay.
- 18.2. **Entire Agreement; Modifications.** This Agreement constitutes the entire agreement between the parties with respect to the Work and supersedes all prior negotiations, representations or agreements relating thereto either written or oral, except to the extent that they are expressly incorporated herein. No modifications or alterations shall be made to this Agreement unless in writing and agreed upon by the parties.

IN WITNESS WHEREOF, the parties have executed this Agreement on the Effective Date, the corporate parties by their officers duly authorized.

OWNER:

Hall County Commissioners
Kevin Ivey
225 Green St.

Gainesville, GA 30501

CONTRACTOR:

Daikin Applied Americas
13600 Industrial Park Boulevard
Plymouth, MN 55441

(Print Full Legal Name of Customer)

(Signature)

(Title)

Date:

(Print Full Legal Name of Daikin Applied Representative)

Amber Sung

(Signature)

Amber

Account Manager

(Title)

9/13/2022

Date:



SUBMITTAL DATA

for

Hall County Courthouse & Annex

Prepared for

DFS - Singh

Prepared by

Prather

9/16/2022

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Technical Data Sheet for CH-1

Job Information		Technical Data Sheet
Job Name		Hall County Courthouse & Annex
Date		9/16/2022
Submitted By		Matthew Prather
Software Version		18.40
Unit Tag		CH-1
Country of Origin		USA



Unit Overview					
Model Number	Net Capacity ton	NPLV.IP kW/ton	Voltage	Starter Type	ASHRAE 90.1
WMC043DDSNA	245.0	0.3574	460 v / 60 Hz / 3 Ph	VFD	'07, '10, '13 & '16

Unit							
Model/Evap/Cond Number:	WMC043DDSNA-14/E2612-KB2C-2/C2212-JB3C-2/R134-DAA*A*				Vintage: D		
Approval:	AHRI and ETL / cETL						
Vessel Code:	ASME						
Unit Shipping Weight	Unit Operating Weight	Overall Unit Length	Overall Unit Width	Overall Unit Height			
8435 lb	9520 lb	170.1 in	47.2 in	84.0 in			
Compressor Quantity	Capacity Control		Refrigerant Type	Refrigerant Weight			
2	VFD / Inlet Guide Vanes		R134a	928 lb			
Evaporator							
Input Type	Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Actual Fluid Flow	Minimum Fluid Flow		
EWT + LWT	54.00 °F	42.00 °F	Water	488.5 gpm	145.8 gpm		
Length	Diameter	Number of Passes	Tube	Fouling Factor			
12 ft	26 in	2	Material				
Condenser							
Input Type	Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Fluid Flow			
EWT + LWT	85.00 °F	94.30 °F	Water	760.5 gpm			
Length	Diameter	Number of Passes	Tube	Fouling Factor			
12 ft	22 in	2	Material				
Copper							
0.028 in							
0.000250 °F.ft ² .h/Btu							

Unit Performance (AHRI 550/590)										
Design Points Rated with AHRI Condenser Relief – With Water										
Net Capacity ton	Input kW	Cooling Efficiency kW/ton	NPLV.IP kW/ton	Part Load Cooling Efficiency			Evaporator Fluid		Condenser Fluid	
				75% kW/ton	50% kW/ton	25% kW/ton	Pressure Drop ft H ₂ O	Entering Temperature °F	Pressure Drop ft H ₂ O	
245.0	155.2	0.6337	0.3574	0.4627	0.3084	0.2888	20.3	54.00	21.5	94.30

Technical Data Sheet for CH-1

Unit Performance (AHRI 550/590)														
Performance Points Rated with AHRI Condenser Relief – With Water														
Point #	% of Design Load	Net Capacity ton	Input kW	Cooling Efficiency kW/ton	Evaporator Fluid					Condenser Fluid				
					Flow gpm	Temperature		Pressure Drop ft H ₂ O	Flow gpm	Temperature		Pressure Drop ft H ₂ O		
1	100.0	245.0	155.3	0.6337	488.5	54.00	42.00	20.3	760.5	85.00	94.30	21.5		
2	90.0	220.5	122.4	0.5550	488.5	52.80	42.00	20.3	760.5	81.00	89.16	21.8		
3	80.0	196.0	96.80	0.4939	488.5	51.60	42.00	20.3	760.5	77.00	84.10	22.1		
4	70.0	171.5	73.78	0.4302	488.5	50.40	42.00	20.3	760.5	73.00	79.10	22.5		
5	60.0	147.0	53.75	0.3656	488.5	49.20	42.00	20.3	760.5	69.00	74.14	22.8		
6	50.0	122.5	37.77	0.3084	488.5	48.00	42.00	20.3	760.5	65.00	69.23	23.3		
7	40.0	98.00	30.07	0.3069	488.5	46.80	42.00	20.3	760.5	65.00	68.38	23.3		
8	30.0	73.50	22.10	0.3006	488.5	45.60	42.00	20.3	760.5	65.00	67.53	23.3		
9	20.0	49.00	13.92	0.2842	488.5	44.40	42.00	20.3	760.5	65.00	66.68	23.4		
10	10.0	Chiller unable to run at requested load point (24.5 ton). The minimum capacity at the entered design conditions is (26.4 ton). Rating Point not within scope of Chiller - modify Input Conditions.												

Service Data													
Service Points Rated with AHRI Condenser Relief													
Point #	Superheat Δ °F	Subcooling Δ °F	Evaporator Fluid					Condenser Fluid					
			Temperature °F	Pressure psig	Velocity ft/s	Temperature °F	Pressure psig	Velocity ft/s	Temperature °F	Pressure psig	Velocity ft/s		
1	1.0	9.4	40.9	36.0	6.4	96.3	116.6	7.2					
2	1.0	8.4	41.0	36.0	6.4	90.9	106.1	7.2					
3	1.0	7.5	41.1	36.1	6.4	85.7	96.4	7.2					
4	1.0	6.5	41.1	36.2	6.4	80.4	87.5	7.2					
5	1.0	5.6	41.2	36.2	6.4	75.3	79.1	7.2					
6	1.0	4.6	41.3	36.3	6.4	70.2	71.4	7.2					
7	1.0	3.7	41.3	36.4	6.4	69.2	69.9	7.2					
8	1.0	2.8	41.4	36.4	6.4	68.2	68.5	7.2					
9	1.0	1.9	41.5	36.5	6.4	67.2	67.1	7.2					
10	Chiller unable to run at requested load point (24.5 ton). The minimum capacity at the entered design conditions is (26.4 ton). Rating Point not within scope of Chiller - modify Input Conditions.												

Physical													
Evaporator													
Inlet Location		Header Type		Header Material			Tube Sheet Material			Design Pressure (Waterside)			
Right		Dished, Grooved		Carbon Steel			Carbon Steel			150 psig			
Condenser													
Inlet Location		Header Type		Header Material			Tube Sheet Material			Design Pressure (Waterside)			
Right		Dished, Grooved		Carbon Steel			Carbon Steel			150 psig			

Electrical																		
Voltage:		460 v / 60 Hz / 3 Ph			Power Connection:				Single Point									
Circuit (Compr)	Rated Load Amps (RLA)	Minimum Circuit Ampacity (MCA)	Recommended Overcurrent Protection Size (ROCP)	Maximum Overcurrent Protection Size (MOCP)	Locked Rotor Amps (LRA)*	Lug Connection Size (wires per phase)												
1	242 A	272 A	350 A	350 A	133 A	(2) 3/0 AWG - 250 MCM												
2					133 A													

* The field wiring must be sized in accordance with the MCA and not the RLA as some selections may be below the minimum required protection.

Above RLA, MCA & MOCP values are per chiller; LRA values are per compressor.

Technical Data Sheet for CH-1

Drive					
Type	Model	Location	Enclosure Type	Motor Protection	
VFD	Integral	Terminal Mounted	NEMA 1	Non-fused Disconnect Switch	
Line Reactor	Compressor Circuit Breaker	Disconnect Switch	Power Connection	Short Circuit Current Rating	Approval
Standard	Standard	Standard	Single Point	Standard	ETL, ETLc

Sound (without insulation)									
Sound Pressure									
Load	Overall	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
100%	79.0	37.0	52.0	60.0	73.0	71.0	70.0	71.0	73.0
75%	76.0	36.0	51.0	61.0	66.0	70.0	68.0	70.0	68.0
50%	73.0	35.0	49.0	62.0	66.0	65.0	66.0	67.0	64.0
25%	73.0	34.0	48.0	61.0	63.0	66.0	66.0	68.0	64.0

Sound Pressure (dB) measured in accordance with ANSI/AHRI Standard 575-2008 ('A' weighted)

Options	
Basic Unit	
Packaging:	Wood Skid with Bagging
Insulation	
Thermal:	0.75" on Evaporator Shell, Suction Piping, Compressor Inlet, Motor Barrel & High Humidity
Control	
Communication Protocol:	BACnet MS/TP
Drive	
Disconnect / Breaker Type:	Disconnect Switch
Ground Fault Protection:	Yes

Warranty	
Unit Startup:	Domestic by Daikin Factory Service (Std.)
Standard Warranty:	Domestic, First Year Standard Warranty (Parts & Labor)
Extended Warranty:	4 Years Entire Unit Parts & Labor
Refrigerant Warranty:	5 years R-134a Warranty
Delayed Warranty Start:	None (Startup 12-18 months after ship date)

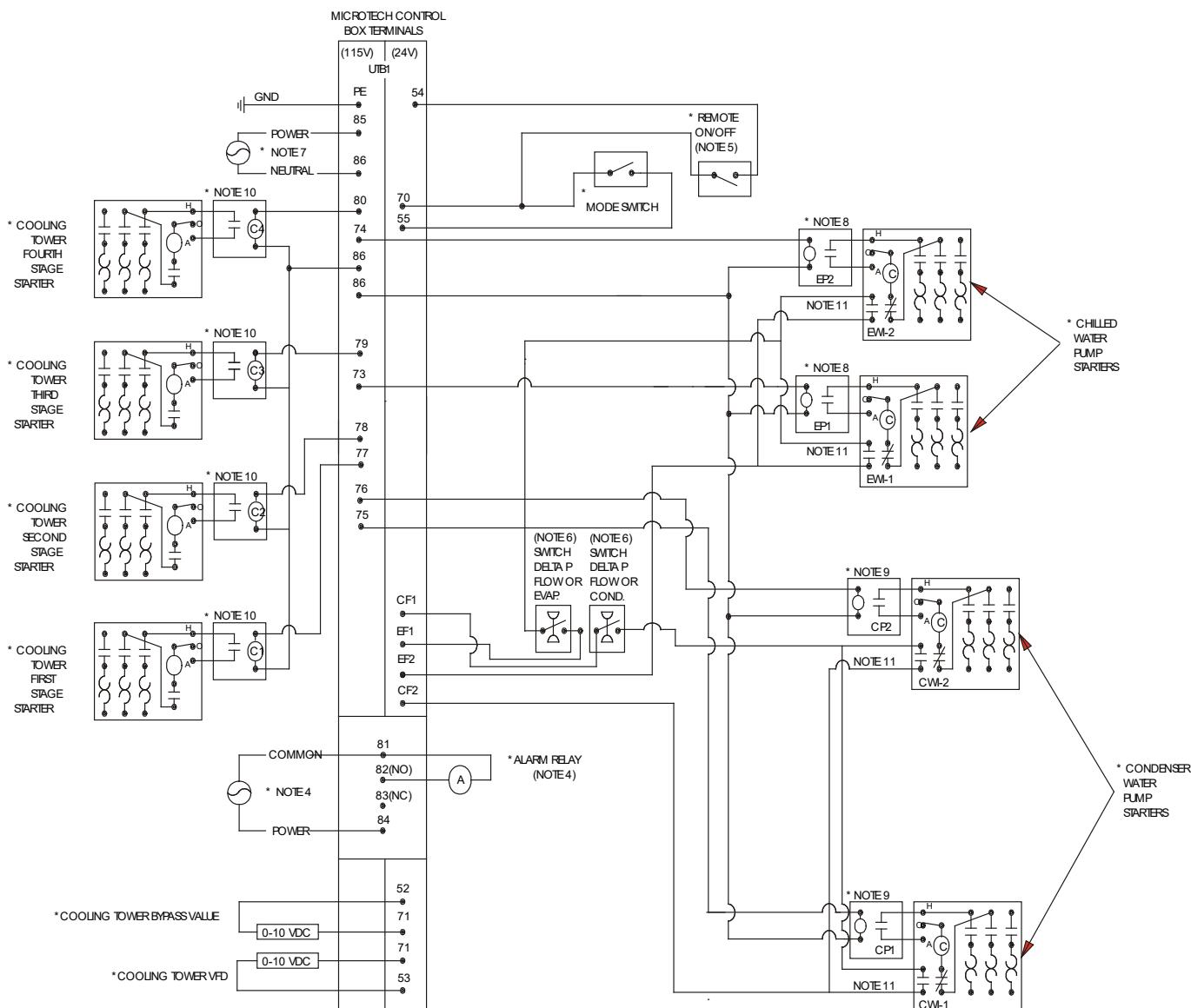
AHRI Certification	
	Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org .

Technical Data Sheet for CH-1

Notes
<ol style="list-style-type: none">1. Above RLA, MCA & MOCP values are per chiller; LRA values are per compressor..2. Performance kW & kW/ton values are total values unless noted otherwise.3. Minimum flow is based upon standard condenser water relief and not increased lift due to constant condenser water temperature.4. The field wiring must be sized in accordance with the MCA and not the RLA as some selections may be below the minimum required protection.5. Use only copper supply wires with ampacity based on 75°C conductor rating. Connections to terminals must be made with copper lugs and copper wire.6. For orientation purposes, left and right hand vessel connection locations are determined by facing the HMI panel (Human Machine Interface). The unit front is the long dimension side with the HMI panel and rear is the opposite side long dimension.

Centrifugal Chiller Drawings for CH-1

WMC-D/TMC Single-Point Field Wiring Data



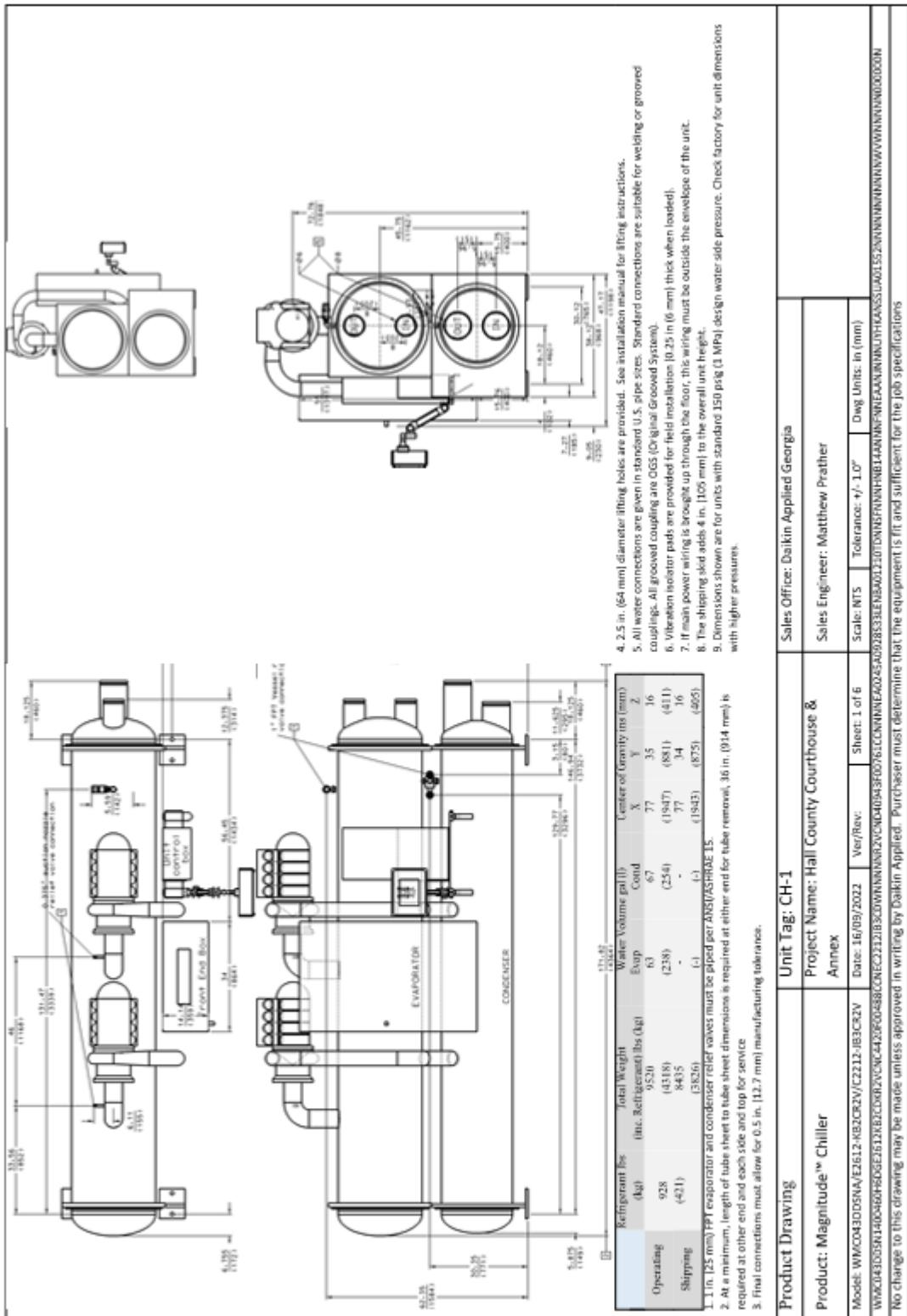
NOTE: Asterisks are irrelevant. See additional notes on following page.

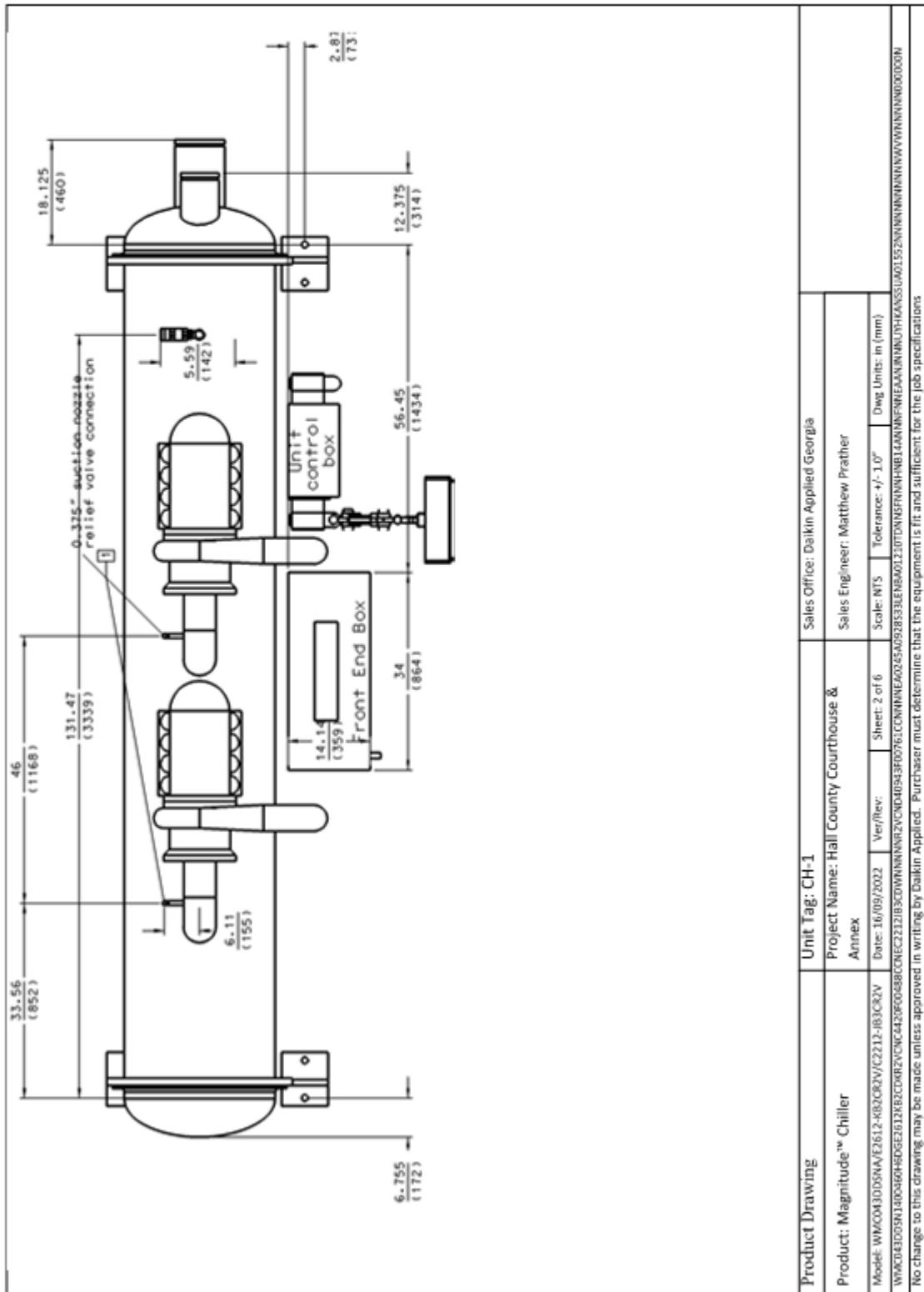
Product Drawing	Unit Tag: CH-1	 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 18.40		
Product: Magnitude™ Chiller	Project Name: Hall County Courthouse &			
Model: WMC-D/TMC	Sales Office: Daikin Applied Georgia			
Sales Engineer: Matthew Prather	Sept. 16, 2022	Ver/Rev:	Sheet 1 of 1	Scale: N/A Tolerance: N/A Dwg Units: N/A

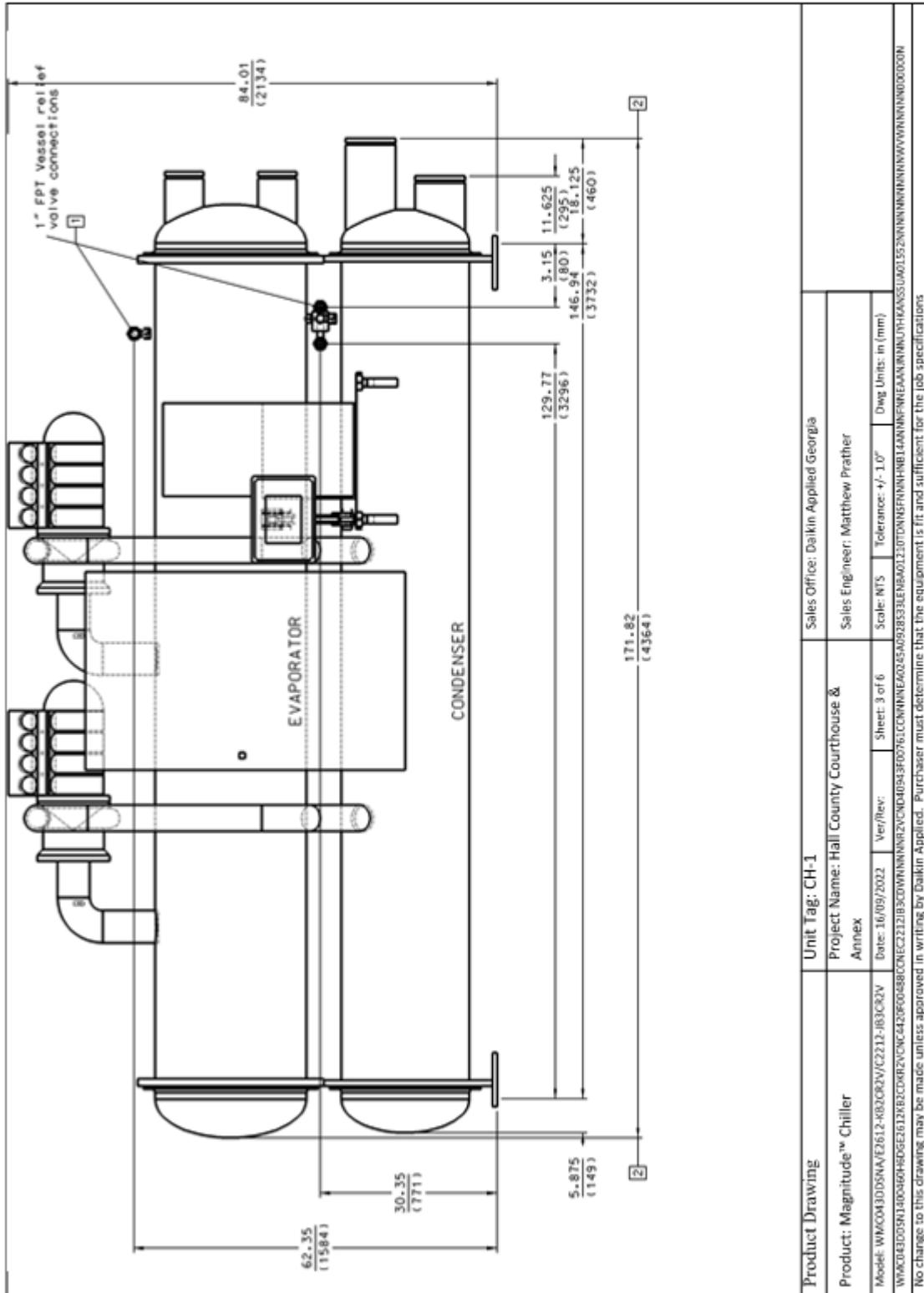
Centrifugal Chiller Drawings for CH-1

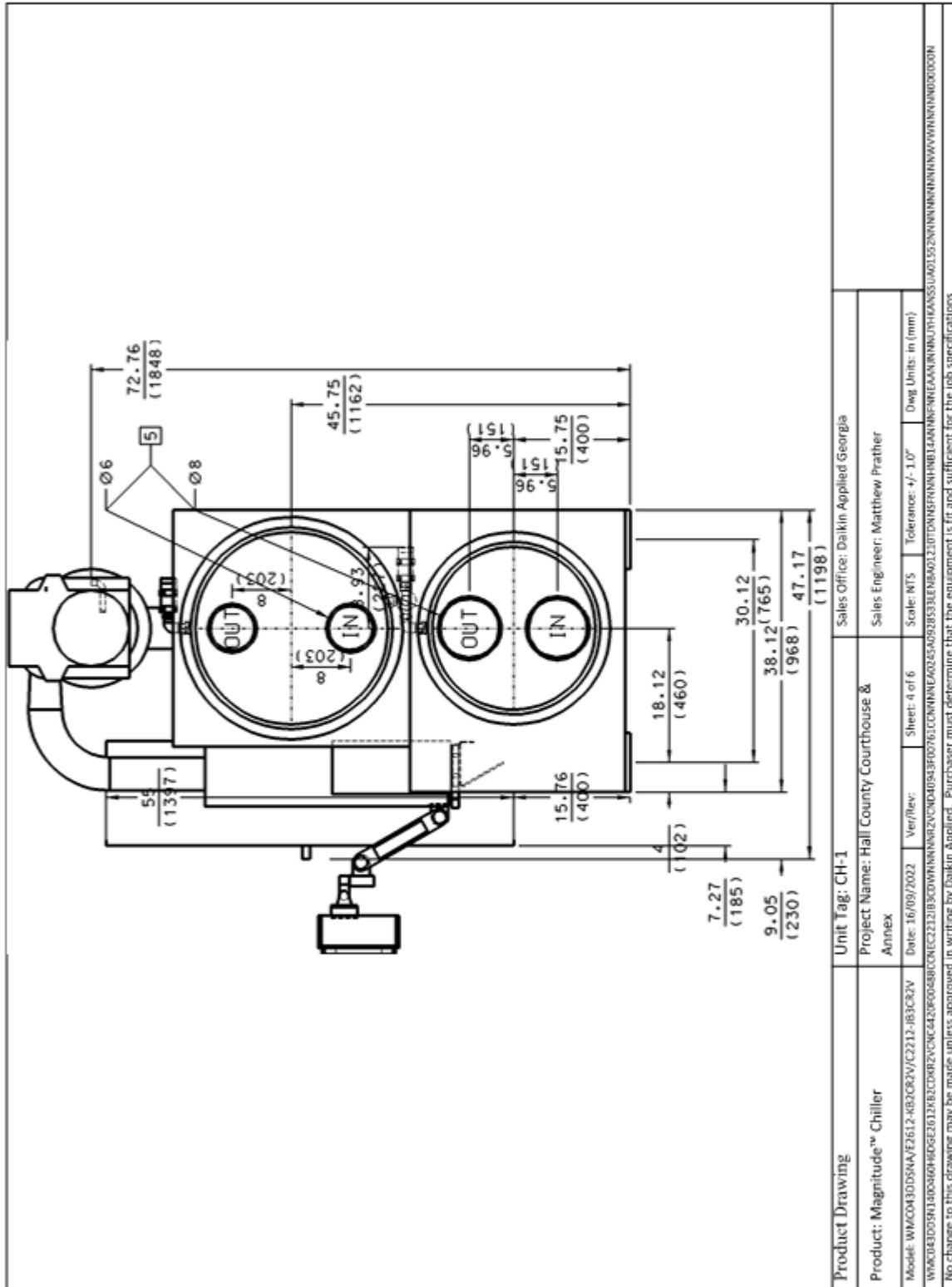
Notes for field wiring diagram:

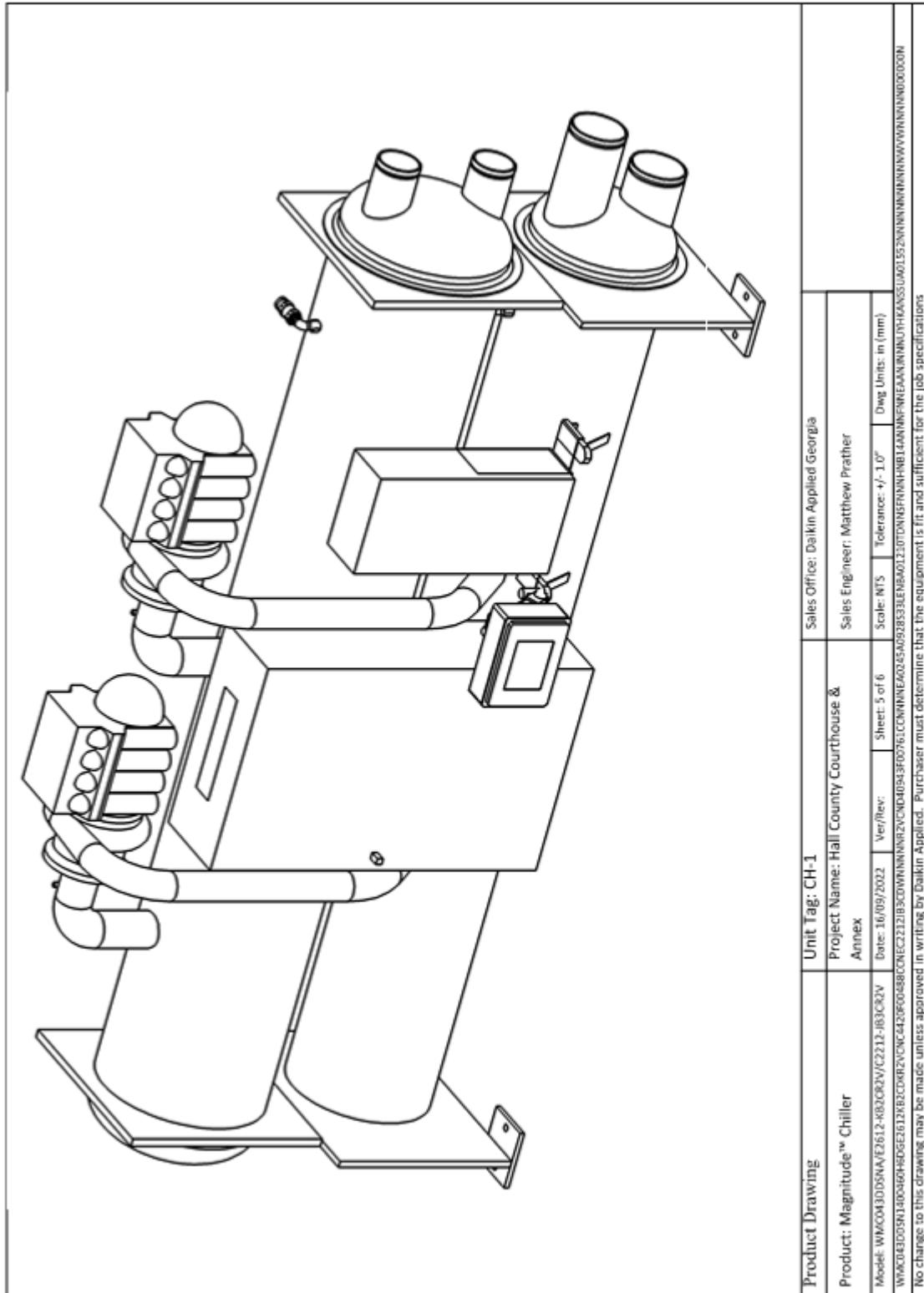
1. Compressor front end box is factory mounted and wired. All line side wiring must be wired in accordance with the nec and be made with copper wire and copper lugs only. Use only copper supply wires with ampacity based on 75°C conductor rating. Main power wiring between the front end box and compressor terminals is factory installed.
2. Minimum wire size for 115 vac is 12 ga. For a maximum length of 50 feet. If greater than 50 feet refer to mcquay for recommended wire size minimum. Wire size for 24 vac is 18 ga. All wiring to be installed as nec class 1 wiring system. All 24 vac wiring must be run in separate conduit from 115 vac wiring. Wiring must be wired in accordance with nec and connection to be made with copper wire and copper lugs only.
3. For optional sensor wiring see unit control diagram. It is recommended that dc wires be run separately from 115 vac wiring.
4. A customer furnished 24 or 120 vac power for alarm relay coil may be connected between utb1 terminals 84 power and 81 neutral of the control panel. For normally open contacts wire between 82 & 81. For normally closed wire between 83 & 81. The alarm is operator programmable. Maximum rating of the alarm relay coil is 25va.
5. Remote on/off control of unit can be accomplished by installing a set of dry contacts between terminals 70 and 54.
6. Thermal dispersion flow switches for the evaporator and condenser are factory mounted as standard and provide adequate flow loss protection. If desired, additional flow or pressure differential switches can be customer supplied, mounted and wired as shown. A factory wired evap flow switch is connected between ef1 & ef2, and a cond flow switch between cf1 & cf2. Any additional devices must be wired in series with them. If field supplied pressure differential switches are used then these must be installed across the vessel and not the pump. They must be suitable for 24 vac and low current application.
7. Customer supplied 115 vac 20 amp power for optional evap and cond water pump control power and tower fans is supplied to unit control terminals (utb1) 85 power / 86 neutral, pe equipment ground.
8. Optional customer supplied 115 vac 25 va maximum coil rated chilled water pump relay (ep1 and ep2) may be wired as shown. This optional will cycle the chilled water pump in response to chiller demand.
9. The condenser water pump must cycle with the unit. A customer supplied 115 vac 25 va maximum coil rated condenser water pump relay (cp1 & 2) is to be wired as shown. Units with free cooling must have condenser water above 60° before starting.
10. Optional customer supplied 115 vac 25 va maximum coil rated cooling tower fan relays (c1 – c2 standard, c3 – c4 optional) may be wired as shown. This option will cycle the cooling tower fans in order to maintain unit head pressure.
11. Auxiliary 24 vac rated contacts in both the chilled water and condenser water pump starters should be wired as shown.



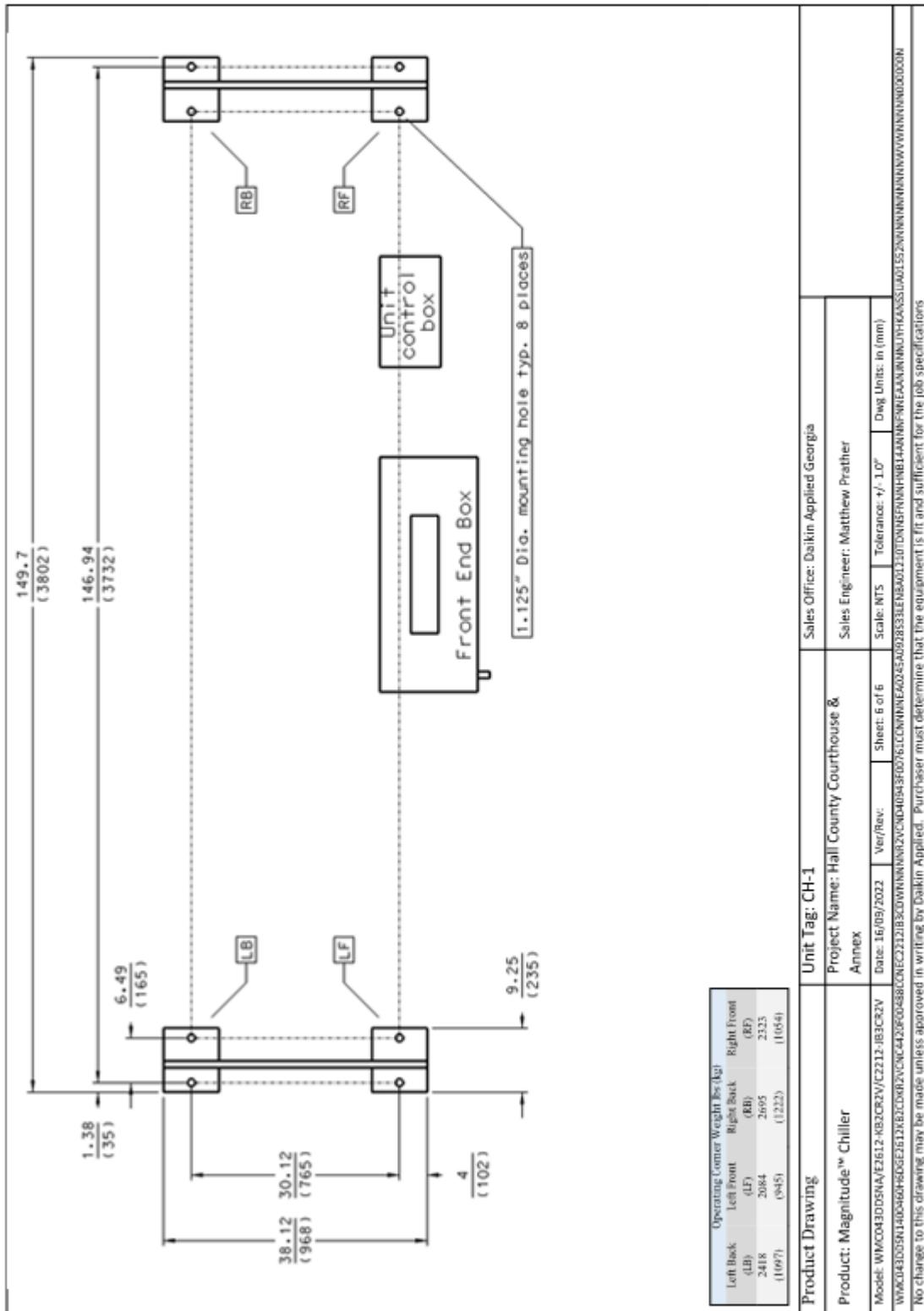








Product Drawing	Unit Tag: CH-1	Project Name: Hall County Courthouse & Annex			Sales Office: Daikin Applied Georgia		
Product: Magnitude™ Chiller		Sales Engineer: Matthew Prather					
Model#: WWC043D5HVA/E2612-K3/02W/C2212-183C-R/IV	Date: 16/09/2022	Ver/Rev:	Sheet: 5 of 6	Scale: NTS	Tolerance: +/- 1.0"	Dwg Units: in (mm)	
WWC043D5HVA/E2612-K3/02W/C2212-183C-R/IV	04943H0076/CONNNEA00245A0528533UE/CONNNEA00245A0528533UE						
No changes to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.							



Technical Data Sheet for CH-2

Job Information		Technical Data Sheet
Job Name		Hall County Courthouse & Annex
Date		9/16/2022
Submitted By		Matthew Prather
Software Version		18.40
Unit Tag		CH-2
Country of Origin		USA



Unit Overview					
Model Number	Net Capacity	NPLV.IP	Voltage	Starter Type	ASHRAE 90.1
WMC043DDSNA	245.0	0.3574	460 v / 60 Hz / 3 Ph	VFD	'07, '10, '13 & '16

Unit					
Model/Evap/Cond Number:	WMC043DDSNA-14/E2612-KB2C-2/C2212-JB3C-2/R134-DAA*A*				Vintage: D
Approval:	AHRI and ETL / cETL				
Vessel Code:	ASME				
Unit Shipping Weight	Unit Operating Weight	Overall Unit Length	Overall Unit Width	Overall Unit Height	
8435 lb	9520 lb	170.1 in	47.2 in	84.0 in	
Compressor Quantity	Capacity Control	Refrigerant Type	Refrigerant Weight		
2	VFD / Inlet Guide Vanes	R134a	928 lb		
Evaporator					
Input Type	Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Actual Fluid Flow	Minimum Fluid Flow
EWT + LWT	54.00 °F	42.00 °F	Water	488.5 gpm	145.8 gpm
Length	Diameter	Number of Passes	Tube		Fouling Factor
12 ft	26 in	2	Material	Wall Thickness	
			Copper	0.025 in	0.000100 °F.ft².h/Btu
Condenser					
Input Type	Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Fluid Flow	
EWT + LWT	85.00 °F	94.30 °F	Water	760.5 gpm	
Length	Diameter	Number of Passes	Tube		Fouling Factor
12 ft	22 in	2	Material	Wall Thickness	
			Copper	0.028 in	0.000250 °F.ft².h/Btu

Unit Performance (AHRI 550/590)									
Design Points Rated with AHRI Condenser Relief – With Water									
Net Capacity	Input	Cooling	NPLV.IP	Part Load Cooling Efficiency			Evaporator Fluid		Condenser Fluid
				75% kW/ton	50% kW/ton	25% kW/ton	Pressure Drop ft H ₂ O	Entering Temperature °F	Pressure Drop ft H ₂ O
245.0	155.2	0.6337	0.3574	0.4627	0.3084	0.2888	20.3	54.00	21.5
									94.30

Technical Data Sheet for CH-2

Unit Performance (AHRI 550/590)														
Performance Points Rated with AHRI Condenser Relief – With Water														
Point #	% of Design Load	Net Capacity ton	Input kW	Cooling Efficiency kW/ton	Evaporator Fluid					Condenser Fluid				
					Flow gpm	Temperature		Pressure Drop ft H ₂ O	Flow gpm	Temperature		Pressure Drop ft H ₂ O		
1	100.0	245.0	155.3	0.6337	488.5	54.00	42.00	20.3	760.5	85.00	94.30	21.5		
2	90.0	220.5	122.4	0.5550	488.5	52.80	42.00	20.3	760.5	81.00	89.16	21.8		
3	80.0	196.0	96.80	0.4939	488.5	51.60	42.00	20.3	760.5	77.00	84.10	22.1		
4	70.0	171.5	73.78	0.4302	488.5	50.40	42.00	20.3	760.5	73.00	79.10	22.5		
5	60.0	147.0	53.75	0.3656	488.5	49.20	42.00	20.3	760.5	69.00	74.14	22.8		
6	50.0	122.5	37.77	0.3084	488.5	48.00	42.00	20.3	760.5	65.00	69.23	23.3		
7	40.0	98.00	30.07	0.3069	488.5	46.80	42.00	20.3	760.5	65.00	68.38	23.3		
8	30.0	73.50	22.10	0.3006	488.5	45.60	42.00	20.3	760.5	65.00	67.53	23.3		
9	20.0	49.00	13.92	0.2842	488.5	44.40	42.00	20.3	760.5	65.00	66.68	23.4		
10	10.0	Chiller unable to run at requested load point (24.5 ton). The minimum capacity at the entered design conditions is (26.4 ton). Rating Point not within scope of Chiller - modify Input Conditions.												

Service Data													
Service Points Rated with AHRI Condenser Relief													
Point #	Superheat Δ °F	Subcooling Δ °F	Evaporator Fluid					Condenser Fluid					
			Temperature °F	Pressure psig	Velocity ft/s	Temperature °F	Pressure psig	Velocity ft/s	Temperature °F	Pressure psig	Velocity ft/s		
1	1.0	9.4	40.9	36.0	6.4	96.3	116.6	7.2					
2	1.0	8.4	41.0	36.0	6.4	90.9	106.1	7.2					
3	1.0	7.5	41.1	36.1	6.4	85.7	96.4	7.2					
4	1.0	6.5	41.1	36.2	6.4	80.4	87.5	7.2					
5	1.0	5.6	41.2	36.2	6.4	75.3	79.1	7.2					
6	1.0	4.6	41.3	36.3	6.4	70.2	71.4	7.2					
7	1.0	3.7	41.3	36.4	6.4	69.2	69.9	7.2					
8	1.0	2.8	41.4	36.4	6.4	68.2	68.5	7.2					
9	1.0	1.9	41.5	36.5	6.4	67.2	67.1	7.2					
10	Chiller unable to run at requested load point (24.5 ton). The minimum capacity at the entered design conditions is (26.4 ton). Rating Point not within scope of Chiller - modify Input Conditions.												

Physical													
Evaporator													
Inlet Location		Header Type		Header Material			Tube Sheet Material			Design Pressure (Waterside)			
Left		Dished, Grooved		Carbon Steel			Carbon Steel			150 psig			
Condenser													
Inlet Location		Header Type		Header Material			Tube Sheet Material			Design Pressure (Waterside)			
Left		Dished, Grooved		Carbon Steel			Carbon Steel			150 psig			

Electrical																		
Voltage:		460 v / 60 Hz / 3 Ph			Power Connection:				Single Point									
Circuit (Compr)	Rated Load Amps (RLA)	Minimum Circuit Ampacity (MCA)	Recommended Overcurrent Protection Size (ROCP)	Maximum Overcurrent Protection Size (MOCP)	Locked Rotor Amps (LRA)*	Lug Connection Size (wires per phase)												
1	242 A	272 A	350 A	350 A	133 A	(2) 3/0 AWG - 250 MCM												
2					133 A													

* The field wiring must be sized in accordance with the MCA and not the RLA as some selections may be below the minimum required protection.

Above RLA, MCA & MOCP values are per chiller; LRA values are per compressor.

Technical Data Sheet for CH-2

Drive																	
Type		Model		Location		Enclosure Type		Motor Protection									
VFD		Integral		Terminal Mounted		NEMA 1		Non-fused Disconnect Switch									
Line Reactor		Compressor Circuit Breaker		Disconnect Switch		Power Connection		Short Circuit Current Rating									
Standard		Standard		Standard		Single Point		Standard									
Sound (without insulation)																	
Sound Pressure																	
Load	Overall	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz								
100%	79.0	37.0	52.0	60.0	73.0	71.0	70.0	71.0	73.0								
75%	76.0	36.0	51.0	61.0	66.0	70.0	68.0	70.0	68.0								
50%	73.0	35.0	49.0	62.0	66.0	65.0	66.0	67.0	64.0								
25%	73.0	34.0	48.0	61.0	63.0	66.0	66.0	68.0	64.0								

Sound Pressure (dB) measured in accordance with ANSI/AHRI Standard 575-2008 ('A' weighted)

Options

Basic Unit	
Packaging:	Wood Skid with Bagging
Insulation	
Thermal:	0.75" on Evaporator Shell, Suction Piping, Compressor Inlet, Motor Barrel & High Humidity
Control	
Communication Protocol:	BACnet MS/TP
Drive	
Disconnect / Breaker Type:	Disconnect Switch
Ground Fault Protection:	Yes

Warranty

Unit Startup:	Domestic by Daikin Factory Service (Std.)
Standard Warranty:	Domestic, First Year Standard Warranty (Parts & Labor)
Extended Warranty:	4 Years Entire Unit Parts & Labor
Refrigerant Warranty:	5 years R-134a Warranty
Delayed Warranty Start:	None (Startup 12-18 months after ship date)

AHRI Certification



Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

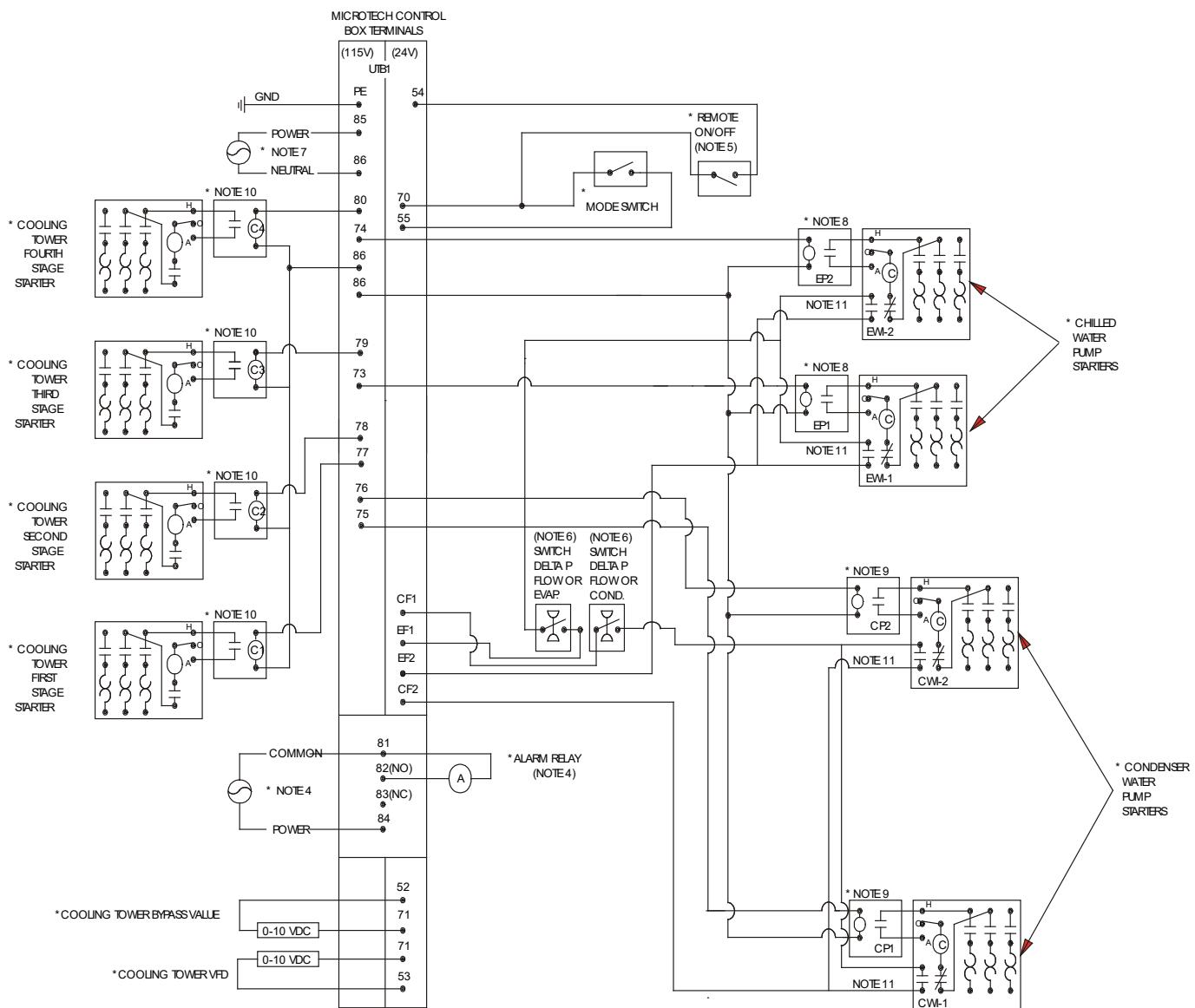
Technical Data Sheet for CH-2

Notes
7. Above RLA, MCA & MOCP values are per chiller; LRA values are per compressor..
8. Performance kW & kW/ton values are total values unless noted otherwise.
9. Minimum flow is based upon standard condenser water relief and not increased lift due to constant condenser water temperature.
10. The field wiring must be sized in accordance with the MCA and not the RLA as some selections may be below the minimum required protection.
11. Use only copper supply wires with ampacity based on 75°C conductor rating. Connections to terminals must be made with copper lugs and copper wire.
12. For orientation purposes, left and right hand vessel connection locations are determined by facing the HMI panel (Human Machine Interface). The unit front is the long dimension side with the HMI panel and rear is the opposite side long dimension.

Centrifugal Chiller Drawings for CH-2

WMC-D/TMC Single-Point Field Wiring Data

0A



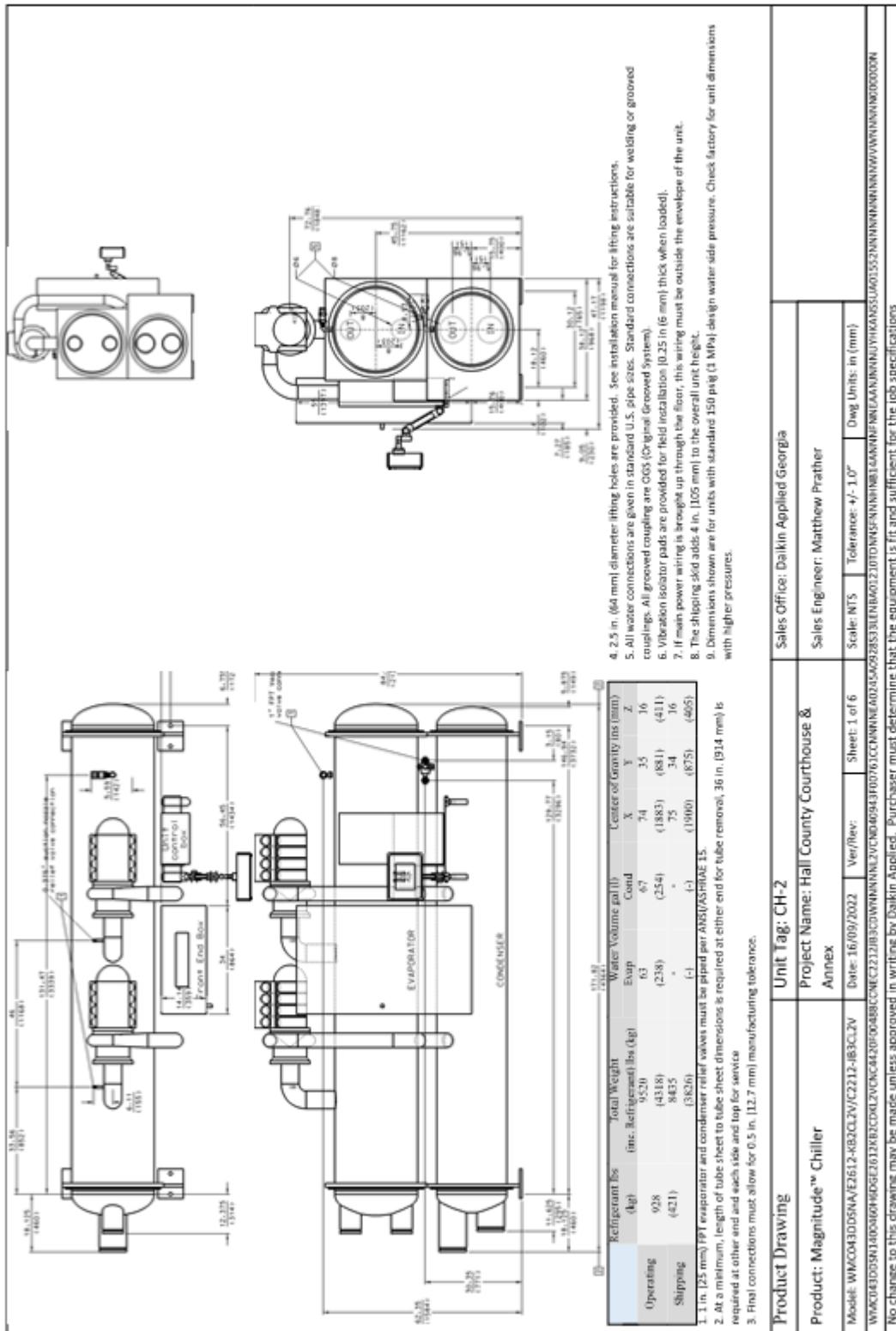
NOTE: Asterisks are irrelevant. See additional notes on following page.

Product Drawing	Unit Tag: CH-2			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 18.40		
Product: Magnitude™ Chiller	Project Name: Hall County Courthouse &					
Model: WMC-D/TMC	Sales Office: Daikin Applied Georgia					
Sales Engineer: Matthew Prather	Sept. 16, 2022	Ver/Rev:	Sheet 1 of 1	Scale: N/A	Tolerance: N/A	Dwg Units: N/A

Centrifugal Chiller Drawings for CH-2

Notes for field wiring diagram:

1. Compressor front end box is factory mounted and wired. All line side wiring must be wired in accordance with the nec and be made with copper wire and copper lugs only. Use only copper supply wires with ampacity based on 75°C conductor rating. Main power wiring between the front end box and compressor terminals is factory installed.
2. Minimum wire size for 115 vac is 12 ga. For a maximum length of 50 feet. If greater than 50 feet refer to mcquay for recommended wire size minimum. Wire size for 24 vac is 18 ga. All wiring to be installed as nec class 1 wiring system. All 24 vac wiring must be run in separate conduit from 115 vac wiring. Wiring must be wired in accordance with nec and connection to be made with copper wire and copper lugs only.
3. For optional sensor wiring see unit control diagram. It is recommended that dc wires be run separately from 115 vac wiring.
4. A customer furnished 24 or 120 vac power for alarm relay coil may be connected between utb1 terminals 84 power and 81 neutral of the control panel. For normally open contacts wire between 82 & 81. For normally closed wire between 83 & 81. The alarm is operator programmable. Maximum rating of the alarm relay coil is 25va.
5. Remote on/off control of unit can be accomplished by installing a set of dry contacts between terminals 70 and 54.
6. Thermal dispersion flow switches for the evaporator and condenser are factory mounted as standard and provide adequate flow loss protection. If desired, additional flow or pressure differential switches can be customer supplied, mounted and wired as shown. A factory wired evap flow switch is connected between ef1 & ef2, and a cond flow switch between cf1 & cf2. Any additional devices must be wired in series with them. If field supplied pressure differential switches are used then these must be installed across the vessel and not the pump. They must be suitable for 24 vac and low current application.
7. Customer supplied 115 vac 20 amp power for optional evap and cond water pump control power and tower fans is supplied to unit control terminals (utb1) 85 power / 86 neutral, pe equipment ground.
8. Optional customer supplied 115 vac 25 va maximum coil rated chilled water pump relay (ep1 and ep2) may be wired as shown. This optional will cycle the chilled water pump in response to chiller demand.
9. The condenser water pump must cycle with the unit. A customer supplied 115 vac 25 va maximum coil rated condenser water pump relay (cp1 & 2) is to be wired as shown. Units with free cooling must have condenser water above 60° before starting.
10. Optional customer supplied 115 vac 25 va maximum coil rated cooling tower fan relays (c1 – c2 standard, c3 – c4 optional) may be wired as shown. This option will cycle the cooling tower fans in order to maintain unit head pressure.
11. Auxiliary 24 vac rated contacts in both the chilled water and condenser water pump starters should be wired as shown.

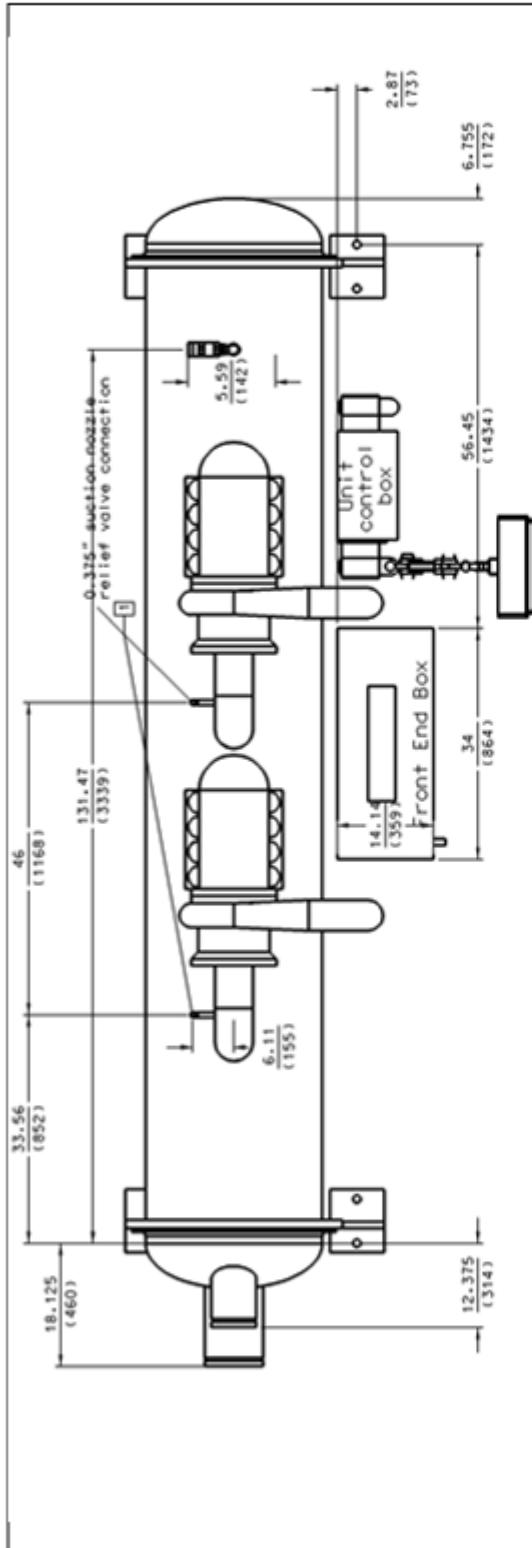


Product Drawing: Unit Tag: CH-2
 Product: Magnitude™ Chiller
 Project Name: Hall County Courthouse & Annex

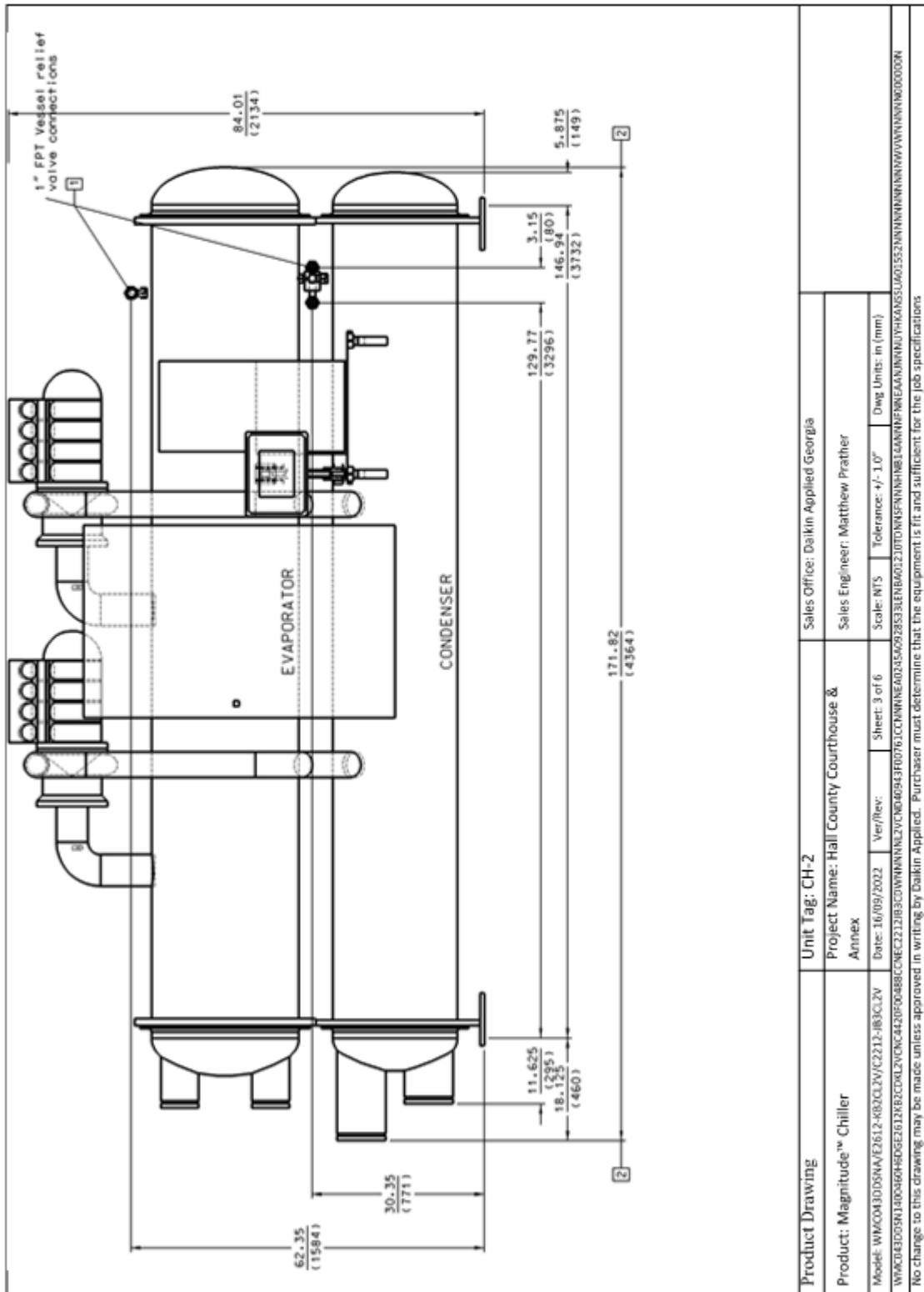
Sales Office: Daikin Applied Georgia
 Sales Engineer: Matthew Prather

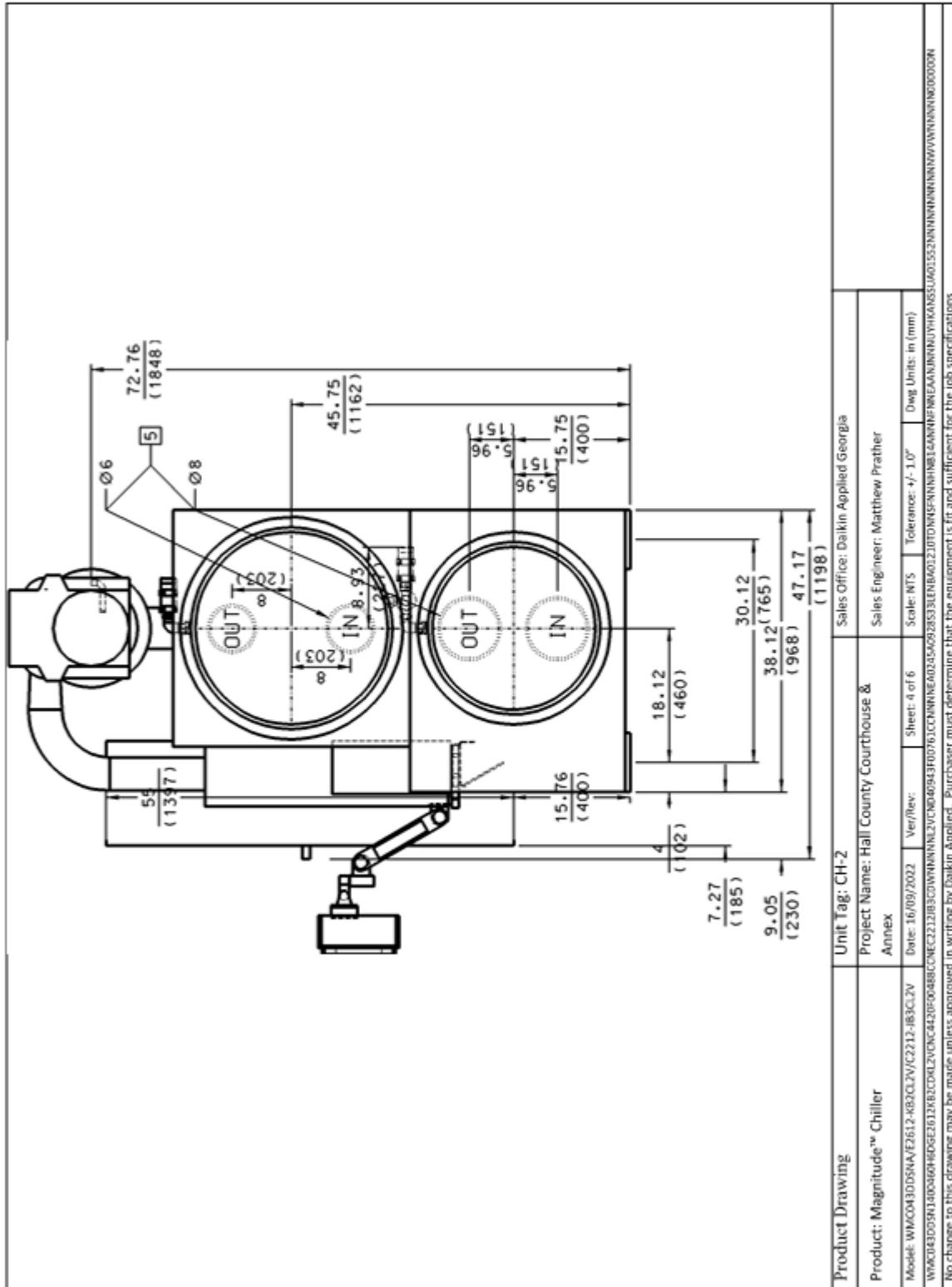
Date: 16/09/2022 Ver/Rev: Sheet 1 of 6
 Model: WMC04305HVA/E26.2-4B/2CN/C2212-1B/SC-DN
 WMC04305HVA/E26.2-4B/2CN/C2212-1B/SC-DN
 No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications

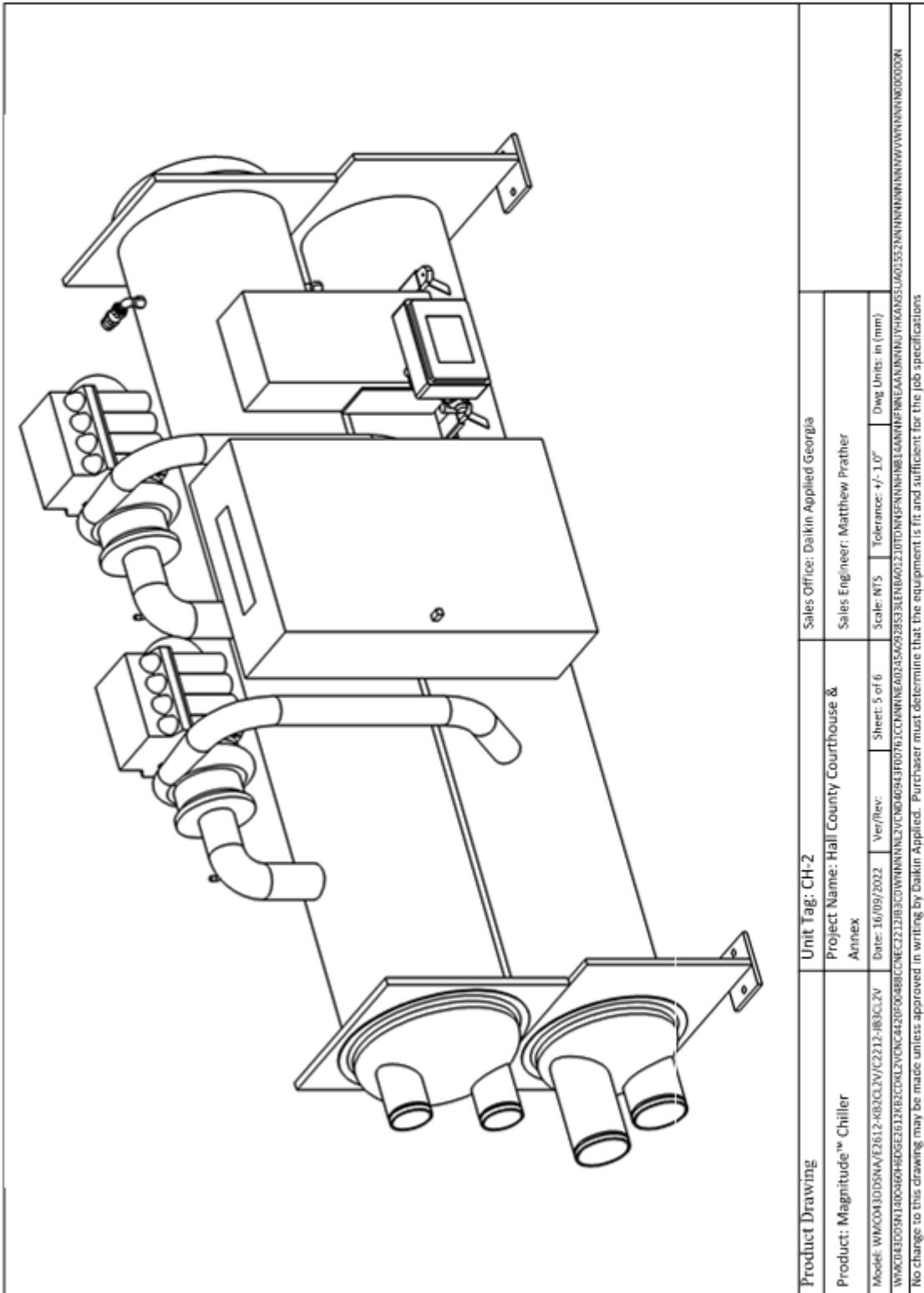
Scale: 1/5 Scale: N/5 Tolerance: +/- 1.0% Dwg Units: in (mm)
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 WMC04305HVA/E26.2-4B/2CN/C2212-1B/SC-DN
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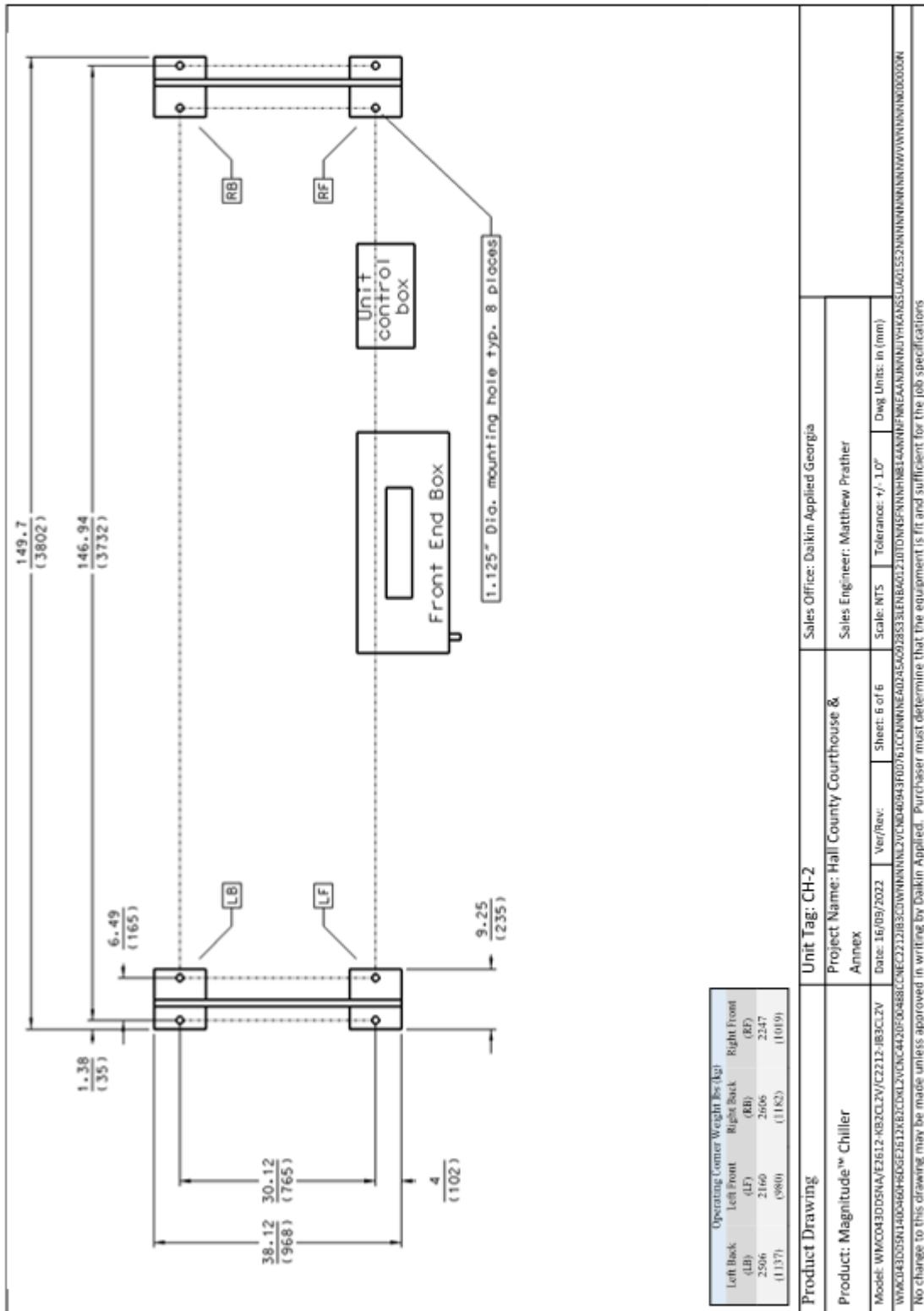


Product Drawing	Unit Tag: CH-2	Project Name: Hall County Courthouse & Annex	Sales Office: Daikin Applied Georgia
Product: Magnitude™ Chiller		Sales Engineer: Matthew Prather	
Model: WMA0305H4V0281.2-6800C2W/C2212.1B3/C2V	Date: 16/09/2022	Ver/Rev: Sheet: 2 of 6	Scale: MTS Tolerance: +/- 1.0% Dwg. Units: in (mm)









Technical Data Sheet for AHU-4

Job Information		Technical Data Sheet
Job Name	Hall County Courthouse & Annex	
Date	9/16/2022	
Submitted By	Matthew Prather	
Software Version	08.30	
Unit Tag	AHU-4	
FPA#	pl224	



Unit	
Model Number:	RAH077C
Altitude:	0 ft
Heat Type:	None
Approval:	ETL/MEA-USA unit

Physical				
Unit				
Length	Height	Width	Weight	Estimated Lifting Lugs
288 in	97.0 in	99.0 in	8732 lb	3 per side

Electrical				
Voltage	MCA	MROPD	SCCR	
460/60/3	59.4 A	100 A	10 kAIC	
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.			

Return/Outside/Exhaust Air				
Outside Air Option				
Type	Pressure Drop	Damper Actuator		
0-100% Economizer	0.17 inH ₂ O	Electric Actuator		
Return Air Option				
Return Air Location:	Bottom			
Return Air Options:	Burglar Bars			

Filter Section				
Physical				
Type	(Quantity) Height x Width x Depth	Face Area	Face Velocity	Air Pressure Drop
2 in. 30% Nominal Efficiency (MERV 8)	(11) 16 in x 20 in x 2 in (33) 16 in x 25 in x 2 in	116.1 ft ²	236.9 ft/min	0.10 inH ₂ O

Blank Section				
Section Length:	48.0 in			
Notes:				

Technical Data Sheet for AHU-4

Coil Section														
Chilled Water Coil														
Location: First in Airstream														
Fins per Inch	Rows	Face Area	Face Velocity	Fin Height	Fin Length	Air Pressure Drop								
12	4	51.9 ft ²	530.1 ft/min	90 in	83 in	0.95 inH ₂ O								
Material														
Fin	Tube	Header	Casing											
0.0075 in. Aluminum	0.020 in. Nom Cu	Copper	Galvanized Steel											
Connection														
Size	Type	Location												
1 - 3 in. FPT	Carbon Steel	Opposite Drive Side												
Drain Pan														
Material	Connection													
Painted Galvanized Steel	1.5 MPT													
Performance														
Capacity		Air Temperature												
Total Btu/hr	Sensible Btu/hr	Entering		Leaving										
957889	723732	Dry Bulb °F	78.0	Wet Bulb °F	65.0	Dry Bulb °F	53.9	Wet Bulb °F	53.3					
Fluid														
Type	Entering Temperature °F	Leaving Temperature °F	Flow Rate gpm	Pressure Drop ft H ₂ O	Velocity ft/s									
Water	45.0	53.1	236.4	17.9	5.6									
Valve														
Type	Size			Valve Water Pressure Drop ft H ₂ O										
3-Way	3 in. Nominal			12.7										

Fan Section						
Fan						
Type		Fan Wheel Diameter		Fan Isolation		
AF SWSI		44 in		Spring with Seismic Snubbers		
Performance						
Airflow		Total Static Pressure		Fan Speed		
27500 cfm		4.21 inH ₂ O		949 rpm		
Motor						
Type		Horsepower		Brake Horsepower		
ODP, Premium Efficiency		40.0 hp		30.74 HP		
Drive						
Type						
150% service factor, Fixed drive						
Discharge Location: Bottom						

Unit Discharge Conditions					
Air Temperature					
DX coil Configuration:		Draw-thru Coil			
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F	
88456	302.4	56.9	54.3	52.9	

Technical Data Sheet for AHU-4

Sound

Frequency	Sound Power (db)							
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	86	85	80	75	72	65	57	49
Discharge	87	84	80	78	77	72	64	57

Supply Fan Total Pressure Drop Calculation

External Static Pressure:	2.50 inH ₂ O
Filter:	0.10 inH ₂ O
Dirty Filter:	0.50 inH ₂ O
Outside Air:	0.17 inH ₂ O
Coil Section:	0.95 inH ₂ O
Total Static Pressure:	4.21 inH₂O

Options

Unit	
Unit Exterior:	Prepainted Galvanized Steel
Insulation and Liners:	2", 1 1/2# nominal insulation, full solid liners
Fan Shaft Grounding:	Fan motors are provided with shaft grounding rings and class H insulation.
Electrical	
Electrical Connection Option:	Single thru door disconnect switch
GFI 115v Receptacle:	Field powered
Power Options:	Phase Failure and Groundfault Protection
Controls	
Application:	Variable Volume - Discharge Air Control
Temperature Control:	Power Package, No Controls
Fan Speed Control:	Factory mounted Inverter
Inverter Manufacturer:	Danfoss
Inverter Location:	Inverter(s) in fan section
Airflow Control:	Duct high limit sensor
Economizer Control:	Outside Air Dry Bulb and Enthalpy Control

Warranty

Parts:	Extended 4 year, 5 year total
Compressor:	None

AHRI Certification



All equipment is rated and certified in accordance with AHRI 360.

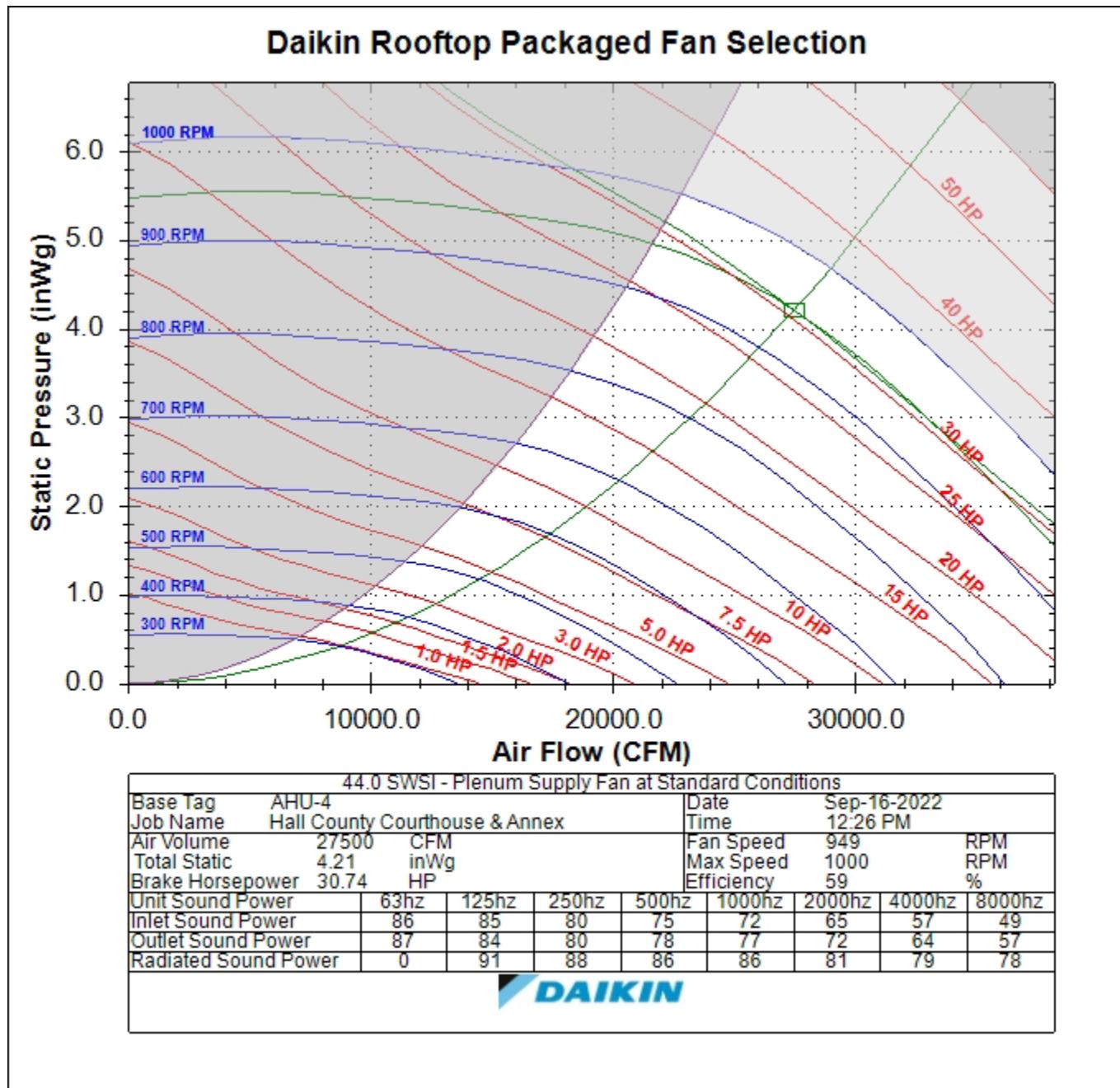
Specials

Unit	
Specials Description:	Provide Condensate Overflow alarm for Cooling Coil drain pan. Unit to be provided with an extra lifting lug per side to assist with rigging. Use PL224 for the FPA number if an specific FPA hasn't been assigned to this selection

Notes

As a standalone component, unit meets or exceeds the requirements of ASHRAE 90.1.2010. The approving authority is responsible for compliance of multi-component building systems.

Fan Curve - Supply for AHU-4



Job Number:

Hall Cai 96BB5E

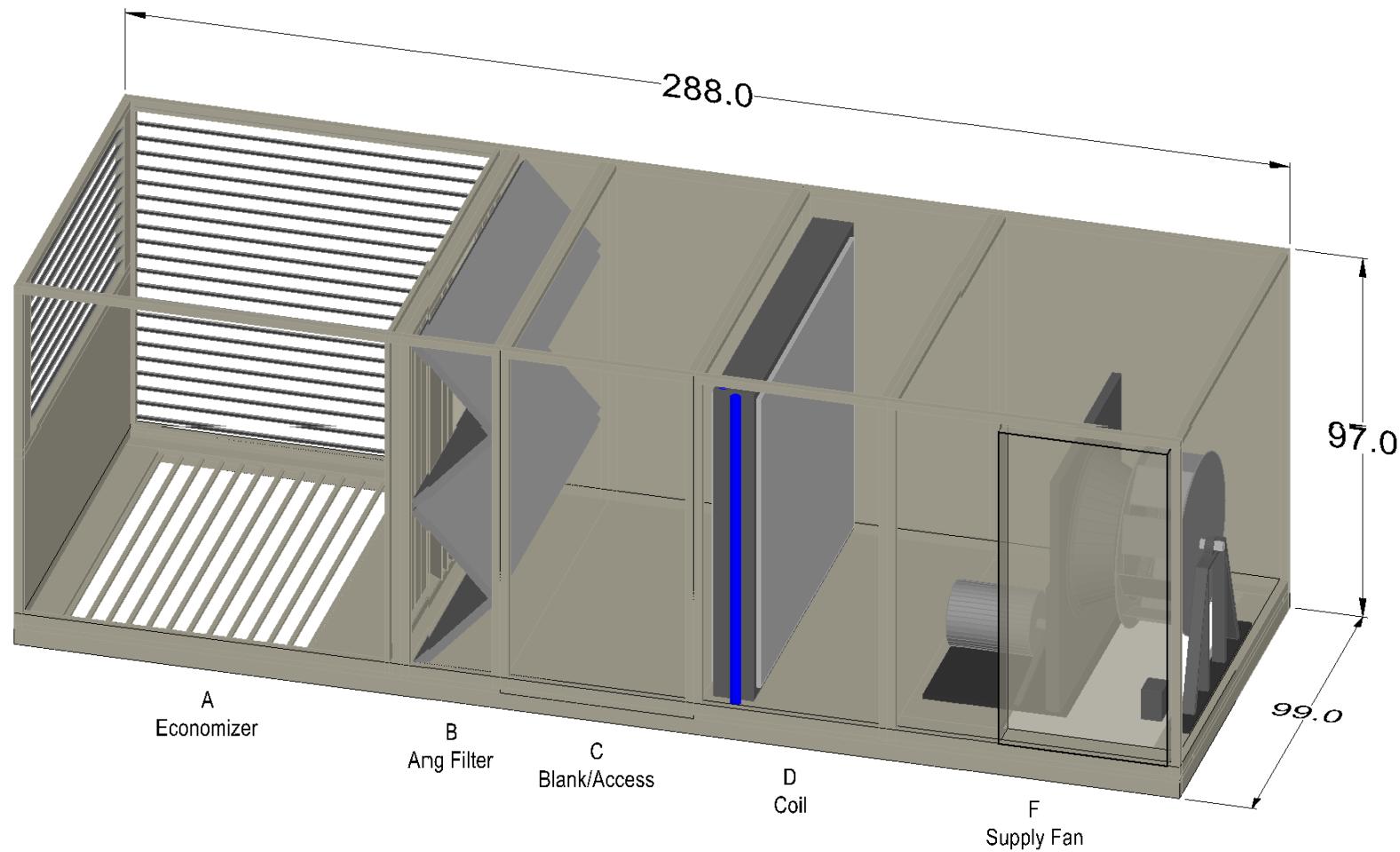
Hall Cou
96BB5E

Hall County Courthouse & Annex

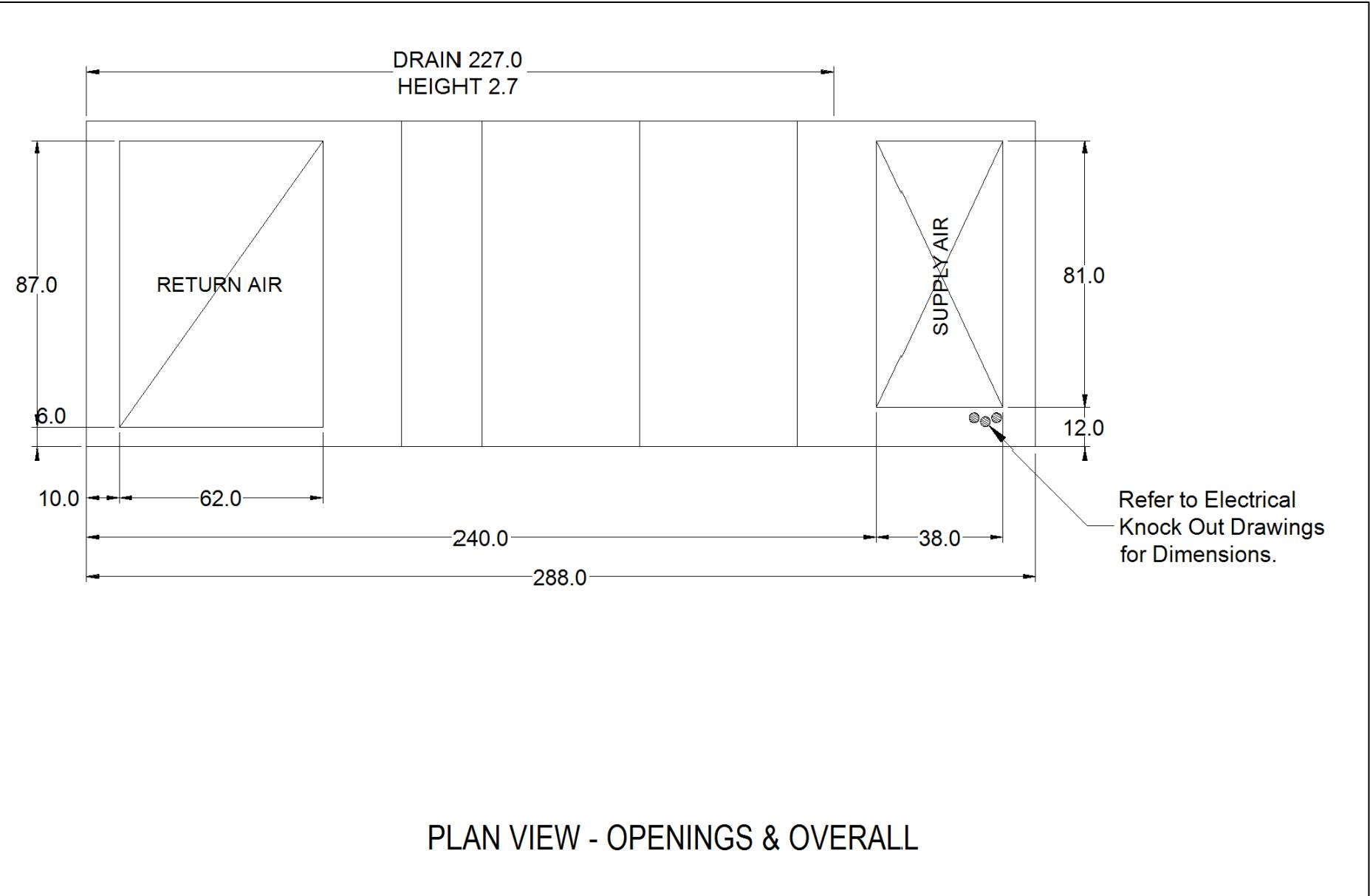
33 of 80

Repair Date:

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9/16/2022

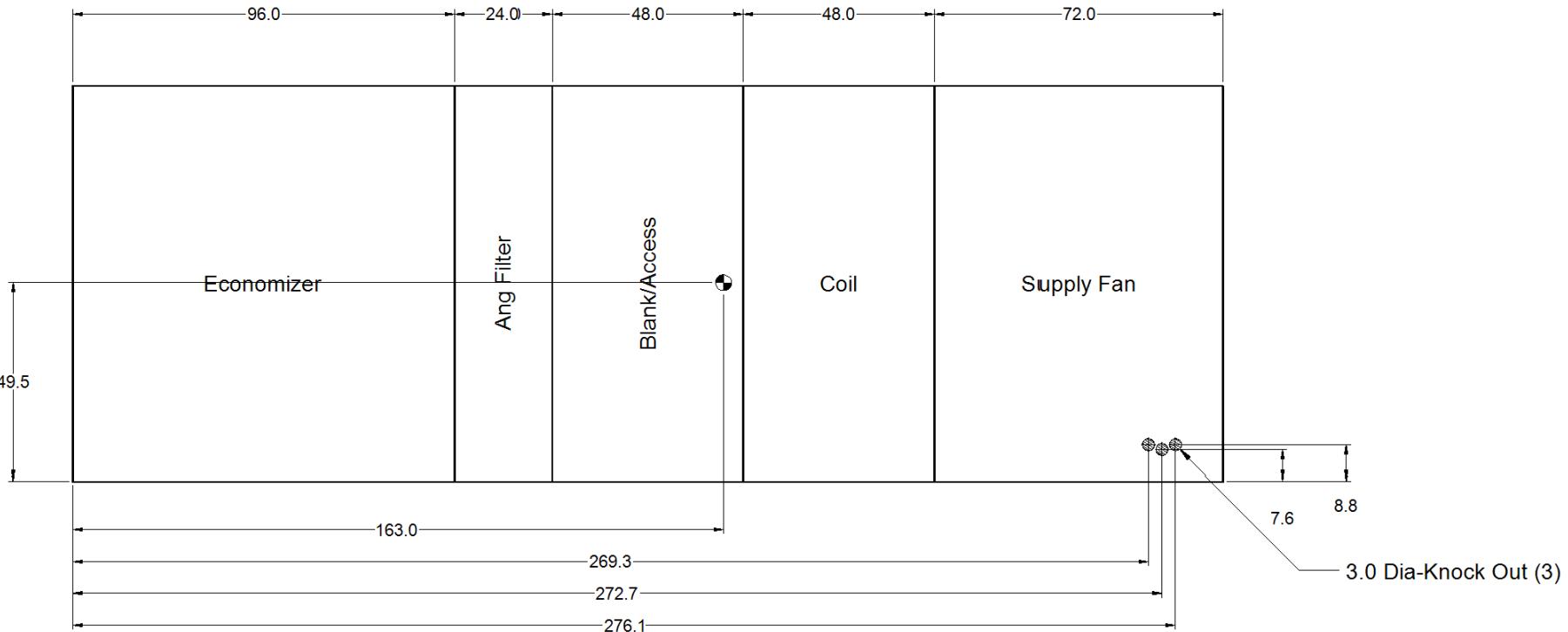


Product Drawing	Unit Tag: AHU-4			Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		



Product Drawing	Unit Tag: AHU-4	Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30
Product:	Project Name: Hall County Courthouse &			Sales Engineer:	
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25" Dwg Units: in [mm]

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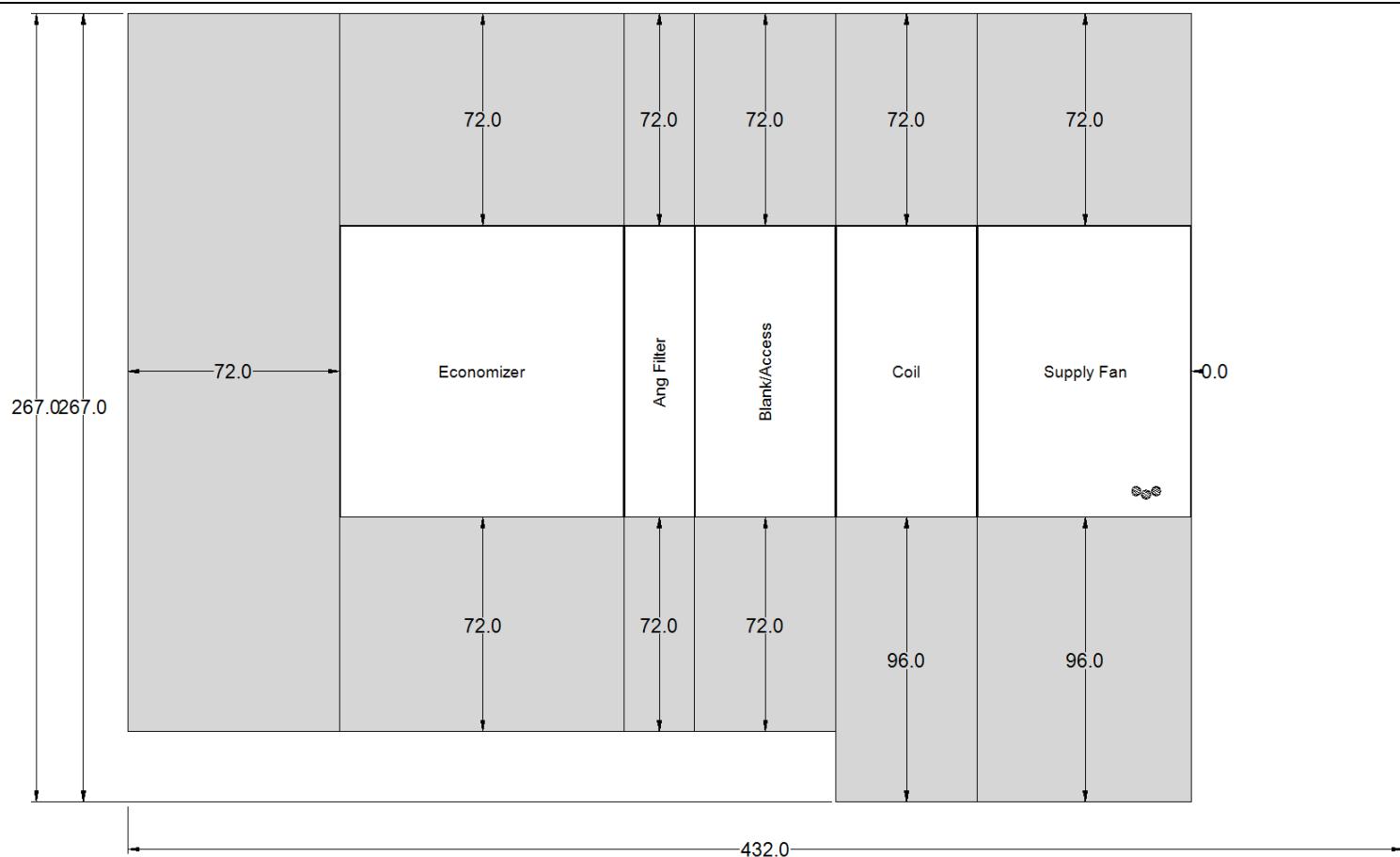


PLAN VIEW - KNOCK OUTS & CENTER-OF-GRAVITY

Product Drawing	Unit Tag: AHU-4			Sales Office: Daikin Applied Georgia			DAIKIN 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

Drawings(4) for AHU-4



PLAN VIEW - SERVICE CLEARANCE

Product Drawing	Unit Tag: AHU-4			Sales Office: Daikin Applied Georgia			DAIKIN 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.								

Job Number: 96BB5E
Job Name: Hall County Courthouse & Annex

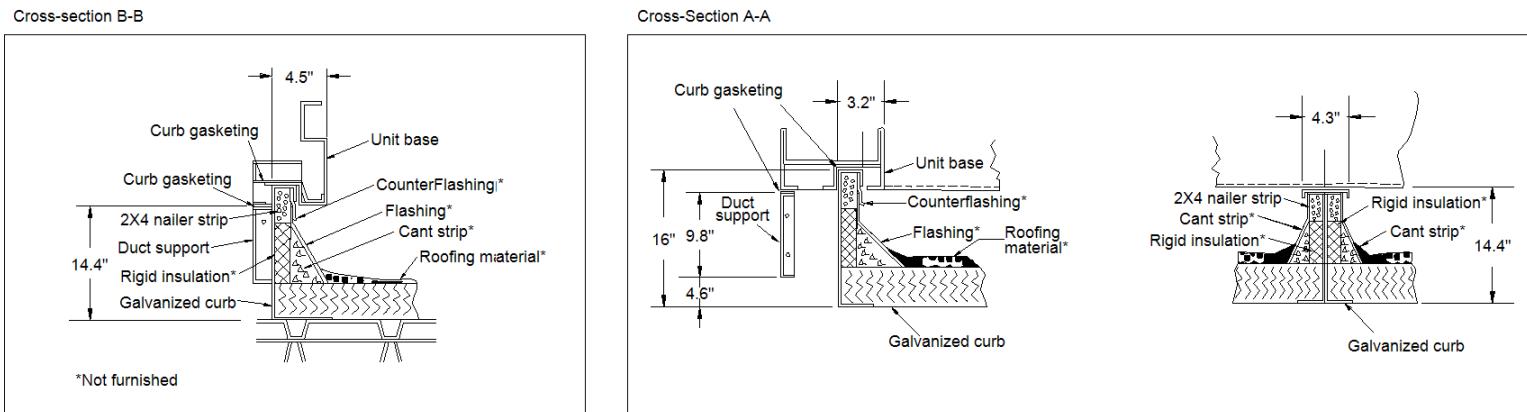
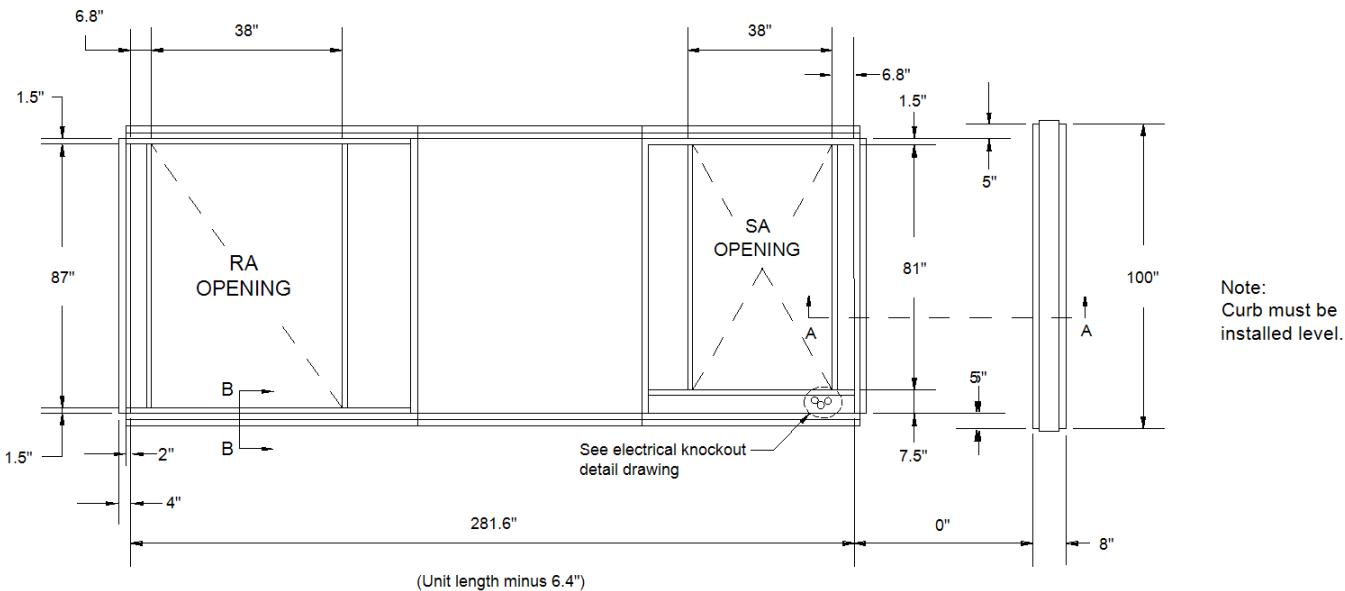
Page
36 of 80

Prepared Date:

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9/16/2022

Drawings(5) for AHU-4

Curb Weight: 612.04 lbs.



Job Number:

96BB5E

Job Name: Hall County Courthouse & Annex

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Prepared Date:

www.DaikinApplied.com

Product Drawing

Unit Tag: AHU-4

Sales Office: Daikin Applied Georgia

Product:

Project Name: Hall County Courthouse &

Sales Engineer:

Model: RAH077C

Sept. 16, 2022

Ver/Rev:

Sheet: 1 of 1

Scale: NTS

Tolerance: +/- 0.25"

Dwg Units: in [mm]

DAIKIN

13600 Industrial Park Blvd. Minneapolis, MN 55441

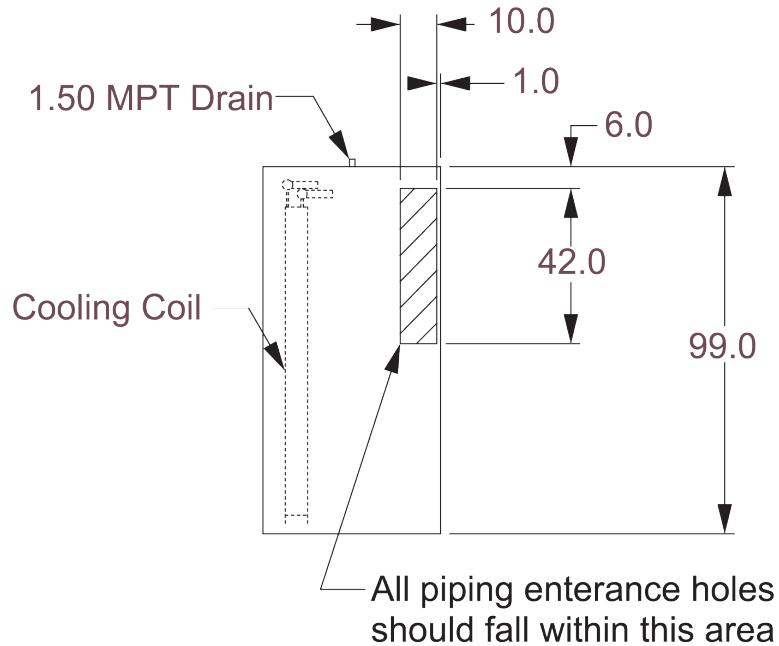
www.DaikinApplied.com

Software Version: 08.30

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

RAH 077C Unit Coil Cool Only Flat Piping Entrance for AHU-4

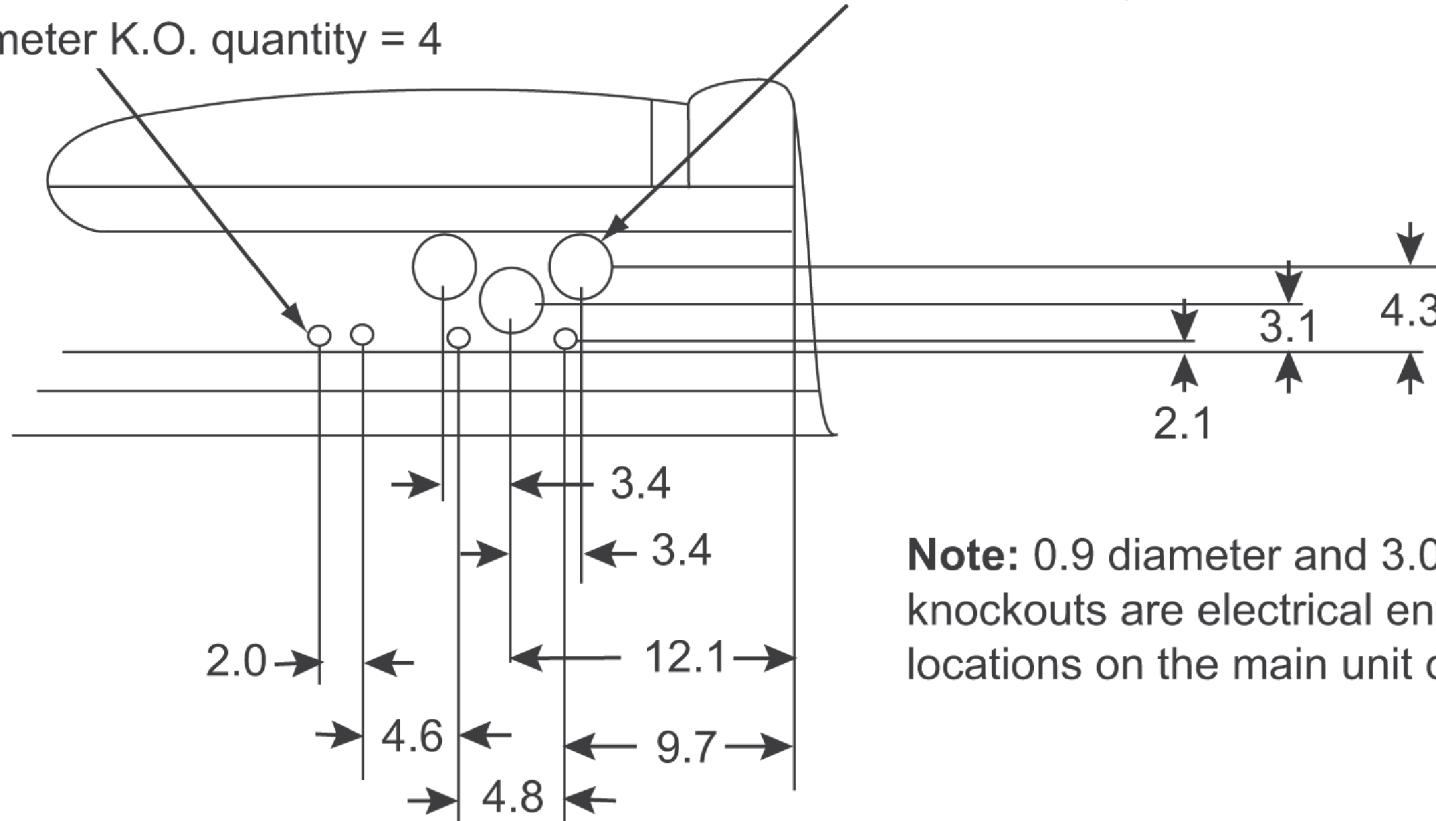
Position D — Draw-Through Heat/Cool Section — Standard Face Area Coil — RAH077C
 Cooling Unit Only



Product Drawing	Unit Tag: AHU-4			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.10					
Product:	Project Name: Hall County Courthouse								
Model: RAH077C	Sales Office: Daikin Applied Georgia								
Sales Engineer:	June 13, 2022	Ver/Rev:	Sheet 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]			
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.									

0.9 diameter K.O. quantity = 4

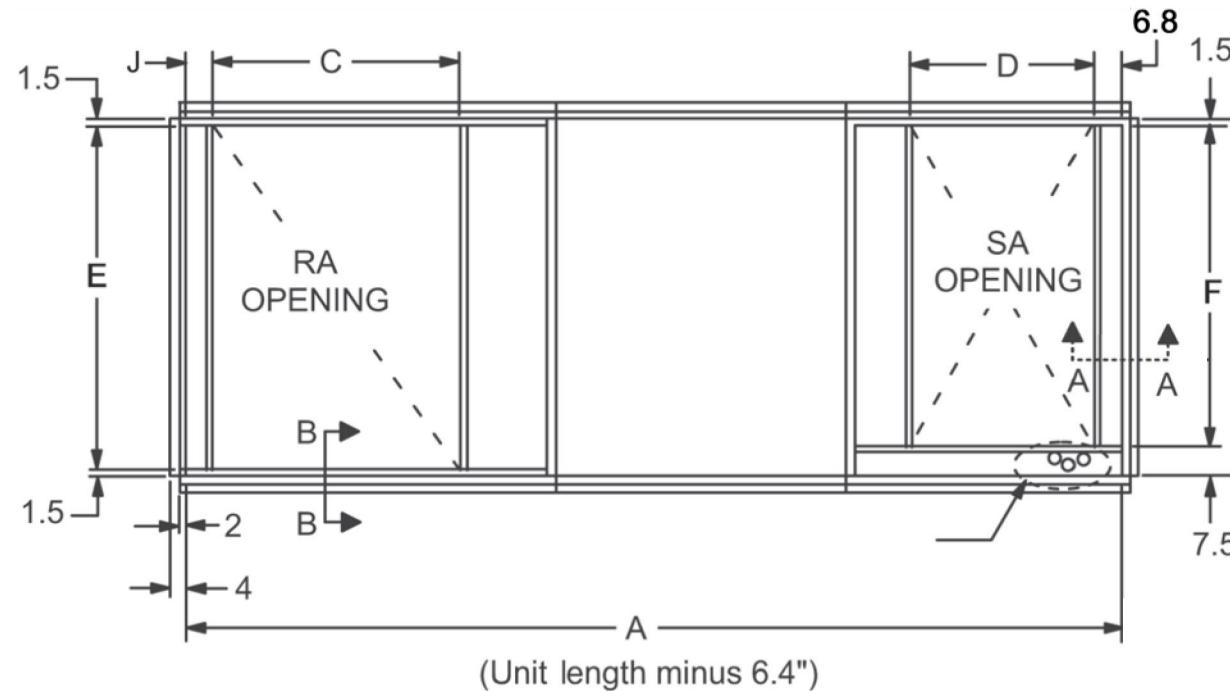
3.0 diameter K.O. quantity = 3



Note: 0.9 diameter and 3.0 diameter knockouts are electrical entrance locations on the main unit only.

Roofcurb_Dimensions_AH for AHU-4

Dimensions		
Description	Letter	Dimensions (in)
Curb Length	A	281.6
Condenser Rail	B	0.0
Return Air Opening Length	C	38.0
Supply Air Opening Length	D	38.0
Return Air Opening Width	E	87.0
Supply Air Opening Width	F	81.0
Condenser Rail Overhang	G	5.0
Condenser Rail Overhang	H	5.0
Return Air Opening Location	J	6.8



Product Drawing

Unit Tag: AHU-4

Sales Office: Daikin Applied Georgia

Product:

Project Name: Hall County Courthouse &

Sales Engineer:

Model: RAH077C

Sept. 16, 2022

Ver/Rev:

Sheet: 1 of 1

Scale: NTS

Tolerance: +/- 0.25"

Dwg Units: (in)

 DAIKIN

13600 Industrial Park Blvd. Minneapolis, MN 55441

www.DaikinApplied.com

Software Version: 08.30

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Job Number:

96BB5E

Job Name:

Hall County Courthouse & Annex

Page

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Prepared Date:

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9/16/2022

Technical Data Sheet for AHU-5_upsized

Job Information		Technical Data Sheet
Job Name	Hall County Courthouse & Annex	
Date	9/16/2022	
Submitted By	Matthew Prather	
Software Version	08.30	
Unit Tag	AHU-5_upsized	
FPA#	pl224	



Unit	
Model Number:	RAH077C
Altitude:	0 ft
Heat Type:	None
Approval:	ETL/MEA-USA unit

Physical				
Unit				
Length	Height	Width	Weight	Estimated Lifting Lugs
288 in	97.0 in	99.0 in	10578 lb	3 per side

Electrical				
Voltage	MCA	MROPD	SCCR	
460/60/3	59.4 A	100 A	10 kAIC	
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.			

Return/Outside/Exhaust Air				
Outside Air Option				
Type	Pressure Drop	Damper Actuator		
0-100% Economizer	0.27 inH ₂ O	Electric Actuator		
Return Air Option				
Return Air Location:	Bottom			
Return Air Options:	Burglar Bars			

Filter Section				
Physical				
Type	(Quantity) Height x Width x Depth	Face Area	Face Velocity	Air Pressure Drop
2 in. 30% Nominal Efficiency (MERV 8)	(11) 16 in x 20 in x 2 in (33) 16 in x 25 in x 2 in	116.1 ft ²	301.5 ft/min	0.14 inH ₂ O

Technical Data Sheet for AHU-5_upsized

Coil Section														
Chilled Water Coil														
Location: First in Airstream														
Fins per Inch	Rows	Face Area	Face Velocity	Fin Height	Fin Length	Air Pressure Drop								
8	6	72.6 ft ²	481.9 ft/min	126 in	83 in	0.94 inH ₂ O								
Material														
Fin	Tube	Header	Casing											
0.0075 in. Aluminum	0.020 in. Nom Cu	Copper	Galvanized Steel											
Connection														
Size	Type	Location												
1 - 3 in. FPT	Carbon Steel	Opposite Drive Side												
Drain Pan														
Material	Connection													
Painted Galvanized Steel	1.5 MPT													
Performance														
Capacity		Air Temperature												
Total Btu/hr	Sensible Btu/hr	Entering		Leaving										
1229082	925629	Dry Bulb °F	78.0	Wet Bulb °F	65.0	Dry Bulb °F	53.8	Wet Bulb °F	53.2					
Fluid														
Type	Entering Temperature °F	Leaving Temperature °F	Flow Rate gpm	Pressure Drop ft H ₂ O	Velocity ft/s									
Water	45.0	55.6	231.5	14.7	3.9									
Valve														
Type	Size			Valve Water Pressure Drop ft H ₂ O										
3-Way	3 in. Nominal			12.1										

Fan Section				
Fan				
Type		Fan Wheel Diameter		Fan Isolation
AF SWSI		49 in		Spring with Seismic Snubbers
Performance				
Airflow		Total Static Pressure		Brake Horsepower
35000 cfm		4.35 inH ₂ O		36.28 HP
Motor				
Type		Horsepower		Type
ODP, Premium Efficiency		40.0 hp		150% service factor, Fixed drive
Discharge Location: Bottom				

Unit Discharge Conditions				
Air Temperature				
DX coil Configuration:		Draw-thru Coil		
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
102543	384.9	56.5	54.1	52.8

Technical Data Sheet for AHU-5_upsized

Sound

Frequency	Sound Power (db)							
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	84	83	78	73	70	63	55	47
Discharge	85	82	78	76	75	70	62	55

Supply Fan Total Pressure Drop Calculation

External Static Pressure:	2.50 inH ₂ O
Filter:	0.14 inH ₂ O
Dirty Filter:	0.50 inH ₂ O
Outside Air:	0.27 inH ₂ O
Coil Section:	0.94 inH ₂ O
Total Static Pressure:	4.35 inH₂O

Options

Unit

Unit Exterior:	Prepainted Galvanized Steel
Insulation and Liners:	2", 1 1/2# nominal insulation, full solid liners
Fan Shaft Grounding:	Fan motors are provided with shaft grounding rings and class H insulation.

Electrical

Electrical Connection Option:	Single thru door disconnect switch
GFI 115v Receptacle:	Field powered
Power Options:	Phase Failure and Groundfault Protection

Controls

Application:	Variable Volume - Discharge Air Control
Temperature Control:	Power Package, No Controls
Fan Speed Control:	Factory mounted Inverter
Inverter Manufacturer:	Danfoss
Inverter Location:	Inverter(s) in fan section
Airflow Control:	Duct high limit sensor
Economizer Control:	Outside Air Dry Bulb and Enthalpy Control

Warranty

Parts: Extended 4 year, 5 year total

Compressor: None

AHRI Certification



All equipment is rated and certified in accordance with AHRI 360.

Specials

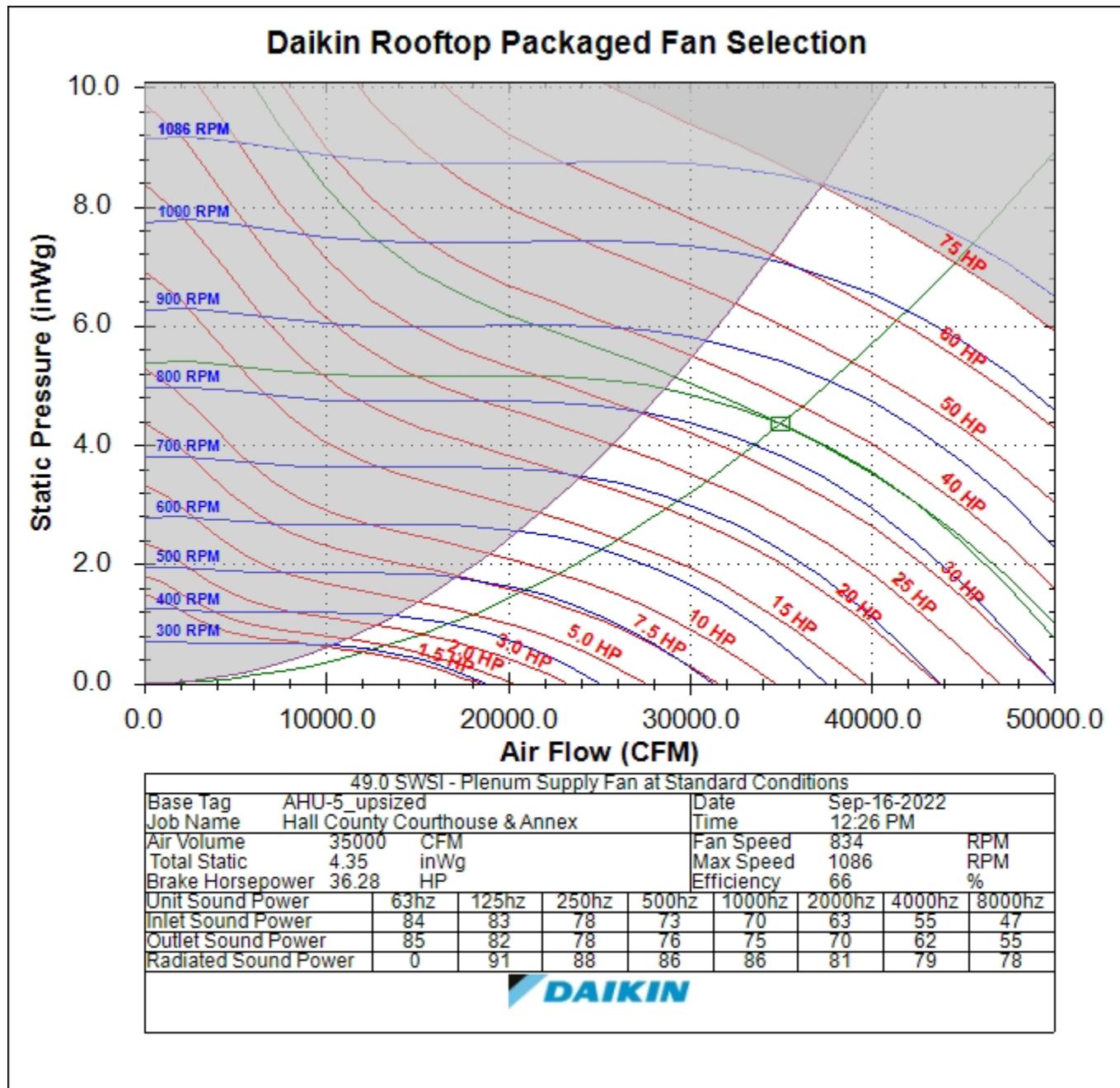
Unit

Specials Description:	Provide Condensate Overflow alarm for Cooling Coil drain pan. Unit to be provided with an extra lifting lug per side to assist with rigging. Use PL224 for the FPA number if an specific FPA hasn't been assigned to this selection
-----------------------	--

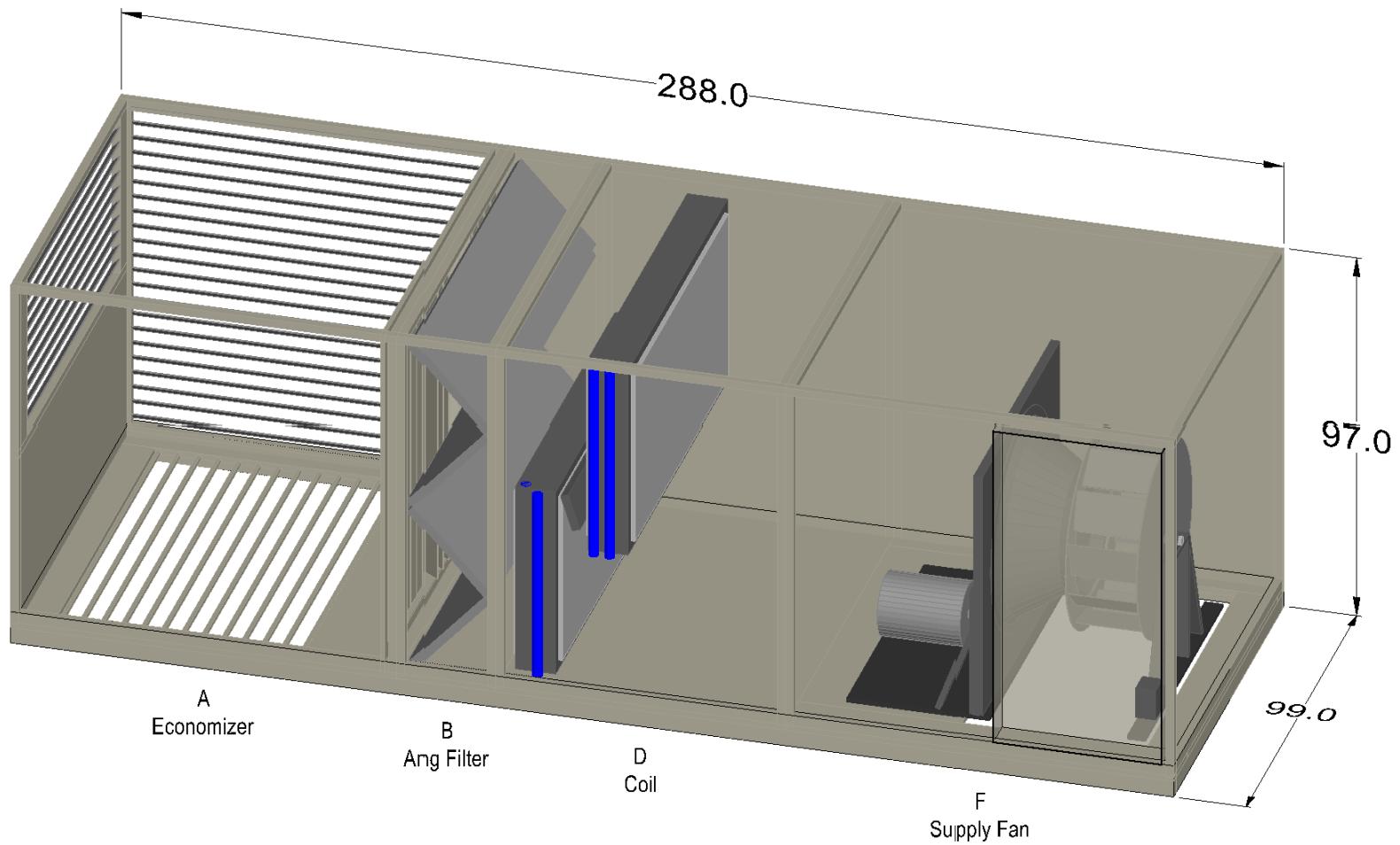
Notes

As a standalone component, unit meets or exceeds the requirements of ASHRAE 90.1.2010. The approving authority is responsible for compliance of multi-component building systems.

Fan Curve - Supply for AHU-5_upsized



Drawings(1) for AHU-5_upsized



Job Number: 96BB5E
Job Name: Hall County Courthouse & Annex

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Prepared Date:

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9/16/2022

Product Drawing		Unit Tag: AHU-5_upsized		Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30
Product:		Project Name: Hall County Courthouse &			Sales Engineer:		
Model: RAH077C		Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

Job Number:

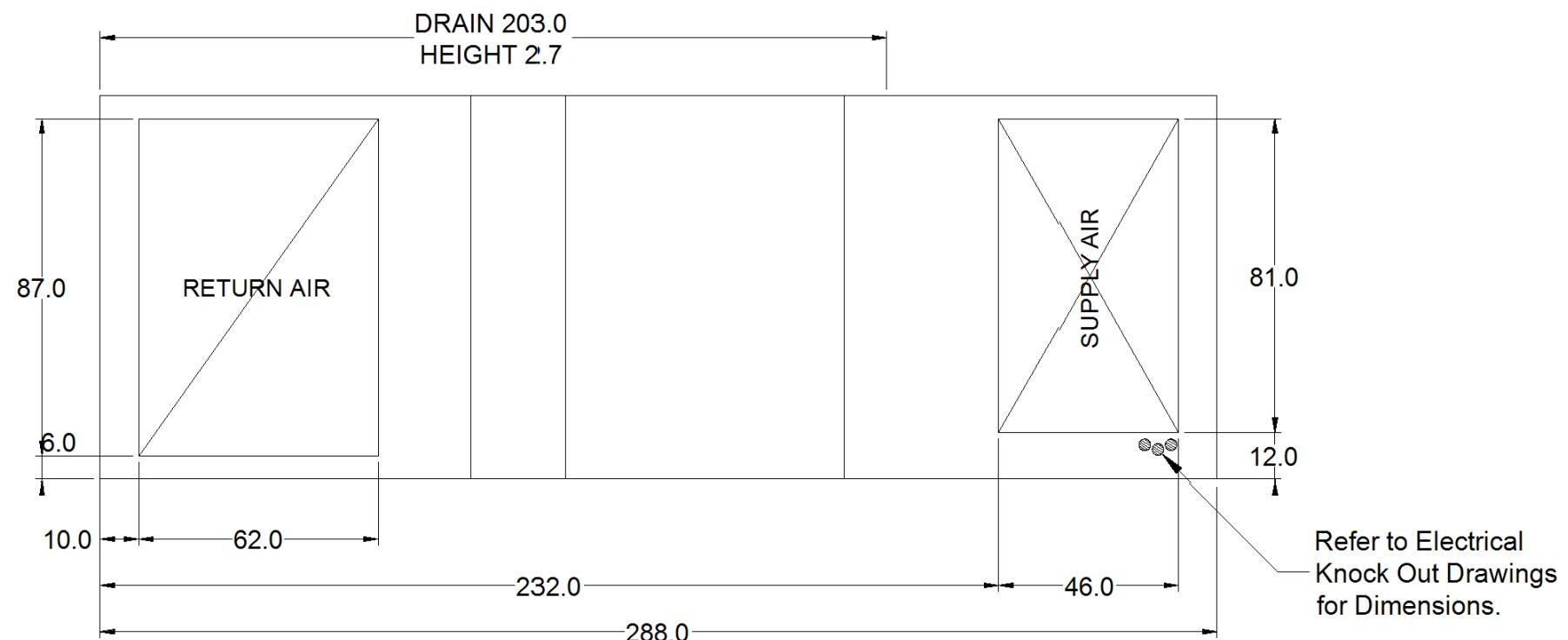
96BB5

56

Page

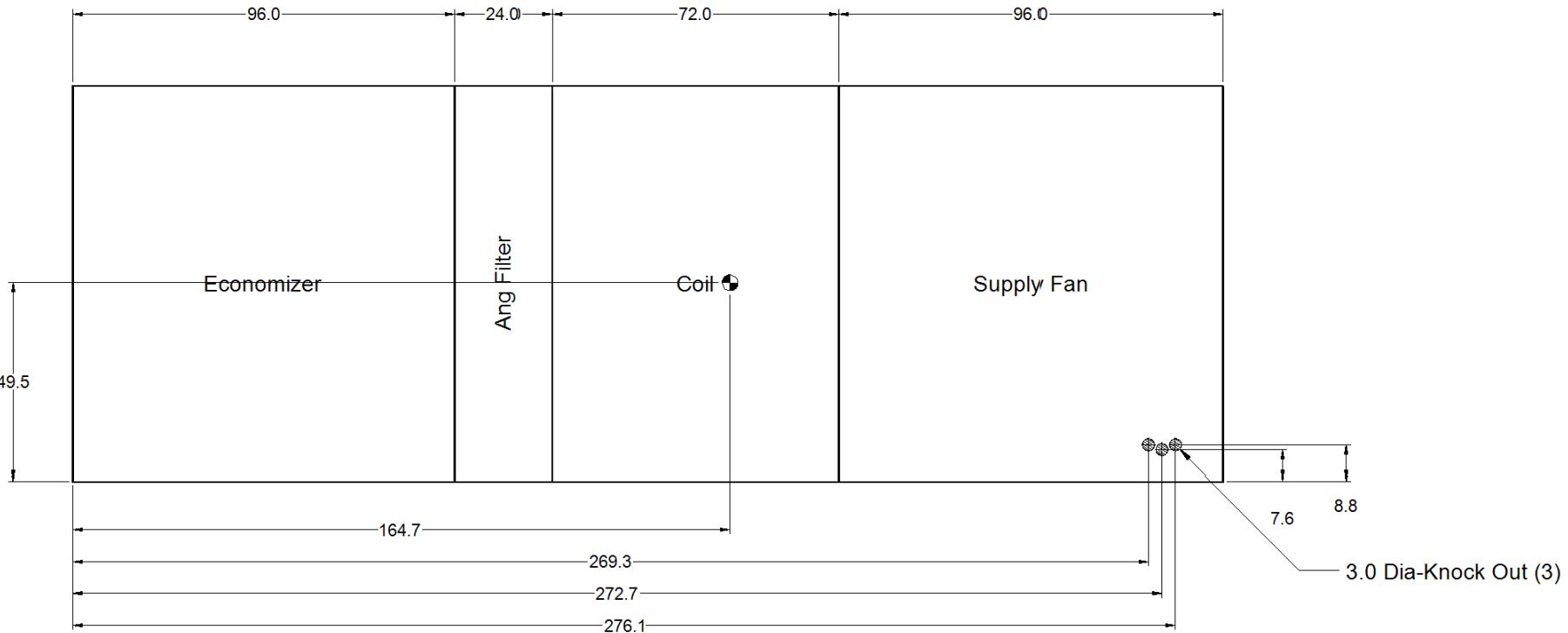
Prepared Date:

9/16/2022



PLAN VIEW - OPENINGS & OVERALL

Product Drawing	Unit Tag: AHU-5_upsized			Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		



PLAN VIEW - KNOCK OUTS & CENTER-OF-GRAVITY

Product Drawing	Unit Tag: AHU-5_upsized			Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

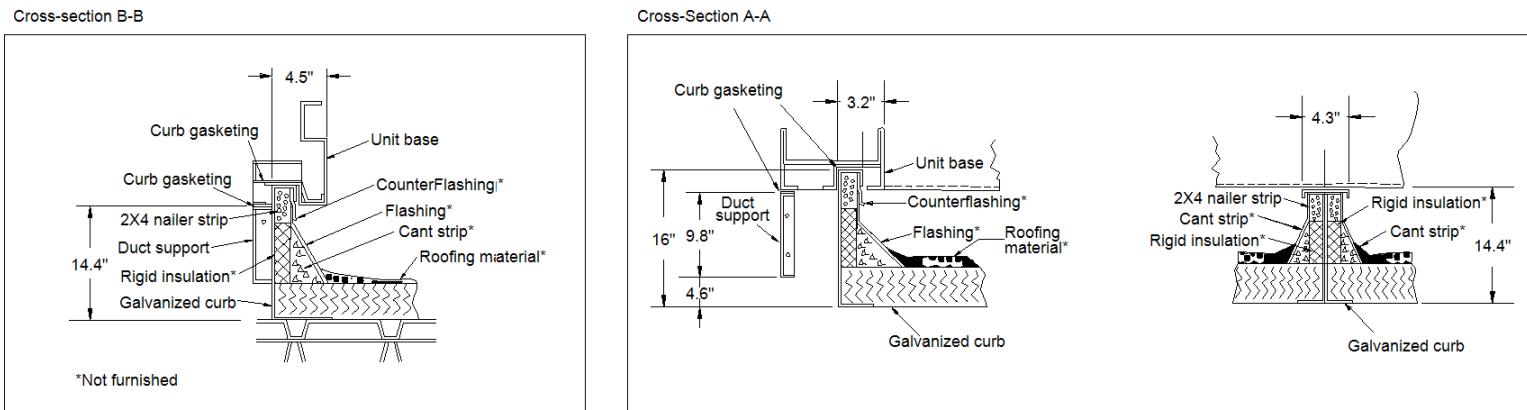
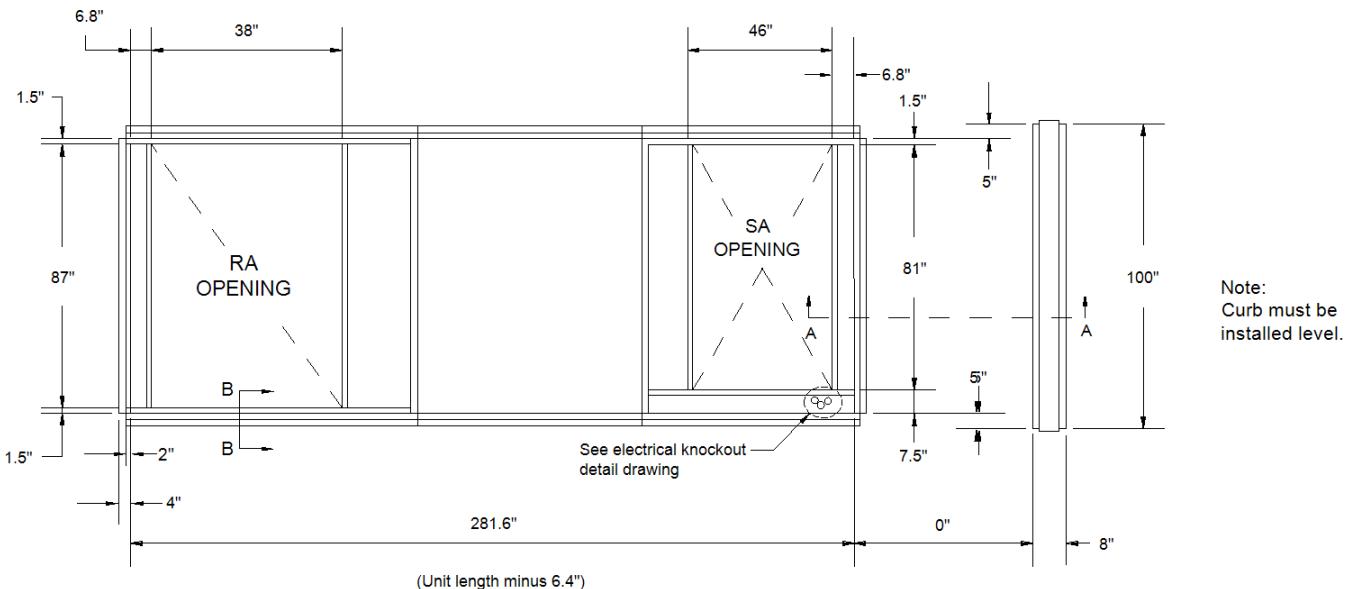


PLAN VIEW - SERVICE CLEARANCE

Product Drawing	Unit Tag: AHU-5_upsized			Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		

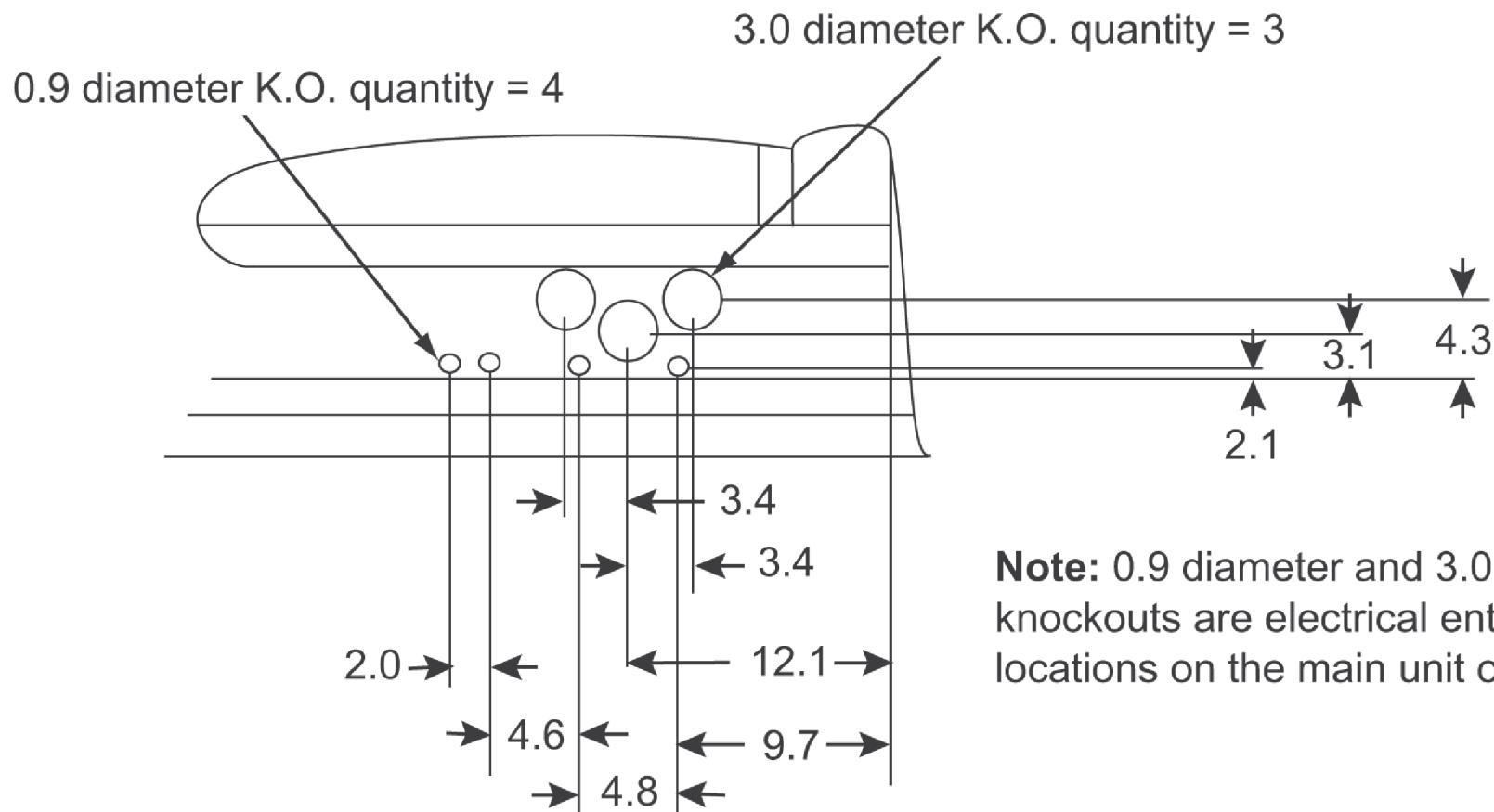
Drawings(5) for AHU-5_upsized

Curb Weight: 612.04 lbs.



Product Drawing	Unit Tag: AHU-5_upsized			Sales Office: Daikin Applied Georgia			13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.



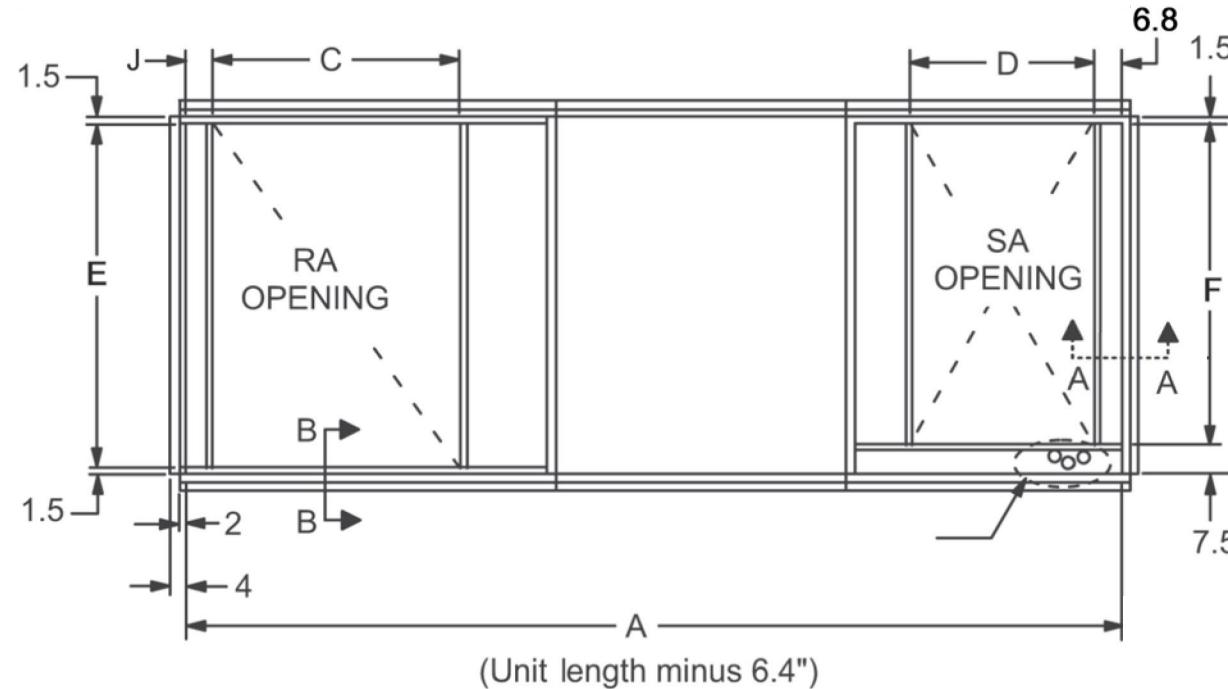
Note: 0.9 diameter and 3.0 diameter knockouts are electrical entrance locations on the main unit only.

Product Drawing	Unit Tag: AHU-5_upsized			Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com	
Product:	Project Name: Hall County Courthouse &			Sales Engineer:				
Model: RAH077C	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]		

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

Roofcurb_Dimensions_AH for AHU-5_upsized

Dimensions		
Description	Letter	Dimensions (in)
Curb Length	A	281.6
Condenser Rail	B	0.0
Return Air Opening Length	C	38.0
Supply Air Opening Length	D	46.0
Return Air Opening Width	E	87.0
Supply Air Opening Width	F	81.0
Condenser Rail Overhang	G	5.0
Condenser Rail Overhang	H	5.0
Return Air Opening Location	J	6.8



Product Drawing

Unit Tag: AHU-5_upsized

Sales Office: Daikin Applied Georgia

Product:

Project Name: Hall County Courthouse &

Sales Engineer:

Model: RAH077C

Sept. 16, 2022

Ver/Rev:

Sheet: 1 of 1

Scale: NTS

Tolerance: +/- 0.25"

Dwg Units: (in)

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Software Version: 08.30

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Job Number:

96BB5E

Job Name:

Hall County Courthouse & Annex

Page

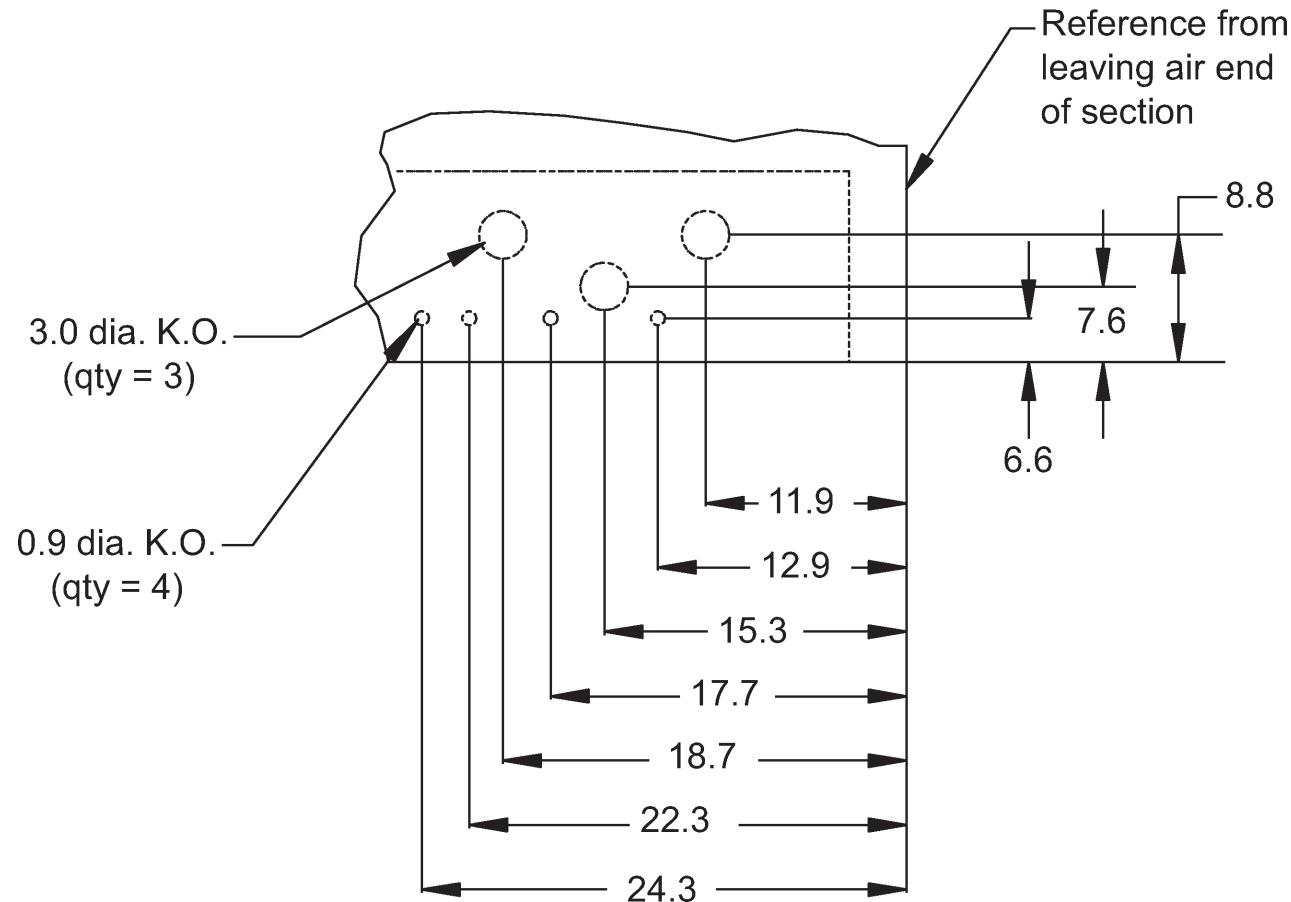
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Prepared Date:

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9/16/2022

Unit Knockout, Large Box for AHU-5_upsized



Job Number: 96BB5E
Job Name: Hall County Courthouse & Annex

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Prepared Date:

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9/16/2022

Product Drawing		Unit Tag: AHU-5_upsized		Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 08.30
Product:		Project Name: Hall County Courthouse &			Sales Engineer:		
Model: RAH077C		Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: in [mm]

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

Technical Data Sheet for CH-1-Annex

Job Information		Technical Data Sheet
Job Name	Hall County Courthouse & Annex	
Date	9/16/2022	
Submitted By	Matthew Prather	
Software Version	13.10	
Unit Tag	CH-1-Annex	Image may not represent ordered unit



Unit Overview					
Model Number	Capacity ton	Voltage	Unit Starter Type	ASHRAE 90.1	LEED Enhanced Refrigerant Management Credit
AGZ101E	101.9	460 v / 60 Hz / 3 Ph	Across the Line	'07, '10, '13 & '16	Pass

Unit							
Unit Type	Platform						
Air-Cooled Scroll Compressor Chiller	Packaged						
Head Pressure	Tubing						
VFD w/Line Reactors & Control Box Heaters [Low Ambient]	Replaceable Filter Dryer with Discharge & Liquid Valves, with HGBP						
Unit Controls	Display						
Electronic Expansion Valve	On Controller only						
Refrigerant Type	Refrigerant Weight						
R410A	92 lb (per unit)						
Pump Controls							
Dual Evaporator Pumps - Dual Control Output							
Approval							
ETL/cETL, AHRI & ASHRAE 90.1							
Evaporator							
Water Volume:	7.3 gal						
Connection Hand:	Universal Connection - Facing out back						
Connection Size:	3.0 in						
Insulation:	Single Layer Insulation to Suction at each Compressor						
Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Fluid Flow	Fluid Flow Min / Max	Pressure Drop	Pressure Drop Min / Max	Fouling Factor
56.00 °F	44.00 °F	Water	203.3 gpm	97.4/ 356.0 gpm	12.4 ft H ₂ O	2.30 / 21.7 ft H ₂ O	0.000100 °F.ft ² .h/Btu

Note: Evaporator Pressure Drop includes Factory Installed Strainer. Pressure drop without strainer is 8.6. Minimum flow is based on a Variable Flow Pumping System Type and applies to part load conditions only.

Condenser				
Coil Fins:	MicroChannel			
Guards:	Condenser Coil Louvers & Base Frame Wire Grilles			
Design Ambient Air Temperature	Altitude	Fan Diameter		Minimum Design Ambient Temperature
95.0 °F	0.000 ft	30.0 in		0.0 °F

Technical Data Sheet for CH-1-Annex

Unit Performance													
Design													
Capacity			Input Power			Efficiency (EER)			IPLV.IP* (EER)				
101.9 ton			115.0 kW			10.63 Btu/W.h			16.08 Btu/W.h				
Performance Points rated at AHRI Ambient Relief													
Unit					Evaporator				Condenser				
Point #	% Load	Capacity ton	Input Power kW	Efficiency (EER) Btu/W.h	Fluid Flow gpm	Pressure Drop ft H ₂ O	Entering Fluid °F	Leaving Fluid °F	Ambient Air °F	Altitude ft			
1	100.0	101.9	115.0	10.63	203.3	8.60	56.00	44.00	95.0	0.000			
2	90.0	91.72	91.94	11.97	203.3	8.60	54.80	44.00	89.0	0.000			
3	80.0	81.53	73.52	13.31	203.3	8.60	53.60	44.00	83.0	0.000			
4	70.0	71.34	57.76	14.82	203.3	8.60	52.40	44.00	77.0	0.000			
5	60.0	61.15	44.86	16.36	203.3	8.60	51.20	44.00	71.0	0.000			
6	50.0	50.96	35.04	17.45	203.3	8.60	50.00	44.00	65.0	0.000			
7	40.0	40.77	26.58	18.40	203.3	8.60	48.80	44.00	59.0	0.000			
8	30.0	30.57	18.97	19.34	203.3	8.60	47.60	44.00	55.0	0.000			
9	20.0	This point is below the chiller minimum load without hot gas bypass (HGBP) but will run here with use of HGBP											
10	10.0	This point is below the chiller minimum load without hot gas bypass (HGBP) but will run here with use of HGBP											

* IPLV reflects AHRI standard rating conditions with water and does not change with user defined conditions

Note: Evaporator Pressure Drop in this table does Not include strainer. For strainer pressure drop data see 'Evaporator' table on page 1.

Sound (without insulation)											
Sound Pressure (at 30 feet)											
63 Hz dB	125 Hz dB	250 Hz dB	500 Hz dB	1 kHz dB	2 kHz dB	4 kHz dB	8 kHz dB	Overall dBA	75% Load dBA	50% Load dBA	25% Load dBA
66	68	65	65	62	56	57	55	67	66	64	63
Sound Power											
63 Hz dB	125 Hz dB	250 Hz dB	500 Hz dB	1 kHz dB	2 kHz dB	4 kHz dB	8 kHz dB	Overall dBA	75% Load dBA	50% Load dBA	25% Load dBA
93	95	92	92	89	83	82	82	94	93	91	90

Octave band is non 'A' weighted and overall readings are 'A' weighted. Sound data rated in accordance with AHRI Standard-370.

Technical Data Sheet for CH-1-Annex

Physical				
Unit				
Length*	Height	Width*	Shipping Weight*	Operating Weight*
150 in	99 in	88 in	5051 lb	5135 lb

*Shipping and Operating Weights are based on 'worst case' unit configuration variations and include the below listed Option weights but do not include the weights of any Accessories. Contact Chiller Applications for additional information.

Option Weights	
Louvers:	355 lb
Total:	355 lb

Note: Option weights shown may be 'worst case' and should not be used to calculate unit weight without the option present.

Electrical				
Unit Electrical Data				
Voltage	Starter Type	Fan Motor Quantity	LRA Fan Motor (each)	FLA Fan Motors (each)
460 v / 60 Hz / 3 Ph	Across the Line	6	17.8 A	3.6 A
Power Connection Type:	Single Point Disconnect Switch with Circuit Protection			
Short Circuit Current Rating:	5 kA			
Phase Voltage:	Phase & Under/Over Voltage Protection with LED			

Single Point Power Connection	
Minimum Circuit Ampacity (MCA):	210 A
Recommended Overcurrent Protection Size:	250 A
Maximum Overcurrent Protection Size(MOCP):	250 A
Lug Connection Size:	(1) 4 - 300 MCM

Compressor Electrical Data				
Compressor Type	Compressor Quantity		Starter Type	
Scroll	4		Across the Line	
Circuit #:	1		2	
Compressor #:	1	3	2	4
Rated Load Amps (RLA):	37.8 A	37.8 A	37.8 A	54.5 A
Inrush Current:	320 A	320 A	320 A	310 A

Note: Power wiring connections to the chiller may be done with either copper or aluminum wiring. Wire should be sized per NEC and/or local codes. Wire sizing and wire count must fit in the power connection lug sizing listed above. Please contact your local sales office for more information.

Options	
Basic Unit	
Control Box Ambient:	High Ambient with Exhaust Fans (125°F maximum)
Suction Shut-off Valve:	Included
Evaporator Strainer:	Factory Installed Evaporator Strainer – 175 PSI Pressure Rating
Control	
Communication:	BACnet MS/TP
Electrical	
Ground Fault:	Unit Ground Fault Protection
Unit Options:	115V Convenience Outlet
Water Flow Indicator:	Thermal Dispersion Type

Warranty	
Unit Startup	Domestic
Standard Warranty:	1st Year Entire Unit Parts & Labor
Extended Unit Warranty:	Entire Unit; Extended 4 years parts & labor (5 Years Total)
Refrigerant Warranty	5 Years Total

Technical Data Sheet for CH-1-Annex

AHRI Certification



Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

Accessories

Optional	
Part Number	Description
332320117	Spring Isolator Kit; AGZ: Packaged, Microchannel, 075-101E (non-Seismic); Pump Package, Al Fin, 045-070E (non-Seismic), 060-070C/D; Cu Fin, 045-070*

AGZ-E Close Spacing for CH-1-Annex

AGZ-E Close Spacing Performance

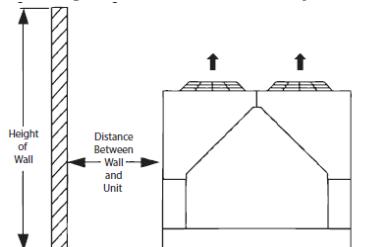
0A

The graphs below are based on individual cases and should not be combined with other scenarios

Case 1: Building or Wall on One Side of Unit

Assumes a solid height wall taller than unit. Refer to Case 4 for partial wall openings

Building or Wall on One Side of Unit



For models AGZ030-101E, maintain a 4 feet minimum from a wall of any height.

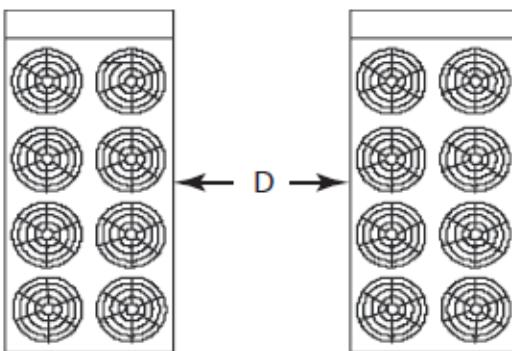
For models AGZ110-130E, maintain a 6 feet minimum from a wall of any height.

For models AGZ140-241E, maintain an 8 feet minimum from a wall of any height.

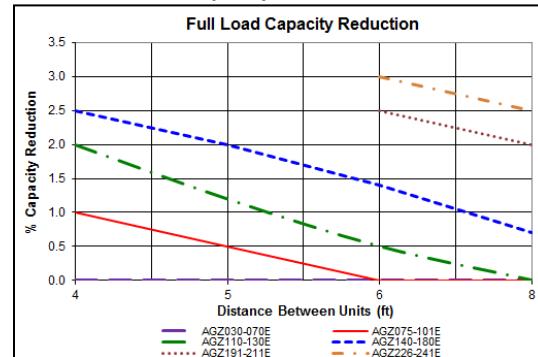
Case 2: Two Units, Side-by-Side

For models 030-180, there must be a minimum of 4 feet between two units placed side-by-side; however, performance may be affected at this distance. For models 191-241, the minimum is 6 feet as closing spacing may cause air recirculation and elevated condenser pressure. Assuming the requirement of one side having at least 8 feet of service clearance is met, Case 2 figures show performance adjustments as the distance between two units increases.

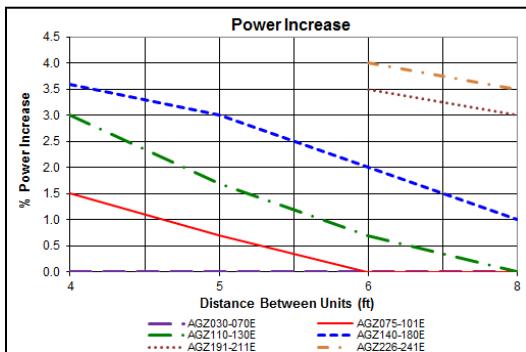
Two Units, Side-by-Side



Case 2 - Full Load Capacity Reduction



Case 2 – Power Increase



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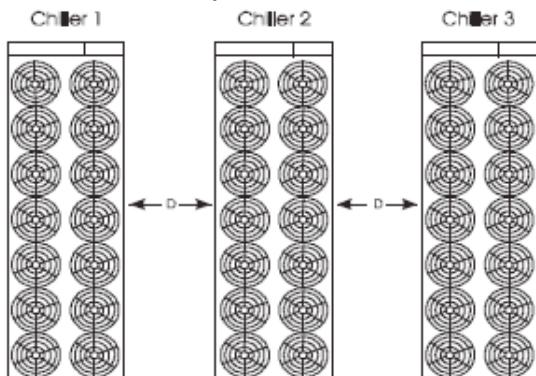
Product Drawing		Unit Tag: CH-1-Annex					
Product: Air-Cooled Scroll Chiller		Project Name:					
Model: AGZ-E		Sales Office: Daikin Applied Georgia					
Sales Engineer: Matthew Prather		Sept. 16, 2022	Ver/Rev:	Sheet 1 of 1	Scale: NTS	Tolerance: +/-1.0"	Dwg Units: in [mm]
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.							

AGZ-E Close Spacing for CH-1-Annex

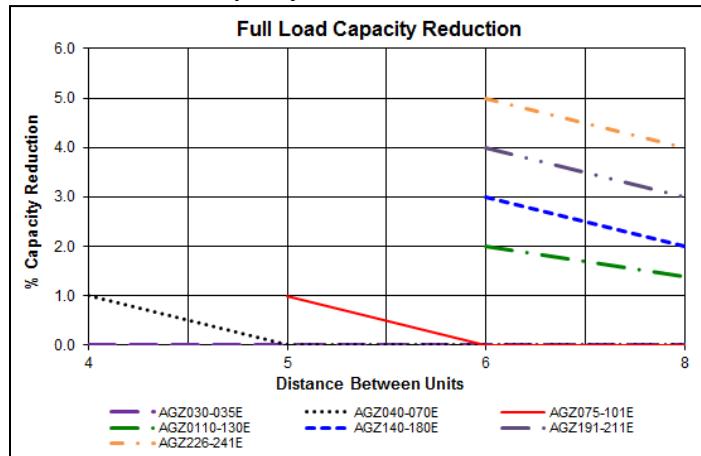
Case 3: Three or More Units, Side-by-Side

For all models, there must be a minimum distance between any units placed side-by-side; however, performance may be affected at this distance. Minimum distances are: models 030 to 070 - 4 feet, models 075 to 101 - 5 feet, models 110 to 241 - 6 feet. [The Case 3 charts below](#) depict Case 3 performance adjustments as the distance between units increases. Data shown is for the middle unit with a unit on each side. See Case 2 adjustment factors for the two outside units.

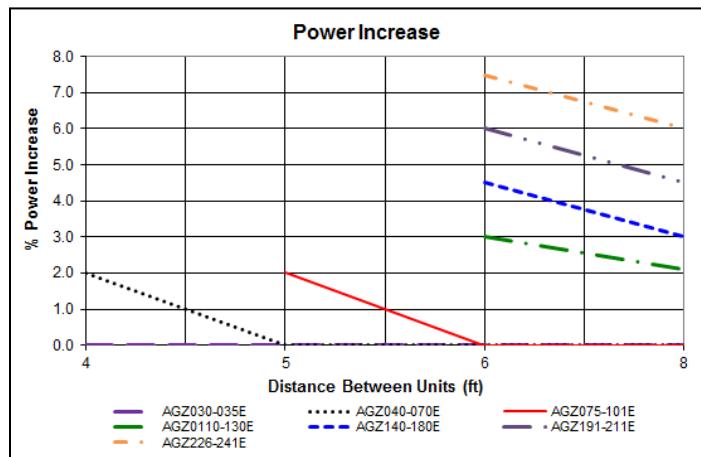
Three or More Units, Side-by-Side



Case 3 – Full Load Capacity Reduction



Case 3 – Power Increase

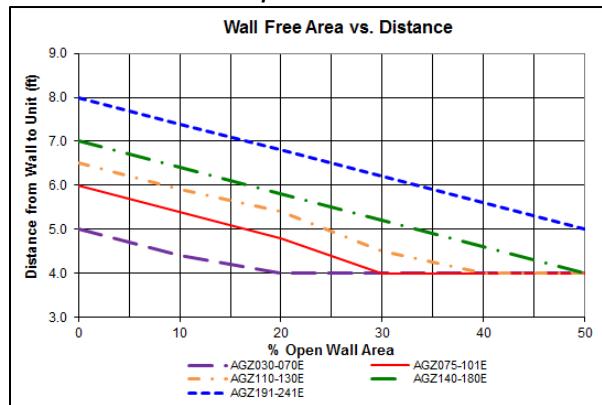


AGZ-E Close Spacing for CH-1-Annex

Case 4: Open Screening Walls

Decorative screening walls are often used to help conceal a unit either on grade or on a rooftop. When possible, design these walls such that the combination of their open area and distance from the unit (see chart below) do not require performance adjustment. If the wall opening percentage is less than recommended for the distance to the unit, it should be considered as a solid wall. It is assumed that the wall height is equal to or less than the unit height when mounted on its base support. If the wall height is greater than the unit height, see Case 5: Pit Installation for performance adjustment factors. The distance from the sides of the unit to the side walls must be sufficient for service, such as opening control panel doors. For uneven wall spacing, the distance from the unit to each wall can be averaged providing no distance is less than 4 feet. Values are based on walls on all four sides.

Case 4 - Allowable Wall Open Area



Case 5: Pit Installation

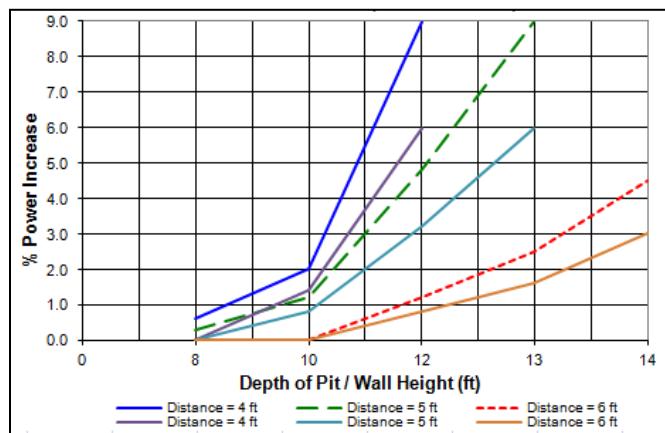
Pit installations can cause operating problems resulting from air recirculation and restriction and require care that sufficient air clearance is provided, safety requirements are met and service access is provided. A solid wall surrounding a unit is substantially a pit and this data should be used. Derates are based on single chiller installation only.

Steel grating is sometimes used to cover a pit to prevent accidental falls or trips into the pit. The grating material and installation design must be strong enough to prevent such accidents, yet provide abundant open area to avoid recirculation problems. Have any pit installation reviewed by the Daikin Applied sales representative prior to installation to ensure it has sufficient air-flow characteristics and approved by the installation design engineer to avoid risk of accident.

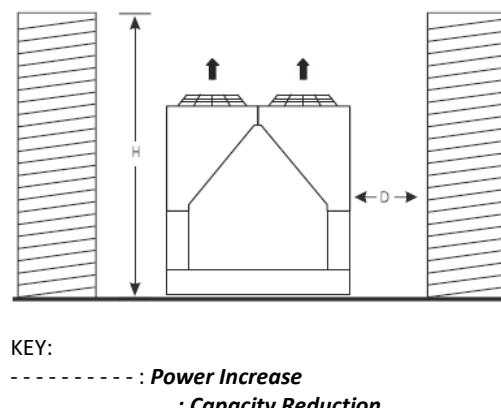
Models AGZ030-070E:

The Case 5 figures for models AGZ030-070E show adjustment factors for pit/wall heights of 4 feet, 5 feet, and 6 feet.

Case 5 - Full Load Capacity Reduction and Power Increase (AGZ030E-070E)



Case 5- Pit Installation

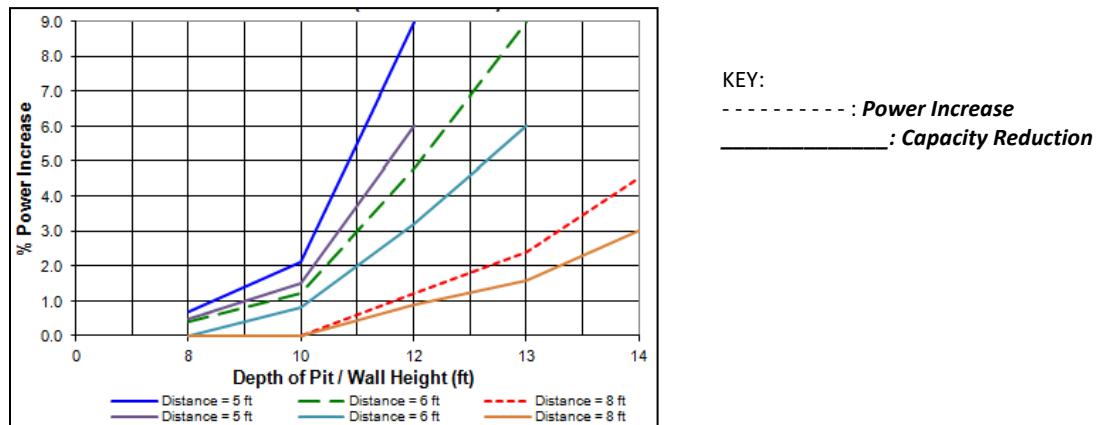


AGZ-E Close Spacing for CH-1-Annex

Models AGZ075-130E:

The Case 5 figures for models AGZ075-130E show adjustment factors for pit/wall heights of 5 feet, 6 feet, and 8 feet.

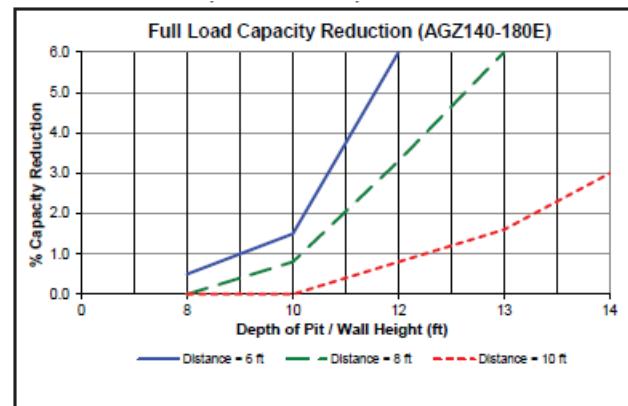
Case 5 - Full Load Capacity Reduction and Power Increase (AGZ075-130E)



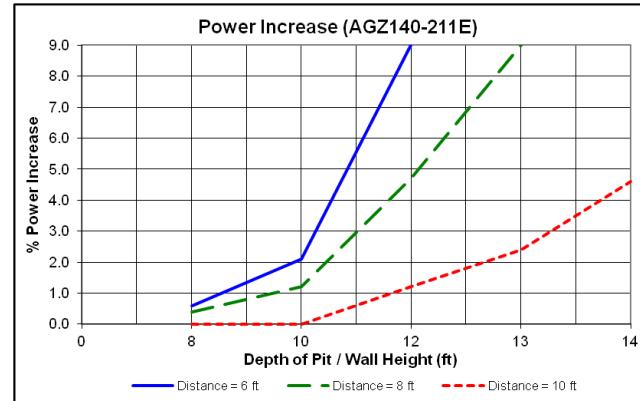
Models AGZ140-241E:

The Case 5 figures for models AGZ140-241E show adjustment factors for pit/wall heights of 6 feet, 8 feet, and 10 feet.

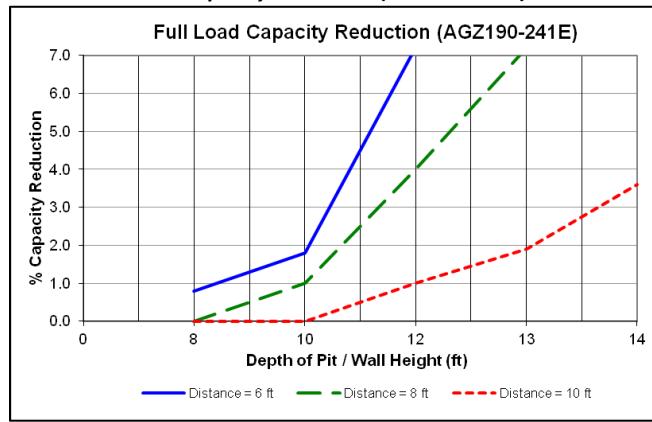
Case 5 - Full Load Capacity Reduction (AGZ140-180E)



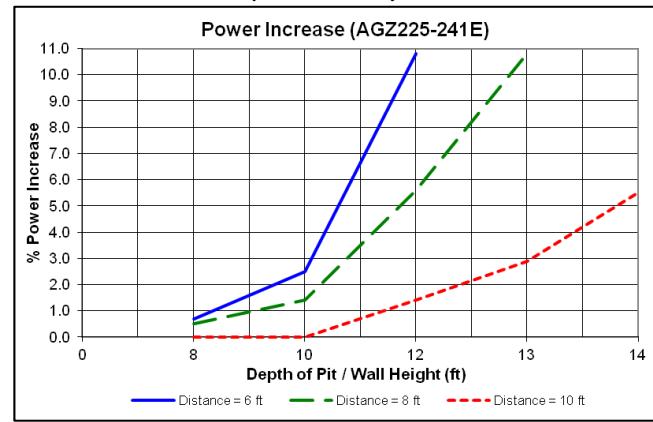
Case 5 - Power Increase (AGZ140-211E)



Case 5 - Full Load Capacity Reduction (AGZ190-241E)



Case 5 - Power Increase (AGZ225-241E)



AGZ-E Guards: Condenser Coil Louvers, Base Wire Grilles, Painted Base

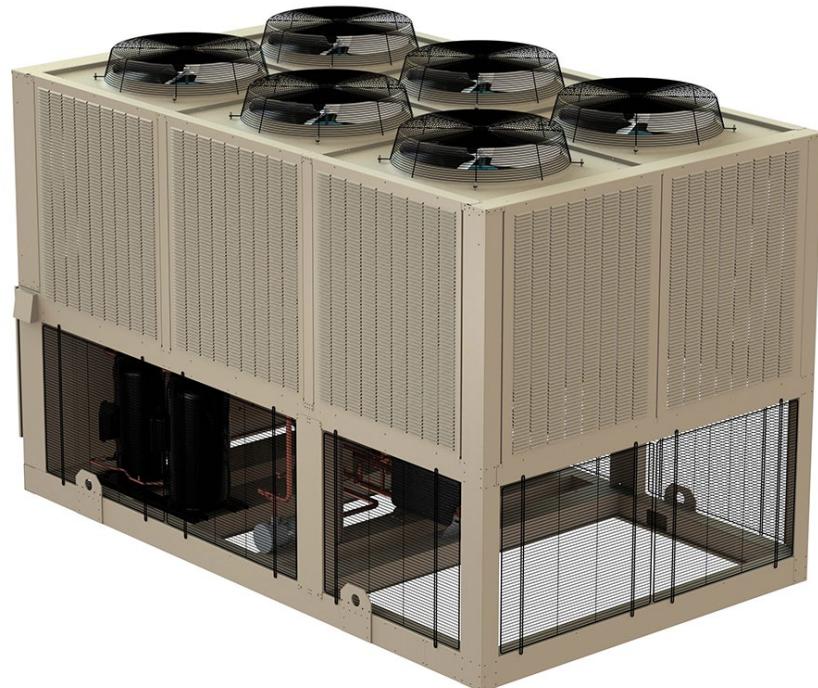
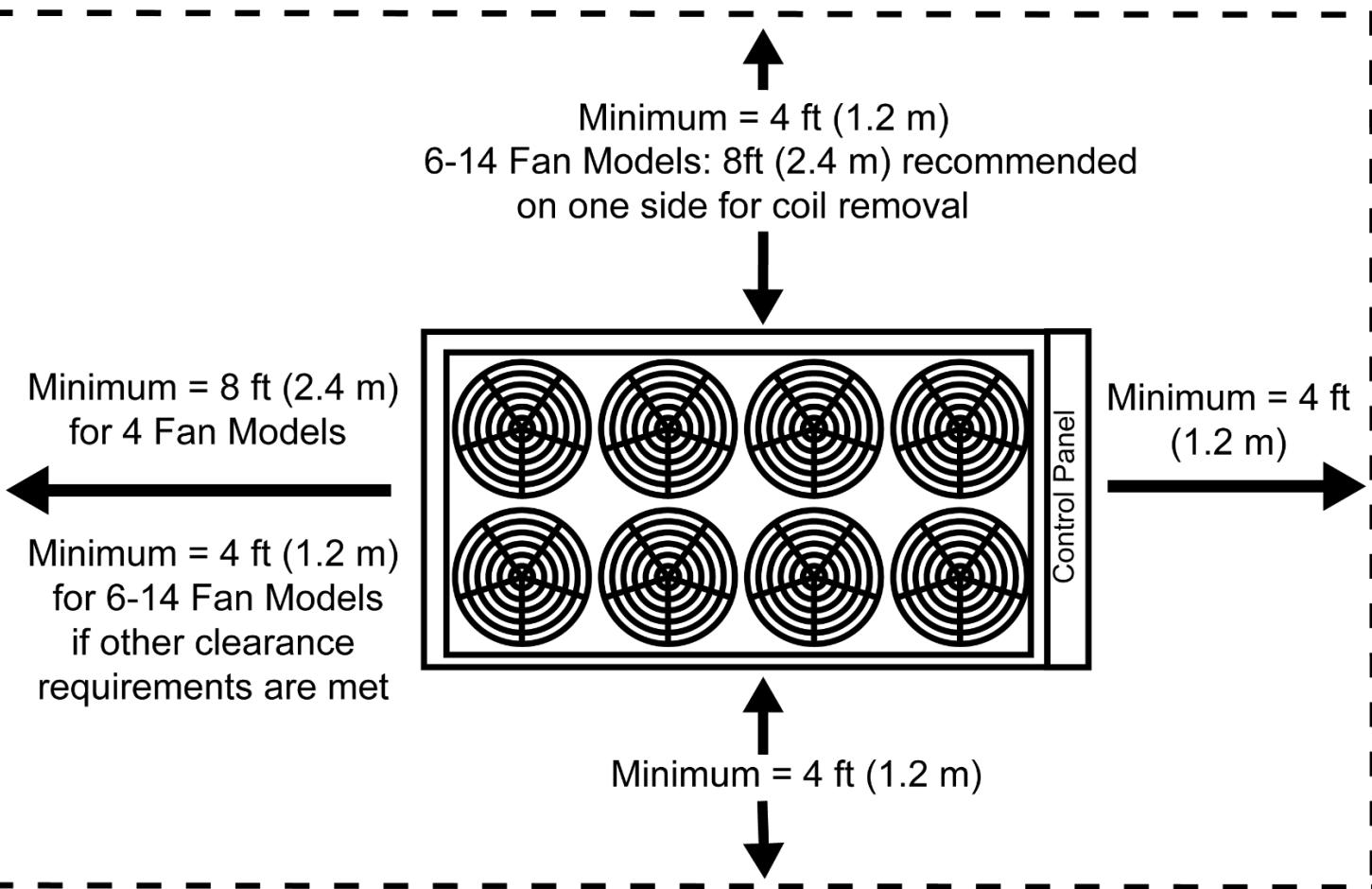


Diagram Notes
Diagram simulates wrap, grille and louver options as selected only. Refrigeration components may vary depending on selected options.

Product Drawing		Unit Tag: CH-1-Annex		Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10
Product: Air-Cooled Scroll Chiller		Project Name: Hall County Courthouse &		Sales Engineer: Matthew Prather			
Model: AGZ075-101E		Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: N/A	Tolerance: N/A	
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.							

AGZ-E Service Clearance



- NOTE: Additional clearance may be required for proper airflow. Please consult Close Spacing drawings and IOM for additional details.

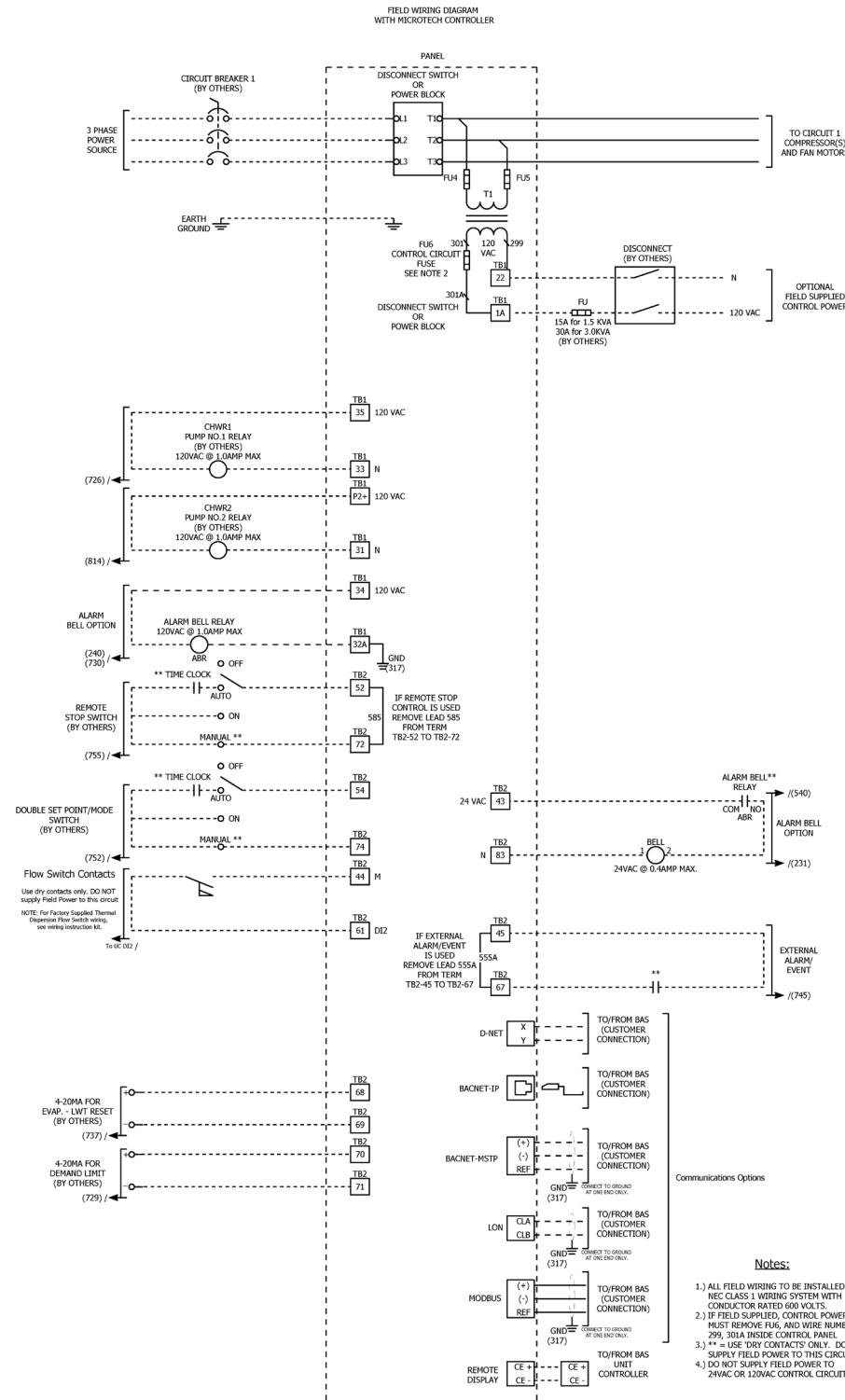
Product Drawing	Unit Tag: CH-1-Annex			Sales Office: Daikin Applied Georgia			DAIKIN 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10
Product: Air-Cooled Scroll Chiller	Project Name: Hall County Courthouse &			Sales Engineer: Matthew Prather			
Model: AGZ-E	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 1.0"	Dwg Units: in [mm]	

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

FieldWiring_AGZE_SP for CH-1-Annex

AGZ030-241E Single-Point Connection Field Wiring Diagram

0D



Field Wiring Diagram	Unit Tag: CH-1-Annex	 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10		
Product: Air-Cooled Scroll	Project Name: Hall County Courthouse &			
Model: AGZ030-241E Single-Point	Sales Office: Daikin Applied Georgia	Scale: N/A	Tolerance: N/A	Dwg Units: N/A
Sales Engineer: Matthew Prather				
Sept. 16, 2022				
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.				

Job Number: 96BB5E

Job Name: Hall County Courthouse & Annex

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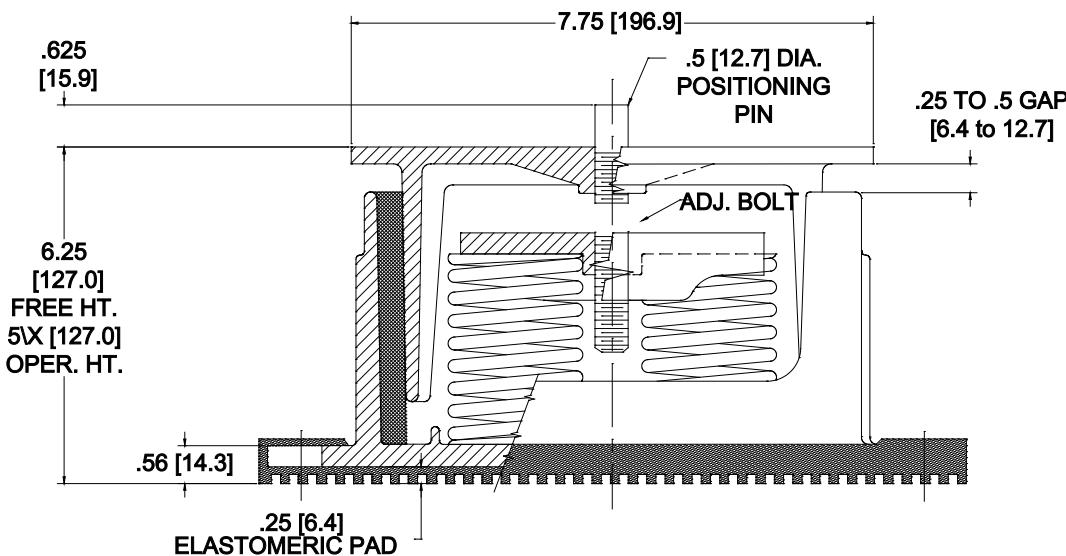
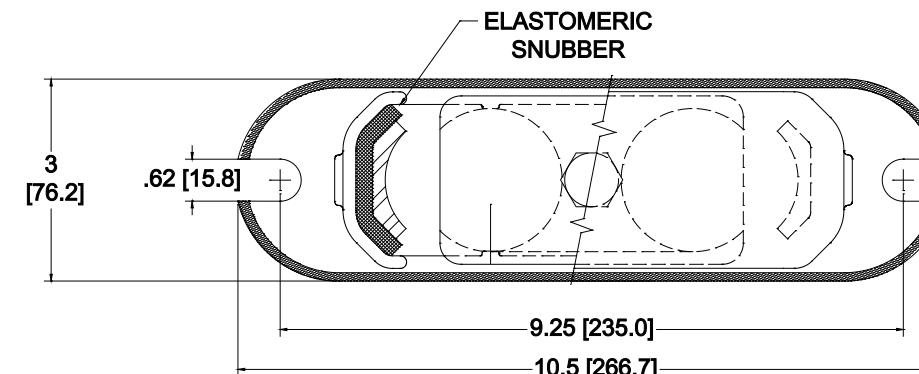
Prepared Date:

9/16/2022

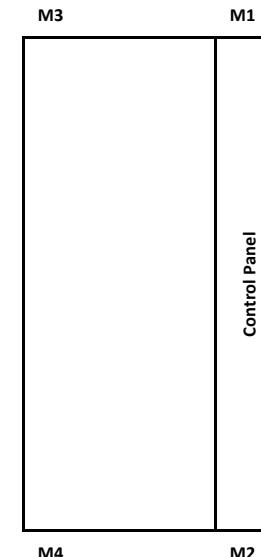
www.DaikinApplied.com

Spring Isolator Kit

Dimensions and Placement



Mounting Location			
M1	M2	M3	M4
Dark Green	Dark Green	Dark Green	Dark Green



Product Drawing	Unit Tag: CH-1-Annex	Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10
Accessory: Spring Isolator Kit	Project Name: Hall County Courthouse &	Sales Engineer: Matthew Prather			
Kit Part Number: 332320117	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications..					

Technical Data Sheet for CH-2-Annex

Job Information		Technical Data Sheet
Job Name	Hall County Courthouse & Annex	
Date	9/16/2022	
Submitted By	Matthew Prather	
Software Version	13.10	
Unit Tag	CH-2-Annex	Image may not represent ordered unit



Unit Overview					
Model Number	Capacity ton	Voltage	Unit Starter Type	ASHRAE 90.1	LEED Enhanced Refrigerant Management Credit
AGZ101E	101.9	460 v / 60 Hz / 3 Ph	Across the Line	'07, '10, '13 & '16	Pass

Unit							
Unit Type	Platform						
Air-Cooled Scroll Compressor Chiller	Packaged						
Head Pressure	Tubing						
VFD w/Line Reactors & Control Box Heaters [Low Ambient]	Replaceable Filter Dryer with Discharge & Liquid Valves, with HGBP						
Unit Controls	Display						
Electronic Expansion Valve	On Controller only						
Refrigerant Type	Refrigerant Weight						
R410A	92 lb (per unit)						
Pump Controls							
Dual Evaporator Pumps - Dual Control Output							
Approval							
ETL/cETL, AHRI & ASHRAE 90.1							
Evaporator							
Water Volume:	7.3 gal						
Connection Hand:	Universal Connection - Facing out back						
Connection Size:	3.0 in						
Insulation:	Single Layer Insulation to Suction at each Compressor						
Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Fluid Flow	Fluid Flow Min / Max	Pressure Drop	Pressure Drop Min / Max	Fouling Factor
56.00 °F	44.00 °F	Water	203.3 gpm	97.4/ 356.0 gpm	12.4 ft H ₂ O	2.30 / 21.7 ft H ₂ O	0.000100 °F.ft ² .h/Btu

Note: Evaporator Pressure Drop includes Factory Installed Strainer. Pressure drop without strainer is 8.6. Minimum flow is based on a Variable Flow Pumping System Type and applies to part load conditions only.

Condenser				
Coil Fins:	MicroChannel			
Guards:	Condenser Coil Louvers & Base Frame Wire Grilles			
Design Ambient Air Temperature	Altitude	Fan Diameter		Minimum Design Ambient Temperature
95.0 °F	0.000 ft	30.0 in		0.0 °F

Technical Data Sheet for CH-2-Annex

Unit Performance													
Design													
Capacity			Input Power			Efficiency (EER)			IPLV.IP* (EER)				
101.9 ton			115.0 kW			10.63 Btu/W.h			16.08 Btu/W.h				
Performance Points rated at AHRI Ambient Relief													
Unit					Evaporator				Condenser				
Point #	% Load	Capacity ton	Input Power kW	Efficiency (EER) Btu/W.h	Fluid Flow gpm	Pressure Drop ft H ₂ O	Entering Fluid °F	Leaving Fluid °F	Ambient Air °F	Altitude ft			
1	100.0	101.9	115.0	10.63	203.3	8.60	56.00	44.00	95.0	0.000			
2	90.0	91.72	91.94	11.97	203.3	8.60	54.80	44.00	89.0	0.000			
3	80.0	81.53	73.52	13.31	203.3	8.60	53.60	44.00	83.0	0.000			
4	70.0	71.34	57.76	14.82	203.3	8.60	52.40	44.00	77.0	0.000			
5	60.0	61.15	44.86	16.36	203.3	8.60	51.20	44.00	71.0	0.000			
6	50.0	50.96	35.04	17.45	203.3	8.60	50.00	44.00	65.0	0.000			
7	40.0	40.77	26.58	18.40	203.3	8.60	48.80	44.00	59.0	0.000			
8	30.0	30.57	18.97	19.34	203.3	8.60	47.60	44.00	55.0	0.000			
9	20.0	This point is below the chiller minimum load without hot gas bypass (HGBP) but will run here with use of HGBP											
10	10.0	This point is below the chiller minimum load without hot gas bypass (HGBP) but will run here with use of HGBP											

* IPLV reflects AHRI standard rating conditions with water and does not change with user defined conditions

Note: Evaporator Pressure Drop in this table does Not include strainer. For strainer pressure drop data see 'Evaporator' table on page 1.

Sound (without insulation)											
Sound Pressure (at 30 feet)											
63 Hz dB	125 Hz dB	250 Hz dB	500 Hz dB	1 kHz dB	2 kHz dB	4 kHz dB	8 kHz dB	Overall dBA	75% Load dBA	50% Load dBA	25% Load dBA
66	68	65	65	62	56	57	55	67	66	64	63
Sound Power											
63 Hz dB	125 Hz dB	250 Hz dB	500 Hz dB	1 kHz dB	2 kHz dB	4 kHz dB	8 kHz dB	Overall dBA	75% Load dBA	50% Load dBA	25% Load dBA
93	95	92	92	89	83	82	82	94	93	91	90

Octave band is non 'A' weighted and overall readings are 'A' weighted. Sound data rated in accordance with AHRI Standard-370.

Technical Data Sheet for CH-2-Annex

Physical				
Unit				
Length*	Height	Width*	Shipping Weight*	Operating Weight*
150 in	99 in	88 in	5051 lb	5135 lb

*Shipping and Operating Weights are based on 'worst case' unit configuration variations and include the below listed Option weights but do not include the weights of any Accessories. Contact Chiller Applications for additional information.

Option Weights	
Louvers:	355 lb
Total:	355 lb

Note: Option weights shown may be 'worst case' and should not be used to calculate unit weight without the option present.

Electrical				
Unit Electrical Data				
Voltage	Starter Type	Fan Motor Quantity	LRA Fan Motor (each)	FLA Fan Motors (each)
460 v / 60 Hz / 3 Ph	Across the Line			
Power Connection Type:	Single Point Disconnect Switch with Circuit Protection			
Short Circuit Current Rating:	5 kA			
Phase Voltage:	Phase & Under/Over Voltage Protection with LED			

Single Point Power Connection	
Minimum Circuit Ampacity (MCA):	210 A
Recommended Overcurrent Protection Size:	250 A
Maximum Overcurrent Protection Size(MOCP):	250 A
Lug Connection Size:	(1) 4 - 300 MCM

Compressor Electrical Data				
Compressor Type	Compressor Quantity		Starter Type	
Scroll	4		Across the Line	
Circuit #:	1		2	
Compressor #:	1	3	2	4
Rated Load Amps (RLA):	37.8 A	37.8 A	37.8 A	54.5 A
Inrush Current:	320 A	320 A	320 A	310 A

Note: Power wiring connections to the chiller may be done with either copper or aluminum wiring. Wire should be sized per NEC and/or local codes. Wire sizing and wire count must fit in the power connection lug sizing listed above. Please contact your local sales office for more information.

Options	
Basic Unit	
Control Box Ambient:	High Ambient with Exhaust Fans (125°F maximum)
Suction Shut-off Valve:	Included
Evaporator Strainer:	Factory Installed Evaporator Strainer – 175 PSI Pressure Rating
Control	
Communication:	BACnet MS/TP
Electrical	
Ground Fault:	Unit Ground Fault Protection
Unit Options:	115V Convenience Outlet
Water Flow Indicator:	Thermal Dispersion Type

Warranty	
Unit Startup	Domestic
Standard Warranty:	1st Year Entire Unit Parts & Labor
Extended Unit Warranty:	Entire Unit; Extended 4 years parts & labor (5 Years Total)
Refrigerant Warranty	5 Years Total

Technical Data Sheet for CH-2-Annex

AHRI Certification



Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

Accessories

Optional	
Part Number	Description
332320117	Spring Isolator Kit; AGZ: Packaged, Microchannel, 075-101E (non-Seismic); Pump Package, Al Fin, 045-070E (non-Seismic), 060-070C/D; Cu Fin, 045-070*

AGZ-E Close Spacing for CH-2-Annex

AGZ-E Close Spacing Performance

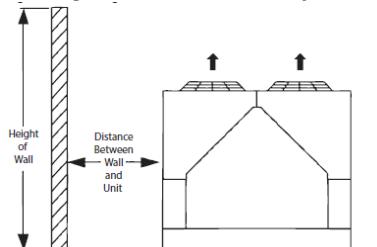
0A

The graphs below are based on individual cases and should not be combined with other scenarios

Case 1: Building or Wall on One Side of Unit

Assumes a solid height wall taller than unit. Refer to Case 4 for partial wall openings

Building or Wall on One Side of Unit



For models AGZ030-101E, maintain a 4 feet minimum from a wall of any height.

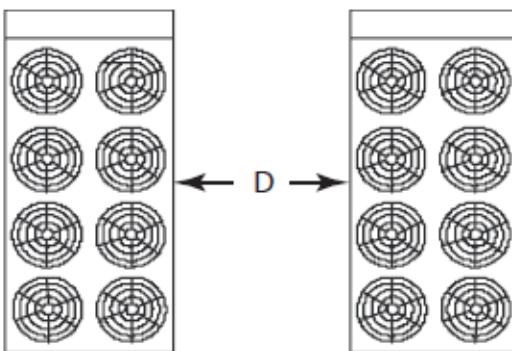
For models AGZ110-130E, maintain a 6 feet minimum from a wall of any height.

For models AGZ140-241E, maintain an 8 feet minimum from a wall of any height.

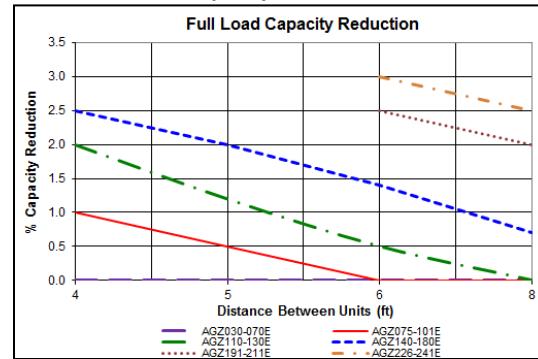
Case 2: Two Units, Side-by-Side

For models 030-180, there must be a minimum of 4 feet between two units placed side-by-side; however, performance may be affected at this distance. For models 191-241, the minimum is 6 feet as closing spacing may cause air recirculation and elevated condenser pressure. Assuming the requirement of one side having at least 8 feet of service clearance is met, Case 2 figures show performance adjustments as the distance between two units increases.

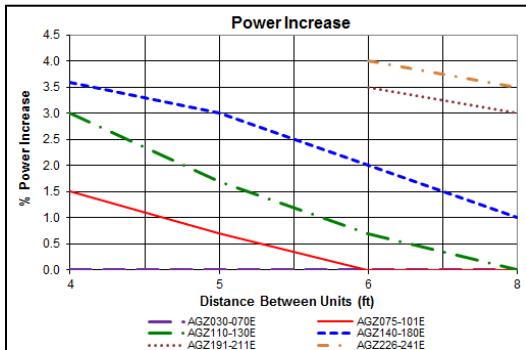
Two Units, Side-by-Side



Case 2 - Full Load Capacity Reduction



Case 2 – Power Increase



Product Drawing

Product: Air-Cooled Scroll Chiller

Model: AGZ-E

Sales Engineer: Matthew Prather

Unit Tag: CH-2-Annex

Project Name:

Sales Office: Daikin Applied Georgia

Sept. 16, 2022 Ver/Rev: Sheet 1 of 1


13600 Industrial Park Blvd. Minneapolis, MN 55441
www.DaikinApplied.com Software Version: 13.10

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

Job Number: 96BB5E

Job Name: Hall County Courthouse & Annex

Page

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Prepared Date:

9/16/2022

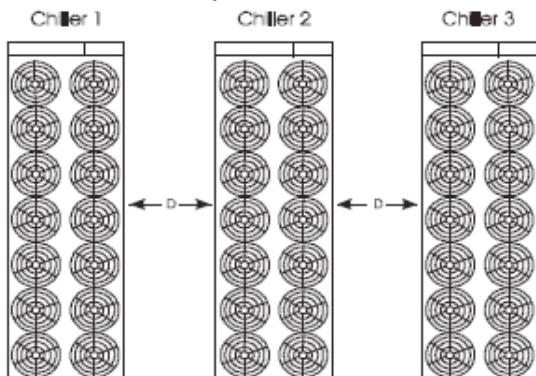
www.DaikinApplied.com

AGZ-E Close Spacing for CH-2-Annex

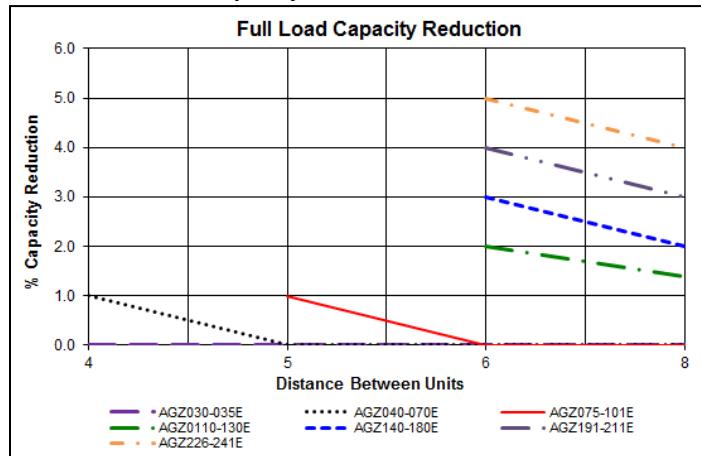
Case 3: Three or More Units, Side-by-Side

For all models, there must be a minimum distance between any units placed side-by-side; however, performance may be affected at this distance. Minimum distances are: models 030 to 070 - 4 feet, models 075 to 101 - 5 feet, models 110 to 241 - 6 feet. [The Case 3 charts below](#) depict Case 3 performance adjustments as the distance between units increases. Data shown is for the middle unit with a unit on each side. See Case 2 adjustment factors for the two outside units.

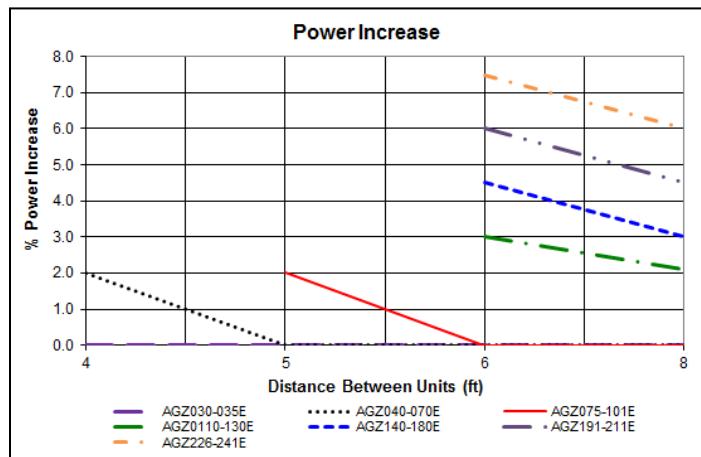
Three or More Units, Side-by-Side



Case 3 – Full Load Capacity Reduction



Case 3 – Power Increase

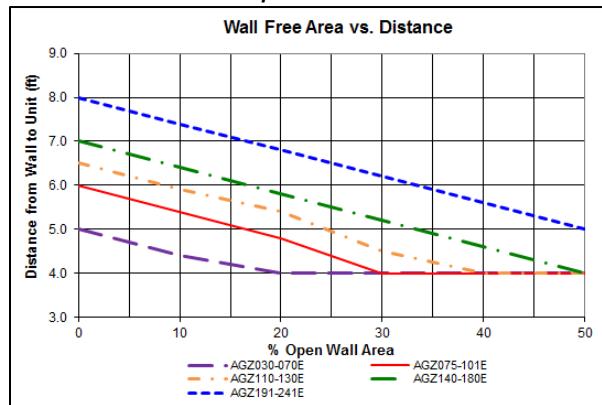


AGZ-E Close Spacing for CH-2-Annex

Case 4: Open Screening Walls

Decorative screening walls are often used to help conceal a unit either on grade or on a rooftop. When possible, design these walls such that the combination of their open area and distance from the unit (see chart below) do not require performance adjustment. If the wall opening percentage is less than recommended for the distance to the unit, it should be considered as a solid wall. It is assumed that the wall height is equal to or less than the unit height when mounted on its base support. If the wall height is greater than the unit height, see Case 5: Pit Installation for performance adjustment factors. The distance from the sides of the unit to the side walls must be sufficient for service, such as opening control panel doors. For uneven wall spacing, the distance from the unit to each wall can be averaged providing no distance is less than 4 feet. Values are based on walls on all four sides.

Case 4 - Allowable Wall Open Area



Case 5: Pit Installation

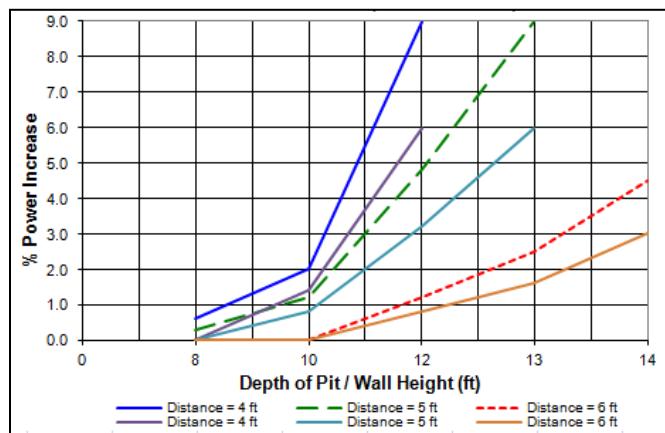
Pit installations can cause operating problems resulting from air recirculation and restriction and require care that sufficient air clearance is provided, safety requirements are met and service access is provided. A solid wall surrounding a unit is substantially a pit and this data should be used. Derates are based on single chiller installation only.

Steel grating is sometimes used to cover a pit to prevent accidental falls or trips into the pit. The grating material and installation design must be strong enough to prevent such accidents, yet provide abundant open area to avoid recirculation problems. Have any pit installation reviewed by the Daikin Applied sales representative prior to installation to ensure it has sufficient air-flow characteristics and approved by the installation design engineer to avoid risk of accident.

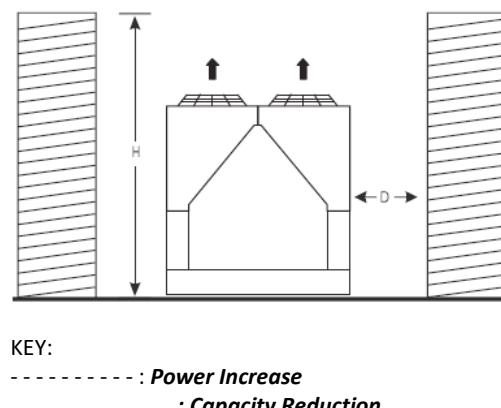
Models AGZ030-070E:

The Case 5 figures for models AGZ030-070E show adjustment factors for pit/wall heights of 4 feet, 5 feet, and 6 feet.

Case 5 - Full Load Capacity Reduction and Power Increase (AGZ030E-070E)



Case 5- Pit Installation

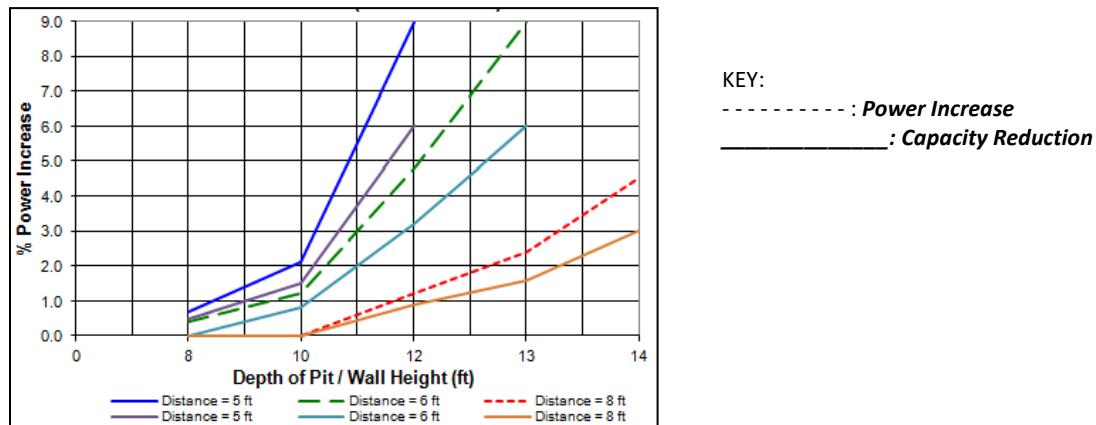


AGZ-E Close Spacing for CH-2-Annex

Models AGZ075-130E:

The Case 5 figures for models AGZ075-130E show adjustment factors for pit/wall heights of 5 feet, 6 feet, and 8 feet.

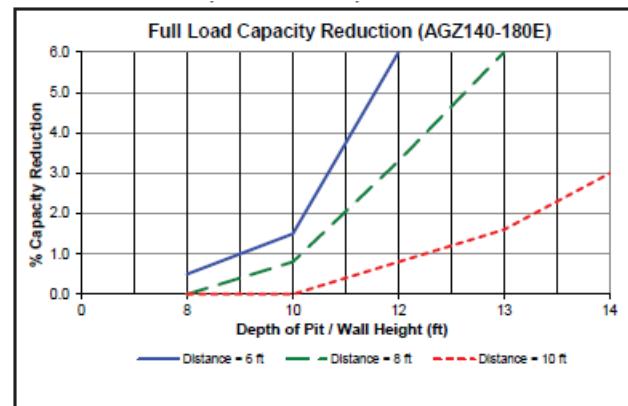
Case 5 - Full Load Capacity Reduction and Power Increase (AGZ075-130E)



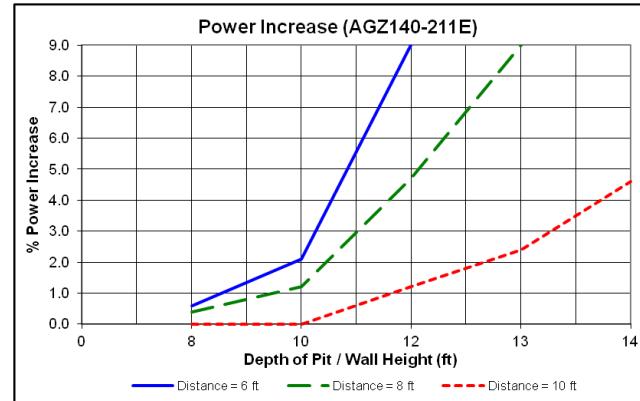
Models AGZ140-241E:

The Case 5 figures for models AGZ140-241E show adjustment factors for pit/wall heights of 6 feet, 8 feet, and 10 feet.

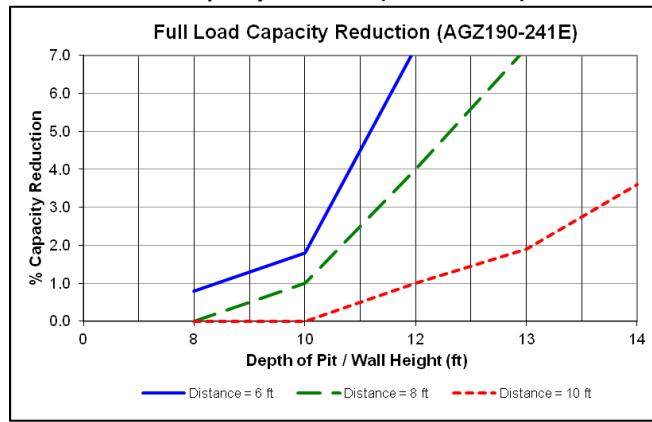
Case 5 - Full Load Capacity Reduction (AGZ140-180E)



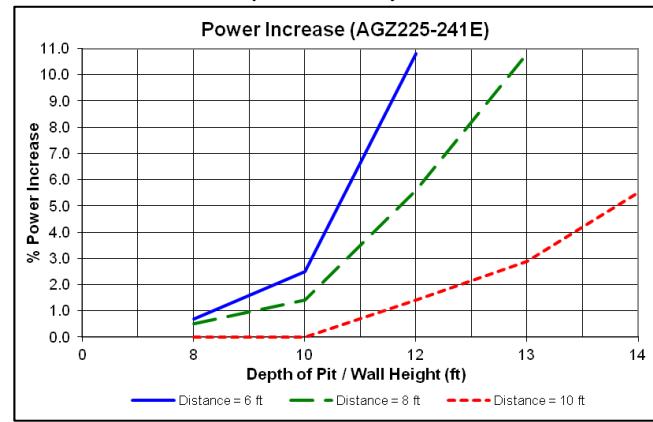
Case 5 - Power Increase (AGZ140-211E)



Case 5 - Full Load Capacity Reduction (AGZ190-241E)



Case 5 - Power Increase (AGZ225-241E)



AGZ-E Guards: Condenser Coil Louvers, Base Wire Grilles, Painted Base

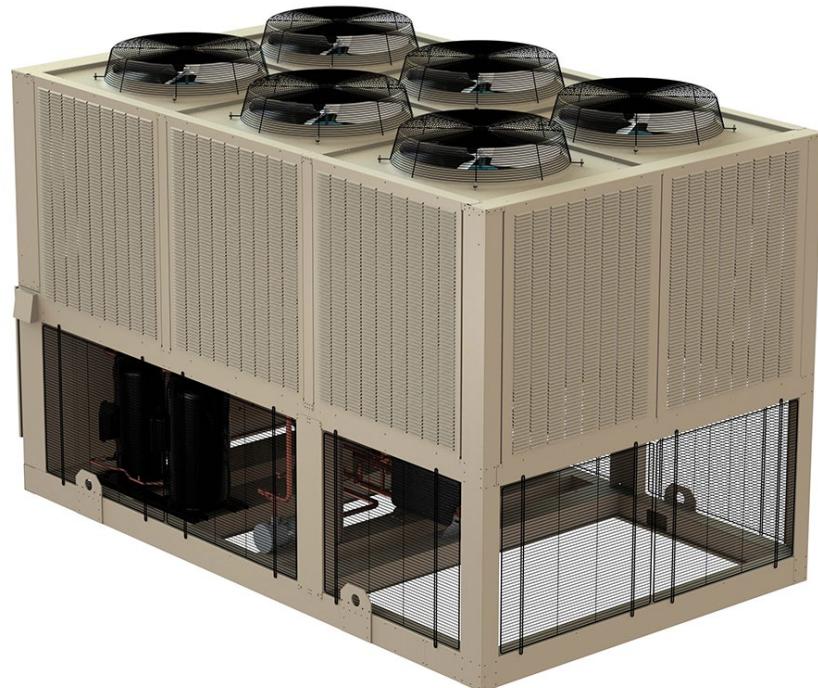
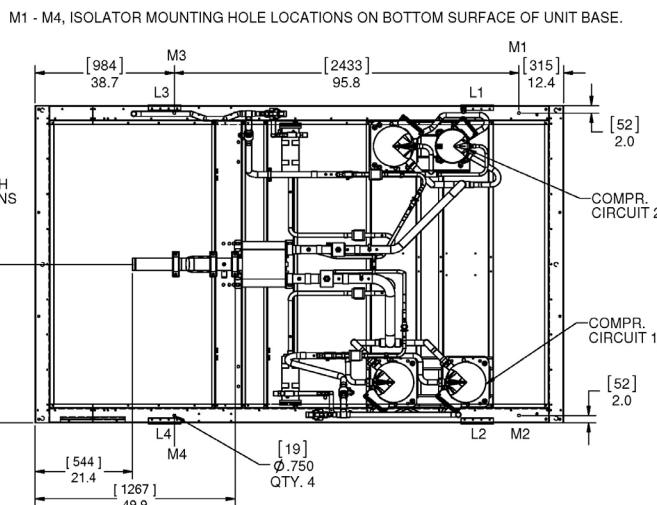


Diagram Notes
Diagram simulates wrap, grille and louver options as selected only. Refrigeration components may vary depending on selected options.

Product Drawing		Unit Tag: CH-2-Annex		Sales Office: Daikin Applied Georgia			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10
Product: Air-Cooled Scroll Chiller		Project Name: Hall County Courthouse &		Sales Engineer: Matthew Prather			
Model: AGZ075-101E		Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: N/A	Tolerance: N/A	
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.							

AGZ101E Packaged (Microchannel Condenser)

Unit Dimensions

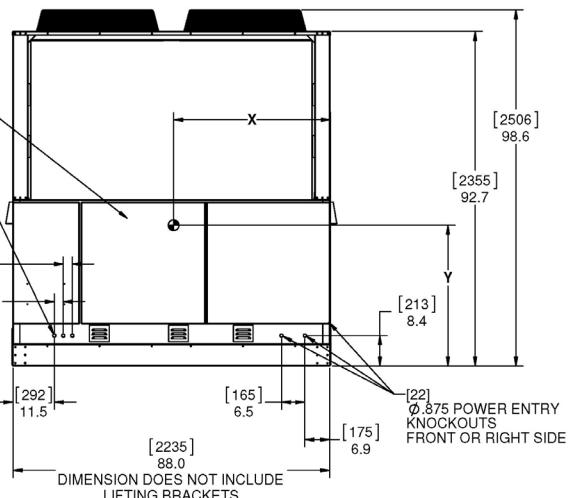
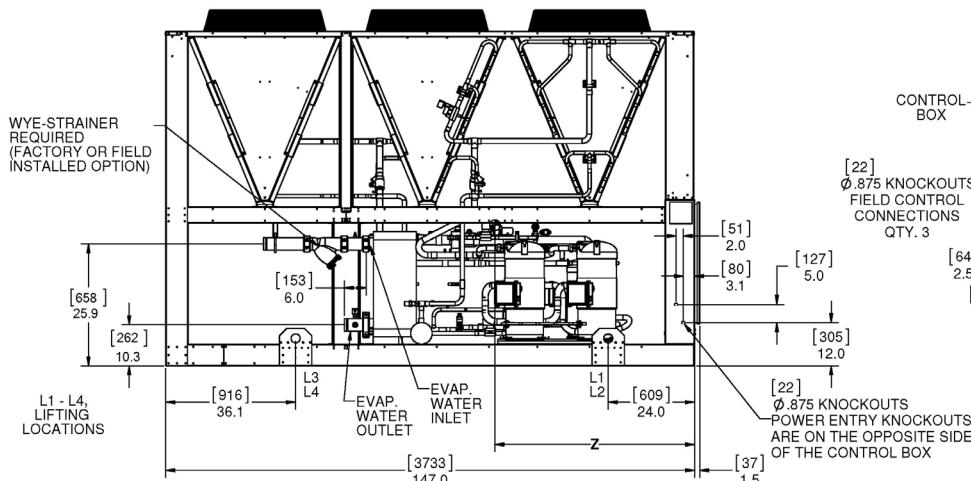


Units	Unit Weight Data									
	Weight		Lifting Weight				Mounting Weight			
	Shipping	Operating	L1	L2	L3	L4	M1	M2	M3	M4
lb	4696	4780	1505	1480	863	848	1322	1299	1089	1070
kg	2130	2168	683	671	391	385	600	589	494	485

Units	Unit and Center of Gravity Dimensions					
	A (No Strainer)	B (With Strainer)	Connection Size (Victaulic)			
			X	Y	Z	
in	51.6	23.1	3.0	43.6	38.9	55.7
mm	1311	587	76	1108	988	1415

NOTE

A water strainer must be installed at the inlet of the evaporator to protect it from damage. Please refer to the IOM for additional details.



Product Drawing

Unit Tag: CH-2-Annex

Sales Office: Daikin Applied Georgia

Product: Air-Cooled Scroll Chiller

Project Name: Hall County Courthouse &

Sales Engineer: Matthew Prather

Model: AGZ101E

Sept. 16, 2022

Ver/Rev:

Sheet: 1 of 1

Scale: NTS

Tolerance: +/- 1.0"

Dwg Units: in [mm]

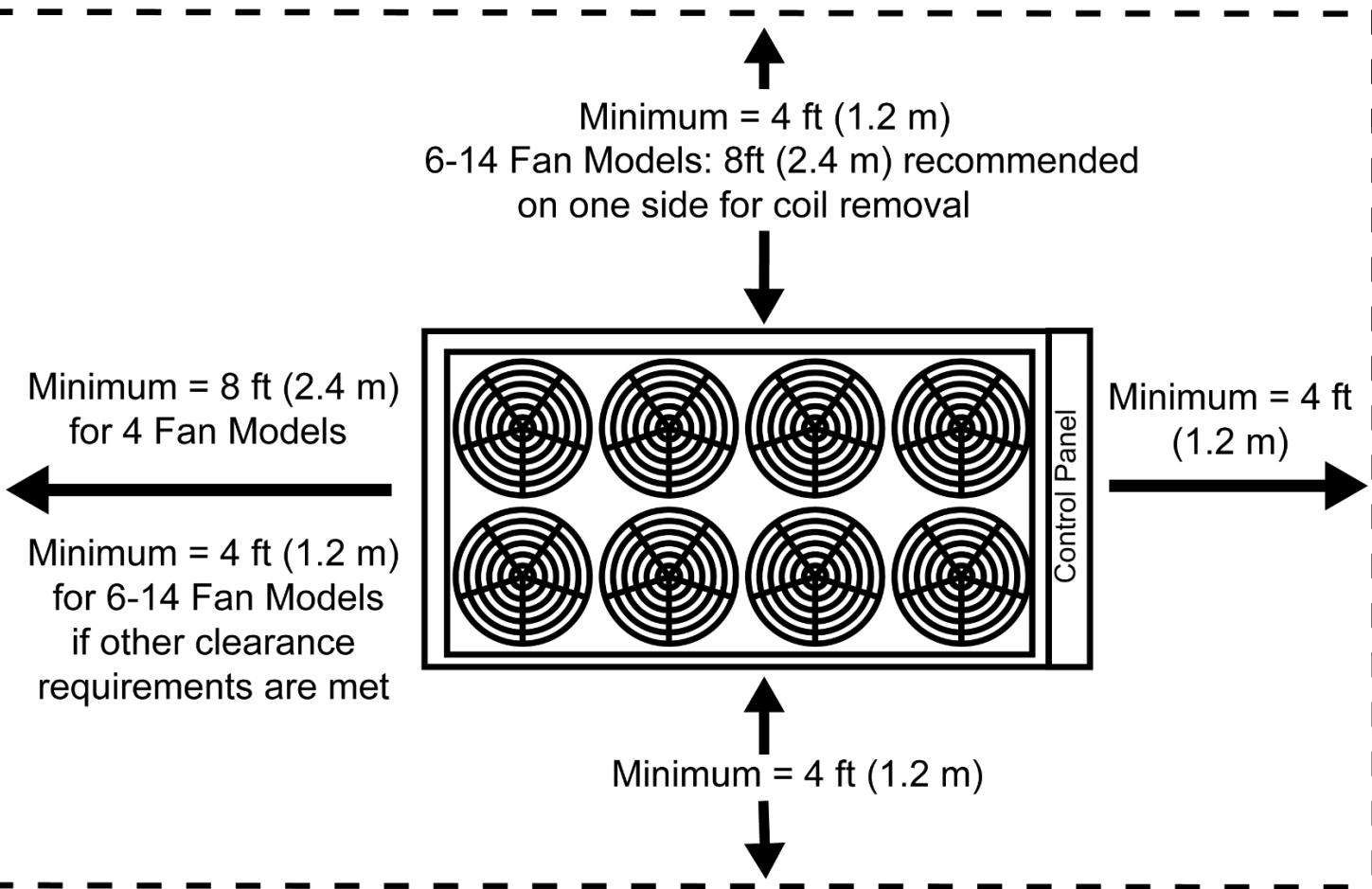
13600 Industrial Park Blvd. Minneapolis, MN 55441

www.DaikinApplied.com

Software Version: 13.10

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

AGZ-E Service Clearance



- NOTE: Additional clearance may be required for proper airflow. Please consult Close Spacing drawings and IOM for additional details.

Product Drawing	Unit Tag: CH-2-Annex			Sales Office: Daikin Applied Georgia		
Product: Air-Cooled Scroll Chiller	Project Name: Hall County Courthouse &			Sales Engineer: Matthew Prather		
Model: AGZ-E	Sept. 16, 2022	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 1.0"	Dwg Units: in [mm]
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

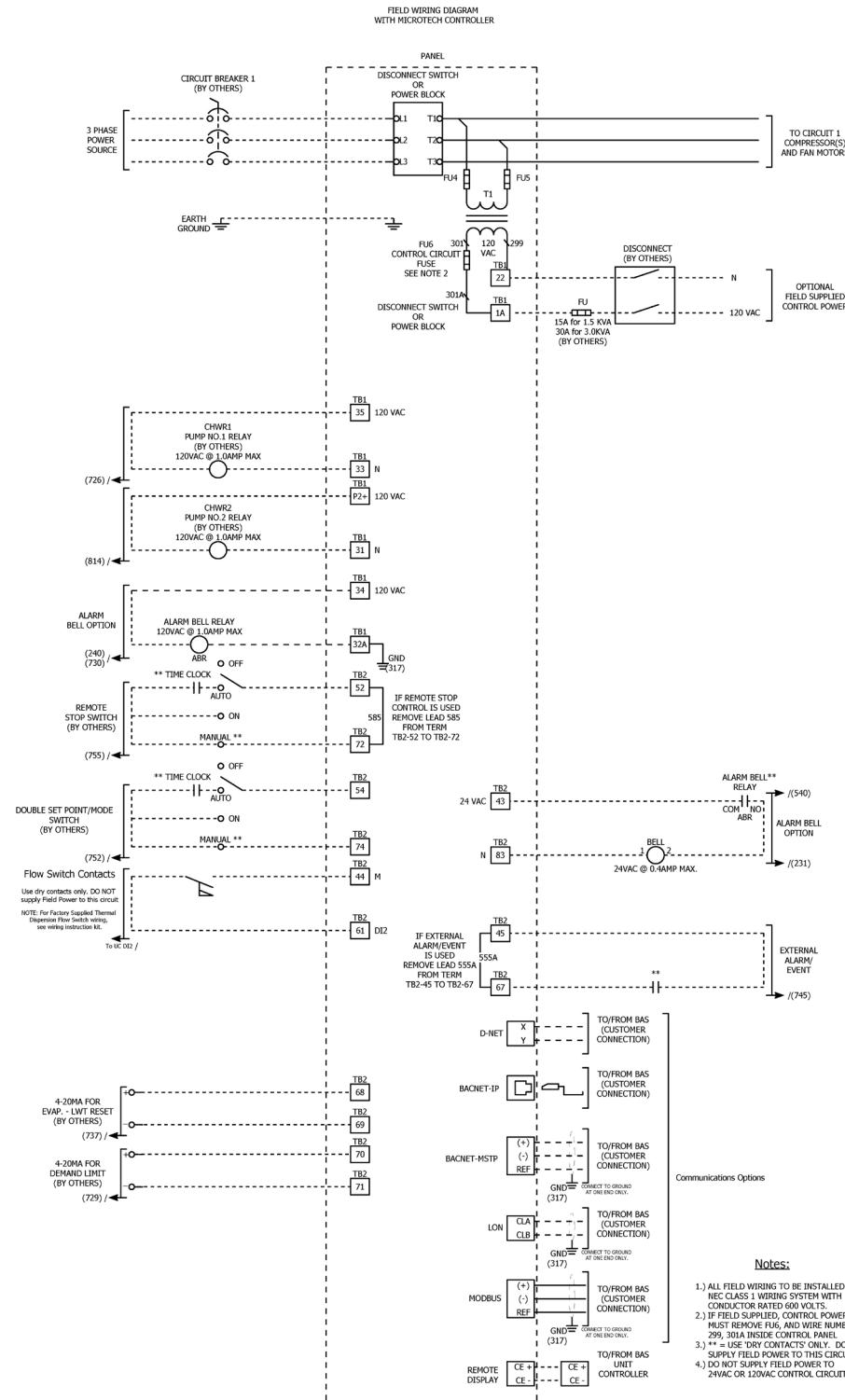


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FieldWiring_AGZE_SP for CH-2-Annex

AGZ030-241E Single-Point Connection Field Wiring Diagram

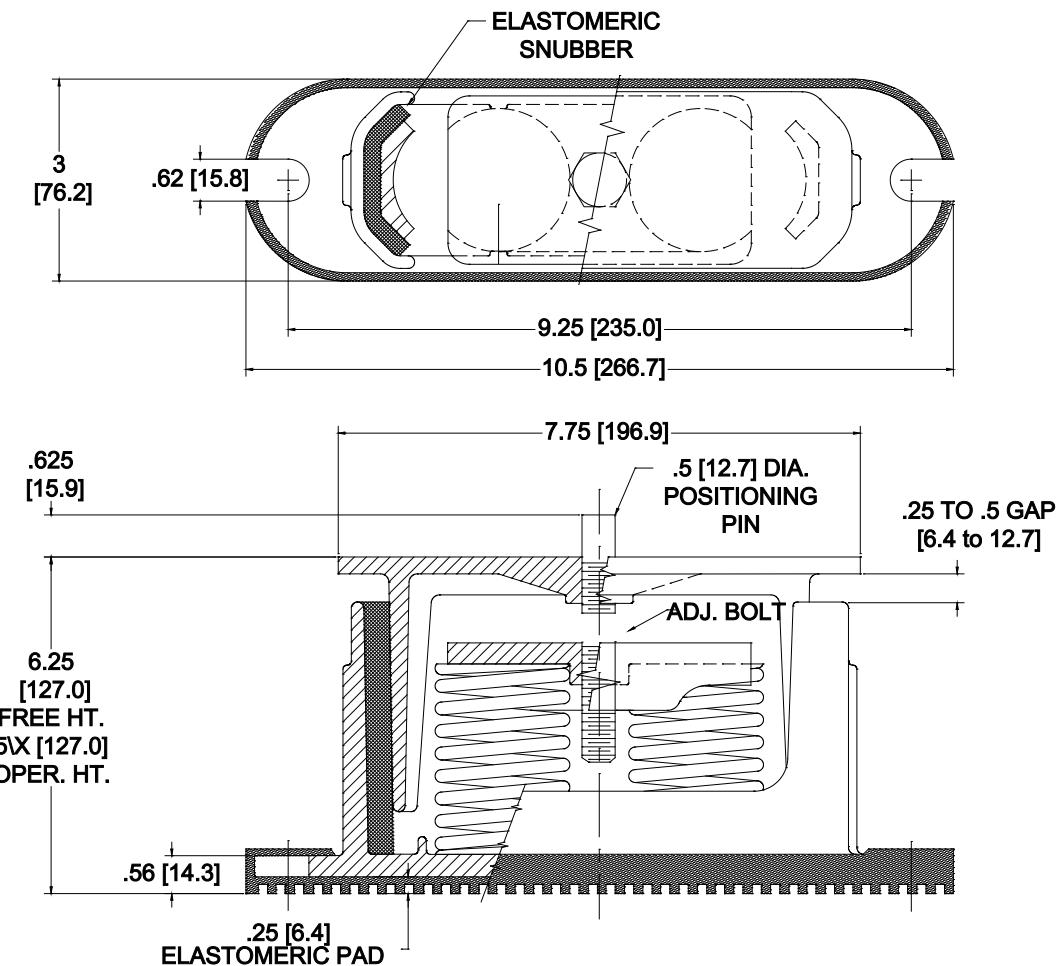
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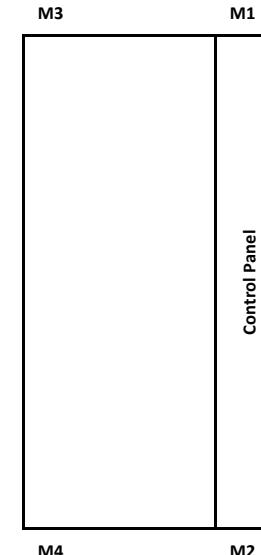
Field Wiring Diagram	Unit Tag: CH-2-Annex			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10	
Product: Air-Cooled Scroll	Project Name: Hall County Courthouse &				
Model: AGZ030-241E Single-Point	Sales Office: Daikin Applied Georgia				
Sales Engineer: Matthew Prather	Sept. 16, 2022	Ver/Rev:	Sheet 1 of 1		
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Spring Isolator Kit

Dimensions and Placement



Mounting Location			
M1	M2	M3	M4
Dark Green	Dark Green	Dark Green	Dark Green



Product Drawing	Unit Tag: CH-2-Annex	Sales Office: Daikin Applied Georgia	 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 13.10
Accessory: Spring Isolator Kit	Project Name: Hall County Courthouse &	Sales Engineer: Matthew Prather	
Kit Part Number: 332320117	Sept. 16, 2022	Ver/Rev:	
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