**ISSUE:** Certificate of Appropriateness for alterations, and Waiver of Rooftop Mechanical Screening

**APPLICANT:** Akeno Old Town

**LOCATION:** Old and Historic Alexandria District
611 King Street

**ZONE:** KR/King Street urban retail zone.

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## STAFF RECOMMENDATION

Staff recommends approval of the Certificate of Appropriateness for alterations and Waiver of the Rooftop Mechanical Screening Requirement, as submitted.

***GENERAL NOTES TO THE APPLICANT***

1. APPEAL OF DECISION: In accordance with the Zoning Ordinance, if the Board of Architectural Review denies or approves an application in whole or in part, the applicant or opponent may appeal the Board's decision to City Council on or before 14 days after the decision of the Board.

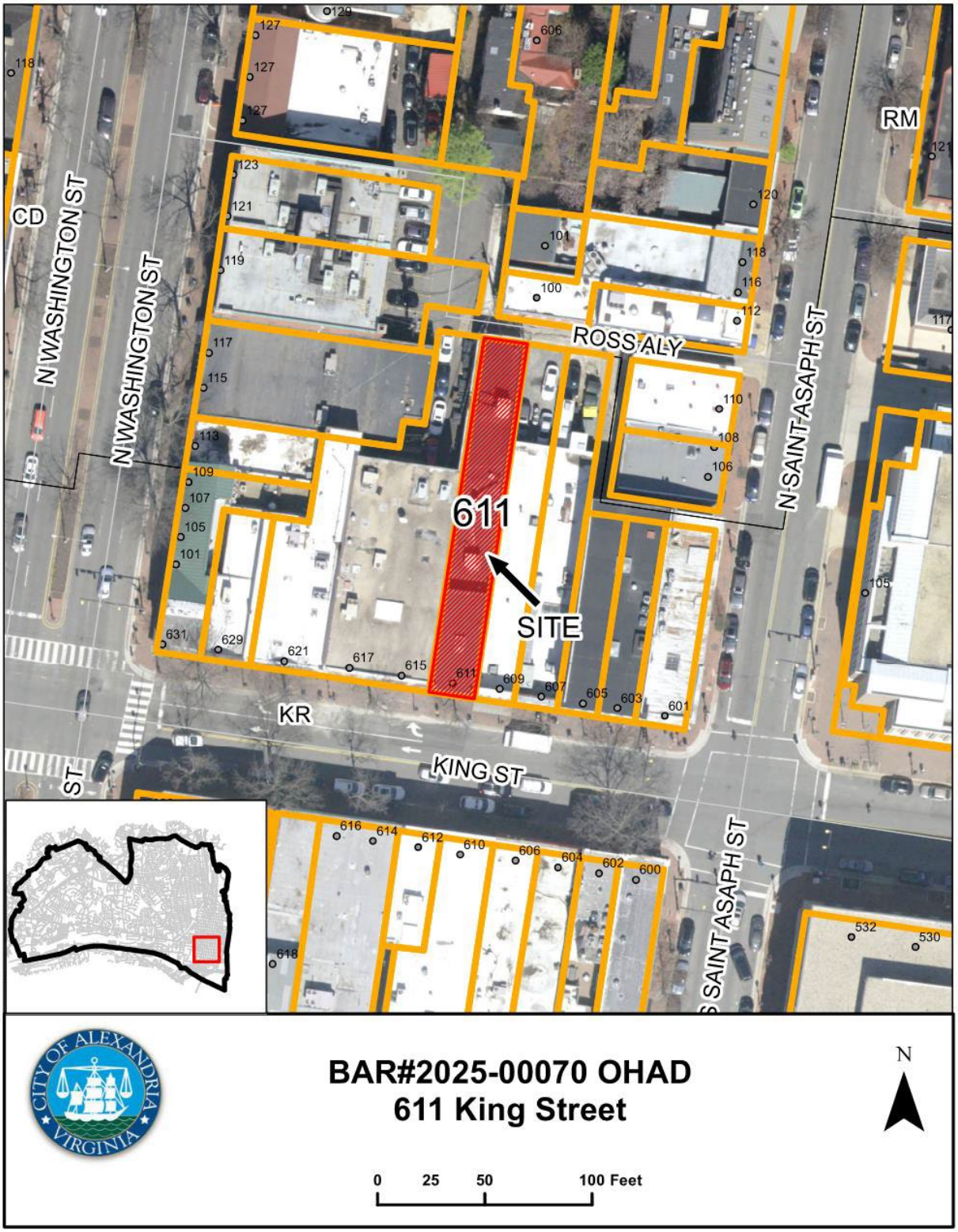
2. COMPLIANCE WITH BAR POLICIES: All materials must comply with the BAR's adopted policies unless otherwise specifically approved.

3. BUILDING PERMITS: Most projects approved by the Board of Architectural Review require the issuance of one or more construction permits by Department of Code Administration (including signs). The applicant is responsible for obtaining all necessary construction permits after receiving Board of Architectural Review approval. Contact Code Administration, Permit Center, 4850 Mark Center Drive, Suite 2015, 703-746-4200 for further information.

4. ISSUANCE OF CERTIFICATES OF APPROPRIATENESS AND PERMITS TO DEMOLISH: Applicants must obtain a copy of the Certificate of Appropriateness or Permit to Demolish PRIOR to applying for a building permit. Contact BAR Staff, Room 2100, City Hall, 703-746-3833, or preservation@alexandriava.gov for further information.

5. EXPIRATION OF APPROVALS NOTE: In accordance with Sections 10-106(B), 10-206(B) and 10-307 of the Zoning Ordinance, any Board of Architectural Review approval will expire 12 months from the date of issuance if the work is not commenced and diligently and substantially pursued by the end of that 12-month period.

6. HISTORIC PROPERTY TAX CREDITS: Applicants performing extensive, certified rehabilitations of historic properties may separately be eligible for state and/or federal tax credits. Consult with the Virginia Department of Historic Resources (VDHR) prior to initiating any work to determine whether the proposed project may qualify for such credits.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611 King Street
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## I. APPLICANT'S PROPOSAL

The applicant requests a Certificate of Appropriateness for alterations to replace the existing HVAC rooftop units (RTU) and exhaust fan in-kind, install a new HVAC make-up air unit (MAU) and install a new mechanical unit safety guard, at 611 King St.

The applicant is also seeking a Waiver of Rooftop Mechanical Screening Requirement, so that they do not need to screen the units. Staff noted that the replacement and new units comply with the Board's Policies and Guidelines.

Site context
The alley to the north, behind the subject property, is public. The units will be visible from the public alley. The proposed alterations will not be visible from King St.

**Photo 1: Current view of rooftop from public alley.**

## II. HISTORY

611 King Street was constructed prior to **1891** based on the Sanborn Fire Insurance Maps and has been occupied by various retail stores since its construction. The building has also been expanded several times, reaching its current size between 1921 and 1941. Today, the site includes the two-story brick main block and two one-story brick rear additions. On July 8, 1954, the Board approved alterations to the front of the building. Between 1965 and 1980, the Board approved several sign applications for the property.

*Previous BAR Approvals*
BAR2019-00040 – Administrative approval of a projecting sign.
BAR2002-00107 – The Board approved a new awning.

## III. ANALYSIS

Staff has no objection to the proposed new and replacement mechanical rooftop units. The *Design Guidelines* states that HVAC equipment can have an important effect on the overall visual composition of a historic building and, if not appropriately located, may be a visual disruption of the skyline and a unified building design. The applicant is proposing to replace the existing HVAC rooftop units and exhaust fan on the one-story rear addition. The replacement units will match the existing and will be in the same location. One replacement unit and the new MAU will be located between the proposed safety guards. The proposed alterations will have a minimal impact on the flat roof and will only be visible from the public alley.

Additionally, staff supports the Waiver of Rooftop Mechanical Screening Requirement, noting that the current units are not screened, and the additional unit will be adjacent to the replacement units. The mechanical equipment is not visible from King St. and will not cause visual disruption of the skyline or the unified building design.

Staff recommends approval of the application, as submitted.

**STAFF**
Amirah Lane, Historic Preservation Planner, Planning & Zoning
Tony LaColla, AICP, Land Use Services Division Chief, Planning & Zoning

## IV. CITY DEPARTMENT COMMENTS

Legend: C- code requirement R- recommendation S- suggestion F- finding

**Zoning**
C-1 Proposed replacement of existing rooftop AC units will comply with Zoning.

**Code Administration**
No comment, a building permit is required.

**Transportation and Environmental Services**
R-1 The building permit must be approved and issued prior to the issuance of any permit for demolition, if a separate demolition permit is required. (T&ES)

R-2 Applicant shall be responsible for repairs to the adjacent city right-of-way if damaged during construction activity. (T&ES)

R-3 No permanent structure may be constructed over any existing private and/or public utility easements. It is the responsibility of the applicant to identify any and all existing easements on the plan. (T&ES)

F-1 After review of the information provided, an approved grading plan is not required at this time. Please note that if any changes are made to the plan it is suggested that T&ES be included in the review. (T&ES)

F-2 If the alley located at the rear of the parcel is to be used at any point of the construction process the following will be required:

For a Public Alley - The applicant shall contact T&ES, Construction Permitting & Inspections at (703) 746-4035 to discuss any permits and accommodation requirements that will be required.

For a Private Alley - The applicant must provide proof, in the form of an affidavit at a minimum, from owner of the alley granting permission of use. (T&ES)

C-1 The applicant shall comply with the City of Alexandria's Solid Waste Control, Title 5, Chapter 1, which sets forth the requirements for the recycling of materials (Sec. 5-1-99). (T&ES)

C-2 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

C-3 Roof, surface and sub-surface drains be connected to the public storm sewer system, if available, by continuous underground pipe. Where storm sewer is not available applicant must provide a design to mitigate impact of stormwater drainage onto adjacent properties and to the satisfaction of the Director of Transportation & Environmental Services. (Sec.5-6-224) (T&ES)

C-4 All secondary utilities serving this site shall be placed underground. (Sec. 5-3-3) (T&ES)

C-5 Any work within the right-of-way requires a separate permit from T&ES. (Sec. 5-2) (T&ES)

C-6 All improvements to the city right-of-way such as curbing, sidewalk, driveway aprons, etc. must be city standard design. (Sec. 5-2-1) (T&ES)

**Alexandria Archaeology**
No archaeology comments

## V. ATTACHMENTS

- Application Materials
- Completed application
- Plans
- Material specifications
- Scaled survey plat if applicable
- Photographs

BAR CASE# _____
*(OFFICE USE ONLY)*

ADDRESS OF PROJECT: 611 King St Alexandria

DISTRICT: ■ Old & Historic Alexandria ☐ Parker – Gray ☐ 100 Year Old Building

TAX MAP AND PARCEL: 074.02-03-09 ZONING: KR

**APPLICATION FOR:** *(Please check all that apply)*

☐ CERTIFICATE OF APPROPRIATENESS

☐ PERMIT TO MOVE, REMOVE, ENCAPSULATE OR DEMOLISH
(Required if more than 25 square feet of a structure is to be demolished/impacted)

☐ WAIVER OF VISION CLEARANCE REQUIREMENT and/or YARD REQUIREMENTS IN A VISION CLEARANCE AREA (Section 7-802, Alexandria 1992 Zoning Ordinance)

■ WAIVER OF ROOFTOP HVAC SCREENING REQUIREMENT
(Section 6-403(B)(3), Alexandria 1992 Zoning Ordinance)

**Applicant:** ☐ Property Owner ■ Business *(Please provide business name & contact person)*

Name: Akeno Old Town

Address: [redacted]

City: [redacted] State: [redacted] Zip: _____

Phone: [redacted] E-mail : [redacted]

**Authorized Agent** *(if applicable)*: ☐ Attorney ■ Architect ☐ _____

Name: Benjamin Keeney Phone: [redacted]

E-mail: [redacted]

**Legal Property Owner:**

Name: Wells Fargo N.A. as Trustee for J.M Reed Properties LLC.

Address: [redacted]

City: [redacted] State: [redacted] Zip: [redacted]

Phone: [redacted] E-mail: [redacted]

**BAR CASE#** _____
*(OFFICE USE ONLY)*

**NATURE OF PROPOSED WORK:** *Please check all that apply*

- ☐ NEW CONSTRUCTION
- ☐ EXTERIOR ALTERATION: *Please check all that apply.*
  - ☐ awning
  - ☐ doors
  - ☐ lighting
  - ☐ other _____
  - ☐ fence, gate or garden wall
  - ☐ windows
  - ☐ pergola/trellis
  - ☐ HVAC equipment
  - ☐ siding
  - ☐ painting unpainted masonry
  - ☐ shutters
  - ☐ shed
- ☐ ADDITION
- ☐ DEMOLITION/ENCAPSULATION
- ☐ SIGNAGE

**DESCRIPTION OF PROPOSED WORK:** *Please describe the proposed work in detail (Additional pages may be attached).*

Replace existing mechanical rooftop units on the 2nd floor roof.

Add one make-up-air unit above existing steel beam for the new tenant improvement.

Add mechanical unit safety guards along the low parapets per code requirements. Refer to attached plan and elevations.

**SUBMITTAL REQUIREMENTS:**

☐ Check this box if there is a homeowner's association for this property. If so, you must attach a copy of the letter approving the project.

Items listed below comprise the **minimum supporting materials** for BAR applications. Staff may request additional information during application review. Please refer to the relevant section of the *Design Guidelines* for further information on appropriate treatments.

Applicants must use the checklist below to ensure the application is complete. Include all information and material that are necessary to thoroughly describe the project. Incomplete applications will delay the docketing of the application for review. Pre-application meetings are required for all proposed additions. All applicants are encouraged to meet with staff prior to submission of a completed application.

**Demolition/Encapsulation :** *All applicants requesting 25 square feet or more of demolition/encapsulation must complete this section. Check N/A if an item in this section does not apply to your project.*

| | N/A | |
|---|---|---|
| ☐ | ■ | Survey plat showing the extent of the proposed demolition/encapsulation. |
| ☐ | ■ | Existing elevation drawings clearly showing all elements proposed for demolition/encapsulation. |
| ☐ | ■ | Clear and labeled photographs of all elevations of the building if the entire structure is proposed to be demolished. |
| ☐ | ■ | Description of the reason for demolition/encapsulation. |
| ☐ | ■ | Description of the alternatives to demolition/encapsulation and why such alternatives are not considered feasible. |

**BAR CASE#** _____
*(OFFICE USE ONLY)*

**Additions & New Construction:** *Drawings must be to scale and should not exceed 11" x 17" unless approved by staff. Check N/A if an item in this section does not apply to your project.*

| | N/A | |
|---|---|---|
| ☐ | ■ | Scaled survey plat showing dimensions of lot and location of existing building and other structures on the lot, location of proposed structure or addition, dimensions of existing structure(s), proposed addition or new construction, and all exterior, ground and roof mounted equipment. |
| ☐ | ■ | FAR & Open Space calculation form. |
| ☐ | ■ | Clear and labeled photographs of the site, surrounding properties and existing structures, if applicable. |
| ☐ | ■ | Existing elevations must be scaled and include dimensions. |
| ☐ | ■ | Proposed elevations must be scaled and include dimensions. Include the relationship to adjacent structures in plan and elevations. |
| ☐ | ■ | Materials and colors to be used must be specified and delineated on the drawings. Actual samples may be provided or required. |
| ☐ | ■ | Manufacturer's specifications for materials to include, but not limited to: roofing, siding, windows, doors, lighting, fencing, HVAC equipment and walls. |
| ☐ | ■ | For development site plan projects, a model showing mass relationships to adjacent properties and structures. |

**Signs & Awnings:** *One sign per building under one square foot does not require BAR approval unless illuminated. All other signs including window signs require BAR approval. Check N/A if an item in this section does not apply to your project.*

| | N/A | |
|---|---|---|
| ☐ | ■ | Linear feet of building: Front:_____Secondary front (if corner lot):_____. |
| ☐ | ■ | Square feet of existing signs to remain:_____. |
| ☐ | ■ | Photograph of building showing existing conditions. |
| ☐ | ■ | Dimensioned drawings of proposed sign identifying materials, color, lettering style and text. |
| ☐ | ■ | Location of sign (show exact location on building including the height above sidewalk). |
| ☐ | ■ | Means of attachment (drawing or manufacturer's cut sheet of bracket if applicable). |
| ☐ | ■ | Description of lighting (if applicable). Include manufacturer's cut sheet for any new lighting fixtures and information detailing how it will be attached to the building's facade. |

**Alterations:** *Check N/A if an item in this section does not apply to your project.*

| | N/A | |
|---|---|---|
| ☒ | ☐ | Clear and labeled photographs of the site, especially the area being impacted by the alterations, all sides of the building and any pertinent details. |
| ☒ | ☐ | Manufacturer's specifications for materials to include, but not limited to: roofing, siding, windows, doors, lighting, fencing, HVAC equipment and walls. |
| ☒ | ☐ | Drawings accurately representing the changes to the proposed structure, including materials and overall dimensions. Drawings must be to scale. |
| ☐ | ■ | An official survey plat showing the proposed locations of HVAC units, fences, and sheds. |
| ☒ | ☐ | Historic elevations or photographs should accompany any request to return a structure to an earlier appearance. |

**BAR CASE#** _____
*(OFFICE USE ONLY)*

**ALL APPLICATIONS:** *Please read and check that you have read and understand the following items:*

[x] I understand that after reviewing the proposed alterations, BAR staff will invoice the appropriate filing fee in APEX. The application will not be processed until the fee is paid online.

[x] I understand the notice requirements and will return a copy of the three respective notice forms to BAR staff at least five days prior to the hearing. If I am unsure to whom I should send notice I will contact Planning and Zoning staff for assistance in identifying adjacent parcels.

[x] I, the applicant, or an authorized representative will be present at the public hearing.

[x] I understand that any revisions to this initial application submission (including applications deferred for restudy) must be accompanied by the BAR Supplemental form and revised materials.

---

The undersigned hereby attests that all of the information herein provided including the site plan, building elevations, prospective drawings of the project, and written descriptive information are true, correct and accurate. The undersigned further understands that, should such information be found incorrect, any action taken by the Board based on such information may be invalidated. The undersigned also hereby grants the City of Alexandria permission to post placard notice as required by Article XI, Division A, Section 11-301(B) of the 1992 Alexandria City Zoning Ordinance, on the property which is the subject of this application. The undersigned also hereby authorizes the City staff and members of the BAR to inspect this site as necessary in the course of research and evaluating the application. The applicant, if other than the property owner, also attests that he/she has obtained permission from the property owner to make this application.

**APPLICANT OR AUTHORIZED AGENT:**

Signature: _____

Printed Name: Ekkachai Promsiri

Date: 3/10/25

# OWNERSHIP AND DISCLOSURE STATEMENT
Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

| Name | Address | Percent of Ownership |
|---|---|---|
| 1. Ekkachai Promsiri | [redacted] | 50% |
| 2. Roy McKinney | | 25% |
| 3. Sittiporn Anegvithakosol | | 25% |

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at _____ (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

| Name | Address | Percent of Ownership |
|---|---|---|
| 1. Wells Fargo N.A. as Truste | [redacted] | 100% |
| 2. for J.M. Reed Properties | LLC. | |
| 3. | | |

3. Business or Financial Relationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose **any** business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

| Name of person or entity | Relationship as defined by Section 11-350 of the Zoning Ordinance | Member of the Approving Body (i.e. City Council, Planning Commission, etc.) |
|---|---|---|
| 1. | | |
| 2. | | |
| 3. | | |

**NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.**

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

3/10/25 — Date

Ekkachai Promsiri — Printed Name

_____ — Signature


611 KING STREET OLD TOWN

# TENANT IMPROVEMENTS FOR AKENO SUSHI

BAR SUBMISSION

03/09/2025

AKENO SUSHI BAR & THAI

K+G Architecture
Architecture · Planning · Interior Design

**AKENO SUSHI**

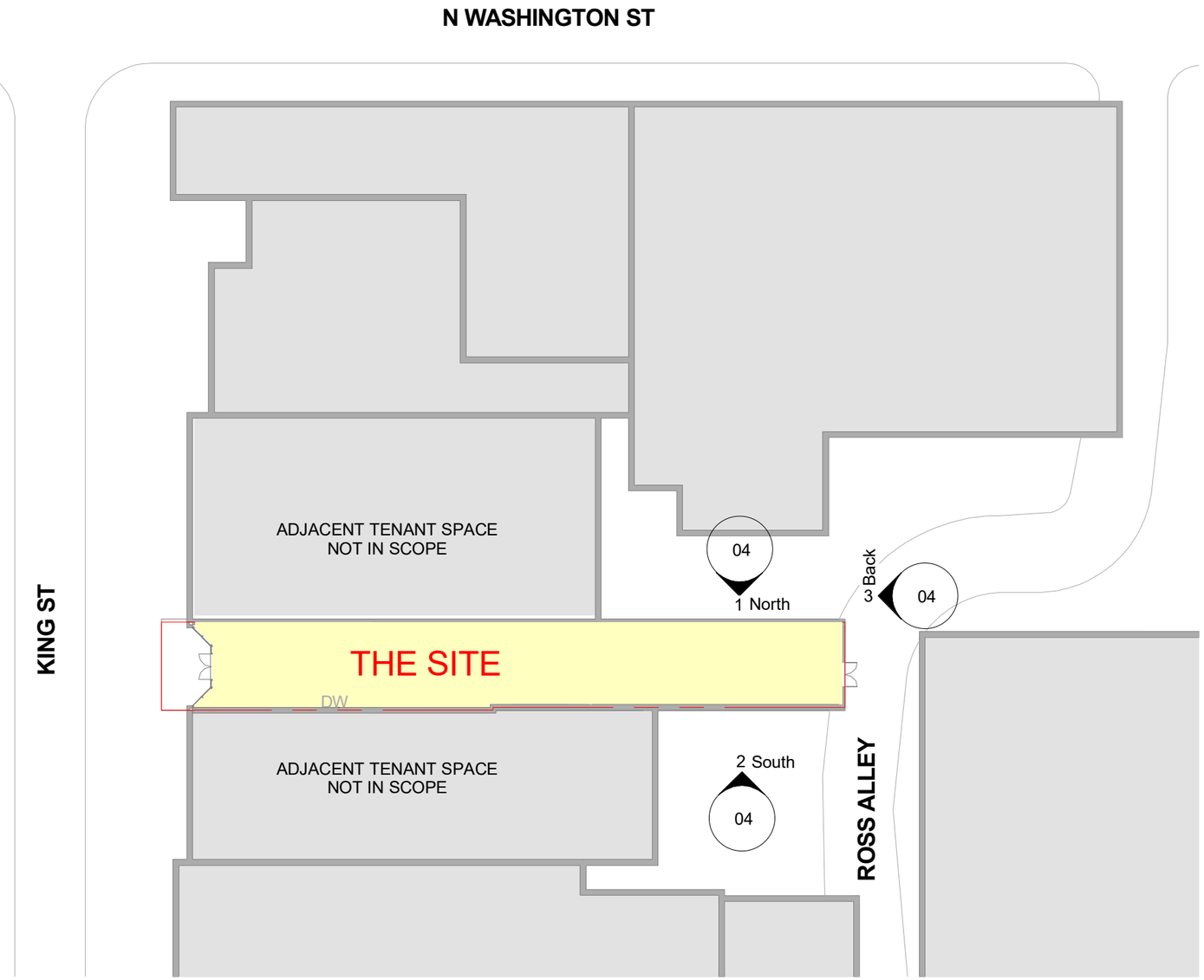
611 KING STREET ALEXANDRIA VA



**COVER SHEET**

**00**

03/09/25




1 CONTEXT SITE PLAN

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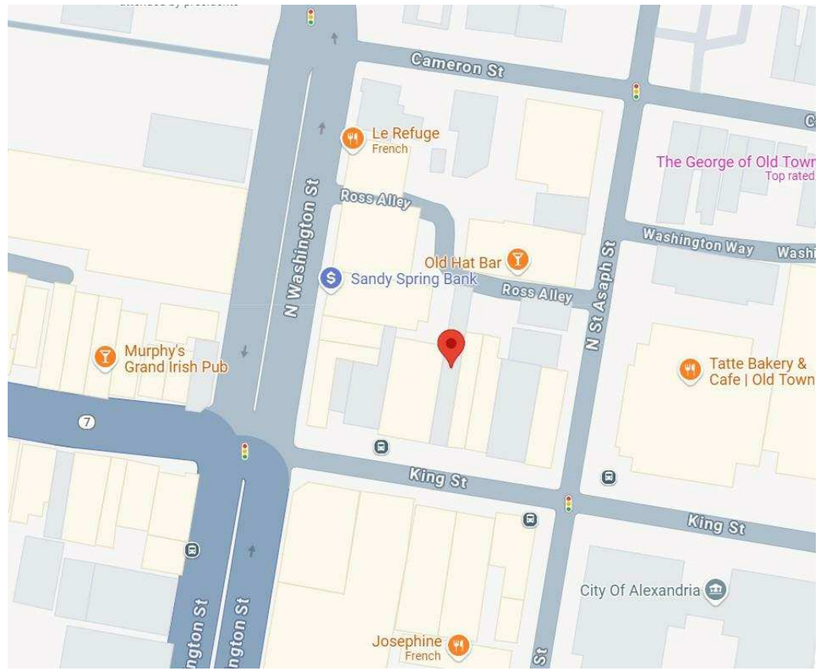
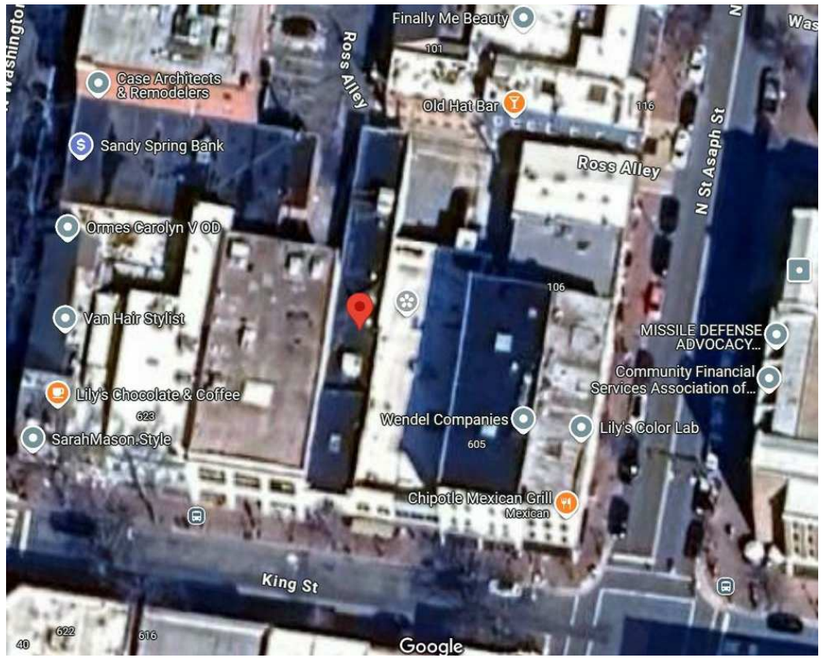



**BLOCK MAP**




**BLOCK MAP**

AKENO SUSHI BAR & THAI

K+G Architecture
Architecture · Planning · Interior Design

**AKENO SUSHI**

611 KING STREET ALEXANDRIA VA



**PROJECT OVERVIEW**

**01**

03/9/2025

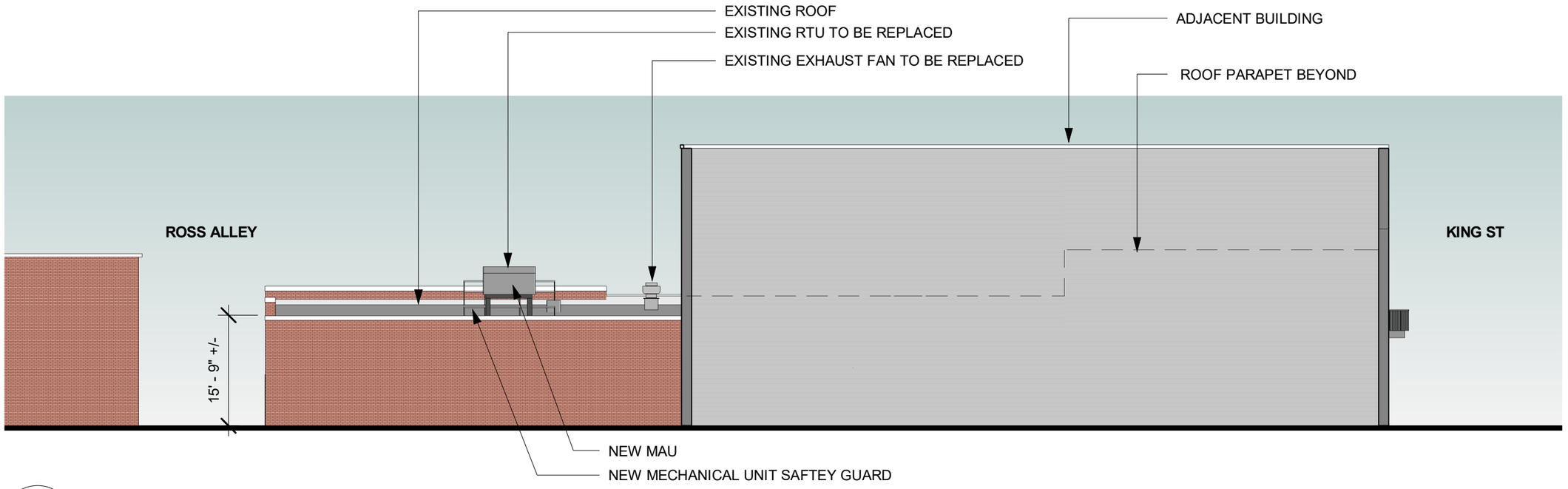

PHOTO AT BACK ALLEY - NW

PHOTO AT BACK ALLEY

PHOTO AT BACK ALLEY - NE

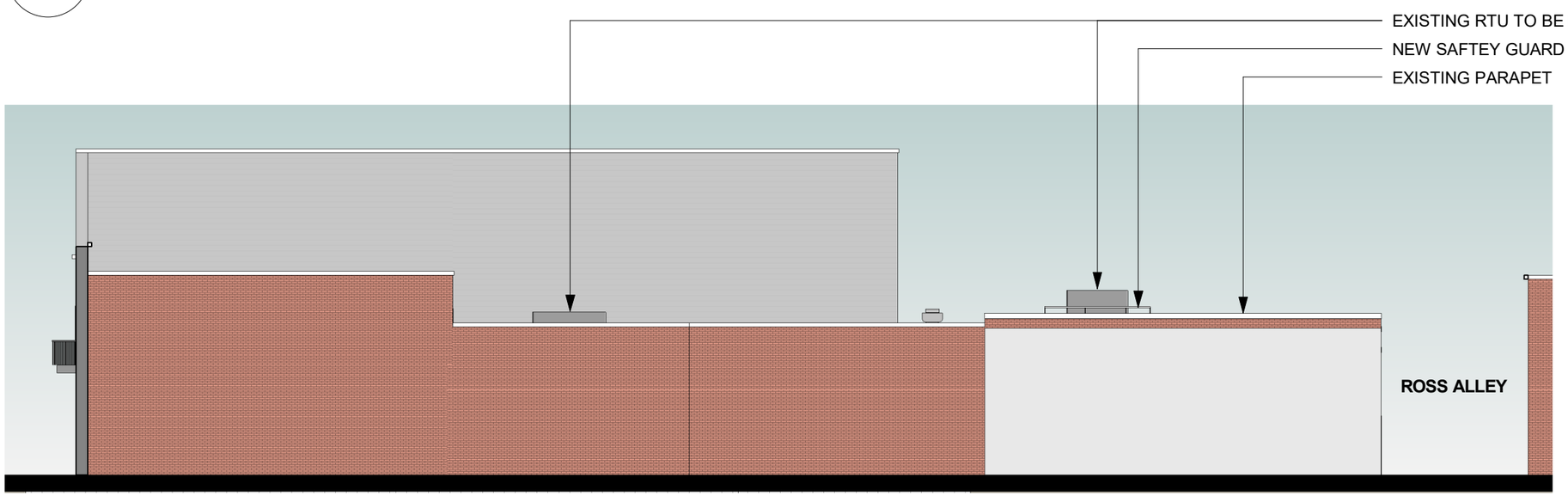

PHOTO AT KING ST


PHOTOS ALONG KING ST




## 1 North

1/16" = 1'-0"




## 2 South

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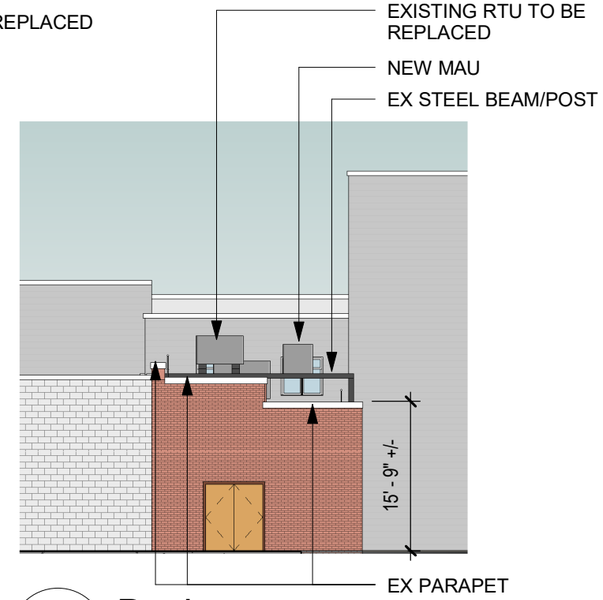



## 3 Back

1/16" = 1'-0"

AKENO SUSHI BAR & THAI

K+G Architecture
Architecture · Planning · Interior Design

**AKENO SUSHI**

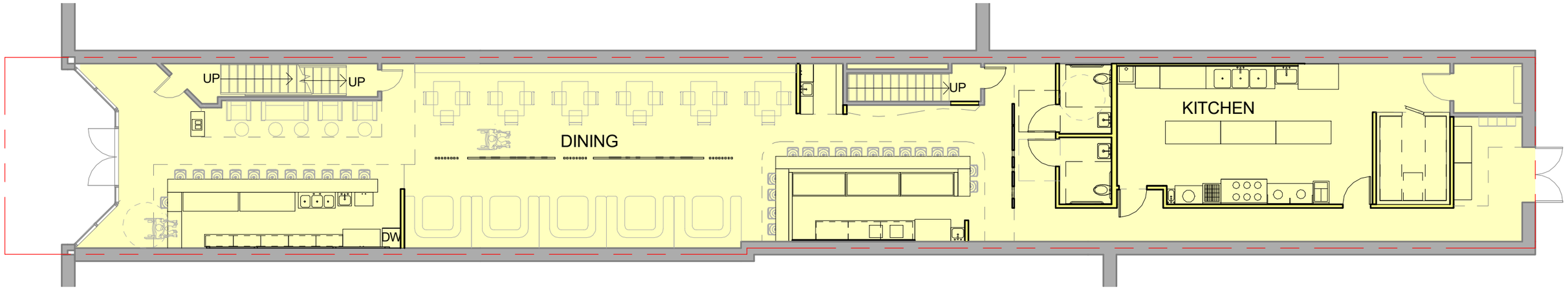
611 KING STREET ALEXANDRIA VA



**ELEVATIONS AT ALLEY**

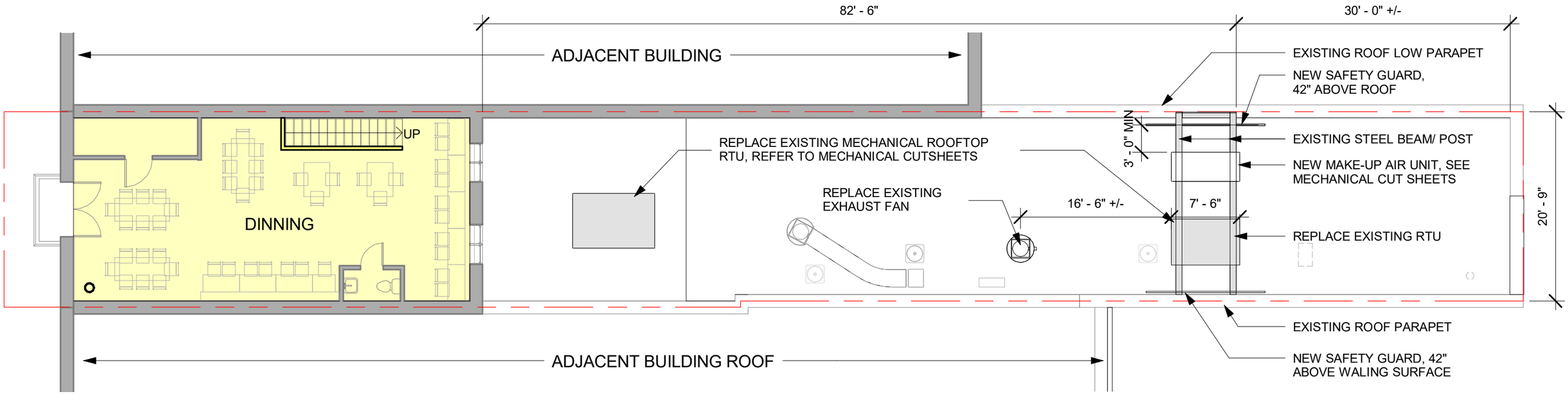
**04**

03/07/25




1F LEVEL 1

3/32" = 1'-0"




2F LEVEL 2

3/32" = 1'-0"

AKENO SUSHI BAR & THAI

K+G Architecture
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**AKENO SUSHI**

611 KING STREET ALEXANDRIA VA

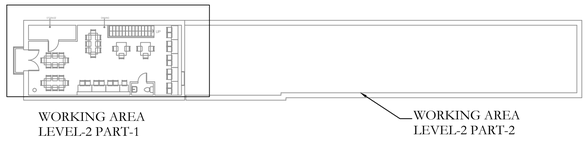


**TENANT PLANS**

**05**

01/15/2025

## KEY PLAN:




## MECHANICAL GENERAL SHEET NOTES:

A. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO LAMA ENGINEERS BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY LAMA ENGINEERS, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE.

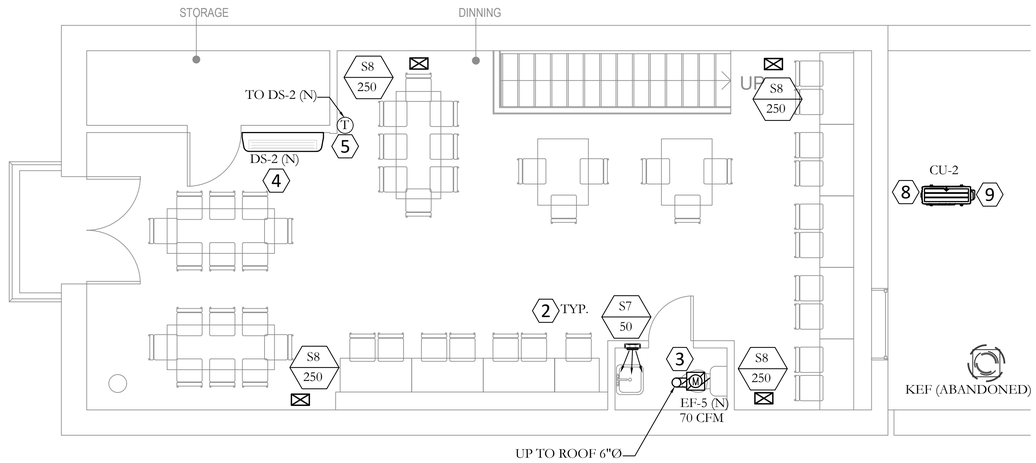
B. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND SHOULD NOT BE SCALED TO ESTABLISH LOCATION OF WORK. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO COMPLETE THE WORK.

C. CONTRACTOR SHALL THOROUGHLY EXAMINE PREMISES AND OBSERVE ALL CONDITIONS AND CIRCUMSTANCES UNDER WHICH THE WORK SHALL BE PERFORMED. NO ALLOWANCES WILL BE MADE FOR ERRORS OR NEGLIGENCE IN THIS RESPECT.

D. PRIOR TO START MECHANICAL WORK AND ANY DUCT FABRICATION, CONTRACTOR SHALL COORDINATE WITH OWNER/ARCHITECT FOR CEILING HEIGHT AND MAKE SURE HAVE ENOUGH SPACE TO RUN THE DUCTS ABOVE THE CEILING.

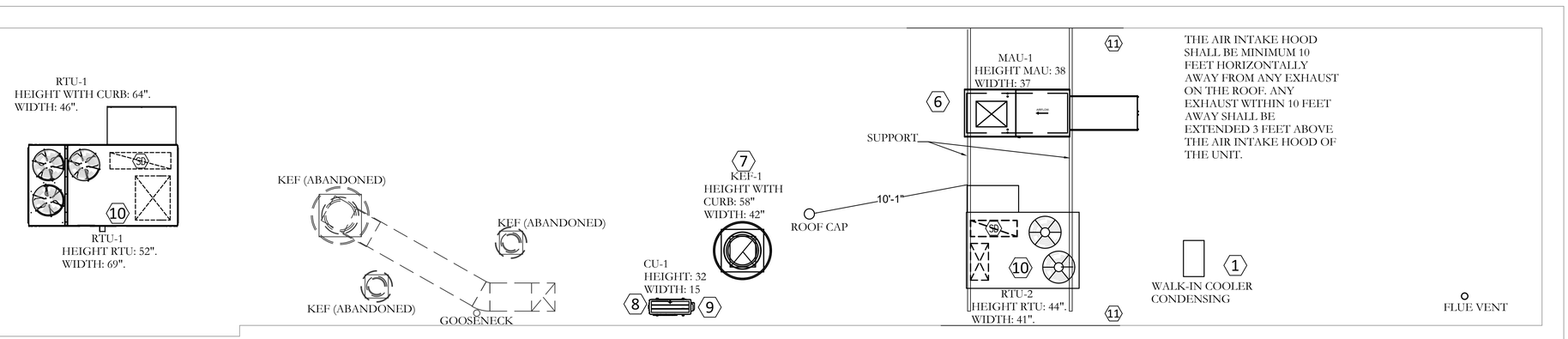
## MECHANICAL KEYED NOTES:

1. PROVIDE AND INSTALL WALK IN COOLER CONDENSING UNIT ON ROOF. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE SUPPLY AIR DIFFUSER. CONTRACTOR TO VERIFY EXACT LOCATION WITH OWNER.
3. PROVIDE AND INSTALL BATHROOM EXHAUST FAN AT THIS LOCATION. REFER TO SCHEDULE AND DETAILS. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
4. PROVIDE AND INSTALL NEW DS-2 UNIT AT THIS LOCATION. REFER TO SCHEDULE FOR MORE INFORMATION. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
5. PROVIDE AND INSTALL NEW THERMOSTAT DS-2. COORDINATE EXACT LOCATION WITH OWNER/ARCH.
6. PROVIDE AND INSTALL A MAKE-UP AIR FAN ON A CURB ON THE ROOF AS SHOWN. ROUTE MAKE-UP AIR DUCT FROM FAN TO THE NEW HOOD AS SHOWN.
7. PROVIDE AT THE SAME LOCATION OF REMOVED EXHAUST FAN AN UP BLAST EXHAUST FAN AT CURB ON MIN. 40" ABOVE ROOF. ROUTE WELDED GREASE DUCT FROM FAN TO THE HOOD. PROVIDE CLEANOUTS AT EVERY CHANGE IN DIRECTION. HORIZONTAL DUCT RUN SHALL BE 2% SLOPPED TOWARDS THE HOOD. REFER TO DETAIL FOR MORE INFORMATION. INSULATE THE GREASE DUCT AS SPECIFIED ON THE DETAIL.
8. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM INDOOR AHU TO OUTDOOR UNIT. SIZING TO BE BASED ON MANUFACTURER'S REQUIREMENTS FOR TOTAL DEVELOPED LENGTH.
9. PROVIDE NEW CU-1,2 IN THE SERVICE FIRST FLOOR. REFER TO SCHEDULE AND DETAIL FOR MORE INFORMATION. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS MUST BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS.
10. PROVIDE NEW RTU. REFER TO SCHEDULE AND DETAIL FOR MORE INFORMATION. INSTALL AS PER MANUFACTURER RECOMMENDATION.
11. KEEP 10' AWAY FROM THE EDGE OF THE ROOF OR PROVIDE A GUARDRAIL AT A MINIMUM OF 30 INCHES BEYOND THE END OF THE UNIT PER IMC 304.11.




## 2 LEVEL 2 FLOOR PLAN PART-1

SCALE: 1/4"=1'-0"




## 1 LEVEL 2 FLOOR PLAN PART-2

SCALE: 1/4"=1'-0"

**REVISED**
*4:32 pm, Mar 28, 2025*


LAMA ENGINEERS LLC
Design - Consultants - Management - Permit
ADDRESS: 8318 LIBERIA AVE. MANASSAS VA, 20110
E : KHALID@LAMAENGINEERS.COM
LAMAENGINEERS@OUTLOOK.COM
TEL : 571-833-8357


| No. | Date | Description |
|---|---|---|

Submission Tracking Matrix

Owner
AKENO SUSHI BAR & THAI

Architect
K+G Architecture
Architecture - Planning - Interior Design
K+G ARCHITECTURE
Arlington, Virginia 22201

Structural Engineer

MEP&FP Engineers
DAENG Design America Engineering Inc.
14080 Red River Dr.
Centreville, Virginia 20121

Civil Engineer

General Contractor
GREEN TOUCH BUILDERS
BE SOMETHING GREAT

Seal

Plot Date: 03/28/25

Project Ref: AKENO.OT

Project
**611 KING STREET**

Drawing Title
**LEVEL 2 FLOOR PLAN**

Drawing No.
**M500**

## MECHANICAL GENERAL SHEET NOTES:

A. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO LAMA ENGINEERS BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY LAMA ENGINEERS, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE.

B. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND SHOULD NOT BE SCALED TO ESTABLISH LOCATION OF WORK. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO COMPLETE THE WORK.

C. CONTRACTOR SHALL THOROUGHLY EXAMINE PREMISES AND OBSERVE ALL CONDITIONS AND CIRCUMSTANCES UNDER WHICH THE WORK SHALL BE PERFORMED. NO ALLOWANCES WILL BE MADE FOR ERRORS OR NEGLIGENCE IN THIS RESPECT.

D. PRIOR TO START MECHANICAL WORK AND ANY DUCT FABRICATION, CONTRACTOR SHALL COORDINATE WITH OWNER/ARCHITECT FOR CEILING HEIGHT AND MAKE SURE HAVE ENOUGH SPACE TO RUN THE DUCTS ABOVE THE CEILING.

## ⬡-MECHANICAL KEYED NOTES:

1. REMOVE EXISTING RTU-1 AND RTU-2
2. REMOVE EXISTING KEF.

KEF (EXISTING)
HEIGHT WITH CURB: 28"
WIDTH: 34"

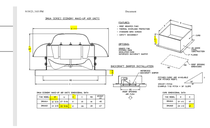
1

RTU-1 (R)
HEIGHT RTU: 52".
WIDTH: 59".

KEF (EXISTING)
HEIGHT WITH CURB: 30"
WIDTH:34"
LEGS HEIGHT: 36"

TOTAL HEIGHT: 66"

KEF (EXISTING)
HEIGHT:30"
WIDTH: 32"



KEF (EXISTING)
HEIGHT WITH CURB: 28"
WIDTH: 34"

GOOSENECK

KEF-1(R)
HEIGHT WITH
KEF (EXISTING)
HEIGHT WITH
CURB: 28"
WIDTH: 34"

2

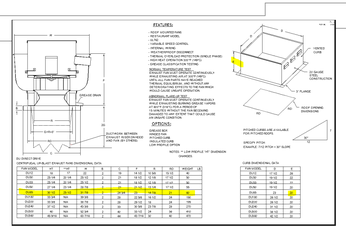
SUPPORT
MIN. HEIGHT
24"

TOTAL HEIGHT: 68"

1

RTU-2 (R)
HEIGHT: 44"
WIDTH: 69".

FLUE VENT



# 1 DEMO LEVEL 2 FLOOR PLAN PART-2

SCALE: 1/4"=1'-0"

**REVISED**
*4:32 pm, Mar 28, 2025*

| No. | Date | Description |
|---|---|---|
| | | |

Submission Tracking Matrix

Owner

AKENO
SUSHI BAR & THAI

Architect

K+G Architecture
Architecture - Planning - Interior Design

K+G ARCHITECTURE
Arlington, Virginia 22201

Structural Engineer

MEP&FP Engineers

DAENG Design America Engineering Inc.

14080 Red River Dr.
Centreville, Virginia 20121

Civil Engineer

General Contractor

GREEN TOUCH BUILDERS
BE SOMETHING GREAT

Seal

Plot Date: 03/28/25

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**611 KING STREET**

Drawing Title

**DEMO LEVEL 2 FLOOR PLAN PART-2**

Drawing No.

**M501**

LAMA
ENGINEERS LLC
Design - Consultants - Management - Permit
ADDRESS: 8318 LIBERIA AVE. MANASSAS VA, 20110
E : KHALID@LAMAENGINEERS.COM
LAMAENGINEERS@OUTLOOK.COM
TEL : 571-833-8357

Product Catalog

# Packaged Rooftop Air Conditioners Foundation™

## Cooling and Gas/Electric

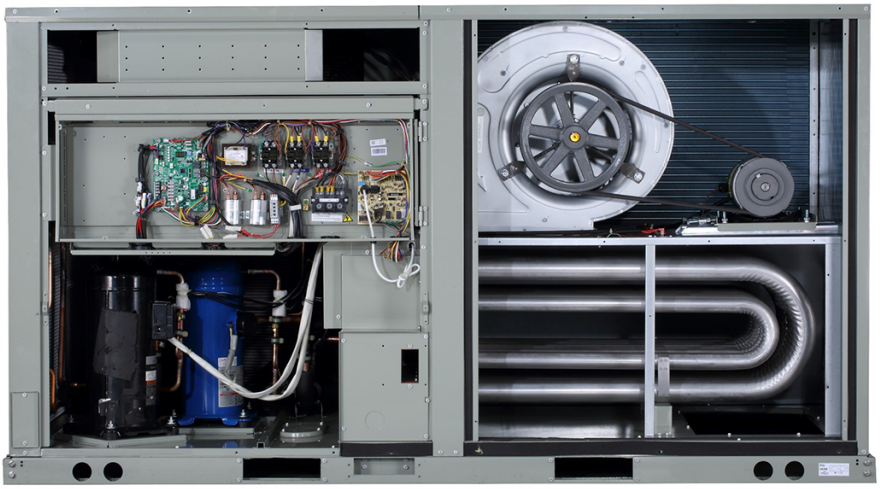
## 7.5 to 12.5 Tons, 60 Hz

October 2021

RT-PRC091C-EN

# Introduction

## Packaged Rooftop Air Conditioners



Through the years, Trane has designed and developed the most complete line of Packaged Rooftop products available in the market today.

Trane customers demanded a product that provided exceptional reliability, was easy to install, and was competitively priced.

Trane listened and is proud to introduce the new Foundation™ Light Commercial rooftop unit. With Foundation, Trane continues to provide the highest standards in quality and reliability, comfort, performance, and ease of installation. light commercial products.

## Copyright



## Trademarks



## Revision History

- Updated the Features and Benefits chapter.
- Updated the Application Consideration chapter.
- Updated the Model Number Description chapter.
- Updated the General Data chapter.
- Updated the Performance Data chapter.
- Updated the Electrical Data chapter.
- Updated the Dimensional Data chapter.
- Updated the Weights chapter.
- Updated the Mechanical Specifications chapter.

# Table of Contents

# Features and Benefits

Foundation™ has features and benefits that make it first class in the light commercial rooftop market. Designed with input from field contractors and technicians, its convertible airflow and ease of installation are outstanding.

## Standard and Optional Features

| | Medium Foundation | | |
|---|---|---|---|
| | Standard | Options[a] | |
| | | Factory Installed | Field Installed |
| 1-year Limited Parts Warranty | X | | |
| 5-year Limited Compressor Warranty | X | | |
| 5-year Limited Heat Exchanger Warranty | X | | |
| 10-year Limited Stainless Steel Heat Exchanger Warranty | | X | |
| Barometric Relief Damper | | | X |
| Belt Drive Motors | X | | |
| $CO_2$ sensor - Demand Control Ventilation (DCV) | | | X |
| Colored Connectors and Wiring | X | | |
| Compressor Discharge Temperature Limit (DTL) | X | | |
| Condensate Overflow Switch | | | X |
| Convertible Airflow | X | | |
| Easy Access Low Voltage Connections | X | | |
| Economizer (Downflow) | | | X |
| Electric Heaters | | | X |
| Filters | X | | |
| Fixed Orifice | X | | |
| Hail/Vandal Guards | | | X |
| High Pressure Control | X | | |
| High Static Motor Kit[b] | | X | X |
| Insulation - 1/2-inch, 1-lb Density | X | | |
| Liquid Line Refrigerant Drier | X | | |
| Low Ambient Cooling | | | X |
| Low Leak Economizer | | | X |
| Low Pressure Control | X | | |
| Low Voltage Circuit Protection | X | | |
| LP Conversion Kit | X | | |
| Manual Outside Air Damper | | | X |
| Motorized 2-Position Damper | | | X |
| Phase Loss/Reversal Monitor | X | | |
| Powered Exhaust | | | X |
| Quick Access Panels | X | | |
| Remote Potentiometer | | | X |
| Scroll Compressors | X | | |

| | Medium Foundation | | |
|---|---|---|---|
| | Standard | Options[a] | |
| | | Factory Installed | Field Installed |
| Single Point Power | X | | |
| Single Side Service | X | | |
| Through-the-base electrical & gas connection provisions | X | | |

(a) Refer to model number description for option availability or contact Product Support.
(b) Available on constant volume units only. See Accessories chapter for more information.

# Outstanding Standard Features

## Colored And Numbered Wiring

Save time and money tracing wires and diagnosing the unit.

## Compressors

Foundation™ contains the best compressor technology available to achieve the highest possible performance.

## Controls – Electromechanical

This 24-volt control includes the control transformer and contactor pressure lugs for power wiring.

## Convertible Units

Foundation™ 8.5-12 ton units ship in the downflow configuration. Their convertible design makes it easy to convert them to a horizontal airflow configuration without an additional kit.[1]

## Discharge Line Thermostat

A bi-metal element discharge line thermostats installed as a standard feature on the discharge line of each compressor. This standard feature provides extra protection to the compressors against high discharge temperatures in case of loss of charge, extremely high ambient and other conditions which could drive the discharge temperature higher.

## Efficiency

Product efficiencies meet the requirements of ASHRAE 90.1 - 2016.

## Easy Access Low Voltage Terminal Board

Foundation™ Low Voltage Terminal Board is mounted outside the main electrical control cabinet. It is extremely easy to locate and attach the thermostat control wiring and also test operation of all unit functions. This is another cost and time saving installation feature.

## Insulation

All panels in the evaporator section of the unit have foil-faced, glass fiber insulation. All base panels have foil-faced, glass fiber insulation. All edges are either captured or sealed to ensure no insulation fibers get into the airstream.

## Heat Exchanger

The cabinet features a tubular heat exchanger in heat capacities – all available for vertical and horizontal discharge directions. The heat exchanger is fabricated using aluminized steel burners and corrosion-resistant, aluminized steel tubes as standard on all models. As part of the heat exchanger assembly, an induced draft blower is used to pull the gas mixture through the burner

1. *The 7.5 ton unit requires a conversion kit.*

tubes. A direct spark ignition system, which doubles as a safety device to prove the flame, is used to ignite the gas mixture.

## Locking Safety Device with Anti-Short Cycle Timer

This device monitors compressor safety switch trips to prevent short cycling, protecting the compressor. A manual reset is required after a fourth safety switch trip.

## Low Ambient Cooling

All Foundation units have cooling capabilities down to 40°F as standard.

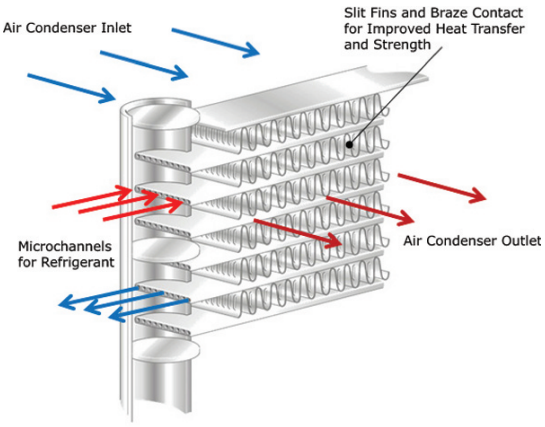
## Low Voltage Connections

The wiring of the low voltage connections to the unit and the thermostat is as simple as R-R, G-G, Y-Y, and W-W. This simplified system makes it easy for the installer to wire.

## Microchannel Condenser Coil

Microchannel condensing coils are all-aluminum coils with fully-brazed construction. This design reduces risk of leaks and provides increased coil rigidity — making them more rugged on the jobsite. Their flat streamlined tubes with small ports and metallurgical tube-to-fin bond allow for exceptional heat transfer. Microchannel all-aluminum construction provides several additional benefits:

- Light weight (simplifies coil handling)
- Easy to recycle
- Minimize galvanic corrosion




## Motors

All indoor fan motors are belt drive as standard.

## Pressure Cutouts

Low and high pressure cutouts are standard on all Foundation™ models.

## Phase Monitor

Foundation features a three-phase line monitor module that protects against phase loss, phase reversal and phase unbalance. It is intended to protect compressors from reverse rotation. It has an operating input voltage range of 180–632 Vac, and LED indicators for ON and FAULT. There are no field adjustments and the module will automatically reset from a fault condition.

## Quick-Access Panels

Remove or less screws for access to the standardized internal components and wiring.

### Quick-Adjust Fan Motor Mounting Plate

With the quick-adjust slider plate, the belt and sheaves can be quickly adjusted without moving the mounted fan motor. This results in reduced time spent on routine maintenance.

### Single Point Power

A single electrical connection powers the unit and all on-board options.

### Single Side Service

Single side service is standard on all units.

### Sloped Drain Pans

Every Foundation™ unit has a non-corrosive, sloped drain pan made of rigid PVC - standard on all units.

## Variety of Options

### Factory Installed Options

#### Oversized Motors

Multi-speed only – Factory installed oversized motors are available for high static applications.

### Field Installed Options

#### Barometric Relief

Designed to be used on downflow and horizontal configuration for both standard and low leak economizer units, barometric relief is an unpowered means of relieving excess building pressure.

#### Condensate Overflow Switch

A condensate overflow switch is available to shut the unit down in the event that the condensate drain becomes clogged. This option protects the unit from water overflowing from the drain pan and entering the base of the unit.

#### $CO_2$ Sensor - Demand Control Ventilation (DCV)

Demand-controlled ventilation (DCV) is a control strategy that responds to the actual demand (need) for ventilation by regulating the rate at which the HVAC system brings outdoor air into the building. A $CO_2$ sensor measures the concentration (parts per million, ppm) of $CO_2$ in the air. As the $CO_2$ concentration changes, the outside air damper modulates to meet the current ventilation needs of the zone. DCV is a passive system; direct control of the indoor fan is not possible with standard or low leak economizers. The $CO_2$ sensor kit is available as a field installed accessory.

#### Economizer

Economizers are equipped with either dry bulb, reference, or comparative enthalpy sensing. These economizers provide free cooling as the outdoor temperature and/or humidity decreases. Correctly installed, they offer valuable energy savings.

#### Electric Heaters

Electric heat is available as a field installed option.

#### High Static Drive Accessory

Available on constant volume models only, this high static drive accessory extends the capability of the standard motor. Avoid expensive motors by installing this optimized sheave accessory.

#### Low Leak Economizer with Fault Detection and Diagnostics

This economizer meets the damper leakage requirements for ASHRAE 90.1, IECC, and California Title 24 standards (3 cfm/ft^2 at 1.0 in. w.g. for outside air dampers and 4 cfm/ft^2 for return dampers).

### LP Conversion Kit

Provided for field conversion of gas heat units from natural gas to propane.

### Manual Outside Air Damper

A 0-50 percent manual air damper is available.

### Motorized Outside Air Damper

A 0–50 percent motorized outside air dampers is available.

### Oversized Motors

Constant volume only – Field installed oversized motors are available for high static applications.

### Power Exhaust

This option is available on downflow units and provides exhaust of the return air, when using a downflow economizer, to maintain proper building pressurization. This is an excellent option for relieving most building overpressurization problems.

### Reference or Comparative Enthalpy

Measures and communicates humidity while maximizing comfort control.

### Remote Potentiometer

When installed in the economizer control circuitry, this accessory provides a method to remotely adjust the minimum damper position.

### Roof Curbs

Available for downflow units. Only one roof curb for all 7.5 to 12.5 ton Foundation™ units simplifies curb selection.

### Thermostats

Available in programmable and non-programmable.

### Through-the-Base Electrical Utility Access

An electrical service entrance shall be provided allowing access for both control and main power connections inside the curb and through the base of the unit. This option will allow for field installation of liquid-tight conduit and an external field installed disconnect switch.

Factory provided through the base openings simplify wiring and piping. Because these utility openings frequently minimize the number of roof penetrations, the integrity of roofing materials is enhanced.

### Through-the-Base Gas Piping (Gas Heat Units Only)

This option shall have all piping necessary including, black steel, manual gas shut-off valve, elbows, and union. This assembly will require minor field labor to install.

### Tool-less Hail Guards

Tool-less, hail protection quality coil guards shall be field-installed for condenser coil protection. This option protects the condenser coil from vandalism and/or hail damage.

## Other Benefits

### Easy to Install, Service and Maintain

Because today's owners are very cost-conscious when it comes to service and maintenance, Foundation was designed with direct input from service contractors. This valuable information helped to design a product that would get the service technician off the job quicker and save the owner money. Foundation does this by offering outstanding standard features enhanced by a variety of factory and field installed options, multiple control options, rigorously tested proven designs and superior product and technical support.

## Outstanding Flexibility

The Foundation 7.5-12.5 ton units match the footprint of specific Carrier WeatherMaker™ units.

## Rigorous Testing

All of Foundation's designs were rigorously rain tested at the factory to ensure water integrity. Each part of the top overlaps in such a way that water cannot leak into the unit. These overlapped edges are gasketed and sealed to ensure superior water integrity.

Actual shipping tests were performed to determine packaging requirements. Factory shake tests were used as part of the package design process to help assure that the unit arrives at the job site in top condition.

For the microchannel coils, the supplier will perform the leak check at 450 psig. The completely assembled refrigerant system is leak tested at a minimum of 225 psig with a refrigerant and nitrogen mixture.

All parts are inspected at the point of final assembly. Sub-standard parts are identified and rejected immediately. Every unit receives a 100% unit run test before leaving the production line to make sure it lives up to rigorous Trane requirements.

## Unmatched Support

Trane Sales Representatives are a Support Group that can assist you with:

- Product
- Special Applications
- Application
- Specifications
- Service
- Computer Programs and much more
- Training

# Application Considerations

Application of this product should be within the cataloged airflow and cooling considerations.

## Barometric Relief

This product line offers an optional barometric relief damper for use in conjunction with economizer option. This accessory consists of gravity dampers which open with increased pressure. As building pressure increases, the pressure in the unit return air section also increases, opening the dampers and relieving the conditioned space.

***Notes:***

- *The effectiveness of barometric relief damper during economizing operation is system related.*
- *Pressure drop of the return air system should be considered to control building pressurization.*

## Clearance Requirements

The recommended clearances identified with unit dimensions should be maintained to ensure adequate serviceability, maximum capacity and peak operating efficiency. Actual clearances which appear inadequate should be reviewed with local Trane sales personnel.

## Condensate Trap

The evaporator is a draw-through configuration. A trap must be field provided prior to start-up on the cooling cycle.

## Unit Pitch

These units have sloped condensate drain pans. Units must be installed level. Any unit slope must be toward access side of the unit.

# Selection Procedure

## Cooling Capacity

1. Calculate the building's total and sensible cooling loads for the building at design conditions. Use the following calculation methods or any other standard accepted method.

   Factors used in unit selection:

   - Total Cooling Load: 120 MBh
   - Sensible Cooling Load: 96 MBh
   - Airflow: 4000 cfm
   - Electrical Characteristics: 460/60/3
   - Summer Design Conditions: Entering Evaporator Coil: 80°F DB/67°F WB
   - Outdoor Ambient: 95°F
   - External Static Pressure: 0.38 in. wg
   - Rooftop – Downflow configuration
   - Accessories: Roof Curb, Electric Heat

2. As a starting point, a rough determination must be made of the size of the unit. The final selection will be made after examining the performance at the given conditions. Divide the total cooling load by nominal Btuh per ton (12 MBh per ton); then round up to the nearest unit size.

   120 MBh / 12 MBh = 10 Tons

3. Table 6, p. 19 shows that a GBC120A has a gross cooling capacity of 122.1 MBh and 96.3 MBh sensible capacity at 4000 cfm and 95 DB outdoor ambient with 80 DB, 67 WB air entering the evaporator.

   **Find capacity at intermediate conditions not in the table**

   When the design conditions are between two numbers that are in the capacity table, interpolation is required to approximate the capacity.

   ***Note:*** *Extrapolation outside of the table conditions is not recommended.*

4. In order to select the correct unit which meets the building's requirements, the fan motor heat must be deducted from the gross cooling capacity. The amount of heat that the fan motor generates is dependent on the effort by the motor - cfm and static pressure. To determine the total unit static pressure you add the external static pressure to the additional static related by the added features:

| | |
|---|---|
| External Static Duct System | 0.38 wg |
| Standard Filter 2 in. from | 0.05 wg |
| Electric Heater Size kW from | 0.07 wg |
| Total Static Pressure | 0.47 wg |

***Note:*** *Reference heating capacity section on this page for determination of heater size. No additional static add for gas/heat exchanger.*

***Note:*** *The Evaporator Fan Performance has already accounted for the pressure drop for standard filters and wet coils (see note below in ). Therefore, the actual total static pressure is 0.47 - 0.05 (from ) = 0.42 wg.*

With 4000 cfm and 0.42 wg. shows 1.9 bhp for this unit. Note below the table is the formula to calculate fan motor heat.

3-hp fan motor heat (MBh) = 2.90 x fan bhp + 0.4750

2.90 x 2.06 + 0.4750 = 5.435 MBh

Now subtract the fan motor heat from the gross cooling capacity of the unit:

Net Total Cooling Capacity = 122.1 MBh - 5.435 = 116.665 MBh.

Net Sensible Cooling Capacity = 96.3 MBh - 5.435 = 90.865 MBh.

5. Compare your resulting capacities to the building load. If the performance will not meet the required load of the building's total or sensible cooling load, try a selection at the next higher size unit.

## Heating Capacity

***Note:*** *Heating capacity procedures DIFFER for cooling (E) and gas/electric (G) units.*

1. Calculate the building heating load.
2. Size the system heating capacity to match the calculated building heating load. The following are building heating requirements:

   460 volt/3 phase Power Supply

   Total heating load of 100.0 MBh

   4000 cfm

   The electric heat accessory capacities are listed in . From the table, a 2 kW heater will deliver 109.2 MBh at 480 volts. In order to determine capacity at 460 volts, the heater voltage correction factor from must be used. Therefore, 109.2 MBh x 0.94 (voltage correction factor) = 102.6 MBh.

   Gas/electric: Fuel natural gas total heating load of 100 MBh. shows 125 MBh and 180 MBh input models. The output capacities of these furnaces are 70 MBh and 100 MBh respectively. The medium heat model with 100 MBh output best matches the building requirements.

## Air Delivery Selection

External static pressure drop through the air distribution system has been calculated to be 0.38 inches of water. From the 32 kW heater is 0.04 inches of water (0.38 + 0.04). Enter for a EBC120A4E0 at 4000 cfm and 0.42 static pressure. The standard motor will give the desired airflow at 758 rpm and rated bhp of 1.89.

# Model Number Description

**Digit 1 — Unit Type**

**E** = Packaged Cooling, Electric Heat
**G** = Packaged Gas/Electric

**Digit 2 — Efficiency**

**B** = ASHRAE 90.1 - 2016

**Digit 3 — Airflow Configuration**

**C** = Convertible

**Digit 4, 5, 6 — Nominal Gross Cooling Capacity (MBh)**
**090** = 7.5 Tons
**102** = 8.5 Tons
**120** = 10 Tons
**150** = 12.5 Tons

**Digit 7 — Major Design Sequence**

**A** = Rev A

**Digit 8 — Voltage Selection**

**3** = 208-230/60/3
**4** = 460/60/3

**Digit 9 — Unit Controls**

**E** = Electromechanical

**Digit 10 — Heating Capacity**

**0** = Cooling Only (field installed electric heat)
**L** = Gas Heat - Low
**M** = Gas Heat - Medium
**H** = Gas Heat - High

**Digit 11— Minor Design Sequence**

**A** = Rev A

**Digit 12,13 — Service Sequence**

**00** = None

**Digit 14 — Fresh Air Selection**

**0** = No Fresh Air Options

**Digit 15 — Supply Fan/Drive Type/ Motor**
**0** = Standard Motor
**7** = Multi-Speed Standard Motor
**9** = Multi-Speed Oversized Motor

**Digit 16 — Unit**

**M** = Medium Foundation

**Digit 17 — Condenser Coil Protection**

**0** = Standard Coil

**Digit 18 — Through The Base Provisions**
**0** = No Through The Base Provisions

**Digit 19 — Disconnect Switch**

**0** = No Disconnect/No Circuit Breaker

**Digit 20-24**

Not Used

**Digit 25 — System Monitoring Controls**
**0** = No Monitoring Controls

**Digit 26 — System Monitoring Controls**
**0** = No Option

**Model Number Notes**
**Note:** 10 hp oversized motor is factory installed only.

# General Data

**Table 1. General data — 7.5–12.5 tons — 230 volts**

| | 7.5 Ton | 8.5 Ton | 10 Ton | 12.5 Ton |
|---|---|---|---|---|
| | E/GBC090 | E/GBC105 | E/GBC120 | E/GBC150 |
| **Cooling Performance**[a] | | | | |
| Gross Cooling Capacity | 90,000 | 102,000 | 120,000 | 150,000 |
| EER (Downflow/Horizontal) | 11.2 | 11.2 | 11.2 | 11.0 |
| Nominal Airflow CFM / AHRI Rated CFM | 3200 / 2700 | 3700 / 3000 | 3700 / 3200 | 4600 / 4000 |
| AHRI Net Cooling Capacity | 86,000 | 97,000 | 118,000 | 140,000 |
| Integrated Energy Efficiency Ratio (IEER) | 12.9 | 12.9 | 12.9 | 12.4 |
| Percent Capacity @ part load (Stage 1/Stage 2) | 60 / 100 | 56 / 100 | 57 / 100 | 60 / 100 |
| System Power (kW) | 7.68 | 8.66 | 10.54 | 12.73 |
| **Compressor** | | | | |
| Number/Type | 2 / Scrolls | 2 / Scrolls | 2 / Scrolls | 2 / Scrolls |
| **Sound** | | | | |
| Outdoor Sound Rating (BELS) | 9.5 | 9.5 | 9.5 | 9.5 |
| **Outdoor Coil** | | | | |
| Type | Microchannel | Microchannel | Microchannel | Microchannel |
| Coil Width (in.) (System A + System B | 0.63 + 0.63 | 0.81 + 1.0 | 1.0 + 1.0 | 1.28 + 1.28 |
| Face Area (sq. ft.) | 23.81 | 27.38 | 27.38 | 27.38 |
| Rows/FPI | 1 / 23 Microchannel | 1 / 23 Microchannel | 1 / 23 Microchannel | 1 / 23 Microchannel |
| **Indoor Coil** | | | | |
| Type | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Tube Size (in.) ID | 9 / 32" | 9 / 32" | 9 / 32" | 9 / 32" |
| Face Area (sq. ft.) | 12.73 | 15.05 | 15.05 | 15.05 |
| Rows/FPI | 3 / 17 | 3 / 17 | 4 / 17 | 4 / 17 |
| Refrigerant Control | Orifice | Orifice | Orifice | Orifice |
| Drain Connection Number/Size (in.) | 1 / 3/4" PVC Pipe Female | 1 / 3/4" PVC Pipe Female | 1 / 3/4" PVC Pipe Female | 1 / 3/4" PVC Pipe Female |
| **Outdoor Fan** | | | | |
| Type | Propeller | Propeller | Propeller | Propeller |
| Number Used/Diameter (in.) | 2 / 23-1/2" | 2 / 23-1/2" | 2 / 23-1/2" | 2 / 23-1/2" |
| Drive Type/No. Speeds | Direct / 1 | Direct / 1 | Direct / 1 | Direct / 1 |
| cfm | 8700 | 8800 | 8800 | 10800 |
| Number Motors/hp | 2 / 1/3 hp | 2 / 1/3 hp | 2 / 1/3 hp | 2 / 1 hp |
| Motor rpm | 1050 | 1050 | 1050 | 1070 |
| **Indoor Fan** | | | | |
| Type | FC Centrifugal | FC Centrifugal | FC Centrifugal | FC Centrifugal |
| Number Used/Diameter (in.) | 1 / 15x15 | 1 / 15x15 | 1 / 15x15 | 1 / 15x15 |
| Drive Type/No. Speeds | Belt / 1 | Belt / 1 | Belt / 1 | Belt / 1 |
| Number Motors | 1 | 1 | 1 | 1 |
| Motor hp (Standard/Oversized) | 2.0 / 3.0 | 2.0 / 5.0 | 3.0 / 5.0 | 3.0 / 5.0 |
| Motor rpm (Standard/Oversized) | 1725 | 1725 | 1725 | 1725 |
| Motor Frame Size (Standard/Oversized) | 56 / 56 | 56 / 56 | 56 / 56 | 56 / 56 |
| **Filters** | | | | |
| Type Furnished | Throwaway | Throwaway | Throwaway | Throwaway |
| Number Size Recommended | (4) 18x25x2 | (6) 14x25x2 | (6) 14x25x2 | (6) 14x25x2 |
| **Refrigerant Charge (Pounds of R-410A)**[b] | | | | |
| Circuit A | 5.07 lb (2.30 kg) | 5.95 lb (2.70 kg) | 7.50 lb (3.40 kg) | 7.72 lb (3.50 kg) |
| Circuit B | 4.19 lb (1.90 kg) | 5.95 lb (2.70 kg) | 6.83 lb (3.10 kg) | 7.05 lb (3.20 kg) |

(a) Units are AHRI Certified to AHRI Standard 340-360 (I-P). Rating conditions are 95°F outdoor air temperature, 80°F entering dry bulb, 67°F entering wet bulb with minimum external static pressure as determined by rating standard.

(b) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.

**Table 2. General data — 7.5–12.5 tons — 460 volts**

| | 7.5 Ton | 8.5 Ton | 10 Ton | 12.5 Ton |
|---|---|---|---|---|
| | E/GBC090 | E/GBC105 | E/GBC120 | E/GBC150 |
| **Cooling Performance[a]** | | | | |
| Gross Cooling Capacity | 90,000 | 102,000 | 120,000 | 150,000 |
| EER (Downflow/Horizontal) | 11.2 | 11.2 | 11.2 | 11.0 |
| Nominal Airflow CFM / AHRI Rated CFM | 3200/3000 | 3700/3000 | 3700/3200 | 4600/4000 |
| AHRI Net Cooling Capacity | 86000 | 97000 | 118000 | 140000 |
| Integrated Energy Efficiency Ratio (IEER) | 12.9 | 12.9 | 12.9 | 12.4 |
| Percent Capacity @ part load (Stage 1/Stage 2) | 60/100 | 56/100 | 57/100 | 60/100 |
| System Power (kW) | 7.68 | 8.66 | 10.54 | 12.73 |
| **Compressor** | | | | |
| Number/Type | 2 / Scrolls | 2 / Scrolls | 2 / Scrolls | 2 / Scrolls |
| **Sound** | | | | |
| Outdoor Sound Rating (BELS) | 8.2 | 8.2 | 8.2 | 9.2 |
| **Outdoor Coil** | | | | |
| Type | Microchannel | Microchannel | Microchannel | Microchannel |
| Coil Width (in.) (System A + System B | 0.63+0.63 | 1.0+1.0 | 1.0+1.0 | 1.28+1.28 |
| Face Area (sq. ft.) | 23.81 | 27.38 | 27.38 | 27.38 |
| Rows/FPI | 1/23 | 1/23 | 1/23 | 1/23 |
| **Indoor Coil** | | | | |
| Type | Cu / Al | Cu / Al | Cu / Al | Cu / Al |
| Tube Size (in.) ID | 9/32" | 9/32" | 9/32" | 9/32" |
| Face Area (sq. ft.) | 12.73 | 15.05 | 15.05 | 15.05 |
| Rows/FPI | 3/17 | 4/17 | 4/17 | 4/17 |
| Refrigerant Control | Orifice | Orifice | Orifice | Orifice |
| Drain Connection Number/Size (in.) | 1 / 3/4" PVC Pipe Female | 1 / 3/4" PVC Pipe Female | 1 / 3/4" PVC Pipe Female | 1 / 3/4" PVC Pipe Female |
| **Outdoor Fan** | | | | |
| Type | Propeller | Propeller | Propeller | Propeller |
| Number Used/Diameter (in.) | 2 / 23-1/2" | 2 / 23-1/2" | 2 / 23-1/2" | 2 / 23-1/2" |
| Drive Type/No. Speeds | Direct / 1 | Direct / 1 | Direct / 1 | Direct / 1 |
| cfm | 8700 | 8800 | 8800 | 10000 |
| Number Motors/hp | 2 / 1/3 hp | 2 / 1/3 hp | 2 / 1/3 hp | 2 / 1hp |
| Motor rpm | 1050 | 1050 | 1050 | 1070 |
| **Indoor Fan** | | | | |
| Type | FC Centrifugal | FC Centrifugal | FC Centrifugal | FC Centrifugal |
| Number Used/Diameter (in.) | 1 / 15X15 | 1 / 15X15 | 1 / 15X15 | 1 / 15X15 |
| Drive Type/No. Speeds | Belt / 1 | Belt / 1 | Belt / 1 | Belt / 1 |
| Number Motors | 1 | 1 | 1 | 1 |
| Motor hp (Standard/Oversized) | 2.0 /3.0 | 2.0 / 5.0 | 3.0 / 5.0 | 3.0 / 5.0 |
| Motor rpm (Standard/Oversized) | 1725 | 1725 | 1725 | 1725 |
| Motor Frame Size (Standard/Oversized) | 56/56 | 56/56 | 56/56 | 56/56 |
| **Filters** | | | | |
| Type Furnished | Throwaway | Throwaway | Throwaway | Throwaway |
| Number Size Recommended | (4) 18x25x2 | (6) 14x25x2 | (6) 14x25x2 | (6) 14x25x2 |
| **Refrigerant Charge (Pounds of R-410A)[b]** | | | | |
| Circuit A | 5.07 lb (2.30 kg) | 6.61 lb (3.00 kg) | 7.50 lb (3.40 kg) | 7.72 lb (3.50 kg) |
| Circuit B | 4.19 lb (1.90 kg) | 6.61 lb (3.00 kg) | 6.39 lb (2.90 kg) | 7.05 lb (3.20 kg) |

(a) Units are AHRI Certified to AHRI Standard 340-360 (I-P) . Rating conditions are 95°F outdoor air temperature, 80°F entering dry bulb, 67°F entering wet bulb with minimum external static pressure as determined by rating standard.

(b) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.

**Table 3. General data—heating performance – 7.5–12.5 tons**

| | Heating Performance[a] | | | | | |
|---|---|---|---|---|---|---|
| | 7.5 - 8.5 Tons | | | 10 - 12.5 Tons | | |
| **Heating Models** | **Low** | **Medium** | **High** | **Low** | **Medium** | **High** |
| **Heating Input (Btu/h)** | 125,000 | 180,000 | 225,000 | 180,000 | 225,000 | 250,000 |
| 1st Stage (Btu) | 87,500 | 126,000 | 158,000 | 126,000 | 158,000 | 175,000 |
| **Heating Output (Btu/h)** | 100,000 | 144,000 | 180,000 | 144,000 | 180,000 | 200,000 |
| 1st Stage (Btu) | 70,000 | 100,000 | 125,000 | 100,000 | 125,000 | 140,000 |
| **Steady State Efficiency %** | 80% | 80% | 80% | 80% | 80% | 80% |
| **No. Burners** | 3 | 5 | 6 | 5 | 6 | 6 |
| **No. Stages** | 2 | 2 | 2 | 2 | 2 | 2 |
| **Gas Supply Line Pressure (in. wc)** | | | | | | |
| Natural Gas (minimum/maximum) | 4.5 / 14.0 in. wc. | 4.5 / 14.0 in. wc. | 4.5 / 14.0 in. wc. | 4.5 / 14.0 in. wc. | 4.5 / 14.0 in. wc. | 4.5 / 14.0 in. wc. |
| **Gas Connection Pipe Size (in.)** | 1/2" | 1/2" | 3/4" | 1/2" | 3/4" | 3/4" |

[a] Heating Performance limit settings and rating data were established and approved under laboratory test conditions using American National Standards Institute standards (ANSI). Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet, ratings should be reduced at the rate of 4% for each 1000 feet above sea level.

# Performance Data

## Gross Cooling Capacities

**Table 4. Gross cooling capacities 7.5 tons**

| CFM | Ent DB (°F) | Ambient Temperature (°F) 85 | | | | | | Ambient Temperature (°F) 95 | | | | | | Ambient Temperature (°F) 105 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | |
| | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | |
| | | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC |
| 2400 | 75 | 80.1 | 53.9 | 89.7 | 45.1 | 99.1 | 33.6 | 72.1 | 52.0 | 84.6 | 42.0 | 92.0 | 34.0 | 65.7 | 48.5 | 75.3 | 40.1 | 85.4 | 32.4 |
| | 80 | 79.3 | 66.4 | 88.8 | 55.6 | 98.3 | 46.4 | 71.2 | 62.5 | 83.5 | 54.1 | 91.0 | 41.2 | 64.9 | 57.0 | 74.4 | 51.6 | 84.5 | 42.6 |
| | 85 | 78.9 | 74.0 | 88.5 | 62.0 | 98.2 | 58.7 | 70.8 | 68.0 | 83.0 | 61.8 | 90.0 | 49.7 | 64.5 | 61.4 | 73.9 | 58.9 | 83.5 | 47.4 |
| | 90 | 78.7 | 74.6 | 88.2 | 64.0 | 97.9 | 73.8 | 70.6 | 70.6 | 82.8 | 64.8 | 90.1 | 52.4 | 64.3 | 64.3 | 73.7 | 61.8 | 83.5 | 50.0 |
| 2700 | 75 | 81.3 | 58.8 | 91.0 | 49.2 | 100.4 | 36.7 | 73.2 | 56.8 | 85.8 | 45.8 | 93.5 | 42.1 | 66.7 | 52.9 | 76.5 | 43.7 | 86.8 | 40.1 |
| | 80 | 80.5 | 72.2 | 90.1 | 60.4 | 99.9 | 50.4 | 72.2 | 67.9 | 84.7 | 58.7 | 91.9 | 42.5 | 65.9 | 61.9 | 75.5 | 56.0 | 85.2 | 40.5 |
| | 85 | 80.0 | 75.8 | 89.6 | 67.3 | 99.5 | 63.8 | 71.7 | 71.7 | 84.2 | 67.1 | 91.5 | 54.3 | 65.3 | 65.3 | 74.9 | 64.0 | 84.9 | 51.7 |
| | 90 | 79.8 | 75.6 | 89.3 | 68.0 | 99.1 | 78.3 | 71.5 | 71.5 | 83.9 | 68.9 | 91.4 | 63.3 | 65.1 | 65.1 | 74.7 | 65.7 | 84.8 | 60.4 |
| 3000 | 75 | 82.4 | 63.7 | 92.3 | 53.3 | 101.9 | 39.8 | 74.2 | 61.5 | 87.1 | 49.6 | 94.4 | 35.9 | 67.6 | 57.3 | 77.5 | 47.3 | 87.5 | 34.3 |
| | 80 | 81.7 | 77.4 | 91.5 | 65.2 | 101.3 | 54.4 | 73.3 | 73.3 | 86.0 | 63.4 | 93.5 | 51.3 | 66.8 | 66.8 | 76.6 | 60.5 | 86.8 | 48.8 |
| | 85 | 81.1 | 76.8 | 90.8 | 72.6 | 100.8 | 68.9 | 72.7 | 72.7 | 85.2 | 72.4 | 92.9 | 66.6 | 66.2 | 66.2 | 75.9 | 69.1 | 86.2 | 63.5 |
| | 90 | 80.8 | 76.6 | 90.4 | 71.9 | 100.4 | 82.9 | 72.4 | 72.4 | 84.9 | 72.9 | 92.5 | 81.5 | 65.9 | 65.9 | 75.6 | 69.5 | 85.8 | 77.6 |
| 3300 | 75 | 83.5 | 69.0 | 93.6 | 57.8 | 103.4 | 43.0 | 75.3 | 66.6 | 88.3 | 53.8 | 95.2 | 30.6 | 68.5 | 62.1 | 78.6 | 51.2 | 88.3 | 29.3 |
| | 80 | 82.9 | 73.0 | 92.9 | 70.3 | 102.8 | 58.7 | 74.5 | 74.5 | 87.3 | 68.4 | 95.2 | 61.8 | 67.7 | 67.7 | 77.7 | 65.3 | 88.3 | 58.9 |
| | 85 | 82.1 | 77.8 | 92.0 | 78.4 | 102.1 | 74.4 | 73.7 | 73.7 | 86.3 | 78.2 | 94.3 | 81.7 | 67.1 | 67.1 | 76.9 | 74.6 | 87.5 | 78.0 |
| | 90 | 81.8 | 77.5 | 91.5 | 76.0 | 101.6 | 87.7 | 73.2 | 73.2 | 85.9 | 77.1 | 93.6 | 93.6 | 66.7 | 66.7 | 76.5 | 76.5 | 86.8 | 86.8 |

| CFM | Ent DB (°F) | Ambient Temperature (°F) 115 | | | | | | Ambient Temperature (°F) 120 | | | | | | Ambient Temperature (°F) 125 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | |
| | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | |
| | | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC |
| 2400 | 75 | 56.1 | 45.5 | 66.5 | 38.7 | 76.8 | 31.3 | 47.7 | 40.6 | 61.2 | 40.6 | 70.7 | 30.4 | 24.9 | 22.0 | 30.9 | 21.6 | 35.8 | 17.6 |
| | 80 | 55.4 | 48.6 | 65.7 | 49.8 | 75.9 | 36.8 | 47.2 | 41.7 | 60.5 | 52.2 | 70.0 | 44.5 | 24.6 | 21.8 | 30.5 | 27.8 | 35.4 | 25.8 |
| | 85 | 55.1 | 53.7 | 65.3 | 57.0 | 75.1 | 45.7 | 46.8 | 46.8 | 60.1 | 55.1 | 69.2 | 40.1 | 24.4 | 24.4 | 30.3 | 29.3 | 35.0 | 23.2 |
| | 90 | 54.9 | 54.9 | 65.2 | 59.4 | 75.0 | 48.2 | 46.4 | 46.4 | 60.0 | 60.0 | 68.9 | 47.0 | 24.2 | 24.2 | 30.2 | 29.3 | 34.8 | 27.2 |
| 2700 | 75 | 56.9 | 49.6 | 67.5 | 42.3 | 77.6 | 33.1 | 48.4 | 44.2 | 62.2 | 44.2 | 71.9 | 37.8 | 25.2 | 24.0 | 31.3 | 23.6 | 36.4 | 21.9 |
| | 80 | 56.2 | 52.8 | 66.7 | 54.2 | 76.9 | 39.3 | 47.7 | 45.1 | 61.4 | 56.2 | 70.6 | 38.1 | 24.9 | 23.6 | 30.9 | 29.9 | 35.7 | 22.1 |
| | 85 | 55.8 | 55.7 | 66.2 | 61.9 | 76.5 | 52.5 | 47.3 | 47.3 | 61.0 | 55.9 | 70.4 | 48.6 | 24.7 | 24.7 | 30.7 | 29.8 | 35.6 | 28.2 |
| | 90 | 55.6 | 55.6 | 66.0 | 63.2 | 76.2 | 62.1 | 47.0 | 47.0 | 60.7 | 60.7 | 70.2 | 56.7 | 24.6 | 24.6 | 30.6 | 29.6 | 35.5 | 32.9 |
| 3000 | 75 | 57.7 | 53.7 | 68.4 | 45.8 | 78.7 | 35.3 | 50.2 | 48.3 | 63.0 | 48.0 | 72.5 | 32.2 | 26.2 | 26.2 | 31.8 | 25.5 | 36.7 | 18.7 |
| | 80 | 57.0 | 57.0 | 67.7 | 58.5 | 78.0 | 47.2 | 49.6 | 49.6 | 62.3 | 57.1 | 71.9 | 45.9 | 25.9 | 25.9 | 31.4 | 30.4 | 36.4 | 26.6 |
| | 85 | 56.5 | 56.5 | 67.1 | 66.9 | 77.5 | 61.3 | 49.2 | 49.2 | 61.8 | 56.6 | 71.4 | 59.7 | 25.7 | 25.7 | 31.1 | 30.1 | 36.1 | 34.6 |
| | 90 | 56.3 | 56.3 | 66.8 | 66.8 | 77.2 | 74.9 | 49.0 | 49.0 | 61.5 | 61.5 | 71.4 | 62.1 | 25.6 | 25.6 | 31.0 | 30.0 | 36.1 | 36.0 |
| 3300 | 75 | 58.5 | 58.2 | 69.4 | 49.6 | 79.8 | 37.7 | 52.1 | 52.1 | 63.9 | 52.0 | 73.1 | 27.5 | 27.2 | 27.2 | 32.2 | 27.7 | 37.0 | 15.9 |
| | 80 | 57.8 | 57.8 | 68.7 | 63.2 | 79.2 | 56.6 | 51.5 | 51.5 | 63.2 | 58.0 | 73.3 | 55.4 | 26.9 | 26.9 | 31.9 | 30.9 | 37.0 | 32.1 |
| | 85 | 57.3 | 57.3 | 68.0 | 68.0 | 78.5 | 71.6 | 51.2 | 51.2 | 62.6 | 57.4 | 72.5 | 72.5 | 26.7 | 26.7 | 31.5 | 30.5 | 36.6 | 36.6 |
| | 90 | 57.0 | 57.0 | 67.6 | 67.6 | 78.1 | 78.1 | 51.0 | 51.0 | 62.3 | 62.3 | 72.6 | 72.6 | 26.6 | 26.6 | 31.4 | 31.4 | 36.7 | 36.7 |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity
4. Ambient Temperature above 120°F, the system B shuts down.

**Table 5. Gross cooling capacities 8.5 tons**

| CFM | Ent DB (°F) | Ambient Temperature (°F) 85 | | | | | | Ambient Temperature (°F) 95 | | | | | | Ambient Temperature (°F) 105 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | |
| | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | |
| | | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC |
| 2700 | 75 | 89.6 | 61.8 | 101.2 | 52.8 | 111.9 | 38.4 | 82.7 | 59.0 | 95.4 | 48.7 | 107.2 | 38.6 | 77.6 | 55.7 | 90.6 | 45.9 | 101.6 | 38.0 |
| | 80 | 88.7 | 76.3 | 100.2 | 65.1 | 111.1 | 53.0 | 81.6 | 76.0 | 94.2 | 62.7 | 106.1 | 46.9 | 76.6 | 71.8 | 89.4 | 59.2 | 100.5 | 50.0 |
| | 85 | 88.3 | 84.9 | 99.8 | 72.5 | 110.9 | 67.2 | 81.2 | 81.2 | 93.7 | 71.6 | 104.9 | 56.5 | 76.2 | 76.2 | 88.9 | 67.6 | 99.4 | 55.6 |
| | 90 | 88.1 | 85.6 | 99.5 | 74.9 | 110.6 | 84.4 | 81.0 | 81.0 | 93.4 | 75.2 | 105.0 | 59.6 | 75.9 | 75.9 | 88.6 | 70.9 | 99.4 | 58.7 |
| 3050 | 75 | 90.9 | 67.5 | 102.6 | 57.5 | 113.5 | 42.0 | 83.9 | 64.4 | 96.8 | 53.1 | 109.0 | 47.9 | 78.7 | 60.8 | 91.9 | 50.2 | 103.3 | 47.1 |
| | 80 | 90.1 | 82.9 | 101.6 | 70.7 | 112.8 | 57.6 | 82.8 | 82.5 | 95.6 | 68.1 | 107.1 | 48.3 | 77.8 | 77.8 | 90.8 | 64.3 | 101.4 | 47.5 |
| | 85 | 89.5 | 87.0 | 101.1 | 78.8 | 112.4 | 73.0 | 82.2 | 82.2 | 94.9 | 77.8 | 106.7 | 61.7 | 77.1 | 77.1 | 90.1 | 73.5 | 101.0 | 60.7 |
| | 90 | 89.3 | 86.8 | 100.7 | 79.6 | 112.0 | 89.6 | 82.0 | 82.0 | 94.6 | 79.8 | 106.5 | 72.0 | 76.9 | 76.9 | 89.8 | 75.3 | 100.9 | 70.8 |
| 3400 | 75 | 92.2 | 73.1 | 104.1 | 62.4 | 115.1 | 45.5 | 85.1 | 69.8 | 98.2 | 57.5 | 110.0 | 40.8 | 79.8 | 65.9 | 93.2 | 54.3 | 104.2 | 40.2 |
| | 80 | 91.4 | 88.9 | 103.2 | 76.3 | 114.5 | 62.2 | 84.1 | 84.1 | 97.0 | 73.5 | 109.0 | 58.3 | 78.9 | 78.9 | 92.1 | 69.4 | 103.3 | 57.3 |
| | 85 | 90.7 | 88.2 | 102.4 | 85.0 | 113.9 | 78.8 | 83.4 | 83.4 | 96.1 | 84.0 | 108.3 | 75.7 | 78.1 | 78.1 | 91.3 | 79.3 | 102.6 | 74.5 |
| | 90 | 90.4 | 87.9 | 102.0 | 84.1 | 113.4 | 94.8 | 83.0 | 83.0 | 95.7 | 84.5 | 107.8 | 92.6 | 77.8 | 77.8 | 90.9 | 79.7 | 102.1 | 91.0 |
| 3750 | 75 | 93.5 | 79.2 | 105.6 | 67.7 | 116.8 | 49.2 | 86.3 | 75.6 | 99.6 | 62.3 | 111.0 | 34.8 | 80.9 | 71.4 | 94.5 | 58.8 | 105.1 | 34.3 |
| | 80 | 92.8 | 90.2 | 104.8 | 82.3 | 116.1 | 67.2 | 85.4 | 85.4 | 98.5 | 79.4 | 111.0 | 70.3 | 80.0 | 80.0 | 93.5 | 74.9 | 105.1 | 69.1 |
| | 85 | 91.9 | 89.3 | 103.7 | 91.7 | 115.4 | 85.1 | 84.5 | 84.5 | 97.3 | 90.6 | 109.9 | 92.8 | 79.2 | 79.2 | 92.5 | 85.6 | 104.2 | 91.5 |
| | 90 | 91.5 | 88.9 | 103.2 | 89.0 | 114.8 | 100.3 | 84.0 | 84.0 | 96.9 | 89.4 | 109.1 | 109.1 | 78.8 | 78.8 | 92.0 | 84.3 | 103.3 | 103.3 |

| CFM | Ent DB (°F) | Ambient Temperature (°F) 115 | | | | | | Ambient Temperature (°F) 120 | | | | | | Ambient Temperature (°F) 125 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | | Entering Wet Bulb Temp (°F) | | | | | |
| | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | | 61 | | 67 | | 73 | |
| | | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC | MBh | SHC |
| 2700 | 75 | 68.1 | 53.8 | 78.8 | 45.1 | 91.6 | 37.0 | 65.5 | 46.6 | 74.2 | 56.9 | 87.7 | 54.4 | 27.7 | 22.9 | 34.5 | 22.7 | 37.7 | 18.4 |
| | 80 | 67.3 | 67.3 | 77.9 | 58.1 | 90.6 | 43.5 | 64.9 | 59.3 | 73.3 | 73.2 | 86.7 | 79.6 | 27.4 | 27.4 | 34.1 | 29.2 | 37.3 | 27.0 |
| | 85 | 66.9 | 66.9 | 77.4 | 66.5 | 89.7 | 54.1 | 64.3 | 64.3 | 72.9 | 72.9 | 85.7 | 71.7 | 27.2 | 27.2 | 33.9 | 30.8 | 36.9 | 24.3 |
| | 90 | 66.7 | 66.7 | 77.2 | 69.7 | 89.5 | 57.0 | 63.9 | 63.9 | 72.7 | 72.7 | 85.4 | 84.0 | 27.0 | 27.0 | 33.8 | 30.7 | 36.8 | 28.5 |
| 3050 | 75 | 69.1 | 58.7 | 80.0 | 49.3 | 92.6 | 39.1 | 66.5 | 50.8 | 75.4 | 62.0 | 89.2 | 67.5 | 28.1 | 24.9 | 35.0 | 24.7 | 38.4 | 22.9 |
| | 80 | 68.3 | 68.3 | 79.0 | 63.2 | 91.8 | 46.5 | 65.6 | 60.0 | 74.4 | 74.4 | 87.5 | 68.1 | 27.8 | 27.8 | 34.6 | 31.4 | 37.7 | 23.1 |
| | 85 | 67.7 | 67.7 | 78.4 | 72.2 | 91.3 | 62.1 | 65.1 | 65.0 | 73.9 | 73.9 | 87.2 | 86.9 | 27.5 | 27.5 | 34.4 | 31.2 | 37.5 | 29.5 |
| | 90 | 67.5 | 67.5 | 78.2 | 74.1 | 91.0 | 73.4 | 64.7 | 64.7 | 73.6 | 73.6 | 87.0 | 87.0 | 27.4 | 27.4 | 34.2 | 31.1 | 37.5 | 34.4 |
| 3400 | 75 | 70.1 | 63.6 | 81.1 | 53.4 | 93.9 | 41.8 | 69.0 | 55.5 | 76.4 | 67.3 | 89.9 | 57.5 | 29.2 | 27.2 | 35.5 | 26.8 | 38.7 | 19.5 |
| | 80 | 69.3 | 69.3 | 80.2 | 68.2 | 93.2 | 55.8 | 68.2 | 62.0 | 75.5 | 75.5 | 89.2 | 72.1 | 28.8 | 28.8 | 35.1 | 31.9 | 38.4 | 27.9 |
| | 85 | 68.7 | 68.7 | 79.5 | 77.9 | 92.5 | 72.5 | 67.7 | 67.7 | 74.9 | 74.9 | 88.5 | 88.5 | 28.6 | 28.6 | 34.8 | 31.6 | 38.1 | 36.2 |
| | 90 | 68.4 | 68.4 | 79.2 | 78.4 | 92.1 | 88.6 | 67.4 | 67.4 | 74.6 | 74.6 | 88.5 | 88.5 | 28.5 | 28.5 | 34.7 | 31.5 | 38.1 | 37.7 |
| 3750 | 75 | 71.1 | 68.9 | 82.2 | 57.9 | 95.2 | 44.6 | 71.6 | 60.6 | 77.5 | 72.9 | 90.6 | 49.1 | 30.3 | 29.7 | 36.0 | 29.0 | 39.0 | 16.7 |
| | 80 | 70.3 | 70.3 | 81.4 | 73.6 | 94.6 | 67.0 | 70.9 | 66.0 | 76.7 | 76.7 | 90.8 | 70.8 | 30.0 | 30.0 | 35.6 | 32.4 | 39.1 | 33.6 |
| | 85 | 69.6 | 69.6 | 80.5 | 80.5 | 93.7 | 84.7 | 70.4 | 70.4 | 75.9 | 75.9 | 89.8 | 89.8 | 29.8 | 29.8 | 35.3 | 32.0 | 38.7 | 38.7 |
| | 90 | 69.2 | 69.2 | 80.1 | 80.1 | 93.2 | 93.2 | 70.1 | 70.1 | 75.5 | 75.5 | 90.0 | 90.0 | 29.7 | 29.7 | 35.1 | 31.9 | 38.7 | 38.8 |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity
4. Ambient Temperature above 120°F, the system B shuts down.

**Table 6. Gross cooling capacities 10 tons**

| CFM | Ent DB (°F) | Ambient Temperature (°F) 85 Entering Wet Bulb Temp (°F) 61 MBh | SHC | 67 MBh | SHC | 73 MBh | SHC | Ambient Temperature (°F) 95 Entering Wet Bulb Temp (°F) 61 MBh | SHC | 67 MBh | SHC | 73 MBh | SHC | Ambient Temperature (°F) 105 Entering Wet Bulb Temp (°F) 61 MBh | SHC | 67 MBh | SHC | 73 MBh | SHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3200 | 75 | 113.3 | 80.4 | 123.7 | 72.8 | 136.1 | 44.3 | 110.0 | 70.4 | 120.1 | 63.8 | 132.5 | 43.4 | 98.5 | 62.5 | 107.5 | 56.6 | 122.1 | 39.3 |
| | 80 | 112.2 | 99.2 | 122.5 | 89.8 | 135.1 | 61.1 | 108.6 | 90.7 | 118.6 | 82.1 | 131.1 | 52.7 | 97.2 | 80.5 | 106.1 | 72.9 | 120.8 | 51.7 |
| | 85 | 111.7 | 110.5 | 122.0 | 100.1 | 134.9 | 77.4 | 108.0 | 103.7 | 117.9 | 93.8 | 129.6 | 63.5 | 96.7 | 92.0 | 105.5 | 83.3 | 119.5 | 57.5 |
| | 90 | 111.4 | 111.4 | 121.7 | 103.4 | 134.5 | 97.2 | 107.7 | 107.7 | 117.6 | 98.5 | 129.7 | 67.0 | 96.4 | 96.4 | 105.2 | 87.4 | 119.4 | 60.7 |
| 3600 | 75 | 115.0 | 87.8 | 125.5 | 79.4 | 138.0 | 48.4 | 111.6 | 76.9 | 121.8 | 69.6 | 134.7 | 53.8 | 99.9 | 68.2 | 109.1 | 61.8 | 124.1 | 48.7 |
| | 80 | 113.9 | 107.8 | 124.3 | 97.6 | 137.2 | 66.4 | 110.2 | 98.5 | 120.3 | 89.2 | 132.3 | 54.3 | 98.7 | 87.5 | 107.7 | 79.2 | 121.9 | 49.2 |
| | 85 | 113.2 | 113.2 | 123.6 | 108.7 | 136.7 | 84.1 | 109.4 | 109.4 | 119.5 | 101.9 | 131.8 | 69.4 | 97.9 | 97.9 | 106.9 | 90.5 | 121.4 | 62.8 |
| | 90 | 112.9 | 112.9 | 123.2 | 109.8 | 136.2 | 103.2 | 109.1 | 109.1 | 119.1 | 104.6 | 131.6 | 80.9 | 97.6 | 97.6 | 106.6 | 92.8 | 121.3 | 73.3 |
| 4000 | 75 | 116.6 | 95.1 | 127.3 | 86.1 | 140.0 | 52.4 | 113.2 | 83.3 | 123.6 | 75.4 | 135.9 | 45.9 | 101.3 | 73.9 | 110.6 | 66.9 | 125.2 | 41.6 |
| | 80 | 115.6 | 115.6 | 126.2 | 105.3 | 139.2 | 71.7 | 111.9 | 106.4 | 122.1 | 96.3 | 134.7 | 65.5 | 100.1 | 94.4 | 109.3 | 85.5 | 124.1 | 59.3 |
| | 85 | 114.7 | 114.7 | 125.2 | 117.3 | 138.5 | 90.8 | 110.9 | 110.9 | 121.0 | 110.0 | 133.8 | 85.1 | 99.2 | 99.2 | 108.3 | 97.7 | 123.3 | 77.1 |
| | 90 | 114.3 | 114.3 | 124.7 | 116.1 | 137.9 | 109.2 | 110.4 | 110.4 | 120.5 | 110.7 | 133.2 | 104.1 | 98.8 | 98.8 | 107.9 | 98.2 | 122.7 | 94.2 |
| 4400 | 75 | 118.2 | 103.0 | 129.1 | 93.4 | 142.0 | 56.7 | 114.8 | 90.2 | 125.4 | 81.7 | 137.1 | 39.2 | 102.7 | 80.1 | 112.1 | 72.4 | 126.3 | 35.5 |
| | 80 | 117.3 | 117.3 | 128.1 | 113.6 | 141.2 | 77.4 | 113.6 | 113.6 | 123.9 | 104.0 | 137.1 | 79.0 | 101.5 | 101.5 | 110.9 | 92.3 | 126.3 | 71.5 |
| | 85 | 116.2 | 116.2 | 126.8 | 126.6 | 140.3 | 98.0 | 112.4 | 112.4 | 122.5 | 118.7 | 135.8 | 104.4 | 100.5 | 100.5 | 109.7 | 105.5 | 125.2 | 94.7 |
| | 90 | 115.7 | 115.7 | 126.2 | 122.8 | 139.6 | 115.5 | 111.7 | 111.7 | 121.9 | 117.2 | 134.8 | 134.0 | 100.0 | 100.0 | 109.2 | 103.9 | 124.1 | 121.1 |

| CFM | Ent DB (°F) | Ambient Temperature (°F) 115 Entering Wet Bulb Temp (°F) 61 MBh | SHC | 67 MBh | SHC | 73 MBh | SHC | Ambient Temperature (°F) 120 Entering Wet Bulb Temp (°F) 61 MBh | SHC | 67 MBh | SHC | 73 MBh | SHC | Ambient Temperature (°F) 125 Entering Wet Bulb Temp (°F) 61 MBh | SHC | 67 MBh | SHC | 73 MBh | SHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3200 | 75 | 89.6 | 58.4 | 97.8 | 52.8 | 112.6 | 36.1 | 86.2 | 50.6 | 92.1 | 66.6 | 107.8 | 53.1 | 41.4 | 24.1 | 44.2 | 31.7 | 51.7 | 25.3 |
| | 80 | 88.5 | 75.2 | 96.6 | 68.0 | 111.4 | 42.5 | 85.3 | 66.3 | 91.0 | 85.7 | 106.6 | 77.7 | 40.9 | 31.6 | 43.7 | 40.8 | 51.2 | 37.0 |
| | 85 | 88.0 | 85.9 | 96.0 | 77.8 | 110.2 | 52.8 | 84.6 | 84.6 | 90.4 | 90.4 | 105.4 | 70.0 | 40.6 | 40.3 | 43.4 | 43.0 | 50.6 | 33.3 |
| | 90 | 87.7 | 87.7 | 95.8 | 81.6 | 110.0 | 55.7 | 84.0 | 84.0 | 90.2 | 90.2 | 105.0 | 82.0 | 40.3 | 40.0 | 43.3 | 42.9 | 50.4 | 39.0 |
| 3600 | 75 | 90.9 | 63.7 | 99.2 | 57.7 | 113.8 | 38.2 | 87.5 | 55.1 | 93.5 | 72.6 | 109.6 | 65.9 | 42.0 | 26.2 | 44.9 | 34.6 | 52.6 | 31.4 |
| | 80 | 89.8 | 81.7 | 98.0 | 73.9 | 112.8 | 45.4 | 86.3 | 71.8 | 92.3 | 92.3 | 107.6 | 66.5 | 41.4 | 34.2 | 44.3 | 43.9 | 51.6 | 31.7 |
| | 85 | 89.1 | 89.1 | 97.3 | 84.5 | 112.2 | 60.6 | 85.6 | 85.6 | 91.7 | 91.7 | 107.2 | 84.9 | 41.1 | 40.7 | 44.0 | 43.6 | 51.5 | 40.4 |
| | 90 | 88.8 | 88.8 | 97.0 | 86.7 | 111.8 | 71.7 | 85.1 | 85.1 | 91.3 | 91.3 | 107.0 | 99.0 | 40.8 | 40.5 | 43.8 | 43.5 | 51.4 | 47.1 |
| 4000 | 75 | 92.2 | 69.0 | 100.6 | 62.5 | 115.4 | 40.8 | 90.8 | 60.2 | 94.8 | 78.7 | 110.5 | 56.2 | 43.6 | 28.7 | 45.5 | 37.5 | 53.0 | 26.8 |
| | 80 | 91.1 | 88.2 | 99.5 | 79.8 | 114.5 | 54.5 | 89.7 | 78.9 | 93.7 | 93.7 | 109.6 | 80.2 | 43.1 | 37.6 | 45.0 | 44.6 | 52.6 | 38.2 |
| | 85 | 90.3 | 90.3 | 98.6 | 91.2 | 113.7 | 70.8 | 89.0 | 89.0 | 92.9 | 92.9 | 108.8 | 104.2 | 42.7 | 42.4 | 44.6 | 44.2 | 52.2 | 49.6 |
| | 90 | 89.9 | 89.9 | 98.2 | 91.7 | 113.2 | 86.5 | 88.6 | 88.6 | 92.5 | 92.5 | 108.8 | 108.4 | 42.5 | 42.2 | 44.4 | 44.0 | 52.2 | 51.6 |
| 4400 | 75 | 93.5 | 74.7 | 102.0 | 67.7 | 117.0 | 43.6 | 94.2 | 65.8 | 96.1 | 85.3 | 111.4 | 47.9 | 45.2 | 31.3 | 46.1 | 40.6 | 53.5 | 22.8 |
| | 80 | 92.4 | 92.4 | 101.0 | 86.2 | 116.2 | 65.4 | 93.2 | 86.7 | 95.1 | 95.1 | 111.6 | 96.7 | 44.8 | 41.3 | 45.7 | 45.3 | 53.6 | 46.0 |
| | 85 | 91.5 | 91.5 | 99.9 | 98.4 | 115.2 | 82.7 | 92.5 | 92.5 | 94.1 | 94.1 | 110.4 | 110.4 | 44.4 | 44.0 | 45.2 | 44.8 | 53.0 | 53.0 |
| | 90 | 91.0 | 91.0 | 99.4 | 97.0 | 114.6 | 104.4 | 92.2 | 92.2 | 93.7 | 93.7 | 110.6 | 110.6 | 44.3 | 43.9 | 45.0 | 44.6 | 53.1 | 53.1 |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity
4. Ambient Temperature above 120°F, the system B shuts down.

**Table 7. Gross cooling capacities 12.5 tons**

| CFM | Ent DB (°F) | Ambient Temperature (°F) 85 Entering Wet Bulb Temp (°F) 61 MBh | 61 SHC | 67 MBh | 67 SHC | 73 MBh | 73 SHC | Ambient Temperature (°F) 95 Entering Wet Bulb Temp (°F) 61 MBh | 61 SHC | 67 MBh | 67 SHC | 73 MBh | 73 SHC | Ambient Temperature (°F) 105 Entering Wet Bulb Temp (°F) 61 MBh | 61 SHC | 67 MBh | 67 SHC | 73 MBh | 73 SHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4000 | 75 | 126.6 | 104.1 | 142.7 | 80.4 | 158.2 | 52.0 | 122.9 | 102.8 | 137.8 | 78.7 | 149.5 | 48.8 | 114.7 | 99.1 | 123.6 | 72.4 | 139.2 | 44.8 |
| | 80 | 126.3 | 126.1 | 142.3 | 102.9 | 157.8 | 74.0 | 122.8 | 117.5 | 137.5 | 101.8 | 149.3 | 71.2 | 114.5 | 110.8 | 123.1 | 94.9 | 139.0 | 66.9 |
| | 85 | 125.7 | 125.7 | 141.9 | 125.6 | 157.5 | 96.4 | 122.5 | 122.5 | 137.2 | 122.5 | 149.1 | 92.1 | 114.1 | 114.1 | 122.8 | 115.6 | 138.8 | 88.3 |
| | 90 | 125.3 | 125.3 | 141.6 | 141.6 | 157.2 | 119.2 | 122.1 | 122.1 | 137.0 | 134.4 | 148.7 | 114.2 | 113.8 | 113.8 | 122.5 | 122.5 | 138.6 | 111.-1ll |
| 4500 | 75 | 129.0 | 116.1 | 145.3 | 89.5 | 161.0 | 58.0 | 125.1 | 114.7 | 140.2 | 87.6 | 152.6 | 63.4 | 116.7 | 109.9 | 125.8 | 80.4 | 141.9 | 57.7 |
| | 80 | 128.7 | 128.7 | 144.9 | 114.1 | 160.9 | 82.0 | 125.1 | 125.1 | 140.0 | 112.8 | 151.0 | 73.9 | 116.6 | 116.6 | 125.3 | 104.7 | 140.5 | 63.0 |
| | 85 | 127.8 | 127.8 | 144.2 | 139.1 | 160.1 | 106.8 | 124.5 | 124.5 | 139.5 | 135.7 | 152.3 | 102.8 | 115.8 | 115.8 | 124.8 | 124.8 | 141.4 | 98.1 |
| | 90 | 127.4 | 127.4 | 143.8 | 143.8 | 159.7 | 128.4 | 124.1 | 124.1 | 139.2 | 139.2 | 151.4 | 143.8 | 115.5 | 115.5 | 124.5 | 124.5 | 141.2 | 138.8 |
| 5000 | 75 | 131.2 | 127.9 | 147.9 | 98.8 | 163.9 | 63.9 | 127.4 | 126.3 | 142.8 | 96.6 | 154.3 | 52.3 | 118.8 | 117.7 | 128.1 | 88.9 | 143.6 | 48.1 |
| | 80 | 131.1 | 131.1 | 147.7 | 125.1 | 163.8 | 90.0 | 127.5 | 127.5 | 142.6 | 123.8 | 154.4 | 92.8 | 118.2 | 118.2 | 127.7 | 115.4 | 143.7 | 79.2 |
| | 85 | 129.9 | 129.9 | 146.6 | 146.6 | 162.8 | 117.3 | 126.6 | 126.6 | 141.7 | 141.7 | 155.1 | 131.3 | 117.8 | 117.8 | 126.9 | 126.9 | 144.3 | 125.9 |
| | 90 | 129.4 | 129.4 | 146.0 | 146.0 | 162.2 | 137.6 | 125.9 | 125.9 | 141.2 | 141.2 | 153.7 | 153.7 | 117.3 | 117.3 | 126.4 | 126.4 | 143.4 | 143.4 |
| 5500 | 75 | 133.5 | 131.9 | 150.5 | 108.8 | 166.8 | 70.2 | 129.6 | 128.1 | 145.4 | 106.3 | 156.0 | 42.8 | 120.8 | 119.5 | 130.2 | 97.7 | 145.2 | 39.4 |
| | 80 | 132.9 | 132.9 | 150.5 | 137.0 | 166.7 | 98.7 | 129.0 | 129.0 | 145.2 | 135.7 | 157.9 | 85.6 | 120.3 | 120.3 | 130.1 | 126.5 | 147.0 | 85.9 |
| | 85 | 132.1 | 132.1 | 148.9 | 148.9 | 165.4 | 128.5 | 128.8 | 128.8 | 143.9 | 143.9 | 158.1 | 126.2 | 119.7 | 119.7 | 128.9 | 128.9 | 147.1 | 129.6 |
| | 90 | 131.4 | 131.4 | 148.2 | 148.2 | 164.7 | 147.3 | 127.8 | 127.8 | 143.3 | 143.3 | 156.0 | 156.0 | 119.1 | 119.1 | 128.3 | 128.3 | 145.4 | 145.4 |

| CFM | Ent DB (°F) | Ambient Temperature (°F) 115 Entering Wet Bulb Temp (°F) 61 MBh | 61 SHC | 67 MBh | 67 SHC | 73 MBh | 73 SHC | Ambient Temperature (°F) 120 Entering Wet Bulb Temp (°F) 61 MBh | 61 SHC | 67 MBh | 67 SHC | 73 MBh | 73 SHC | Ambient Temperature (°F) 125 Entering Wet Bulb Temp (°F) 61 MBh | 61 SHC | 67 MBh | 67 SHC | 73 MBh | 73 SHC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4000 | 75 | 99.5 | 93.4 | 116.0 | 67.9 | 126.1 | 38.4 | 94.8 | 91.4 | 108.1 | 64.5 | 122.5 | 38.5 | 48.5 | 46.5 | 56.1 | 42.5 | 65.1 | 24.7 |
| | 80 | 99.2 | 99.2 | 115.7 | 91.6 | 125.9 | 62.2 | 94.5 | 94.5 | 107.8 | 87.4 | 122.3 | 60.1 | 48.3 | 48.3 | 55.9 | 54.0 | 64.8 | 39.6 |
| | 85 | 99.0 | 99.0 | 115.5 | 115.1 | 125.6 | 86.3 | 94.3 | 94.3 | 107.6 | 106.9 | 122.1 | 81.5 | 48.0 | 48.0 | 55.6 | 55.6 | 64.5 | 55.7 |
| | 90 | 98.7 | 98.7 | 115.3 | 115.3 | 125.2 | 110.5 | 94.1 | 94.1 | 107.3 | 107.3 | 121.8 | 102.6 | 47.8 | 47.8 | 55.4 | 55.4 | 64.3 | 64.3 |
| 4500 | 75 | 101.2 | 98.6 | 118.0 | 75.5 | 127.7 | 41.1 | 96.5 | 95.2 | 110.1 | 71.5 | 125.0 | 49.6 | 49.4 | 48.5 | 57.1 | 47.1 | 66.4 | 31.8 |
| | 80 | 100.9 | 100.9 | 117.7 | 97.1 | 127.8 | 67.3 | 95.8 | 95.8 | 109.6 | 95.5 | 123.7 | 76.5 | 49.0 | 49.0 | 56.9 | 56.9 | 66.1 | 47.2 |
| | 85 | 100.5 | 100.5 | 117.4 | 117.4 | 128.3 | 91.6 | 95.6 | 95.6 | 109.5 | 108.7 | 124.6 | 102.3 | 48.7 | 48.7 | 56.6 | 56.6 | 65.8 | 62.3 |
| | 90 | 100.2 | 100.2 | 117.0 | 117.0 | 127.7 | 115.3 | 95.6 | 95.6 | 108.9 | 108.9 | 124.6 | 124.6 | 48.6 | 48.6 | 56.2 | 56.2 | 65.6 | 65.6 |
| 5000 | 75 | 103.1 | 101.6 | 120.2 | 83.5 | 131.0 | 44.6 | 101.1 | 99.9 | 112.1 | 79.1 | 126.3 | 41.3 | 51.7 | 50.2 | 58.2 | 52.2 | 67.1 | 26.5 |
| | 80 | 102.8 | 102.8 | 120.0 | 111.5 | 130.8 | 84.2 | 100.6 | 100.0 | 111.8 | 97.6 | 126.6 | 62.5 | 51.4 | 51.4 | 58.0 | 58.0 | 67.1 | 41.2 |
| | 85 | 102.2 | 102.2 | 119.4 | 119.4 | 130.6 | 123.1 | 100.4 | 100.4 | 111.3 | 110.6 | 127.0 | 84.5 | 51.1 | 51.1 | 57.5 | 57.5 | 67.1 | 58.5 |
| | 90 | 101.8 | 101.8 | 118.9 | 118.9 | 129.8 | 186.9 | 100.1 | 100.1 | 110.7 | 110.7 | 127.3 | 106.9 | 51.1 | 51.1 | 57.2 | 57.2 | 67.2 | 67.2 |
| 5500 | 75 | 104.9 | 103.5 | 122.3 | 91.9 | 132.3 | 48.3 | 105.8 | 104.1 | 114.0 | 87.2 | 127.6 | 33.8 | 54.1 | 52.9 | 59.2 | 57.4 | 67.8 | 21.7 |
| | 80 | 104.7 | 104.7 | 122.3 | 122.2 | 132.7 | 89.2 | 105.5 | 105.5 | 113.9 | 99.4 | 129.5 | 78.5 | 53.9 | 53.9 | 59.1 | 59.1 | 68.6 | 51.7 |
| | 85 | 103.9 | 103.9 | 121.4 | 121.4 | 132.8 | 127.4 | 105.4 | 105.4 | 113.1 | 113.1 | 129.4 | 114.3 | 53.6 | 53.6 | 58.5 | 58.5 | 68.3 | 68.3 |
| | 90 | 103.4 | 103.4 | 120.7 | 120.7 | 131.8 | 131.8 | 105.1 | 105.1 | 112.5 | 112.5 | 129.0 | 129.0 | 53.2 | 53.2 | 58.1 | 58.1 | 68.0 | 68.0 |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity
4. Ambient Temperature above 120°F, the system B shuts down.

# Evaporator Fan Performance

## 7.5 Tons

**Table 8. Belt drive evaporator fan performance - 7.5 tons with low gas heat - GBC90A(3,4)EL - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 725 | 1.12 | 748 | 1.28 | 773 | 1.43 |
| 2700 | — | — | — | — | — | — | — | — | — | — | 718 | 1.26 | 742 | 1.39 | 766 | 1.51 | 789 | 1.64 | 815 | 1.76 |
| 3000 | — | — | — | — | — | — | 710 | 1.25 | 735 | 1.37 | 761 | 1.49 | 784 | 1.61 | 808 | 1.74 | 832 | 1.86 | 863 | 2.02 |
| 3300 | — | — | — | — | 724 | 1.36 | 749 | 1.49 | 776 | 1.63 | 803 | 1.77 | 829 | 1.89 | 861 | 2.06 | 883 | 2.18 | 906 | 2.31 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | 799 | 1.59 | 823 | 1.76 | 854 | 1.88 | 877 | 2.06 | 900 | 2.17 | 924 | 2.28 | 949 | 2.40 | 971 | 2.50 | 996 | 2.61 | 1020 | 2.71 |
| 2700 | 841 | 1.88 | 872 | 2.04 | 897 | 2.16 | 921 | 2.27 | 944 | 2.38 | 967 | 2.50 | 990 | 2.62 | 1013 | 2.72 | 1036 | 2.82 | 1059 | 2.93 |
| 3000 | 885 | 2.13 | 908 | 2.25 | 933 | 2.36 | 956 | 2.48 | 979 | 2.59 | 1002 | 2.70 | 1026 | 2.80 | 1049 | 2.91 | 1073 | 3.02 | — | — |
| 3300 | 930 | 2.44 | 954 | 2.58 | 977 | 2.70 | 999 | 2.82 | 1025 | 2.93 | 1048 | 3.03 | — | — | — | — | — | — | — | — |

**Table 9. Belt drive evaporator fan performance - 7.5 tons with low gas heat - GBC90A(3,4)EL - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 711 | 1.02 | 734 | 1.18 | 759 | 1.32 |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | 728 | 1.28 | 752 | 1.40 | 775 | 1.52 | 801 | 1.65 |
| 3000 | — | — | — | — | — | — | — | — | 721 | 1.26 | 747 | 1.39 | 768 | 1.51 | 794 | 1.64 | 818 | 1.76 | 849 | 1.91 |
| 3300 | — | — | — | — | 713 | 1.26 | 739 | 1.39 | 766 | 1.52 | 789 | 1.67 | 815 | 1.79 | 847 | 1.95 | 869 | 2.08 | 892 | 2.20 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | High Static (oversize) Motor | | | | | | | | | | | | | |
| 2400 | 776 | 1.41 | 809 | 1.66 | 840 | 1.76 | 863 | 1.94 | 885 | 2.05 | 909 | 2.15 | 934 | 2.27 | 956 | 2.37 | 981 | 2.48 | 1005 | 2.58 |
| 2700 | 827 | 1.77 | 858 | 1.93 | 882 | 2.03 | 906 | 2.15 | 929 | 2.26 | 952 | 2.38 | 975 | 2.49 | 998 | 2.60 | 1021 | 2.69 | 1044 | 2.80 |
| 3000 | 871 | 2.03 | 894 | 2.14 | 918 | 2.25 | 943 | 2.37 | 966 | 2.47 | 988 | 2.58 | 1012 | 2.69 | 1037 | 2.79 | 1061 | 2.90 | 1084 | 3.01 |
| 3300 | 915 | 2.34 | 939 | 2.47 | 962 | 2.59 | 985 | 2.70 | 1011 | 2.81 | 1034 | 2.90 | 1056 | 3.02 | — | — | — | — | — | — |

**Table 10. Belt drive evaporator fan performance - 7.5 tons with med gas heat - GBC90A(3,4)EM - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 723 | 1.11 | 746 | 1.27 | 771 | 1.41 |
| 2700 | — | — | — | — | — | — | — | — | — | — | 716 | 1.24 | 740 | 1.37 | 764 | 1.49 | 787 | 1.62 | 813 | 1.74 |
| 3000 | — | — | — | — | — | — | — | — | 733 | 1.36 | 751 | 1.39 | 782 | 1.60 | 806 | 1.73 | 830 | 1.85 | 861 | 2.00 |
| 3300 | — | — | — | — | 722 | 1.36 | 742 | 1.41 | 774 | 1.62 | 801 | 1.76 | 827 | 1.88 | 856 | 2.04 | 881 | 2.16 | 904 | 2.29 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | High Static (oversize) Motor | | | | | | | | | | | | | |
| 2400 | 797 | 1.57 | 821 | 1.74 | 852 | 1.84 | 875 | 2.02 | 898 | 2.13 | 922 | 2.24 | 946 | 2.36 | 968 | 2.46 | 993 | 2.57 | 1017 | 2.67 |
| 2700 | 839 | 1.86 | 870 | 2.02 | 895 | 2.13 | 918 | 2.23 | 941 | 2.35 | 964 | 2.47 | 987 | 2.58 | 1010 | 2.68 | 1033 | 2.78 | 1056 | 2.89 |
| 3000 | 883 | 2.11 | 906 | 2.23 | 931 | 2.34 | 953 | 2.45 | 976 | 2.56 | 999 | 2.67 | 1023 | 2.77 | 1046 | 2.87 | 1067 | 2.99 | — | — |
| 3300 | 928 | 2.42 | 952 | 2.56 | 974 | 2.67 | 996 | 2.79 | 1022 | 2.90 | 1045 | 3.01 | — | — | — | — | — | — | — | — |

**Table 11. Belt drive evaporator fan performance - 7.5 tons with med gas heat - GBC90A(3,4)EM - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | 713 | 1.09 | 737 | 1.21 | 760 | 1.37 | 785 | 1.52 |
| 2700 | — | — | — | — | — | — | — | — | — | — | 730 | 1.35 | 754 | 1.48 | 778 | 1.60 | 801 | 1.73 | 827 | 1.85 |
| 3000 | — | — | — | — | — | — | 722 | 1.34 | 747 | 1.46 | 773 | 1.58 | 796 | 1.70 | 820 | 1.83 | 844 | 1.95 | 875 | 2.11 |
| 3300 | — | — | — | — | 736 | 1.45 | 761 | 1.58 | 788 | 1.72 | 815 | 1.86 | 841 | 1.98 | 873 | 2.15 | 895 | 2.27 | 918 | 2.40 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | High Static (oversize) Motor | | | | | | | | | | | | | |
| 2400 | 811 | 1.68 | 835 | 1.85 | 866 | 1.97 | 889 | 2.15 | 912 | 2.26 | 936 | 2.37 | 961 | 2.49 | 983 | 2.59 | 1008 | 2.70 | 1032 | 2.80 |
| 2700 | 853 | 1.97 | 884 | 2.13 | 909 | 2.25 | 933 | 2.36 | 956 | 2.47 | 979 | 2.59 | 1002 | 2.71 | 1025 | 2.81 | 1048 | 2.91 | 1071 | 3.02 |
| 3000 | 897 | 2.22 | 920 | 2.34 | 945 | 2.45 | 968 | 2.57 | 991 | 2.68 | 1014 | 2.79 | 1038 | 2.89 | 1061 | 3.00 | — | — | — | — |
| 3300 | 942 | 2.53 | 966 | 2.67 | 989 | 2.79 | 1011 | 2.91 | 1037 | 3.02 | — | — | — | — | — | — | — | — | — | — |

**Table 12. Belt drive evaporator fan performance - 7.5 tons with high gas heat - GBC90A(3,4)EH - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 733 | 1.17 | 756 | 1.32 | 781 | 1.47 |
| 2700 | — | — | — | — | — | — | — | — | — | — | 726 | 1.30 | 750 | 1.43 | 774 | 1.55 | 797 | 1.68 | 823 | 1.80 |
| 3000 | — | — | — | — | — | — | 718 | 1.30 | 743 | 1.41 | 760 | 1.45 | 792 | 1.66 | 816 | 1.78 | 840 | 1.90 | 871 | 2.06 |
| 3300 | — | — | — | — | 732 | 1.41 | 752 | 1.46 | 784 | 1.68 | 811 | 1.82 | 837 | 1.94 | 869 | 2.10 | 891 | 2.22 | 913 | 2.35 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | High Static (oversize) Motor | | | | | | | | | | | | | | | |
| 2400 | 807 | 1.63 | 831 | 1.80 | 862 | 1.96 | 884 | 2.08 | 907 | 2.19 | 931 | 2.30 | 956 | 2.42 | 978 | 2.52 | 1003 | 2.63 | 1027 | 2.73 |
| 2700 | 849 | 1.92 | 879 | 2.08 | 904 | 2.18 | 928 | 2.29 | 951 | 2.41 | 974 | 2.52 | 997 | 2.63 | 1020 | 2.74 | 1043 | 2.84 | 1066 | 2.95 |
| 3000 | 893 | 2.17 | 915 | 2.29 | 940 | 2.39 | 963 | 2.51 | 986 | 2.62 | 1009 | 2.73 | 1033 | 2.82 | 1056 | 2.93 | 1078 | 3.05 | — | — |
| 3300 | 937 | 2.48 | 961 | 2.61 | 984 | 2.73 | 1006 | 2.85 | 1032 | 2.96 | 1055 | 3.07 | — | — | — | — | — | — | — | — |

**Table 13. Belt drive evaporator fan performance - 7.5 tons with high gas heat - GBC90A(3,4)EH - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | 723 | 1.15 | 747 | 1.27 | 770 | 1.43 | 795 | 1.58 |
| 2700 | — | — | — | — | — | — | — | — | 716 | 1.29 | 740 | 1.41 | 764 | 1.54 | 788 | 1.66 | 811 | 1.79 | 837 | 1.91 |
| 3000 | — | — | — | — | — | — | 732 | 1.40 | 757 | 1.52 | 783 | 1.64 | 806 | 1.76 | 830 | 1.89 | 854 | 2.01 | 885 | 2.17 |
| 3300 | — | — | — | — | 746 | 1.51 | 771 | 1.64 | 798 | 1.78 | 825 | 1.92 | 851 | 2.04 | 883 | 2.21 | 905 | 2.33 | 928 | 2.46 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | High Static (oversize) Motor | | | | | | | | | | | | | | | |
| 2400 | 821 | 1.74 | 845 | 1.91 | 876 | 2.09 | 899 | 2.21 | 922 | 2.32 | 946 | 2.43 | 971 | 2.55 | 993 | 2.65 | 1018 | 2.76 | 1042 | 2.86 |
| 2700 | 863 | 2.03 | 894 | 2.19 | 919 | 2.31 | 943 | 2.42 | 966 | 2.53 | 989 | 2.65 | 1012 | 2.77 | 1035 | 2.87 | 1058 | 2.97 | 1081 | 3.08 |
| 3000 | 907 | 2.28 | 930 | 2.40 | 955 | 2.51 | 978 | 2.63 | 1001 | 2.74 | 1024 | 2.85 | 1048 | 2.95 | 1071 | 3.06 | — | — | — | — |
| 3300 | 952 | 2.59 | 976 | 2.73 | 999 | 2.85 | 1021 | 2.97 | 1047 | 3.08 | — | — | — | — | — | — | — | — | — | — |

**Table 14. Belt drive evaporator fan performance - 7.5 tons cooling only - EBC150A(3,4)E0 - downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 714 | 1.05 | 739 | 1.20 |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 732 | 1.27 | 755 | 1.40 | 781 | 1.52 |
| 3000 | — | — | — | — | — | — | — | — | — | — | 727 | 1.26 | 750 | 1.38 | 774 | 1.50 | 799 | 1.62 | 828 | 1.75 |
| 3300 | — | — | — | — | — | — | 715 | 1.26 | 742 | 1.40 | 769 | 1.53 | 794 | 1.65 | 826 | 1.79 | 848 | 1.95 | 871 | 2.08 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | High Static (oversize) Motor | | | | | | | | | | | |
| 2400 | 765 | 1.35 | 789 | 1.51 | 820 | 1.64 | 843 | 1.76 | 866 | 1.93 | 889 | 2.03 | 914 | 2.15 | 936 | 2.25 | 961 | 2.36 | 985 | 2.46 |
| 2700 | 800 | 1.58 | 837 | 1.77 | 862 | 1.92 | 886 | 2.03 | 909 | 2.14 | 932 | 2.25 | 955 | 2.37 | 978 | 2.47 | 1001 | 2.57 | 1024 | 2.68 |
| 3000 | 850 | 1.87 | 873 | 2.02 | 898 | 2.12 | 921 | 2.24 | 944 | 2.35 | 967 | 2.46 | 991 | 2.56 | 1014 | 2.66 | 1038 | 2.77 | 1060 | 2.89 |
| 3300 | 895 | 2.20 | 919 | 2.34 | 942 | 2.46 | 964 | 2.58 | 990 | 2.68 | 1013 | 2.78 | 1038 | 2.89 | 1051 | 3.01 | — | — | — | — |

**Table 15. Belt drive evaporator fan performance - 7.5 tons cooling only - EBC150A(3,4)E0 - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2400 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 728 | 1.15 | 753 | 1.30 |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | 722 | 1.26 | 746 | 1.38 | 769 | 1.51 | 795 | 1.63 |
| 3000 | — | — | — | — | — | — | — | — | 715 | 1.24 | 741 | 1.36 | 764 | 1.48 | 788 | 1.61 | 812 | 1.73 | 843 | 1.85 |
| 3300 | — | — | — | — | — | — | 729 | 1.36 | 756 | 1.50 | 783 | 1.64 | 809 | 1.76 | 841 | 1.89 | 863 | 2.05 | 886 | 2.18 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | High Static (oversize) Motor | | | | | | | | | | | |
| 2400 | 779 | 1.46 | 803 | 1.63 | 834 | 1.75 | 857 | 1.87 | 880 | 2.04 | 904 | 2.15 | 929 | 2.27 | 951 | 2.37 | 976 | 2.48 | 1000 | 2.58 |
| 2700 | 821 | 1.75 | 852 | 1.88 | 877 | 2.03 | 901 | 2.14 | 924 | 2.25 | 947 | 2.37 | 970 | 2.49 | 993 | 2.59 | 1016 | 2.69 | 1039 | 2.80 |
| 3000 | 865 | 1.97 | 888 | 2.12 | 913 | 2.23 | 936 | 2.35 | 959 | 2.46 | 982 | 2.57 | 1006 | 2.67 | 1029 | 2.78 | 1053 | 2.89 | 1075 | 3.01 |
| 3300 | 910 | 2.31 | 934 | 2.45 | 957 | 2.57 | 979 | 2.69 | 1005 | 2.80 | 1028 | 2.90 | 1053 | 3.01 | — | — | — | — | — | — |

## 8.5 Tons

**Table 16. Belt drive evaporator fan performance - 8.5 tons with low gas heat - GBC102A(3,4)EL - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | — | — | 752 | 1.17 | 779 | 1.34 | 804 | 1.50 | 830 | 1.66 | 855 | 1.82 |
| 3050 | — | — | — | — | — | — | — | — | 745 | 1.18 | 771 | 1.35 | 796 | 1.52 | 820 | 1.69 | 845 | 1.86 | 878 | 2.18 |
| 3400 | — | — | — | — | 748 | 1.29 | 773 | 1.44 | 797 | 1.59 | 821 | 1.77 | 845 | 1.94 | 876 | 2.29 | 898 | 2.46 | 920 | 2.62 |
| 3750 | 747 | 1.45 | 773 | 1.62 | 799 | 1.78 | 824 | 1.95 | 847 | 2.12 | 875 | 2.45 | 897 | 2.61 | 919 | 2.75 | 941 | 2.91 | 963 | 3.05 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | High Static (oversize) Motor | | | | | | | | | | | | | | | | | |
| 2700 | 878 | 1.95 | 910 | 2.21 | 932 | 2.30 | 954 | 2.43 | 977 | 2.57 | 999 | 2.70 | 1021 | 2.82 | 1043 | 2.96 | 1065 | 3.09 | 1087 | 3.21 |
| 3050 | 900 | 2.34 | 922 | 2.49 | 944 | 2.60 | 966 | 2.72 | 988 | 2.85 | 1010 | 2.95 | 1032 | 3.04 | 1054 | 3.14 | 1076 | 3.22 | 1098 | 3.30 |
| 3400 | 942 | 2.77 | 964 | 2.89 | 986 | 3.00 | 1008 | 3.09 | 1025 | 3.20 | 1051 | 3.30 | 1072 | 3.39 | 1095 | 3.47 | 1117 | 3.55 | 1140 | 3.66 |
| 3750 | 985 | 3.20 | 1007 | 3.31 | 1029 | 3.41 | 1051 | 3.52 | 1071 | 3.63 | 1092 | 3.71 | 1116 | 3.82 | 1135 | 3.91 | 1158 | 4.01 | 1181 | 4.08 |

**Table 17. Belt drive evaporator fan performance - 8.5 tons with low gas heat - GBC102A(3,4)EL - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | 742 | 1.25 | 766 | 1.40 | 790 | 1.55 | 814 | 1.70 |
| 3050 | — | — | — | — | — | — | — | — | — | — | 734 | 1.26 | 758 | 1.42 | 781 | 1.58 | 805 | 1.74 | 836 | 2.04 |
| 3400 | — | — | — | — | — | — | 736 | 1.35 | 759 | 1.49 | 782 | 1.65 | 805 | 1.81 | 834 | 2.14 | 855 | 2.30 | 876 | 2.45 |
| 3750 | — | — | 736 | 1.51 | 761 | 1.66 | 785 | 1.82 | 807 | 1.98 | 833 | 2.29 | 854 | 2.44 | 875 | 2.57 | 896 | 2.72 | 917 | 2.85 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | High Static (oversize) Motor | | | | | | | | | | | | | | | | | |
| 2700 | 836 | 1.82 | 867 | 2.07 | 888 | 2.15 | 909 | 2.27 | 930 | 2.40 | 951 | 2.52 | 972 | 2.64 | 993 | 2.77 | 1014 | 2.89 | 1035 | 3.00 |
| 3050 | 857 | 2.19 | 878 | 2.33 | 899 | 2.43 | 920 | 2.54 | 941 | 2.66 | 962 | 2.76 | 983 | 2.84 | 1004 | 2.93 | 1025 | 3.01 | 1046 | 3.08 |
| 3400 | 897 | 2.59 | 918 | 2.70 | 939 | 2.80 | 962 | 2.89 | 983 | 2.99 | 1001 | 3.08 | 1022 | 3.17 | 1042 | 3.24 | 1068 | 3.32 | 1084 | 3.42 |
| 3750 | 938 | 2.99 | 959 | 3.09 | 980 | 3.19 | 1002 | 3.29 | 1022 | 3.39 | 1042 | 3.47 | 1063 | 3.57 | 1081 | 3.65 | 1103 | 3.75 | 1123 | 3.81 |

**Table 18. Belt drive evaporator fan performance - 8.5 tons with med gas heat - GBC102A(3,4)EM- downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | 735 | 1.21 | 762 | 1.36 | 789 | 1.52 | 814 | 1.68 | 839 | 1.83 | 863 | 1.98 |
| 3050 | — | — | — | — | — | — | — | — | 771 | 1.35 | 796 | 1.52 | 820 | 1.69 | 845 | 1.86 | 878 | 2.18 | 900 | 2.34 |
| 3400 | — | — | 732 | 1.33 | 758 | 1.47 | 783 | 1.63 | 807 | 1.77 | 830 | 1.93 | 862 | 2.18 | 884 | 2.43 | 906 | 2.59 | 927 | 2.74 |
| 3750 | 755 | 1.64 | 783 | 1.79 | 809 | 1.94 | 833 | 2.11 | 861 | 2.43 | 883 | 2.58 | 904 | 2.73 | 926 | 2.87 | 948 | 3.02 | 969 | 3.15 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | High Static (oversize) Motor | | | | | | | | | | | | | | | | | |
| 2700 | 896 | 2.19 | 918 | 2.36 | 939 | 2.44 | 961 | 2.56 | 983 | 2.69 | 1004 | 2.82 | 1026 | 2.94 | 1048 | 3.07 | 1069 | 3.19 | 1091 | 3.30 |
| 3050 | 922 | 2.49 | 944 | 2.60 | 966 | 2.72 | 988 | 2.85 | 1010 | 2.95 | 1032 | 3.04 | 1054 | 3.14 | 1076 | 3.22 | 1098 | 3.30 | 1102 | 3.38 |
| 3400 | 949 | 2.89 | 970 | 3.00 | 992 | 3.10 | 1014 | 3.19 | 1035 | 3.29 | 1057 | 3.38 | 1078 | 3.47 | 1100 | 3.55 | 1122 | 3.63 | 1143 | 3.73 |
| 3750 | 991 | 3.29 | 1013 | 3.40 | 1034 | 3.50 | 1056 | 3.60 | 1077 | 3.70 | 1099 | 3.78 | 1121 | 3.88 | 1142 | 3.96 | 1164 | 4.05 | 1185 | 4.13 |

**Table 19. Belt drive evaporator fan performance - 8.5 tons with med gas heat - GBC102A(3,4)EM- horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | 752 | 1.42 | 775 | 1.57 | 799 | 1.71 | 822 | 1.85 |
| 3050 | — | — | — | — | — | — | — | — | — | — | 744 | 1.43 | 767 | 1.59 | 790 | 1.74 | 823 | 2.02 | 844 | 2.18 |
| 3400 | — | — | — | — | — | — | 746 | 1.52 | 768 | 1.65 | 791 | 1.81 | 821 | 2.04 | 842 | 2.27 | 862 | 2.42 | 883 | 2.57 |
| 3750 | — | — | 746 | 1.67 | 770 | 1.81 | 794 | 1.98 | 820 | 2.27 | 841 | 2.41 | 861 | 2.56 | 882 | 2.68 | 903 | 2.82 | 923 | 2.94 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | High Static (oversize) Motor | | | | | | | | | | | | | | | | | |
| 2700 | 854 | 2.05 | 874 | 2.20 | 895 | 2.28 | 915 | 2.39 | 936 | 2.52 | 956 | 2.63 | 977 | 2.75 | 998 | 2.87 | 1018 | 2.98 | 1039 | 3.09 |
| 3050 | 864 | 2.32 | 885 | 2.45 | 906 | 2.55 | 926 | 2.65 | 947 | 2.76 | 967 | 2.86 | 988 | 2.94 | 1008 | 3.02 | 1029 | 3.10 | 1050 | 3.16 |
| 3400 | 904 | 2.70 | 924 | 2.80 | 945 | 2.90 | 965 | 2.98 | 986 | 3.08 | 1006 | 3.16 | 1027 | 3.24 | 1048 | 3.32 | 1068 | 3.39 | 1089 | 3.49 |
| 3750 | 944 | 3.08 | 964 | 3.17 | 985 | 3.27 | 1005 | 3.36 | 1026 | 3.46 | 1047 | 3.53 | 1067 | 3.63 | 1088 | 3.70 | 1108 | 3.78 | 1129 | 3.86 |

**Table 20. Belt drive evaporator fan performance - 8.5 tons with high gas heat - GBC102A(3,4)EH - downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | High Static (oversize) Motor | |
| 2700 | — | — | — | — | — | — | — | — | 753 | 1.28 | 780 | 1.44 | 805 | 1.61 | 831 | 1.77 | 856 | 1.93 | 881 | 2.09 |
| 3050 | — | — | — | — | — | — | 742 | 1.35 | 774 | 1.47 | 797 | 1.62 | 822 | 1.79 | 846 | 1.96 | 882 | 2.28 | 904 | 2.45 |
| 3400 | — | — | 744 | 1.44 | 775 | 1.57 | 799 | 1.71 | 823 | 1.86 | 847 | 2.03 | 880 | 2.39 | 902 | 2.56 | 924 | 2.73 | 946 | 2.89 |
| 3750 | 773 | 1.72 | 799 | 1.88 | 825 | 2.04 | 851 | 2.23 | 879 | 2.56 | 901 | 2.72 | 923 | 2.88 | 945 | 3.02 | 967 | 3.18 | 989 | 3.32 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | 915 | 2.33 | 937 | 2.48 | 959 | 2.57 | 981 | 2.70 | 1003 | 2.84 | 1025 | 2.96 | 1047 | 3.09 | 1069 | 3.23 | 1091 | 3.36 | 1113 | 3.48 |
| 3050 | 926 | 2.61 | 948 | 2.76 | 970 | 2.87 | 992 | 2.99 | 1014 | 3.11 | 1036 | 3.22 | 1058 | 3.31 | 1080 | 3.40 | 1103 | 3.49 | 1125 | 3.56 |
| 3400 | 968 | 3.04 | 990 | 3.16 | 1012 | 3.26 | 1034 | 3.36 | 1056 | 3.47 | 1078 | 3.56 | 1100 | 3.65 | 1122 | 3.73 | 1145 | 3.82 | 1167 | 3.93 |
| 3750 | 1011 | 3.47 | 1033 | 3.57 | 1055 | 3.68 | 1077 | 3.79 | 1099 | 3.89 | 1121 | 3.98 | 1143 | 4.09 | 1166 | 4.17 | 1188 | 4.26 | 1210 | 4.34 |

**Table 21. Belt drive evaporator fan performance - 8.5 tons with high gas heat - GBC102A(3,4)EH - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | — | — | 743 | 1.35 | 767 | 1.50 | 791 | 1.65 | 815 | 1.80 | 839 | 1.95 |
| 3050 | — | — | — | — | — | — | — | — | 737 | 1.37 | 759 | 1.51 | 783 | 1.67 | 806 | 1.83 | 840 | 2.13 | 861 | 2.29 |
| 3400 | — | — | — | — | 738 | 1.47 | 761 | 1.60 | 784 | 1.74 | 807 | 1.90 | 838 | 2.23 | 859 | 2.39 | 880 | 2.55 | 901 | 2.70 |
| 3750 | 736 | 1.61 | 761 | 1.76 | 786 | 1.91 | 810 | 2.08 | 837 | 2.39 | 858 | 2.54 | 879 | 2.69 | 900 | 2.82 | 921 | 2.97 | 942 | 3.10 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | 871 | 2.18 | 892 | 2.32 | 913 | 2.40 | 934 | 2.52 | 955 | 2.65 | 976 | 2.77 | 997 | 2.89 | 1018 | 3.02 | 1039 | 3.14 | 1060 | 3.25 |
| 3050 | 882 | 2.44 | 903 | 2.58 | 924 | 2.68 | 945 | 2.79 | 966 | 2.91 | 987 | 3.01 | 1008 | 3.09 | 1029 | 3.18 | 1050 | 3.26 | 1071 | 3.33 |
| 3400 | 922 | 2.84 | 943 | 2.95 | 964 | 3.05 | 985 | 3.14 | 1006 | 3.24 | 1027 | 3.33 | 1048 | 3.41 | 1069 | 3.49 | 1090 | 3.57 | 1111 | 3.67 |
| 3750 | 963 | 3.24 | 984 | 3.34 | 1005 | 3.44 | 1026 | 3.54 | 1047 | 3.64 | 1068 | 3.72 | 1089 | 3.82 | 1110 | 3.90 | 1131 | 3.98 | 1152 | 4.06 |

**Table 22. Belt drive evaporator fan performance - 8.5 tons cooling only - EBC102A(3,4)E0 - downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | 745 | 1.14 | 763 | 1.31 | 788 | 1.45 | 810 | 1.59 |
| 3050 | — | — | — | — | — | — | — | — | 732 | 1.22 | 753 | 1.38 | 775 | 1.49 | 799 | 1.64 | 819 | 1.80 | 840 | 1.94 |
| 3400 | — | — | — | — | — | — | 745 | 1.39 | 766 | 1.56 | 794 | 1.71 | 817 | 1.87 | 842 | 2.03 | 866 | 2.20 | 892 | 2.46 |
| 3750 | — | — | 733 | 1.52 | 756 | 1.67 | 784 | 1.81 | 801 | 1.93 | 828 | 2.09 | 853 | 2.25 | 877 | 2.52 | 902 | 2.68 | 927 | 2.82 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | High Static (oversize) Motor | | | | | | | | | | | | | | | |
| 2700 | 828 | 1.75 | 848 | 1.91 | 876 | 2.08 | 899 | 2.34 | 921 | 2.46 | 945 | 2.57 | 968 | 2.68 | 992 | 2.78 | 1016 | 2.88 | 1039 | 2.98 |
| 3050 | 867 | 2.22 | 890 | 2.35 | 915 | 2.47 | 934 | 2.59 | 958 | 2.70 | 980 | 2.80 | 1005 | 2.91 | 1028 | 3.01 | 1052 | 3.11 | 1073 | 3.20 |
| 3400 | 918 | 2.61 | 939 | 2.73 | 960 | 2.85 | 986 | 2.97 | 1008 | 3.08 | 1031 | 3.17 | 1050 | 3.27 | 1073 | 3.37 | 1090 | 3.47 | 1113 | 3.56 |
| 3750 | 951 | 2.95 | 974 | 3.08 | 994 | 3.19 | 1011 | 3.31 | 1035 | 3.42 | 1054 | 3.53 | 1076 | 3.63 | 1096 | 3.73 | 1120 | 3.83 | 1138 | 3.93 |

**Table 23. Belt drive evaporator fan performance - 8.5 tons cooling only - EBC102A(3,4)E0 - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 2700 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 741 | 1.25 | 765 | 1.38 | 786 | 1.52 |
| 3050 | — | — | — | — | — | — | — | — | — | — | 731 | 1.31 | 752 | 1.42 | 776 | 1.56 | 795 | 1.71 | 816 | 1.85 |
| 3400 | — | — | — | — | — | — | — | — | 744 | 1.49 | 771 | 1.63 | 793 | 1.78 | 817 | 1.93 | 841 | 2.09 | 866 | 2.34 |
| 3750 | — | — | — | — | 734 | 1.59 | 761 | 1.72 | 778 | 1.84 | 804 | 1.99 | 828 | 2.14 | 851 | 2.40 | 876 | 2.55 | 900 | 2.69 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | High Static (oversize) Motor | | | | | | | | | | | | | |
| 2700 | 804 | 1.66 | 823 | 1.82 | 845 | 1.98 | 873 | 2.23 | 894 | 2.34 | 917 | 2.45 | 940 | 2.55 | 963 | 2.65 | 986 | 2.74 | 1009 | 2.84 |
| 3050 | 842 | 2.11 | 864 | 2.24 | 888 | 2.35 | 907 | 2.46 | 930 | 2.57 | 951 | 2.67 | 976 | 2.77 | 998 | 2.86 | 1021 | 2.96 | 1042 | 3.05 |
| 3400 | 891 | 2.48 | 912 | 2.60 | 932 | 2.72 | 957 | 2.83 | 979 | 2.93 | 1001 | 3.02 | 1019 | 3.12 | 1042 | 3.21 | 1058 | 3.30 | 1081 | 3.39 |
| 3750 | 923 | 2.81 | 946 | 2.93 | 965 | 3.04 | 982 | 3.15 | 1005 | 3.26 | 1023 | 3.36 | 1045 | 3.46 | 1064 | 3.55 | 1087 | 3.65 | 1105 | 3.74 |

## 10 Tons

**Table 24. Belt drive evaporator fan performance - 10 tons with low gas heat - GBC120A(3,4)EL - downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | — | — | 737 | 1.34 | 761 | 1.49 | 785 | 1.64 | 809 | 1.79 | 833 | 1.94 | 857 | 2.09 |
| 3600 | — | — | — | — | 739 | 1.46 | 760 | 1.58 | 782 | 1.72 | 804 | 1.86 | 828 | 2.02 | 851 | 2.18 | 875 | 2.34 | 906 | 2.64 |
| 4000 | 737 | 1.59 | 760 | 1.71 | 782 | 1.86 | 805 | 1.99 | 828 | 2.13 | 851 | 2.29 | 874 | 2.45 | 903 | 2.78 | 924 | 2.94 | 945 | 3.09 |
| 4400 | 780 | 2.03 | 805 | 2.18 | 830 | 2.33 | 854 | 2.49 | 876 | 2.65 | 902 | 2.96 | 923 | 3.11 | 944 | 3.24 | 965 | 3.39 | 986 | 3.52 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | High Static (oversize) Motor | | | | | | | | | | | | | | | | | |
| 3200 | 879 | 2.21 | 910 | 2.46 | 931 | 2.54 | 952 | 2.66 | 973 | 2.79 | 994 | 2.91 | 1015 | 3.03 | 1036 | 3.16 | 1057 | 3.28 | 1078 | 3.39 |
| 3600 | 927 | 2.79 | 948 | 2.93 | 969 | 3.03 | 990 | 3.14 | 1011 | 3.26 | 1032 | 3.36 | 1053 | 3.44 | 1074 | 3.53 | 1095 | 3.61 | 1116 | 3.68 |
| 4000 | 966 | 3.23 | 987 | 3.34 | 1008 | 3.44 | 1031 | 3.53 | 1052 | 3.63 | 1072 | 3.72 | 1093 | 3.81 | 1116 | 3.88 | 1137 | 3.96 | 1159 | 4.06 |
| 4400 | 1007 | 3.66 | 1028 | 3.76 | 1049 | 3.86 | 1071 | 3.96 | 1092 | 4.06 | 1113 | 4.14 | 1135 | 4.24 | 1156 | 4.32 | 1178 | 4.42 | 1201 | 4.48 |

**Table 25. Belt drive evaporator fan performance - 10 tons with low gas heat - GBC120A(3,4)EL - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | 729 | 1.36 | 753 | 1.51 | 777 | 1.66 | 801 | 1.81 | 825 | 1.96 | 849 | 2.11 | 873 | 2.26 |
| 3600 | — | — | 733 | 1.52 | 755 | 1.62 | 776 | 1.75 | 798 | 1.89 | 820 | 2.03 | 844 | 2.19 | 867 | 2.35 | 891 | 2.53 | 922 | 2.81 |
| 4000 | 753 | 1.76 | 776 | 1.88 | 798 | 2.02 | 821 | 2.16 | 844 | 2.31 | 867 | 2.45 | 892 | 2.61 | 919 | 2.95 | 940 | 3.11 | 961 | 3.26 |
| 4400 | 796 | 2.21 | 821 | 2.35 | 846 | 2.51 | 866 | 2.67 | 887 | 2.84 | 918 | 3.13 | 939 | 3.28 | 960 | 3.42 | 981 | 3.56 | 1002 | 3.69 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | High Static (oversize) Motor | | | | | | | | | | | | | | | | | |
| 3200 | 905 | 2.49 | 926 | 2.61 | 947 | 2.72 | 968 | 2.83 | 989 | 2.96 | 1010 | 3.08 | 1031 | 3.2 | 1052 | 3.33 | 1073 | 3.45 | 1094 | 3.56 |
| 3600 | 943 | 2.96 | 964 | 3.09 | 985 | 3.22 | 1006 | 3.32 | 1027 | 3.43 | 1048 | 3.53 | 1069 | 3.62 | 1090 | 3.69 | 1111 | 3.78 | 1132 | 3.85 |
| 4000 | 982 | 3.39 | 1003 | 3.51 | 1024 | 3.61 | 1045 | 3.69 | 1066 | 3.81 | 1087 | 3.89 | 1108 | 3.97 | 1129 | 4.05 | 1150 | 4.13 | 1171 | 4.22 |
| 4400 | 1023 | 3.82 | 1044 | 3.93 | 1065 | 4.03 | 1086 | 4.13 | 1107 | 4.23 | 1128 | 4.32 | 1149 | 4.41 | 1170 | 4.49 | 1191 | 4.57 | 1212 | 4.65 |

**Table 26. Belt drive evaporator fan performance - 10 tons with med gas heat - GBC120A(3,4)EM- downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | 738 | 1.44 | 762 | 1.59 | 786 | 1.74 | 810 | 1.89 | 834 | 2.04 | 858 | 2.19 | 882 | 2.34 |
| 3600 | — | — | 742 | 1.59 | 764 | 1.71 | 785 | 1.83 | 807 | 1.97 | 829 | 2.11 | 853 | 2.27 | 876 | 2.43 | 910 | 2.73 | 931 | 2.89 |
| 4000 | 762 | 1.84 | 785 | 1.96 | 807 | 2.11 | 830 | 2.24 | 853 | 2.38 | 876 | 2.54 | 907 | 2.87 | 928 | 3.03 | 949 | 3.19 | 970 | 3.34 |
| 4400 | 805 | 2.28 | 830 | 2.43 | 855 | 2.58 | 879 | 2.75 | 906 | 3.06 | 927 | 3.21 | 948 | 3.36 | 969 | 3.49 | 990 | 3.64 | 1011 | 3.77 |
| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | 914 | 2.57 | 935 | 2.71 | 956 | 2.79 | 977 | 2.91 | 998 | 3.04 | 1019 | 3.16 | 1040 | 3.28 | 1061 | 3.41 | 1082 | 3.53 | 1103 | 3.64 |
| 3600 | 952 | 3.04 | 973 | 3.18 | 994 | 3.28 | 1015 | 3.39 | 1036 | 3.51 | 1057 | 3.61 | 1078 | 3.69 | 1099 | 3.78 | 1120 | 3.86 | 1141 | 3.93 |
| 4000 | 991 | 3.48 | 1012 | 3.59 | 1033 | 3.69 | 1054 | 3.78 | 1075 | 3.88 | 1096 | 3.97 | 1117 | 4.05 | 1138 | 4.13 | 1159 | 4.21 | 1180 | 4.31 |
| 4400 | 1032 | 3.91 | 1053 | 4.01 | 1074 | 4.11 | 1095 | 4.21 | 1116 | 4.31 | 1137 | 4.39 | 1158 | 4.49 | 1179 | 4.57 | 1200 | 4.65 | 1221 | 4.73 |

**Table 27. Belt drive evaporator fan performance - 10 tons with med gas heat - GBC120A(3,4)EM - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | 754 | 1.62 | 778 | 1.77 | 802 | 1.92 | 826 | 2.07 | 850 | 2.22 | 874 | 2.37 | 898 | 2.52 |
| 3600 | 736 | 1.67 | 758 | 1.78 | 780 | 1.88 | 801 | 2.01 | 823 | 2.15 | 845 | 2.29 | 869 | 2.45 | 892 | 2.61 | 926 | 2.91 | 947 | 3.07 |
| 4000 | 778 | 2.02 | 801 | 2.14 | 823 | 2.28 | 846 | 2.42 | 869 | 2.56 | 902 | 2.88 | 923 | 3.05 | 944 | 3.21 | 965 | 3.37 | 986 | 3.52 |
| 4400 | 821 | 2.46 | 846 | 2.61 | 871 | 2.76 | 901 | 3.08 | 922 | 3.24 | 943 | 3.39 | 964 | 3.54 | 985 | 3.68 | 1006 | 3.82 | 1027 | 3.95 |
| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | 930 | 2.75 | 951 | 2.88 | 972 | 2.98 | 993 | 3.09 | 1014 | 3.22 | 1035 | 3.34 | 1056 | 3.46 | 1077 | 3.59 | 1098 | 3.71 | 1119 | 3.82 |
| 3600 | 968 | 3.22 | 989 | 3.35 | 1010 | 3.47 | 1031 | 3.58 | 1052 | 3.69 | 1073 | 3.79 | 1094 | 3.88 | 1115 | 3.96 | 1136 | 4.04 | 1157 | 4.11 |
| 4000 | 1007 | 3.66 | 1028 | 3.77 | 1049 | 3.87 | 1070 | 3.96 | 1091 | 4.06 | 1112 | 4.15 | 1133 | 4.23 | 1154 | 4.31 | 1175 | 4.39 | 1196 | 4.48 |
| 4400 | 1048 | 4.08 | 1069 | 4.19 | 1090 | 4.29 | 1111 | 4.39 | 1132 | 4.49 | 1153 | 4.58 | 1174 | 4.67 | 1195 | 4.75 | 1216 | 4.83 | 1237 | 4.91 |

**Table 28. Belt drive evaporator fan performance - 10 tons with high gas heat - GBC120A(3,4)EH - downflow airflow**

| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CFM** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** |
| | **Standard Motor** | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | 738 | 1.44 | 762 | 1.59 | 786 | 1.74 | 810 | 1.89 | 834 | 2.04 | 858 | 2.19 | 882 | 2.34 |
| 3600 | — | — | 742 | 1.59 | 764 | 1.71 | 785 | 1.83 | 807 | 1.97 | 829 | 2.11 | 853 | 2.27 | 876 | 2.43 | 910 | 2.73 | 931 | 2.89 |
| 4000 | 762 | 1.84 | 785 | 1.96 | 807 | 2.11 | 830 | 2.24 | 853 | 2.38 | 876 | 2.54 | 907 | 2.87 | 928 | 3.03 | 949 | 3.19 | 970 | 3.34 |
| 4400 | 805 | 2.28 | 830 | 2.43 | 855 | 2.58 | 879 | 2.75 | 906 | 3.06 | 927 | 3.21 | 948 | 3.36 | 969 | 3.49 | 990 | 3.64 | 1011 | 3.77 |
| | **1.1** | | **1.2** | | **1.3** | | **1.4** | | **1.5** | | **1.6** | | **1.7** | | **1.8** | | **1.9** | | **2.0** | |
| **CFM** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** |
| | **High Static (oversize) Motor** | | | | | | | | | | | | | | | | | | | |
| 3200 | 914 | 2.57 | 935 | 2.71 | 956 | 2.79 | 977 | 2.91 | 998 | 3.04 | 1019 | 3.16 | 1040 | 3.28 | 1061 | 3.41 | 1082 | 3.53 | 1103 | 3.64 |
| 3600 | 952 | 3.04 | 973 | 3.18 | 994 | 3.28 | 1015 | 3.39 | 1036 | 3.51 | 1057 | 3.61 | 1078 | 3.69 | 1099 | 3.78 | 1120 | 3.86 | 1141 | 3.93 |
| 4000 | 991 | 3.48 | 1012 | 3.59 | 1033 | 3.69 | 1054 | 3.78 | 1075 | 3.88 | 1096 | 3.97 | 1117 | 4.05 | 1138 | 4.13 | 1159 | 4.21 | 1180 | 4.31 |
| 4400 | 1032 | 3.91 | 1053 | 4.01 | 1074 | 4.11 | 1095 | 4.21 | 1116 | 4.31 | 1137 | 4.39 | 1158 | 4.49 | 1179 | 4.57 | 1200 | 4.65 | 1221 | 4.73 |

**Table 29. Belt drive evaporator fan performance - 10 tons with high gas heat - GBC120A(3,4)EH - horizontal airflow**

| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CFM** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** |
| | **Standard Motor** | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | 754 | 1.62 | 778 | 1.77 | 802 | 1.92 | 826 | 2.07 | 850 | 2.22 | 874 | 2.37 | 898 | 2.52 |
| 3600 | 736 | 1.67 | 758 | 1.78 | 780 | 1.88 | 801 | 2.01 | 823 | 2.15 | 845 | 2.29 | 869 | 2.45 | 892 | 2.61 | 926 | 2.91 | 947 | 3.07 |
| 4000 | 778 | 2.02 | 801 | 2.14 | 823 | 2.28 | 846 | 2.42 | 869 | 2.56 | 902 | 2.88 | 923 | 3.05 | 944 | 3.21 | 965 | 3.37 | 986 | 3.52 |
| 4400 | 821 | 2.46 | 846 | 2.61 | 871 | 2.76 | 901 | 3.08 | 922 | 3.24 | 943 | 3.39 | 964 | 3.54 | 985 | 3.68 | 1006 | 3.82 | 1027 | 3.95 |
| | **1.1** | | **1.2** | | **1.3** | | **1.4** | | **1.5** | | **1.6** | | **1.7** | | **1.8** | | **1.9** | | **2.0** | |
| **CFM** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** | **RPM** | **BHP** |
| | **High Static (oversize) Motor** | | | | | | | | | | | | | | | | | | | |
| 3200 | 930 | 2.75 | 951 | 2.88 | 972 | 2.98 | 993 | 3.09 | 1014 | 3.22 | 1035 | 3.34 | 1056 | 3.46 | 1077 | 3.59 | 1098 | 3.71 | 1119 | 3.82 |
| 3600 | 968 | 3.22 | 989 | 3.35 | 1010 | 3.47 | 1031 | 3.58 | 1052 | 3.69 | 1073 | 3.79 | 1094 | 3.88 | 1115 | 3.96 | 1136 | 4.04 | 1157 | 4.11 |
| 4000 | 1007 | 3.66 | 1028 | 3.77 | 1049 | 3.87 | 1070 | 3.96 | 1091 | 4.06 | 1112 | 4.15 | 1133 | 4.23 | 1154 | 4.31 | 1175 | 4.39 | 1196 | 4.48 |
| 4400 | 1048 | 4.08 | 1069 | 4.19 | 1090 | 4.29 | 1111 | 4.39 | 1132 | 4.49 | 1153 | 4.58 | 1174 | 4.67 | 1195 | 4.75 | 1216 | 4.83 | 1237 | 4.91 |

**Table 30. Belt drive evaporator fan performance - 10 tons cooling only - EBC120A(3,4)E0 - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | — | — | — | — | — | — | 758 | 1.55 | 782 | 1.69 | 807 | 1.84 | 833 | 2.01 |
| 3600 | — | — | — | — | — | — | — | — | 736 | 1.55 | 770 | 1.83 | 798 | 1.95 | 820 | 2.09 | 845 | 2.26 | 870 | 2.41 |
| 4000 | — | — | — | — | — | — | 752 | 1.85 | 782 | 2.06 | 809 | 2.21 | 836 | 2.37 | 860 | 2.54 | 882 | 2.71 | 914 | 2.99 |
| 4400 | — | — | 745 | 2.08 | 772 | 2.19 | 799 | 2.34 | 825 | 2.47 | 852 | 2.63 | 876 | 2.79 | 909 | 3.08 | 934 | 3.24 | 958 | 3.39 |
| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | High Static (oversize) Motor | | | | | | | | | | | | | | | |
| 3200 | 858 | 2.17 | 881 | 2.34 | 913 | 2.62 | 936 | 2.74 | 959 | 2.85 | 982 | 2.96 | 1005 | 3.07 | 1028 | 3.17 | 1051 | 3.27 | 1074 | 3.37 |
| 3600 | 896 | 2.59 | 926 | 2.84 | 949 | 2.96 | 972 | 3.08 | 995 | 3.19 | 1018 | 3.3 | 1041 | 3.41 | 1064 | 3.51 | 1087 | 3.61 | 1110 | 3.71 |
| 4000 | 939 | 3.14 | 962 | 3.27 | 985 | 3.39 | 1008 | 3.51 | 1031 | 3.62 | 1054 | 3.72 | 1077 | 3.82 | 1100 | 3.92 | 1123 | 4.02 | 1146 | 4.12 |
| 4400 | 981 | 3.52 | 1004 | 3.65 | 1027 | 3.77 | 1050 | 3.89 | 1073 | 3.99 | 1096 | 4.11 | 1119 | 4.22 | 1142 | 4.32 | 1165 | 4.42 | 1188 | 4.52 |

**Table 31. Belt drive evaporator fan performance - 10 tons cooling only - EBC120A(3,4)E0 - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 3200 | — | — | — | — | — | — | — | — | — | — | 747 | 1.61 | 774 | 1.73 | 798 | 1.87 | 823 | 2.02 | 849 | 2.18 |
| 3600 | — | — | — | — | — | — | — | — | 752 | 1.73 | 786 | 2.01 | 814 | 2.13 | 836 | 2.28 | 861 | 2.44 | 886 | 2.59 |
| 4000 | — | — | — | — | 742 | 1.85 | 768 | 2.03 | 798 | 2.24 | 825 | 2.39 | 852 | 2.55 | 876 | 2.72 | 898 | 2.89 | 930 | 3.16 |
| 4400 | 735 | 2.17 | 761 | 2.26 | 788 | 2.38 | 815 | 2.52 | 841 | 2.65 | 868 | 2.81 | 892 | 2.97 | 925 | 3.25 | 950 | 3.41 | 974 | 3.56 |
| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | High Static (oversize) Motor | | | | | | | | | | | | | | | |
| 3200 | 874 | 2.35 | 897 | 2.52 | 929 | 2.79 | 952 | 2.91 | 975 | 3.02 | 998 | 3.13 | 1021 | 3.24 | 1044 | 3.34 | 1067 | 3.44 | 1090 | 3.54 |
| 3600 | 919 | 2.87 | 942 | 3.01 | 965 | 3.13 | 988 | 3.25 | 1011 | 3.36 | 1034 | 3.47 | 1057 | 3.58 | 1080 | 3.68 | 1103 | 3.78 | 1126 | 3.88 |
| 4000 | 955 | 3.31 | 978 | 3.44 | 1001 | 3.56 | 1024 | 3.68 | 1047 | 3.79 | 1070 | 3.89 | 1093 | 3.99 | 1116 | 4.09 | 1139 | 4.19 | 1162 | 4.29 |
| 4400 | 997 | 3.69 | 1020 | 3.82 | 1043 | 3.94 | 1066 | 4.06 | 1089 | 4.17 | 1112 | 4.28 | 1135 | 4.39 | 1158 | 4.49 | 1181 | 4.59 | 1204 | 4.69 |

## 12.5 Tons

**Table 32. Belt drive evaporator fan performance - 12.5 tons with low heat heat - GBC150A(3,4)EL - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | — | — | — | — | 793 | 2.09 | 820 | 2.24 | 847 | 2.38 | 873 | 2.52 | 899 | 2.66 | 924 | 2.77 | 949 | 2.89 |
| 4500 | — | — | 791 | 2.23 | 816 | 2.41 | 842 | 2.58 | 869 | 2.76 | 897 | 2.91 | 925 | 3.19 | 951 | 3.37 | 977 | 3.53 | 1002 | 3.69 |
| 5000 | 822 | 2.56 | 848 | 2.76 | 874 | 2.93 | 899 | 3.26 | 924 | 3.41 | 950 | 3.59 | 976 | 3.77 | 1001 | 3.96 | 1028 | 4.11 | 1056 | 4.27 |
| 5500 | 873 | 2.99 | 899 | 3.31 | 925 | 3.46 | 950 | 3.63 | 975 | 3.81 | 999 | 3.99 | 1024 | 4.17 | 1049 | 4.36 | 1075 | 4.53 | 1101 | 4.71 |
| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 973 | 3.12 | 997 | 3.26 | 1020 | 3.37 | 1043 | 3.48 | 1065 | 3.59 | 1087 | 3.73 | 1108 | 3.86 | 1129 | 3.97 | 1149 | 4.09 | 1169 | 4.18 |
| 4500 | 1026 | 3.86 | 1050 | 4.01 | 1073 | 4.16 | 1095 | 4.31 | 1117 | 4.44 | 1141 | 4.56 | 1166 | 4.64 | 1191 | 4.72 | 1213 | 4.79 | 1235 | 4.86 |
| 5000 | 1083 | 4.42 | 1109 | 4.57 | 1135 | 4.72 | 1160 | 4.87 | 1185 | 5.02 | 1212 | 5.18 | 1236 | 5.33 | — | — | — | — | — | — |
| 5500 | 1125 | 4.89 | 1149 | 5.07 | 1181 | 5.22 | 1204 | 5.34 | 1228 | 5.49 | — | — | — | — | — | — | — | — | — | — |

**Table 33. Belt drive evaporator fan performance - 12.5 tons with low gas heat - GBC150A(3,4)EL - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | — | — | 773 | 2.03 | 801 | 2.18 | 828 | 2.33 | 855 | 2.47 | 881 | 2.61 | 907 | 2.74 | 932 | 2.86 | 957 | 2.98 |
| 4500 | — | — | 799 | 2.32 | 824 | 2.51 | 850 | 2.67 | 877 | 2.84 | 905 | 3.02 | 933 | 3.28 | 959 | 3.46 | 985 | 3.62 | 1010 | 3.78 |
| 5000 | 830 | 2.65 | 856 | 2.84 | 882 | 3.02 | 915 | 3.34 | 932 | 3.52 | 958 | 3.68 | 984 | 3.86 | 1009 | 4.04 | 1036 | 4.21 | 1064 | 4.36 |
| 5500 | 881 | 3.08 | 916 | 3.41 | 937 | 3.54 | 958 | 3.72 | 983 | 3.89 | 1007 | 4.08 | 1032 | 4.26 | 1057 | 4.44 | 1083 | 4.62 | 1109 | 4.79 |
| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 981 | 3.21 | 1005 | 3.34 | 1028 | 3.46 | 1051 | 3.57 | 1073 | 3.68 | 1095 | 3.82 | 1116 | 3.94 | 1137 | 4.06 | 1157 | 4.18 | 1177 | 4.27 |
| 4500 | 1034 | 3.94 | 1058 | 4.12 | 1081 | 4.25 | 1103 | 4.40 | 1125 | 4.53 | 1149 | 4.64 | 1174 | 4.73 | 1199 | 4.81 | 1221 | 4.88 | 1243 | 4.94 |
| 5000 | 1091 | 4.51 | 1117 | 4.66 | 1143 | 4.81 | 1168 | 4.96 | 1193 | 5.11 | 1218 | 5.24 | — | — | — | — | — | — | — | — |
| 5500 | 1133 | 4.98 | 1157 | 5.16 | 1183 | 5.29 | 1211 | 5.42 | — | — | — | — | — | — | — | — | — | — | — | — |

**Table 34. Belt drive evaporator fan performance - 12.5 tons with med gas heat - GBC150A(3,4)EM- downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | — | — | 783 | 2.09 | 811 | 2.24 | 838 | 2.39 | 865 | 2.53 | 891 | 2.67 | 917 | 2.81 | 942 | 2.92 | 967 | 3.04 |
| 4500 | — | — | 809 | 2.38 | 834 | 2.56 | 860 | 2.73 | 887 | 2.91 | 915 | 3.06 | 943 | 3.34 | 969 | 3.52 | 995 | 3.68 | 1020 | 3.84 |
| 5000 | 840 | 2.71 | 866 | 2.91 | 892 | 3.08 | 917 | 3.41 | 942 | 3.56 | 968 | 3.74 | 994 | 3.92 | 1019 | 4.11 | 1046 | 4.26 | 1074 | 4.42 |
| 5500 | 891 | 3.14 | 917 | 3.46 | 943 | 3.61 | 968 | 3.78 | 993 | 3.96 | 1017 | 4.14 | 1042 | 4.32 | 1067 | 4.51 | 1093 | 4.68 | 1119 | 4.86 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 991 | 3.27 | 1015 | 3.41 | 1038 | 3.52 | 1061 | 3.63 | 1083 | 3.74 | 1105 | 3.88 | 1126 | 4.01 | 1147 | 4.12 | 1167 | 4.24 | 1187 | 4.33 |
| 4500 | 1044 | 4.01 | 1068 | 4.16 | 1091 | 4.31 | 1113 | 4.46 | 1135 | 4.59 | 1159 | 4.71 | 1184 | 4.79 | 1209 | 4.87 | 1231 | 4.94 | 1253 | 5.01 |
| 5000 | 1101 | 4.57 | 1127 | 4.72 | 1153 | 4.87 | 1178 | 5.02 | 1203 | 5.17 | 1230 | 5.33 | — | — | — | — | — | — | — | — |
| 5500 | 1143 | 5.04 | 1167 | 5.22 | 1199 | 5.37 | 1222 | 5.49 | — | — | — | — | — | — | — | — | — | — | — | — |

**Table 35. Belt drive evaporator fan performance - 12.5 tons with med gas heat - GBC150A(3,4)EM - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | 770 | 2.07 | 798 | 2.24 | 826 | 2.39 | 853 | 2.54 | 880 | 2.68 | 906 | 2.82 | 932 | 2.95 | 957 | 3.07 | 982 | 3.19 |
| 4500 | 802 | 2.35 | 824 | 2.53 | 849 | 2.71 | 875 | 2.88 | 902 | 3.05 | 930 | 3.21 | 958 | 3.49 | 984 | 3.67 | 1010 | 3.83 | 1035 | 3.99 |
| 5000 | 855 | 2.86 | 881 | 3.05 | 907 | 3.23 | 932 | 3.55 | 957 | 3.71 | 983 | 3.89 | 1009 | 4.07 | 1034 | 4.25 | 1061 | 4.41 | 1089 | 4.57 |
| 5500 | 906 | 3.29 | 932 | 3.61 | 958 | 3.75 | 983 | 3.93 | 1008 | 4.11 | 1032 | 4.29 | 1057 | 4.47 | 1082 | 4.65 | 1108 | 4.83 | 1134 | 5.01 |

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 1006 | 3.42 | 1030 | 3.55 | 1053 | 3.67 | 1076 | 3.78 | 1098 | 3.89 | 1120 | 4.03 | 1141 | 4.15 | 1162 | 4.27 | 1182 | 4.39 | 1202 | 4.48 |
| 4500 | 1059 | 4.15 | 1083 | 4.31 | 1106 | 4.46 | 1128 | 4.61 | 1150 | 4.74 | 1174 | 4.85 | 1199 | 4.94 | 1224 | 5.02 | 1246 | 5.09 | 1268 | 5.15 |
| 5000 | 1116 | 4.72 | 1142 | 4.87 | 1168 | 5.02 | 1193 | 5.17 | 1218 | 5.32 | — | — | — | — | — | — | — | — | — | — |
| 5500 | 1158 | 5.19 | 1182 | 5.37 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**Table 36. Belt drive evaporator fan performance - 12.5 tons with high gas heat - GBC150A(3,4)EH - downflow airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | — | — | 783 | 2.09 | 811 | 2.24 | 838 | 2.39 | 865 | 2.53 | 891 | 2.67 | 917 | 2.81 | 942 | 2.92 | 967 | 3.04 |
| 4500 | — | — | 809 | 2.38 | 834 | 2.56 | 860 | 2.73 | 887 | 2.91 | 915 | 3.06 | 943 | 3.34 | 969 | 3.52 | 995 | 3.68 | 1020 | 3.84 |
| 5000 | 840 | 2.71 | 866 | 2.91 | 892 | 3.08 | 917 | 3.41 | 942 | 3.56 | 968 | 3.74 | 994 | 3.92 | 1019 | 4.11 | 1046 | 4.26 | 1074 | 4.42 |
| 5500 | 891 | 3.14 | 917 | 3.46 | 943 | 3.61 | 968 | 3.78 | 993 | 3.96 | 1017 | 4.14 | 1042 | 4.32 | 1067 | 4.51 | 1093 | 4.68 | 1119 | 4.86 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 991 | 3.27 | 1015 | 3.41 | 1038 | 3.52 | 1061 | 3.63 | 1083 | 3.74 | 1105 | 3.88 | 1126 | 4.01 | 1147 | 4.12 | 1167 | 4.24 | 1187 | 4.33 |
| 4500 | 1044 | 4.01 | 1068 | 4.16 | 1091 | 4.31 | 1113 | 4.46 | 1135 | 4.59 | 1159 | 4.71 | 1184 | 4.79 | 1209 | 4.87 | 1231 | 4.94 | 1253 | 5.01 |
| 5000 | 1101 | 4.57 | 1127 | 4.72 | 1153 | 4.87 | 1178 | 5.02 | 1203 | 5.17 | 1230 | 5.33 | — | — | — | — | — | — | — | — |
| 5500 | 1143 | 5.04 | 1167 | 5.22 | 1199 | 5.37 | 1222 | 5.49 | — | — | — | — | — | — | — | — | — | — | — | — |

**Table 37. Belt drive evaporator fan performance - 12.5 tons with high gas heat - GBC150A(3,4)EH - horizontal airflow**

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | 770 | 2.07 | 798 | 2.24 | 826 | 2.39 | 853 | 2.54 | 880 | 2.68 | 906 | 2.82 | 932 | 2.95 | 957 | 3.07 | 982 | 3.19 |
| 4500 | 802 | 2.35 | 824 | 2.53 | 849 | 2.71 | 875 | 2.88 | 902 | 3.05 | 930 | 3.21 | 958 | 3.49 | 984 | 3.67 | 1010 | 3.83 | 1035 | 3.99 |
| 5000 | 855 | 2.86 | 881 | 3.05 | 907 | 3.23 | 932 | 3.55 | 957 | 3.71 | 983 | 3.89 | 1009 | 4.07 | 1034 | 4.25 | 1061 | 4.41 | 1089 | 4.57 |
| 5500 | 906 | 3.29 | 932 | 3.61 | 958 | 3.75 | 983 | 3.93 | 1008 | 4.11 | 1032 | 4.29 | 1057 | 4.47 | 1082 | 4.65 | 1108 | 4.83 | 1134 | 5.01 |

| | External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 1006 | 3.42 | 1030 | 3.55 | 1053 | 3.67 | 1076 | 3.78 | 1098 | 3.89 | 1120 | 4.03 | 1141 | 4.15 | 1162 | 4.27 | 1182 | 4.39 | 1202 | 4.48 |
| 4500 | 1059 | 4.15 | 1083 | 4.31 | 1106 | 4.46 | 1128 | 4.61 | 1150 | 4.74 | 1174 | 4.85 | 1199 | 4.94 | 1224 | 5.02 | 1246 | 5.09 | 1268 | 5.15 |
| 5000 | 1116 | 4.72 | 1142 | 4.87 | 1168 | 5.02 | 1193 | 5.17 | 1218 | 5.32 | — | — | — | — | — | — | — | — | — | — |
| 5500 | 1158 | 5.19 | 1182 | 5.37 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**Table 38. Belt drive evaporator fan performance - 12.5 tons cooling only - EBC150A(3,4)E0 - downflow airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | — | — | — | — | 747 | 1.89 | 769 | 2.06 | 790 | 2.23 | 811 | 2.38 | 833 | 2.57 | 856 | 2.74 | 879 | 2.91 |
| 4500 | — | — | 759 | 2.12 | 787 | 2.35 | 808 | 2.52 | 829 | 2.69 | 851 | 2.86 | 874 | 3.03 | 906 | 3.31 | 929 | 3.46 | 952 | 3.58 |
| 5000 | 807 | 2.52 | 828 | 2.68 | 854 | 2.85 | 871 | 3.02 | 903 | 3.31 | 928 | 3.46 | 952 | 3.62 | 976 | 3.78 | 999 | 3.93 | 1022 | 4.07 |
| 5500 | 870 | 2.99 | 882 | 3.15 | 914 | 3.43 | 937 | 3.59 | 960 | 3.75 | 983 | 3.91 | 1006 | 4.06 | 1029 | 4.22 | 1052 | 4.38 | 1075 | 4.52 |
| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 911 | 3.19 | 932 | 3.33 | 952 | 3.45 | 972 | 3.56 | 992 | 3.66 | 1011 | 3.76 | 1030 | 3.86 | 1050 | 3.95 | 1071 | 4.04 | 1094 | 4.14 |
| 4500 | 974 | 3.74 | 995 | 3.88 | 1015 | 4.01 | 1035 | 4.11 | 1055 | 4.21 | 1074 | 4.31 | 1093 | 4.41 | 1113 | 4.51 | 1134 | 4.59 | 1157 | 4.69 |
| 5000 | 1044 | 4.21 | 1065 | 4.34 | 1085 | 4.46 | 1105 | 4.58 | 1125 | 4.68 | 1144 | 4.78 | 1163 | 4.88 | 1183 | 4.98 | 1204 | 5.08 | 1227 | 5.18 |
| 5500 | 1097 | 4.66 | 1118 | 4.79 | 1138 | 4.91 | 1158 | 5.02 | 1178 | 5.12 | 1197 | 5.22 | 1216 | 5.32 | — | — | — | — | — | — |

**Table 39. Belt drive evaporator fan performance - 12.5 tons cooling only - EBC150A(3,4)E0 - horizontal airflow**

| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | | 0.7 | | 0.8 | | 0.9 | | 1.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | Standard Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | — | — | — | — | 742 | 1.85 | 763 | 2.02 | 785 | 2.19 | 806 | 2.36 | 827 | 2.53 | 849 | 2.7 | 872 | 2.87 | 895 | 3.04 |
| 4500 | 745 | 2.06 | 775 | 2.25 | 803 | 2.48 | 824 | 2.65 | 845 | 2.82 | 867 | 2.99 | 890 | 3.16 | 922 | 3.44 | 945 | 3.59 | 968 | 3.73 |
| 5000 | 823 | 2.65 | 844 | 2.81 | 870 | 2.98 | 887 | 3.15 | 919 | 3.43 | 944 | 3.59 | 968 | 3.75 | 992 | 3.91 | 1015 | 4.06 | 1038 | 4.2 |
| 5500 | 886 | 3.12 | 898 | 3.28 | 930 | 3.56 | 953 | 3.72 | 976 | 3.88 | 999 | 4.04 | 1022 | 4.19 | 1045 | 4.35 | 1068 | 4.51 | 1091 | 4.65 |
| External Static Pressure (Inches of Water) | | | | | | | | | | | | | | | | | | | | |
| | 1.1 | | 1.2 | | 1.3 | | 1.4 | | 1.5 | | 1.6 | | 1.7 | | 1.8 | | 1.9 | | 2.0 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| | High Static (oversize) Motor | | | | | | | | | | | | | | | | | | | |
| 4000 | 927 | 3.32 | 948 | 3.46 | 968 | 3.58 | 988 | 3.69 | 1008 | 3.79 | 1027 | 3.89 | 1046 | 3.99 | 1066 | 4.08 | 1087 | 4.17 | 1110 | 4.27 |
| 4500 | 990 | 3.87 | 1011 | 4.01 | 1031 | 4.13 | 1051 | 4.24 | 1071 | 4.34 | 1090 | 4.44 | 1109 | 4.54 | 1129 | 4.63 | 1150 | 4.72 | 1173 | 4.82 |
| 5000 | 1060 | 4.34 | 1081 | 4.47 | 1101 | 4.59 | 1121 | 4.71 | 1141 | 4.81 | 1160 | 4.91 | 1179 | 5.01 | 1199 | 5.11 | 1220 | 5.21 | 1243 | 5.31 |
| 5500 | 1113 | 4.79 | 1134 | 4.92 | 1154 | 5.04 | 1174 | 5.15 | 1194 | 5.25 | 1213 | 5.35 | 1232 | 5.45 | — | — | — | — | — | — |

**Notes:**

1. The air distribution system has the greatest effect on airflow. The duct system is totally controlled by the contractor. For this reason, the contractor should use only industry-recognized procedures.
2. Each ton of cooling requires between 300 and 450 cubic feet of air per minute (CFM), or 320 CFM nominally.
3. Duct design and construction should be carefully done. System performance can be lowered dramatically through bad planning or workmanship.
4. Air supply diffusers must be selected and located carefully. They must be sized and positioned to deliver treated air along the perimerter of the space. If they are too small for their intended airflow, they become noisy. If they are not located properly, they cause drafts. Return air grilles must be properly sized to carry air back to the blower. If they are too small, they also cause noise.
5. The installers should balance the air distribution system to ensure proper quiet airflow to all rooms in the home. This ensures a comfortable living space.
6. An air velocity meter or airflow hood can give a reading of system CFM.

**Table 40. Standard motor and drive/fan speed (rpm)**

| Tons | Unit Model Number | Fan Sheave | 6 Turns Open | 5 Turns Open | 4 Turns Open | 3 Turns Open | 2 Turns Open | 1 Turn Open | Closed |
|---|---|---|---|---|---|---|---|---|---|
| 7.5 | EBC090 | 15-15 | 716 | 743 | 772 | 798 | 824 | 850 | 879 |
| | GBC090 | | | | | | | | |
| 8.5 | EBC102 | 15-15 | 735 | 762 | 790 | 817 | 844 | 871 | 898 |
| | GBC102 | | | | | | | | |
| 10 | EBC120 | 15-15 | 735 | 762 | 790 | 817 | 844 | 871 | 898 |
| | GBC120 | | | | | | | | |
| 12.5 | EBC150 | 15-16 | 735 | 762 | 790 | 817 | 844 | 871 | 898 |
| | GBC150 | | 770 | 806 | 843 | 878 | 912 | 948 | 982 |

**Note:** Factory Set at closed.

**Table 41. High Static (Oversize) motor and drive/fan speed (rpm)**

| Tons | Unit Model Number | Fan Sheave | 6 Turn Open | 5 Turn Open | 4 Turn Open | 3 Turn Open | 2 Turn Open | 1 Turn Open | Closed |
|---|---|---|---|---|---|---|---|---|---|
| 7.5 | EBC090 | 15-15 | 885 | 946 | 978 | 1047 | 1108 | 1175 | 1229 |
| | GBC090 | | | | | | | | |
| 8.5 | EBC102 | 15-15 | 900 | — | 994 | 1060 | 1124 | 1189 | 1243 |
| | GBC102 | | | | | | | | |
| 10 | EBC120 | 15-15 | 900 | 959 | 994 | 1060 | 1124 | 1189 | 1243 |
| | GBC120 | | | | | | | | |
| 12.5 | EBC150 | 15-16 | 916 | 975 | 1031 | 1090 | 1148 | 1209 | 1268 |
| | GBC150 | | | | | | | | |

**Note:** Factory Set at closed.

**Table 42. Static pressure drop through accessories (inches water column)**

| Tons | Unit Model Number | Cfm | Standard Filters | Standard Econo-mizer | Electric Heater | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 10.4 | 16 | 25 | 32 | 41 | 50 |
| 7.5 | E/GBC090A (Downflow) | 2400 | 0.01 | — | 0.005 | 0.005 | 0.050 | 0.01 | 0.01 | — |
| | | 3000 | 0.03 | — | 0.010 | 0.010 | 0.010 | 0.02 | 0.02 | — |
| | | 3375 | 0.04 | — | 0.015 | 0.015 | 0.015 | 0.03 | 0.03 | — |
| | E/GBC090A (Horizontal) | 2400 | 0.01 | — | 0.005 | 0.005 | 0.050 | 0.01 | 0.01 | — |
| | | 3000 | 0.03 | — | 0.010 | 0.010 | 0.010 | 0.02 | 0.02 | — |
| | | 3375 | 0.04 | — | 0.015 | 0.015 | 0.015 | 0.03 | 0.03 | — |
| 8.5 | E/GBC102A (Downflow) | 2720 | 0.02 | — | 0.010 | 0.010 | 0.010 | 0.02 | 0.02 | — |
| | | 3400 | 0.04 | — | 0.015 | 0.015 | 0.015 | 0.03 | 0.03 | — |
| | | 3825 | 0.05 | — | 0.020 | 0.020 | 0.020 | 0.04 | 0.04 | — |
| | E/GBC102A (Horizontal) | 2720 | 0.02 | — | 0.010 | 0.010 | 0.010 | 0.02 | 0.02 | — |
| | | 3400 | 0.04 | — | 0.015 | 0.015 | 0.015 | 0.03 | 0.03 | — |
| | | 3825 | 0.05 | — | 0.020 | 0.020 | 0.020 | 0.04 | 0.04 | — |
| 10 | E/GBC120A (Downflow) | 3200 | 0.03 | — | 0.015 | 0.015 | — | 0.03 | 0.03 | 0.03 |
| | | 4000 | 0.05 | — | 0.020 | 0.020 | — | 0.04 | 0.04 | 0.04 |
| | | 4500 | 0.07 | — | 0.025 | 0.025 | — | 0.05 | 0.05 | 0.05 |
| | E/GBC120A (Horizontal) | 3200 | 0.03 | — | 0.015 | 0.015 | — | 0.03 | 0.03 | 0.03 |
| | | 4000 | 0.05 | — | 0.020 | 0.020 | — | 0.04 | 0.04 | 0.04 |
| | | 4500 | 0.07 | — | 0.025 | 0.025 | — | 0.05 | 0.05 | 0.05 |
| 12.5 | E/GBC150A (Downflow) | 4000 | 0.05 | — | 0.020 | 0.020 | — | 0.04 | 0.04 | 0.04 |
| | | 5000 | 0.07 | — | 0.030 | 0.030 | — | 0.06 | 0.06 | 0.06 |
| | | 5625 | 0.09 | — | 0.035 | 0.035 | — | 0.07 | 0.07 | 0.07 |
| | E/GBC150A (Horizontal) | 4000 | 0.05 | — | 0.020 | 0.020 | — | 0.04 | 0.04 | 0.04 |
| | | 5000 | 0.07 | — | 0.030 | 0.030 | — | 0.06 | 0.06 | 0.06 |
| | | 5625 | 0.09 | — | 0.035 | 0.035 | — | 0.07 | 0.07 | 0.07 |

**Table 43. Gas fired heating capacities**

| Tons | Gas Heat Option | Heating Input(MBH)[a] | Heating Output(MBH) | Air Temp Rise |
|---|---|---|---|---|
| 7.5 | Low, Medium or High | 125/87.5 | 100/70 | 15-45 |
| | | 180/126 | 144/100 | 25-60 |
| | | 225/158 | 180/125 | 35-70 |
| 8.5 | Low, Medium or High | 125/87.5 | 100/70 | 15-45 |
| | | 180/126 | 144/100 | 20-50 |
| | | 225/158 | 180/125 | 30-60 |
| 10 | Low, Medium or High | 180/126 | 144/100 | 20-50 |
| | | 225/158 | 180/125 | 30-60 |
| | | 250/175 | 200/140 | 35-65 |
| 12.5 | Low, Medium or High | 180/126 | 144/100 | 20-50 |
| | | 225/158 | 180/125 | 30-60 |
| | | 250/175 | 200/140 | 35-65 |

[a] For two stage heaters (input or output), second stage is total heating capacity. Second stage/first stage.

**Table 44. Auxiliary electric heat capacity**

| Tons | Unit Model Number | Ton[a] | | No. of Stages | Stage 1 | | Stage 2 | |
|---|---|---|---|---|---|---|---|---|
| | | Kw | MBh | | kW | MBh | kW | MBh |
| | | Input[b] | Output | | Input | Output | Input | Output |
| 7.5 | EHK-10C(UL) | 10.4 | 35.49 | 1 | 10.4 | 35.49 | — | — |
| | EHK-15C(UL) | 16 | 54.59 | 1 | 16 | 54.59 | — | — |
| | EHK-25C(UL) | 25 | 85.30 | 1 | 25 | 85.30 | — | — |
| | EHK-32C(UL) | 32 | 109.19 | 2 | 16 | 54.59 | 16 | 54.59 |
| | EHK-41C(UL) | 41 | 139.90 | 2 | 25 | 85.30 | 16 | 54.59 |
| 8.5 | EHK-10C(UL) | 10.4 | 35.49 | 1 | 10.4 | 35.49 | — | — |
| | EHK-15C(UL) | 16 | 54.59 | 1 | 16 | 54.59 | — | — |
| | EHK-25C(UL) | 25 | 85.30 | 1 | 25 | 85.30 | — | — |
| | EHK-32C(UL) | 32 | 109.19 | 2 | 16 | 54.59 | 16 | 54.59 |
| | EHK-41C(UL) | 41 | 139.90 | 2 | 25 | 85.30 | 16 | 54.59 |
| 10 | EHK-10C(UL) | 10.4 | 35.49 | 1 | 10.4 | 35.49 | — | — |
| | EHK-15C(UL) | 16 | 54.59 | 1 | 16 | 54.59 | — | — |
| | EHK-32C(UL) | 32 | 109.19 | 2 | 16 | 54.59 | 16 | 54.59 |
| | EHK-41C(UL) | 41 | 139.90 | 2 | 25 | 85.30 | 16 | 54.59 |
| | EHK-50C(UL) | 50 | 170.61 | 2 | 25 | 85.30 | 25 | 85.30 |
| 12.5 | EHK-10C(UL) | 10.4 | 35.49 | 1 | 10.4 | 35.49 | — | — |
| | EHK-15C(UL) | 16 | 54.59 | 1 | 16 | 54.59 | — | — |
| | EHK-32C(UL) | 32 | 109.19 | 2 | 16 | 54.59 | 16 | 54.59 |
| | EHK-41C(UL) | 41 | 139.90 | 2 | 25 | 85.30 | 16 | 54.59 |
| | EHK-50C(UL) | 50 | 170.61 | 2 | 25 | 85.30 | 25 | 85.30 |

[a] Heaters are rated at 240V, 480V, and 600V. For other than rated voltage, CAP = (voltage/rated voltage)2 x rated cap.
[b] For all input/output categories, does not include fan power or heat.

**Table 45. Electric heater voltage correction factors (applicable to auxiliary heat capacity)**

| Nominal Voltage | Distribution Voltage | Capacity Multiplier |
|---|---|---|
| 240 | 208 | 0.75 |
| | 230 | 0.92 |
| | 240 | 1.00 |

**Table 46. Air temperature rise across electric heaters(°F)**

| KW | Stages | 7.5 Ton 3000 cfm | 8.5 Ton 3400 cfm | 10 Ton 4000 cfm | 12.5 Ton 5000 cfm |
|---|---|---|---|---|---|
| 10.4 | 1 | 10.7 | 9.9 | 8.2 | 6.8 |
| 16 | 1 | 14.6 | 13.8 | 12.6 | 10.9 |
| 25 | 1 | 22.4 | 22.4 | — | — |
| 32 | 2 | 28.2 | 27.1 | 25.3 | 22.9 |
| 41 | 2 | 37.5 | 35.6 | 32.4 | 30.1 |
| 50 | 2 | — | — | 39.5 | 37 |

# Controls

## Economizer Controls

The standard equipment offering is a fixed dry bulb changeover control. In addition, there are two optional controls, Reference Enthalpy Control and Comparative Enthalpy Control.

### Reference Enthalpy Control

Replaces the dry bulb control with a wet bulb changeover controller which has a fully adjustable setpoint. Enthalpy control offers a higher level of comfort control, along with energy savings potential, than the standard dry bulb control. This is due to the additional wet bulb sensing capability.

### Comparative Enthalpy Control

Comparative Enthalpy replaces the standard dry bulb control with two sensors that compare total heat content of the indoor air and outdoor air to determine the most efficient air source. This control option offers the highest level of comfort control, plus energy efficiency, available.

### Remote Potentiometer

Minimum position setting of economizer can be remotely adjusted with this accessory.

## Thermostats

| Model # | Type | Stages | Display Type | Other |
|---|---|---|---|---|
| TCONT302AS42DA | Programmable | 4H/2C | Touchscreen | Common preferred, not required 2/ 2 AA battery power |
| TCONT402AN32DA | Non-Programmable | 3H/2C | Backlit Display and Keys | Outdoor Temperature Sensor included |
| BAYSTAT814 | Touchscreen | 3H/2C | Touchscreen | Remote access via Pivot Mobile App |
| BAYSTAT300 | Programmable | 3H/2C | Backlit Display and Keys | BACnet MS-TP enabled |

# Electrical Data

**Table 47. Unit wiring with cooling only (no electric heat) or gas heat**

| TONS | Unit Model Number | Unit Operating Voltage Range | Standard Indoor Fan Motor | | Oversized Indoor Fan Motor | |
|---|---|---|---|---|---|---|
| | | | Minimum Circuit Ampacity[a] | Maximum Fuse Size or Maximum Circuit Breaker | Minimum Circuit Ampacity | Maximum Fuse Size or Maximum Circuit Breaker |
| 7.5 | E/GBC090A | 208-230 | 37 | 50 | 42 | 50 |
| 8.5 | E/GBC102A | 208-230 | 40 | 50 | 45 | 50 |
| 10 | E/GBC120A | 208-230 | 54 | 70 | 59 | 70 |
| 12.5 | E/GBC150A | 208-230 | 62 | 80 | 67 | 80 |

[a] For Standard and Oversized Indoor Fan Motor, values do not include power exhaust accessory.

**Table 48. Unit wiring with electric heat (single point connection)**

| TONS | Unit Model Number | Heater kW Rating | Control Stages | Standard Indoor Fan Motor | | Oversized Indoor Fan Motor | |
|---|---|---|---|---|---|---|---|
| | | | | Minimum Circuit Ampacity | Maximum Fuse Size or Maximum Circuit Breaker | Minimum Circuit Ampacity | Maximum Fuse Size or Maximum Circuit Breaker |
| **208/230 Volts Three Phase** | | | | | | | |
| 7.5 | EHK-41CUL | 41.0 | 2 | 114/130 | 125/150 | 119/135 | 125/150 |
| | EHK-32CUL | 32.0 | 2 | 90/103 | 100/125 | 95/108 | 100/125 |
| | EHK-25CUL | 25.0 | 1 | 72/82 | 80/90 | 77/87 | 80/90 |
| | EHK-15CUL | 16.0 | 1 | 49/55 | 50/60 | 54/60 | 50/60 |
| | EHK-10CUL | 10.4 | 1 | 37/38 | 50 | 42/43 | 50 |
| 8.5 | EHK-41CUL | 41.0 | 2 | 114/130 | 125/150 | 119/135 | 125/150 |
| | EHK-32CUL | 32.0 | 2 | 90/103 | 100/125 | 95/108 | 100/125 |
| | EHK-25CUL | 25.0 | 1 | 72/82 | 80/90 | 77/87 | 80/90 |
| | EHK-15CUL | 16.0 | 1 | 49/55 | 50/60 | 54/60 | 50/60 |
| | EHK-10CUL | 10.4 | 1 | 40 | 50 | 45 | 50 |
| 10 | EHK-50CUL | 50.0 | 2 | 139/129 | 150 | 144/134 | 150 |
| | EHK-41CUL | 41.0 | 2 | 115/132 | 125/150 | 120/137 | 125/150 |
| | EHK-32CUL | 32.0 | 2 | 92/105 | 100/125 | 97/110 | 100/125 |
| | EHK-15CUL | 16.0 | 1 | 54/56 | 70 | 59/62 | 70 |
| | EHK-10CUL | 10.4 | 1 | 54 | 70 | 59 | 70 |
| 12.5 | EHK-50CUL | 50.0 | 2 | 140/130 | 150/150 | 145/135 | 150/150 |
| | EHK-41CUL | 41.0 | 2 | 116/133 | 125/150 | 121/138 | 125/150 |
| | EHK-32CUL | 32.0 | 2 | 93/106 | 100/125 | 98/111 | 100/125 |
| | EHK-15CUL | 16.0 | 1 | 62 | 80 | 67 | 80 |
| | EHK-10CUL | 10.4 | 1 | 62 | 80 | 67 | 80 |

**Table 49. Electrical characteristics—compressor motor and condenser motor**

| TONS | Unit Model Number | Compressor Motors | | | | | | Condenser Fan Motors | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. | Volts | Phase | rpm | Amps[a] | | No. | Volts | Phase | hp | Amps |
| | | | | | | RLA | LRA | | | | | FLA |
| 7.5 | E/GBC090A | 2 | 203-230 | 3 | 3500 | 13.7/10.4 | 83.1/76 | 2 | 208-230 | 1 | 1/3 | 2.1 |
| 8.5 | E/GBC102A | 2 | 203-230 | 3 | 3500 | 13.7/13.7 | 83.1/83.1 | 2 | 208-230 | 1 | 1/3 | 2.1 |
| 10 | E/GBC120A | 2 | 203-230 | 3 | 3500 | 20.5/17.6 | 155/120 | 2 | 208-230 | 1 | 1/3 | 2.1 |
| 12.5 | E/GBC150A | 2 | 203-230 | 3 | 3500 | 23.2/17.6 | 164/120 | 2 | 208-230 | 3 | 1 | 4.9 |

[a] For Compressor Motors and Condenser Fan Motors: Amp draw for each motor; multiply value by number of motors to determine total amps.

**Table 50. Electrical characteristics—evaporator fan motor**

| TONS | Unit Model Number | Standard Evaporator Fan Motor | | | | | Oversized Evaporator Fan Motor | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. | Volts | Phase | hp | Amps | No. | Volts | Phase | hp | Amps |
| | | | | | | FLA | | | | | FLA |
| 7.5 | E/GBC090A | 1 | 208-230 | 3 | 2 | 5.8 | 1 | 208-230 | 3 | 3 | 7.5 |
| 8.5 | E/GBC102A | 1 | 208-230 | 3 | 2 | 5.8 | 1 | 208-230 | 3 | 5 | 11.0 |
| 10 | E/GBC120A | 1 | 208-230 | 3 | 3 | 7.5 | 1 | 208-230 | 3 | 5 | 11.0 |
| 12.5 | E/GBC150A | 1 | 208-230 | 3 | 3 | 7.5 | 1 | 208-230 | 3 | 5 | 11.0 |

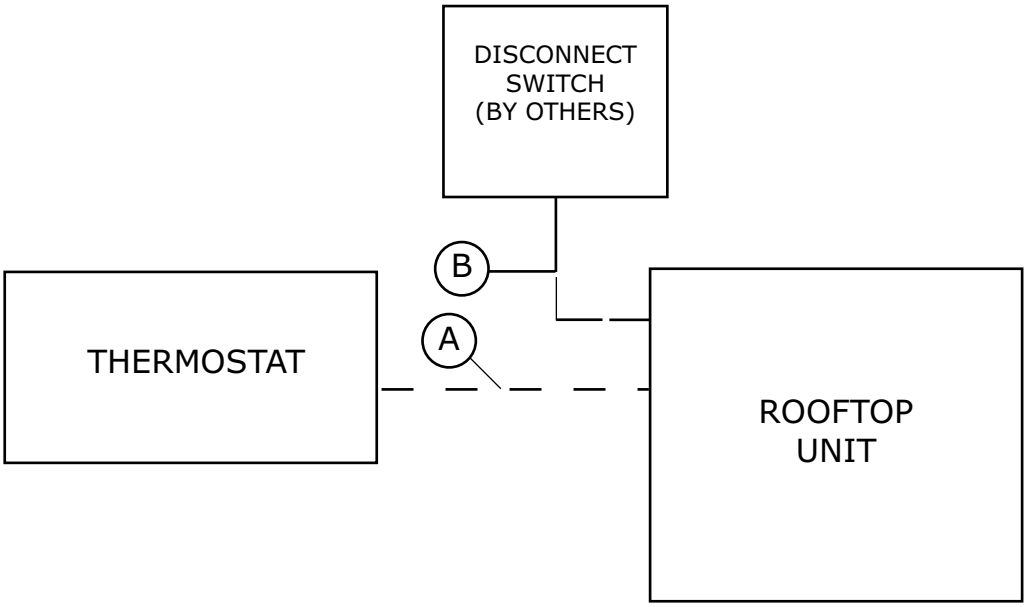
**Table 51. Electrical characteristics—combustion blower motor (gas heat units)**

| TONS | Unit Model Number | Combustion Blower Motor | | | | |
|---|---|---|---|---|---|---|
| | | No. | Volts | Phase | rpm | Amps |
| | | | | | | FLA |
| 7.5 | E/GBC090 | 1 | 208/230 | 1 | 2100 | 1.2 |
| 8.5 | E/GBC105 | 1 | 208/230 | 1 | 2100 | 1.2 |
| 10 | E/GBC120 | 1 | 208/230 | 1 | 2100 | 1.2 |
| 12.5 | E/GBC150 | 1 | 208/230 | 1 | 2100 | 1.2 |

# Jobsite Connections

**Table 52. Typical number of wires**

| Thermostats | |
|---|---|
| A | 3 Wires, 24V, Cooling only<br>4 Wires 24V, with Electric Heat |
| B | 3 Power Wires + 1 Ground Wire (three phase) |

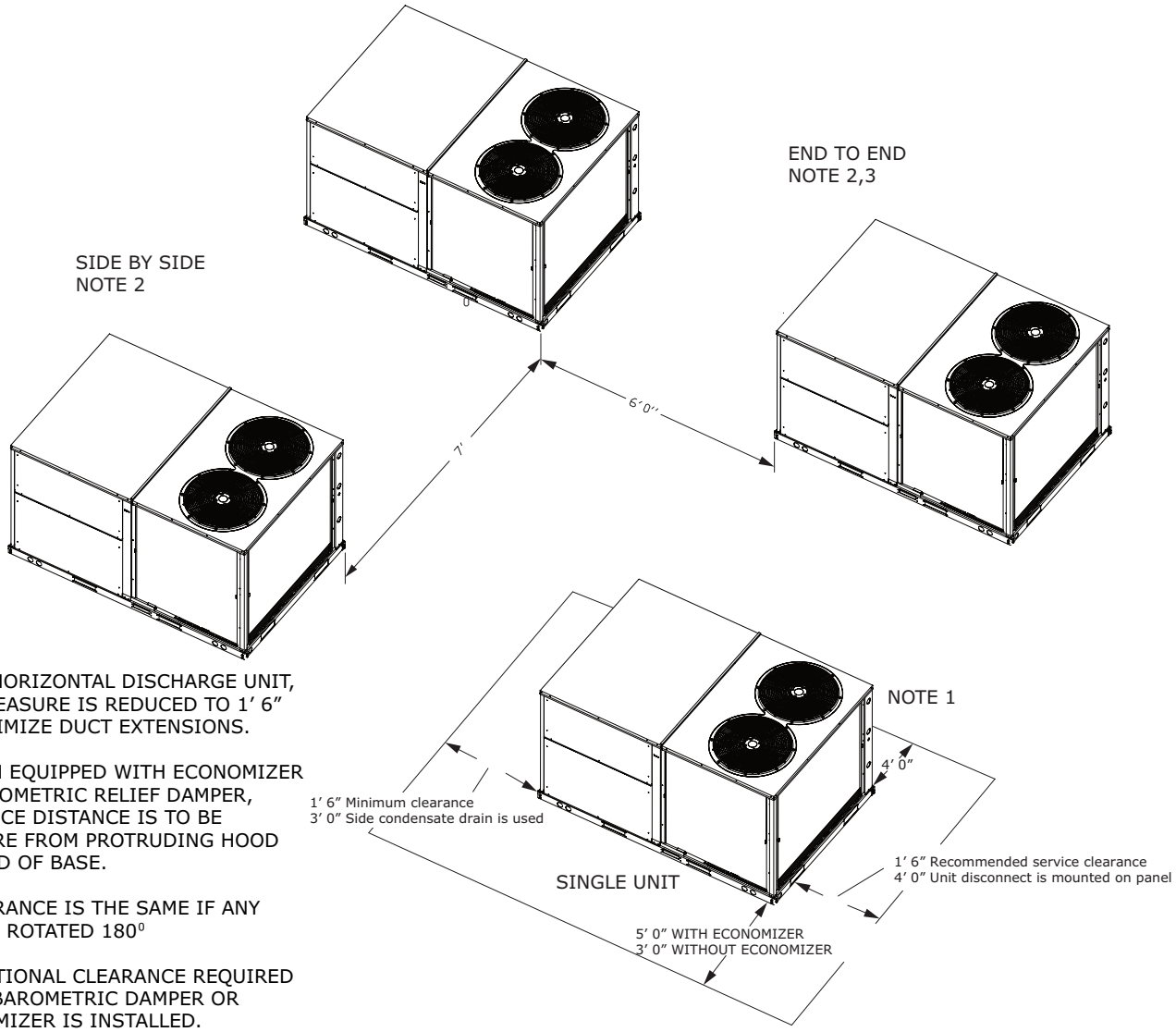



***Notes:***

- *For specific wiring information, see the installation instructions.*
- *All wiring except power wire is low voltage.*
- *All customer supplied wiring to be copper and must conform to applicable electrical codes and local electric codes. Wiring shown dotted is to be furnished and installed by the customer.*

# Dimensional Data

**Figure 1. Typical installation clearance for single and multiple unit applications (in inches)**




NOTES:
1.FOR HORIZONTAL DISCHARGE UNIT, THIS MEASURE IS REDUCED TO 1' 6" TO MINIMIZE DUCT EXTENSIONS.

2.WHEN EQUIPPED WITH ECONOMIZER OR BAROMETRIC RELIEF DAMPER, CLERANCE DISTANCE IS TO BE MEASURE FROM PROTRUDING HOOD INSTEAD OF BASE.

3.CLEARANCE IS THE SAME IF ANY UNIT IS ROTATED $180^0$

3.ADDITIONAL CLEARANCE REQUIRED WHEN BAROMETRIC DAMPER OR ECONOMIZER IS INSTALLED.

**Figure 2. Cooling with optional electrical heat and gas/electric units — overview**

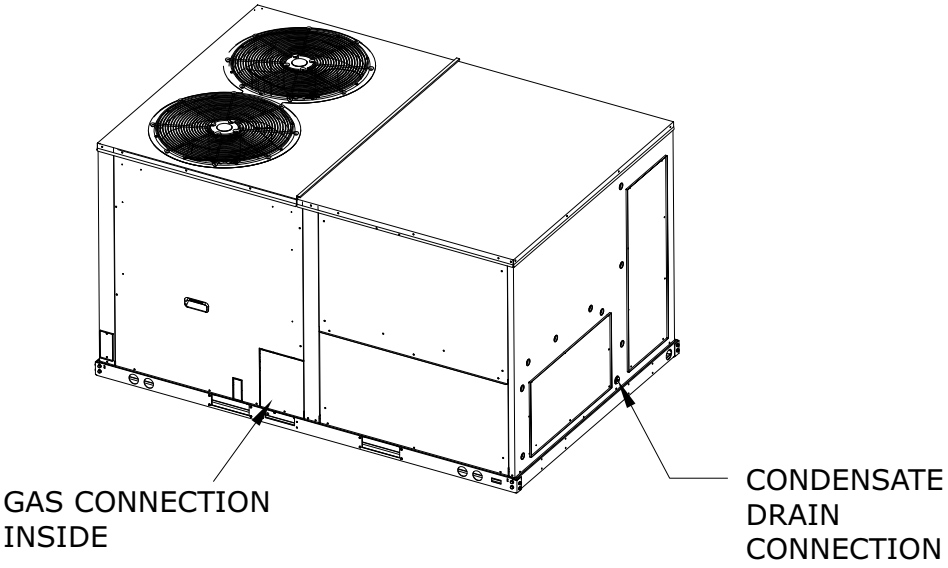
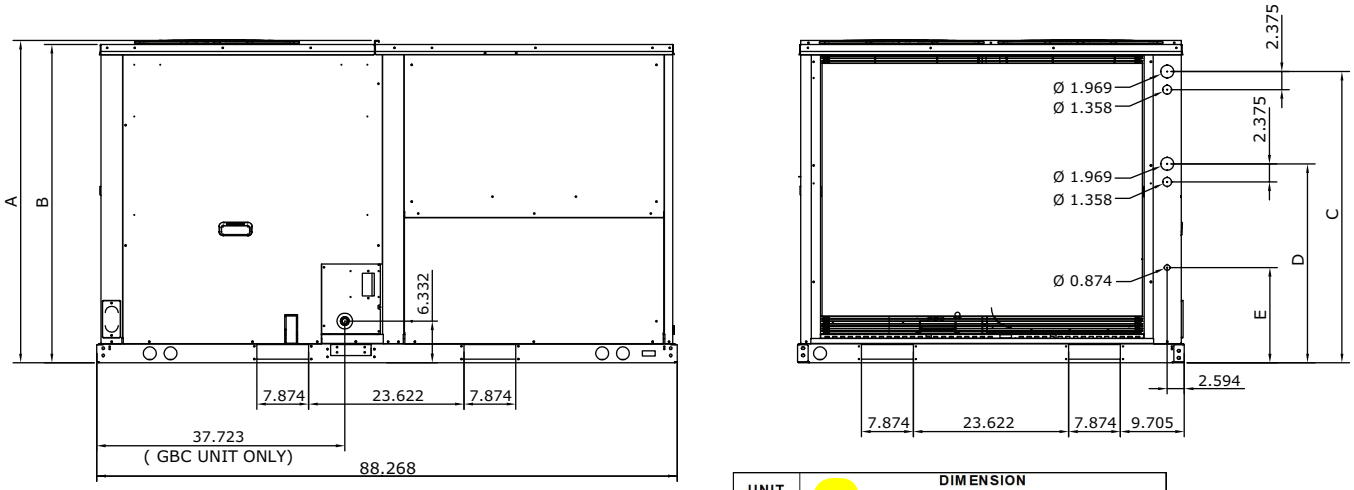
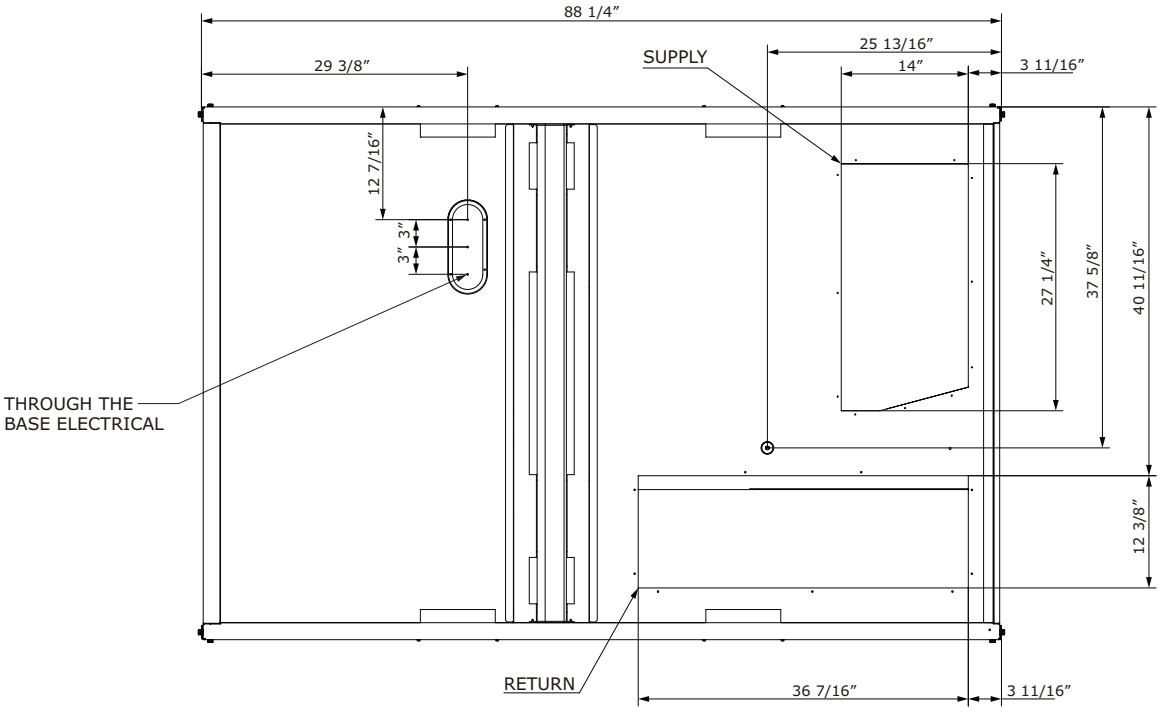



**Figure 3. Cooling with optional electrical heat and gas/electric units — front and side views (in inches)**



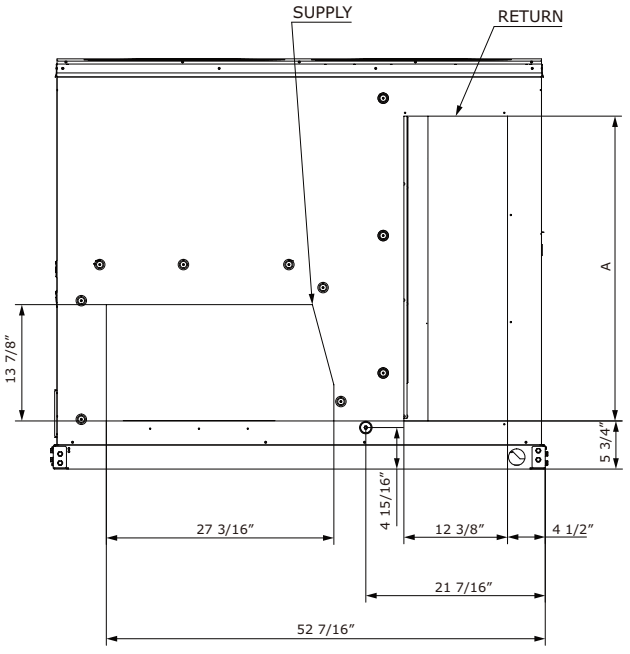

| UNIT | DIMENSION | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| GBC090 | 44" | 43.375" | 38.813" | 25.188" | 5.438" |
| GBC102 | | | | | |
| GBC120 | 49.063" | 48.375" | 43.063" | 29.438" | 14.438" |
| GBC150 | | | | | |

**Figure 4. Cooling with optional electrical heat and gas/electric units — bottom view (in inches)**




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

**Figure 5. Cooling with optional electrical heat and gas/electric units — back view (horizontal configuration) (in inches)**




| UNIT | DIMENSION A |
|---|---|
| GBC090 | 34 13/16″ |
| GBC102 | 36 7/16″ |
| GBC120 | |
| GBC150 | |

**Figure 6. Cooling with optional electric heat and gas/electric models — roof curb (in inches)**

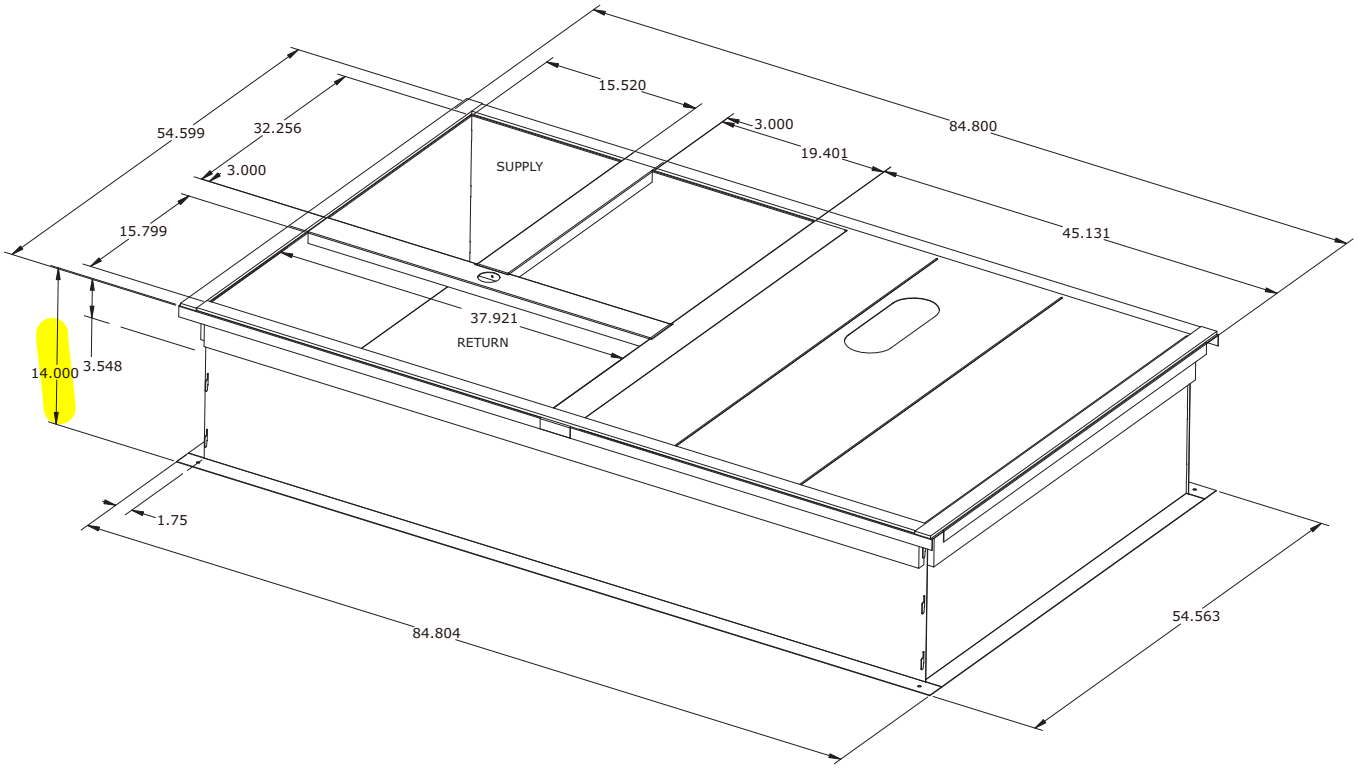
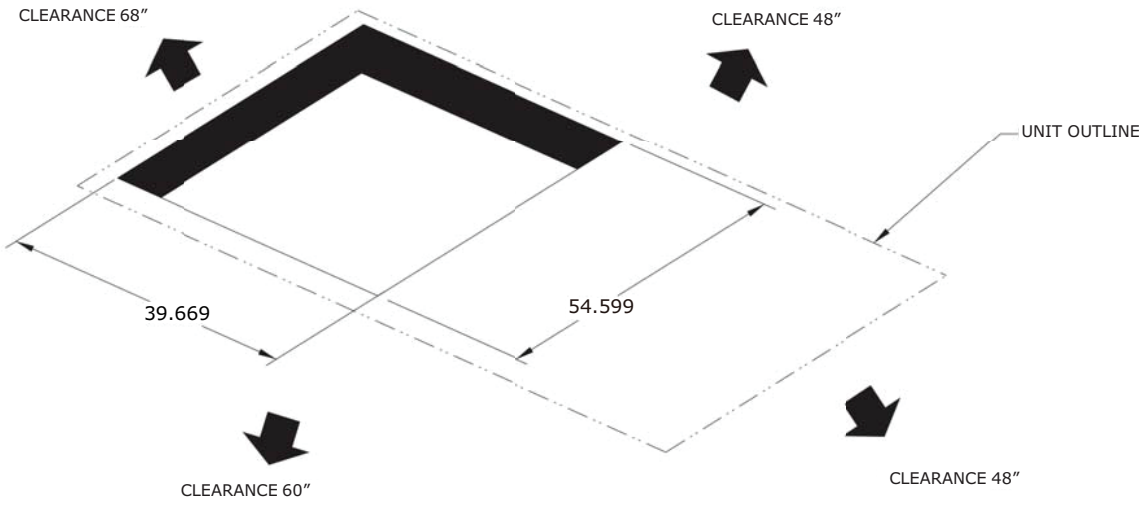



**Figure 7. Cooling with optional electric heat and gas/electric models — downflow unit clearance (in inches)**



# Weights

**Table 53. Maximum unit and corner weights (lb) and center of gravity dimensions (in.)**

| Tons | Unit Model No. | Weights (lb)[a], [b] | | Corner Weights[c] | | | | Center of Gravity (in.) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Shipping | Net | A | B | C | D | Length | Width |
| 7.5 | GBC090A | 1080 | 1003 | 215 | 235 | 255 | 298 | 42.0 | 24.8 |
| | EBC090A | 999 | 922 | 197 | 179 | 259 | 287 | 46.3 | 24.1 |
| 8.5 | GBC102A | 1190 | 1115 | 280 | 132 | 397 | 306 | 46.4 | 21.7 |
| | EBC102A | 1073 | 998 | 278 | 85 | 395 | 240 | 45.8 | 21.4 |
| 10 | GBC120A | 1232 | 1157 | 239 | 224 | 335 | 359 | 45.5 | 23.5 |
| | EBC120A | 1144 | 1069 | 222 | 206 | 309 | 332 | 45.7 | 23.6 |
| 12.5 | GBC150A | 1334 | 1259 | 282 | 272 | 335 | 415 | 39.5 | 35.0 |
| | EBC150A | 1246 | 1171 | 284 | 212 | 287 | 388 | 37.6 | 33.9 |

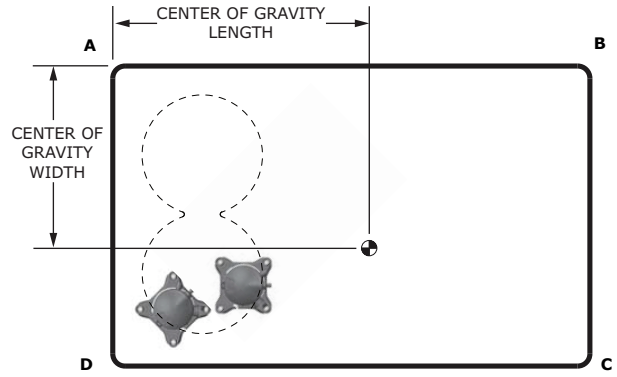
[a] Weights are approximate. Horizontal and downflow unit and corner weights may vary slightly.
[b] Weights do not include additional factory or field installed options/accessories.
[c] Corner weights are given for information only. 7.5–12.5 ton models must be supported continuously by a curb or equivalent frame support.

***Note:*** *To calculate additional weight for accessories, see Accessory net weights table.*

**Table 54. Accessory net weight (lb)**

| Accessories | | Net weight (lb) | | | | Dimension (mm) | | |
|---|---|---|---|---|---|---|---|---|
| Electric Heaters | Model # | E/GBC090 | E/GBC102 | E/GBC120 | E/GBC150 | Length | Width | Thickness |
| 10 KW (240V) | EHK-10CUL | 7.5 | 7.5 | 7.5 | 7.5 | 694.8 | 379 | 95 |
| 16 KW (240V) | EHK-16CUL | 8.8 | 8.8 | 8.8 | 8.8 | | | |
| 25 KW (240V) | EHK-25CUL | 9.9 | 9.9 | 9.9 | 9.9 | | | |
| 32 KW (240V) | EHK-32CUL | 17.6 | 17.6 | 17.6 | 17.6 | 694.8 | 379 | 190 |
| 41 KW (240V) | EHK-41CUL | 18.7 | 18.7 | 18.7 | 18.7 | | | |
| 50 KW (240V) | EHK-50CUL | 19.8 | 19.8 | 19.8 | 19.8 | | | |
| **Oversized Motor** | | | | | | | | |
| 2 HP (230 / 460) | — | 37.5 | 37.5 | 37.5 | 37.5 | — | — | — |
| 3 HP (230 / 460) | — | 45.0 | 45.0 | 45.0 | 45.0 | — | — | — |
| 5 HP (230 / 460) | — | 53.0 | 53.0 | 53.0 | 53.0 | — | — | — |
| **External Vent Hood** | 2.8 | | | | | | | |

**Figure 8. Center of gravity/corner weights**



# Mechanical Specifications

## General

- Packaged rooftop units cooling, heating capacities, and efficiencies are AHRI Certified within scope of AHRI Standard (I-P) and ANSIZ21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces
- Packaged rooftop units are dedicated downflow or horizontal airflow
- Operating range between 125°F and 40°F in cooling standard from the factory
- Factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory
- Colored and numbered wring internal to the unit for simplified identification
- Units ETL listed and labeled, classified in accordance

## Standard Features

### Casing

- Zinc coated, heavy gauge, galvanized steel
- Weather-resistant baked enamel finish on phosphatized exterior surfaces
- Meets ASTM B117, 672 hour salt spray test
- Removable single side maintenance access panels
- Lifting handles in maintenance access panels (can be removed and reinstalled by removing no more than 11 fasteners while providing a water and air tight seal)
- Exposed vertical panels and top covers in the indoor air section shall be insulated with a 1/2-inch, 1-pound density foil-faced, fire-resistant, permanent, odorless, glass fiber material
- Base of unit shall be insulated with 1/2-inch, 1-pound density, foil-faced, glass fiber material
- Base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8–inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up
- Downflow unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8–inch high supply/return openings to provide an added water integrity precaution, if the condensate drain backs up
- Base of unit shall have provisions for forklift and crane lifting

### Compressors

- All units have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps
- Suction gas-cooled motor with voltage utilization range of plus or minus 10 percent of unit nameplate voltage
- Internal overloads standard with scroll compressors
- All models have phase monitors and Low and High Pressure Controls as standard

### Discharge Line Thermostat

- A bi-metal element discharge line thermostat is installed as a standard option on the discharge line of each system
- Provides extra protection to the compressors against high discharge temperatures in case of loss of charge, extremely high ambient and other conditions which could drive the discharge temperature higher
- Wired in series with high pressure control
- When discharge temperature rises above the protection limit, the bi-metal disc in the thermostat switches to the off position, opening the 24 Vac circuit
- When temperature on the discharge line cools down, the bi-metal disc closes the contactor circuit, providing power to the compressor

## Evaporator and Condenser Coils

- Microchannel coils burst tested by manufacturer
- Microchannel condenser coils standard on all units
- Coils leak tested to ensure the pressure integrity
- Evaporator coil and condenser coil leak tested to 225 psig and pressure tested to 450 psig
- Sloped condensate drain pans are standard

## Filters

Two inch standard filters shall be factory supplied on all units.

## Gas Heat Section

- Progressive tubular heat exchanger, stainless steel burners and corrosion resistant steel
- Induced draft combustion blower shall be used to pull the combustion products through the firing tubes
- Heater shall use a direct spark ignition (DSI) system
- On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition
- After three unsuccessful ignition attempts, entire heating system shall be locked out until manually reset at the thermostat/zone sensor
- Units shall be suitable for use with natural gas or propane (field-installed kit)

## Indoor Fan

- Belt driven, FC centrifugal fans with adjustable motor sheaves
- Motors thermally protected
- Oversized motors available for high static application
- Indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT)

## Locking Safety Device

- Pressure switch monitoring allows for lockout in a situation where the switch is opened
- By monitoring the Y input as well as the pressure switches, advanced decision making can be made to identify situations where faults/errors occur

## Outdoor Fans

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

## Phase Monitor

- 3-phase line monitor module
- Protects against phase loss, phase imbalance and phase reversal indication
- Intended to protect compressors from reverse rotation
- Operating input voltage range of 180–632 Vac
- LED indicators for ON and FAULT
- No field adjustments
- Module will automatically reset from a fault condition

## Refrigerant Circuits

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

### Refrigerant Pressure Control

All units include High and Low Pressure Cutouts as standard.

### Unit Top

The top cover shall be double hemmed and gasket sealed to prevent water leakage.

## Factory Installed Options

### Multi-Speed Indoor Fan System

- Incorporates a multi-speed fan control to change the speed of the fan to 70% of full airflow based off of compressor stages

## Field Installed Options

### Condensate Overflow Switch

This option shall shut the unit down in the event that a clogged condensate drain line prevents proper condensate removal from the unit.

### Demand Control Ventilation with $CO_2$ Sensor

- $CO_2$ sensor shall have the ability to monitor the concentration (parts per million, ppm) of $CO_2$ (Carbon Dioxide) in the air
- As the $CO_2$ concentration changes, the outside air damper modulates to meet the current ventilation needs of the zone

### Economizer (Standard) — Downflow

- Assembly includes fully modulating 0–100% motor and dampers, barometric relief, minimum position setting, preset linkage, wiring harness with plug, fixed dry bulb and spring return actuator
- Barometric relief damper shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment “off” cycle

### Economizer – Horizontal

The horizontal economizer shall contain the same features as the downflow economizer with the exception of barometric relief.

### Electric Heaters

- Electric heat modules shall be available for installation within the basic unit
- Elements shall be constructed of heavy-duty nickel chromium elements internally delta connected for 240 volt, wye connected for volt
- Power assemblies shall provide single-point connection
- Electric heat modules shall be UL listed or CSA certified
- If ordering the Through the Base Electrical option with an Electric Heater, the heater must be factory installed.

### Filters

Two inch standard filters shall be factory supplied on all units.

### Hail Guards

Tool-less, hail protection quality coil guards are available for condenser coil protection.

## Low Leak Economizer with Fault Detection & Diagnostics - Downflow

- Controller shall have the capability to provide the value of each sensor used in controlling the economizer operation
- System status is also indicted for the following conditions:
  - Free cooling available
  - Economizer enabled
  - Compressor enabled
  - Heating Enabled
  - Mixed air low limit cycle active
- Fault Detection and Diagnostic system detects the following faults:
  - Air temperature sensor failure/fault
  - Not economizing when conditions indicate system should be economizing
  - Economizing when conditions indicate system should not be economizing
  - Dampers are not modulating
  - Excessive amounts of outside air are being introduced though the economizer
- Fault Detection and Diagnostic system is certified by the California Energy Commission as meeting requirements of California Title 24 120.2(i)1 through 120.2(i)8 in accordance with Section 100(h)

## Manual Outside Air Damper

The rain hood and screen shall provide up to 50% outside air.

## Motorized Outside Air Damper

- Manually set outdoor air dampers shall provide up to 50% outside air
- Outdoor air dampers shall open to set position when indoor fan starts
- Damper shall close to the full closed position when indoor fan shuts down

## Oversized Motors

Oversized motors shall be available for high static applications.

## Powered Exhaust

The powered exhaust shall provide exhaust of return air, when using an economizer, to maintain better building pressurization.

## Reference or Comparative Enthalpy

- Used to measure and communicate outdoor humidity
- Unit receives and uses this information to provide improved comfort cooling while using the economizer
- Comparative Enthalpy measures and communicates humidity for both outdoor and return air conditions, and return air temperature – unit receives and uses this information to maximize use of economizer cooling, and to provide maximum occupant comfort control
- Reference or Comparative Enthalpy option shall be available when a factory or field installed Downflow Economizer is ordered
- Option is available on all models

## Remote Potentiometer

The minimum position setting of the economizer shall be adjusted with this accessory.

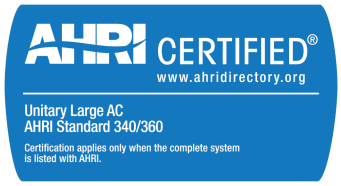
## Through the Base Gas Piping

- Unit shall include a standard through the base gas provision
- Option shall have all piping necessary including, black steel, manual gas shut-off valve, elbows, and union
- Manual shutoff valve shall include a 1/8" NPT pressure tap
- Assembly will require minor field labor to install (Gas/Electric Only)

## Through the Base Utilities Access

- Electrical service entrance shall be provided allowing electrical access for both control and main power connections inside the curb and through the base of the unit
- Option shall allow for field installation of liquid-tight conduit and an external field installed disconnect switch

## Notes




The AHRI Certified mark indicates Trane U.S. Inc. participation in the AHRI Certification program. For verification of individual certified products, go to ahridirectory.org.

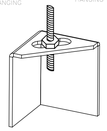
Trane - by Trane Technologies (NYSE: TT), a global innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

Trane has a policy of continuous product and product data improvements and reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

RT-PRC091C-EN 13 Oct 2021
Supersedes RT-PRC091B-EN (April 2021)

1/2" DIA. ALL THREAD ROD CONNECTED TO ROOF JOIST THROUGH ANOTHER HANGING ANGLE

1/2" DIA. HEAVY DUTY NUT ONE ABOVE AND TWO BELOW HANGING ANGLE



* ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

## HANGING ANGLE DETAILS

| HOOD STYLE / MODEL | 450 DEGREES cfm/ft. | 600 DEGREES cfm/ft. | 700 DEGREES cfm/ft. |
|---|---|---|---|
| CANOPY ND-2 | 150 | 200 | 250 |
| CANOPY ND-2 W/ END PANELS | 105 | 140 | 175 |
| SLOPED SND-2 | 228 | 294 | – |
| ISLAND ND-2WI | 269 | 300 | 350 |
| ISLAND ND-2I | 346 | 422 | 475 |

## ETL HOOD LISTING DETAIL

EXHAUST CFM = LENGTH OF HOOD X CFM/UNIT. (LOAD)

SUPPLY CFM = EXHAUST CFM X PERCENTAGE REQUIRED

TOTAL DUCT AREA (sq. in.) = 144 X $\frac{\text{CFM}}{\text{FPM(*)}}$

DUCT LENGTH = $\frac{\text{TOTAL DUCT AREA}}{\text{DUCT WIDTH}}$

* CAPTIVEAIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM.

## CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS BUILT IN COMPLIANCE WITH:

LISTED STANDARD 710 Intertek BUILT IN ACCORDANCE WITH NFPA No. 96

ETL LISTED 3054804-001

Listed under ETL File number 3054804-001/002

## BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

| MATERIAL | CLEARANCE REDUCTION SYSTEM |
|---|---|
| NON-COMBUSTIBLE | NONE REQUIRED |
| LIMITED-COMBUSTIBLE | 3" UNINSULATED STANDOFF |
| COMBUSTIBLE | 1" INSULATED STANDOFF |

## CLEARANCE TO COMBUSTIBLES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
4. ALL CONNECTIONS FROM CAPTIVEAIRE HOOD PER MECHANICAL CONTRACTOR'S PLANS.
5. COOKING EQUIPMENT TO SHUT OFF IN EVENT OF FIRE.
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
7. ALL LIGHT FIXTURES SHOWN INSTALLED BY CAPTIVEAIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES ARE BY ELECTRICAL CONTRACTOR.
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
9. SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
10. INSTALLING CONTRACTORS ASSUME ALL RELATED REPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

BALANCE

11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

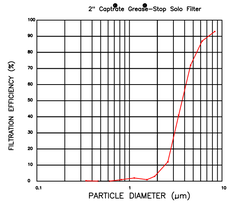
ADDITIONAL

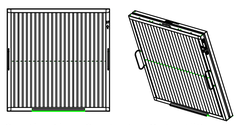
14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

## GENERAL NOTES

FILTER COLLECTION EFFICIENCY

2" Captrate Grease-Stop Solo Filter



CaptiveAire Captrate Solo Filter
ETL Listed Grease Extracting Filters
Made From 430 Stainless Steel

## FILTER DETAIL

## HOOD INFORMATION – JOB#7328257

| HOOD NO | TAG | MODEL | MANUFACTURER | LENGTH | MAX. COOKING TEMP | TYPE | APPLIANCE DUTY | DESIGN CFM/FT | TOTAL EXH CFM | EXHAUST PLENUM RISER(S) WIDTH | LENG | HEIGHT | DIA | CFM | VEL | SP | TOTAL SUPPLY CFM | HOOD CONSTRUCTION | HOOD CONFIG END TO END | ROW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HD-1 [LEFT] | 6024 EX-2-PSP-F | ECON-AIR | 7' 3" | 600 DEG | I | HEAVY | 250 | 1812 | | | 4" | 14" | 1812 | 1695 | -0.785" | 1450 | 430 SS WHERE EXPOSED | LEFT | ALONE |
| 2 | HD-1 [RIGHT] | 6024 EX-2-PSP-F | ECON-AIR | 10' 11" | 600 DEG | I | HEAVY | 250 | 2729 | | | 4" | 18" | 2729 | 1544 | -0.851" | 2183 | 430 SS WHERE EXPOSED | RIGHT | ALONE |

## HOOD INFORMATION

| HOOD NO | TAG | FILTER(S) TYPE | QTY | HEIGHT | LENGTH | LIGHT(S) QTY | TYPE | WIRE GUARD | FIRE SYSTEM PIPING | HOOD HANGING WEIGHT |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HD-1 [LEFT] | CAPTRATE SOLO FILTER | 5 | 20" | 16" | 4 | L55 SERIES E26 | NO | YES | 490 LBS |
| 2 | HD-1 [RIGHT] | CAPTRATE SOLO FILTER | 8 | 20" | 16" | 6 | L55 SERIES E26 | NO | YES | 688 LBS |

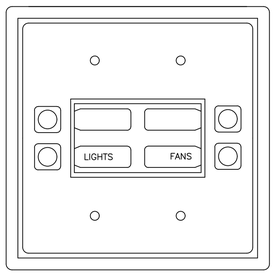
## HOOD OPTIONS

| HOOD NO | TAG | OPTION |
|---|---|---|
| 1 | HD-1 [LEFT] | FIELD WRAPPER 18.00" HIGH FRONT, LEFT. |
| | | BACKSPLASH 80.00" HIGH X 219.00" LONG 430 SS VERTICAL. |
| 2 | HD-1 [RIGHT] | FIELD WRAPPER 18.00" HIGH FRONT, RIGHT. |
| | | RIGHT SIDESPLASH 80.00" HIGH X 60.00" LONG 430 SS VERTICAL. |
| | | RIGHT END STANDOFF (FINISHED) 1" WIDE 60" LONG INSULATED. |

## PERFORATED SUPPLY PLENUM(S)

| HOOD NO | TAG | POS | LENGTH | WIDTH | HEIGHT | TYPE | RISER(S) WIDTH | LENG | DIA | CFM | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HD-1 [LEFT] | Front | 87" | 18" | 6" | MUA | 12" | 28" | | 725 | 0.198" |
| | | | | | | MUA | 12" | 28" | | 725 | 0.198" |
| 2 | HD-1 [RIGHT] | Front | 132" | 18" | 6" | MUA | 12" | 28" | | 727 | 0.199" |
| | | | | | | MUA | 12" | 28" | | 727 | 0.199" |
| | | | | | | MUA | 12" | 28" | | 727 | 0.199" |

## CASHMI DETAIL




CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

## VERIFY CEILING HEIGHT

___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

## HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

## CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted ☐

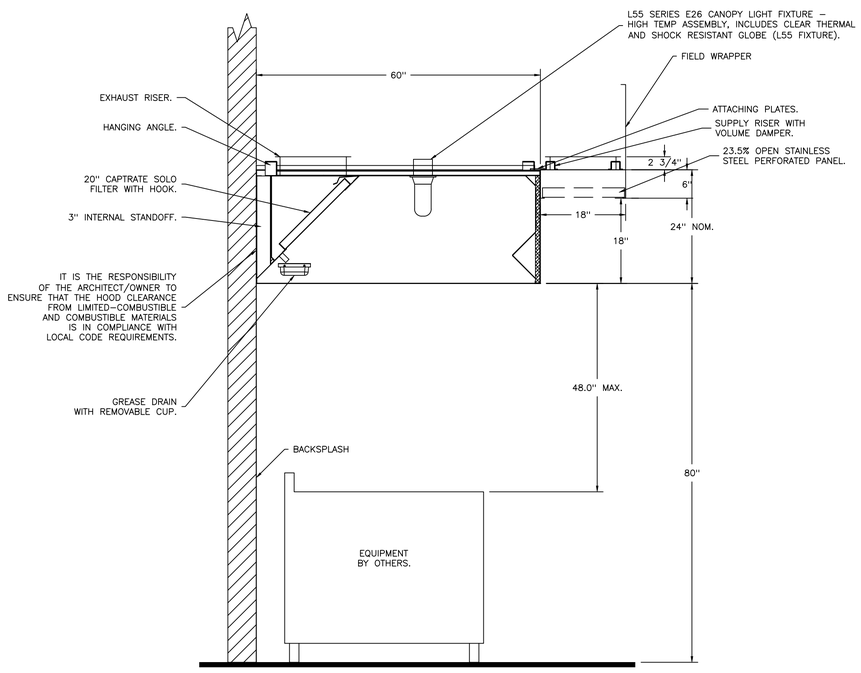
Approved with NO Exception Taken ☐

Revise and Resubmit ☐

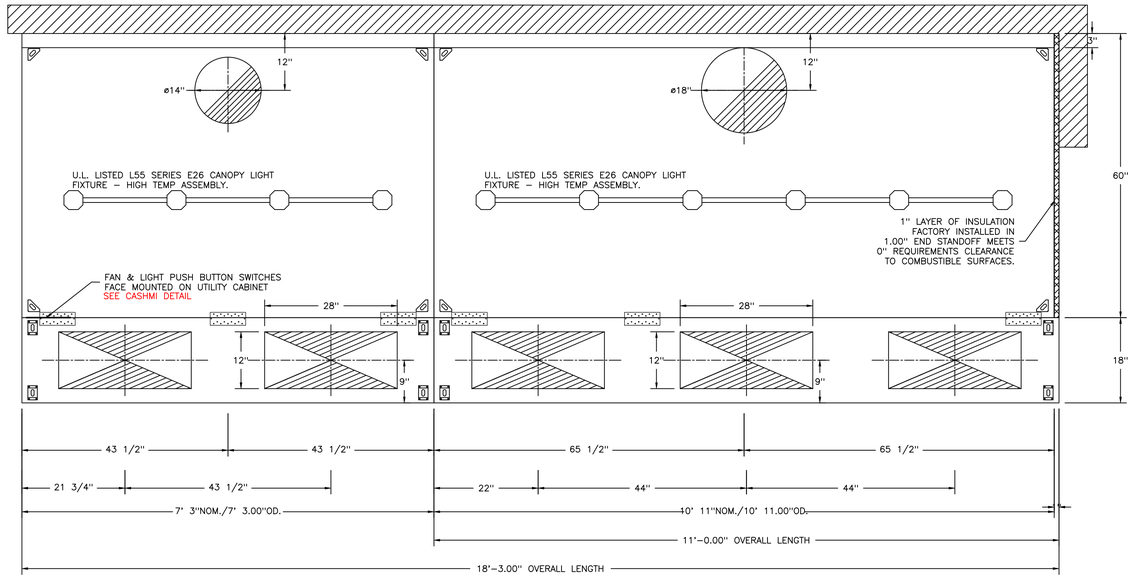
SIGNATURE _____

Your Title _____ Date _____


FOR QUESTIONS, CALL THE
Northern Virginia Mechanical
Bryan Yates
PHONE: (703) 214-2101
EMAIL: reg121@captiveaire.com


SECTION VIEW – MODEL 6024EX-2-PSP-F
HOOD – #1 & #2 (HD-1)




PLAN VIEW – HOOD #1 (HD-1 [LEFT])
7' 3.00" LONG 6024EX-2-PSP-F

PLAN VIEW – HOOD #2 (HD-1 [RIGHT])
10' 11.00" LONG 6024EX-2-PSP-F



**REVISIONS**

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AKENO SUSHI – ALEXANDRIA, VA
611 King Street,
Alexandria, VA, 22314

**DATE:** 2/7/2025

**DWG.#:** 7328257

**DRAWN BY:** BY-121

**SCALE:** NTS

**SHEET NO.** 1

FIRE SYSTEM INFORMATION – JOB#7328257

| FIRE SYSTEM NO | TAG | TYPE | SIZE | MAX FP | DESIGN FP | INSTALLATION | |
|---|---|---|---|---|---|---|---|
| | | | | | | SYSTEM | LOCATION ON HOOD |
| 1 | FS–1 | TANK FS | 4.0/4.0/4.0 | 60 | 60 | WALL UTILITY CABINET LEFT | N/A |

## SPECIFICATIONS

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE–ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT–OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE–BASED FORMULATION DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

THE FIRESTAT INSTALLED IN THE HOOD'S DUCT CONNECTION MEASURES TEMPERATURE. IF A TEMPERATURE HIGHER THAN THE SETPOINT (360DEG F) IS SENSED OR A RAPID RISE RATE OF RISE IS DETECTED, THE FIRESTAT CONTACTS WILL CLOSE AND ENGERGIZE THE FIRE SYSTEM.

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE–PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- MINIMUM 24" CLEARANCE ABOVE HOOD, REQUIRED FOR MAINTENANCE.

- FOR THE FIRST SET OF NOZZLES NEAREST THE TANK, PIPE TO THE END OF THE NOZZLE RUN THEN RETURN THE PIPE TO THE NEAREST NOZZLES TO TANK.

JOB #: 7328257.
JOB NAME: AKENO SUSHI – ALEXANDRIA, VA.

SYSTEM SIZE: TANK–SP–3–WC DESIGN FP: 60. MAXIMUM FP: 60.
HOOD # 1 7' 3.00" LONG x 60" WIDE x 24" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 1 METAL BLOW–OFF CAPS INCLUDED.
HOOD # 2 10' 11.00" LONG x 60" WIDE x 24" HIGH.
RISER # 1 SIZE: 18" DIA.
HOOD # 2 METAL BLOW–OFF CAPS INCLUDED.

- HEAVY–DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT–DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

| AGENT DISTRIBUTION PIPING LIMITATIONS | |
|---|---|
| PIPE SECTION | MAX PIPE LENGTH (FT) |
| MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE | 42 |
| OVERLAPPING NOZZLE APPLIANCE BRANCH | 10 |
| DEDICATED NOZZLE APPLIANCE BRANCH | 10 |

LEGEND – FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.


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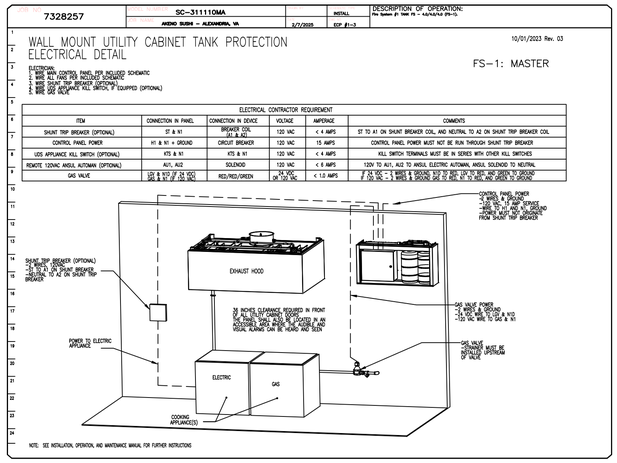


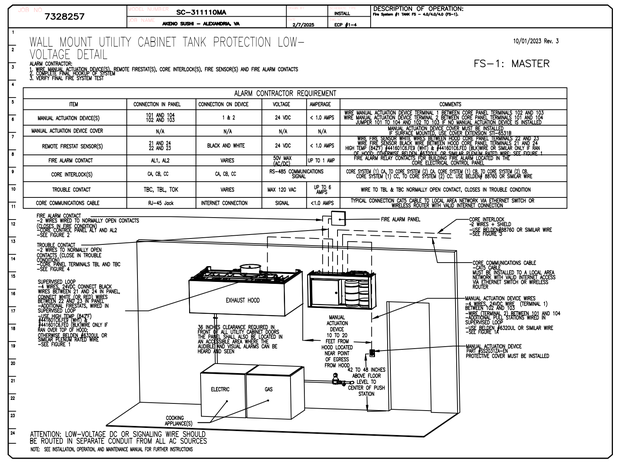


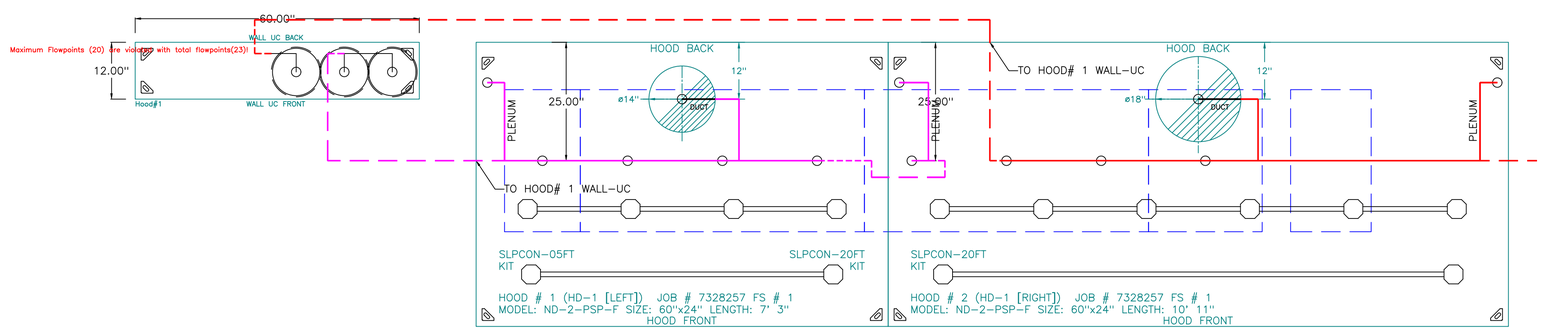


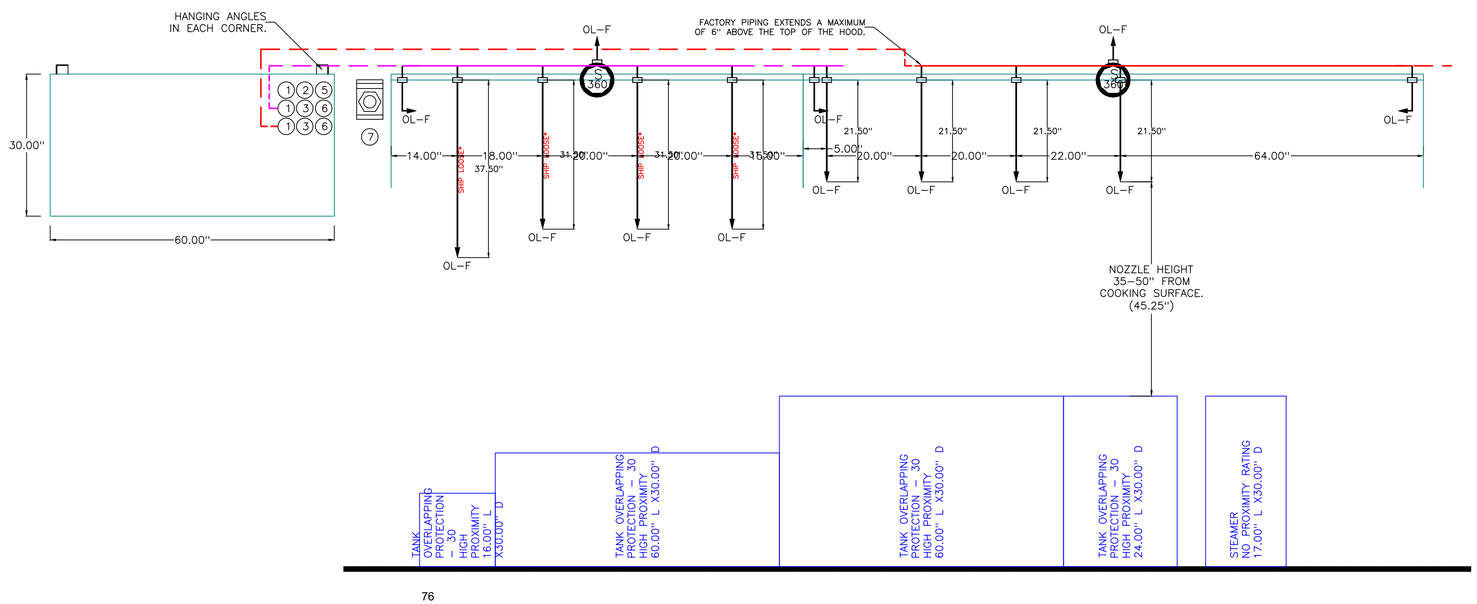




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AKENO SUSHI – ALEXANDRIA, VA
611 King Street,
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**DATE:** 2/7/2025
**DWG.#:** 7328257
**DRAWN BY:** BY–121
**SCALE:** NTS
**SHEET NO.** 2

## EXHAUST FAN INFORMATION – JOB#7328257

| FAN UNIT NO | TAG | QTY | FAN UNIT MODEL # | MANUFACTURER | CFM | ESP | RPM | MOTOR ENCL | HP | BHP | PHASE | VOLT | FLA | DISCHARGE VELOCITY | WEIGHT (LBS) | SONES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | KEF–1 | 1 | EADU240H | ECON–AIR | 4541 | 2.500 | 1114 | ODP,PREMIUM | 5.000 | 3.8620 | 3 | 208 | 15.2 | 1032 FPM | 358 | 27.3 |

## MUA FAN INFORMATION – JOB#7328257

| FAN UNIT NO | TAG | QTY | FAN UNIT MODEL # | BLOWER | HOUSING | MIN CFM | DESIGN CFM | ESP | RPM | MOTOR ENCL | HP | BHP | PHASE | VOLT | FLA | MCA | MOCP | WEIGHT (LBS) | SONES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | MAU–1 | 1 | EA2–D.500–20D | 20MF–2–MOD | A2–D.500 | 2000 | 3633 | 0.750 | 1489 | ODP,PREMIUM | 3.000 | 1.8880 | 3 | 208 | 9.5 | 11.9A | 20A | 695 | 14 |

## GAS FIRED MAKE–UP AIR UNIT(S)

| FAN UNIT NO | TAG | INPUT BTUs | OUTPUT BTUs | TEMP RISE | REQUIRED INPUT GAS PRESSURE | GAS TYPE | BURNER EFFICIENCY(%) |
|---|---|---|---|---|---|---|---|
| 2 | MAU–1 | 231383 | 212872 | 55°F | 7 IN. W.C. – 14 IN. W.C. | NATURAL | 92 |

## FAN OPTIONS

| FAN UNIT NO | TAG | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | KEF–1 | 1 | GREASE BOX |
| | | 1 | FAN BASE CERAMIC SEAL – DU/DR240HFA – INSTALLED AT PLANT – FOR GREASE DUCTS |
| | | 1 | 2 YEAR PARTS WARRANTY |
| 2 | MAU–1 | 1 | INLET PRESSURE GAUGE, 0–35" |
| | | 1 | MANIFOLD PRESSURE GAUGE, –5 TO 15" WC |
| | | 1 | BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 2 (1" MOD VALVE) |
| | | 1 | SHIP LOOSE GAS STRAINER 1" |
| | | 1 | CASLINK BUILDING MONITORING SYSTEM – INTERNET OR CELLULAR CONNECTION REQUIRED |
| | | 1 | MOTORIZED BACKDRAFT DAMPER FOR A2–D HOUSING – MEETS AMCA CLASS 1A RATING |
| | | 1 | SIZE 2 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS |
| | | 1 | SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) – THREE PHASE ONLY |
| | | 1 | SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE – USED ON HEATERS UNDER 2500 CFM |
| | | 1 | 2 YEAR PARTS WARRANTY |
| | | 1 | EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI–ROTATION BRACKET |

## CURB ASSEMBLIES

| NO | ON FAN | TAG | WEIGHT | ITEM | SIZE |
|---|---|---|---|---|---|
| 1 | # 1 | KEF–1 | 43 LBS | CURB | 31.500"W X 31.500"L X 20.000"H VENTED HINGED. |
| 2 | # 2 | MAU–1 | 80 LBS | CURB | 31.000"W X 79.000"L X 20.000"H INSULATED. |


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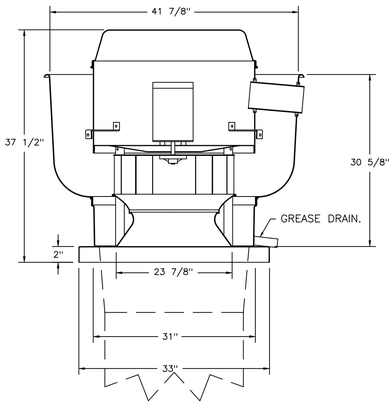
## FAN #1 EADU240H – EXHAUST FAN (KEF–1)




FEATURES:

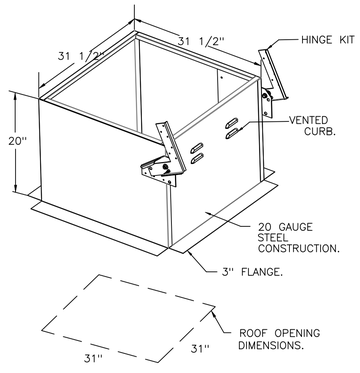
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC–S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

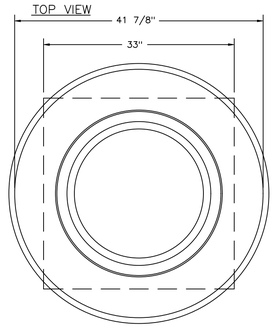
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE–UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX.
- FAN BASE CERAMIC SEAL – DU/DR240HFA – INSTALLED AT PLANT – FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.



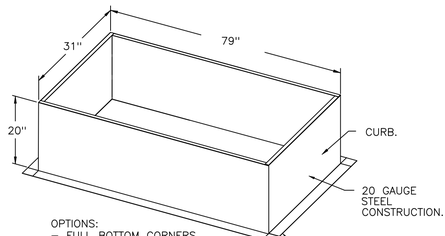

## FAN #2 EA2–D.500–20D – HEATER (MAU–1)

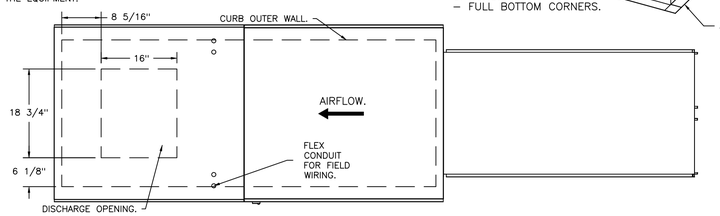
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE – AIR FLOW RIGHT –> LEFT.
4. GAS PRESSURE GAUGE, 0–35", 2.5" DIAMETER, 1/4" THREAD SIZE.
5. GAS PRESSURE GAUGE, –5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
6. BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 2 (1" MOD VALVE).
7. SHIP LOOSE GAS STRAINER, TO BE INSTALLED UPSTREAM OF UNIT CONNECTION. 1" CONNECTION.
8. CASLINK BUILDING MONITORING SYSTEM COMMUNICATIONS MODULE, REQUIRES INTERNET & FIELD WIRED ETHERNET CONNECTION OR 3G CELLULAR SERVICE. INCLUDES REV 3 COMM MODULE, RJ45 TO MODBUS CONVERTER, 3 FT CAT5 CABLE, AND 1 FT OF SHIELDED TWISTED PAIR.
9. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LF120S ACTUATOR INCLUDED.
10. DOWN DISCHARGE CONSTRUCTION FOR SIZE 2 DIRECT DRIVE AHUS.
11. SEPARATE 120VAC WIRING PACKAGE FOR MAKE–UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
12. PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.
13. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
14. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI–ROTATION BRACKET.
15. 2 YEAR PARTS WARRANTY.

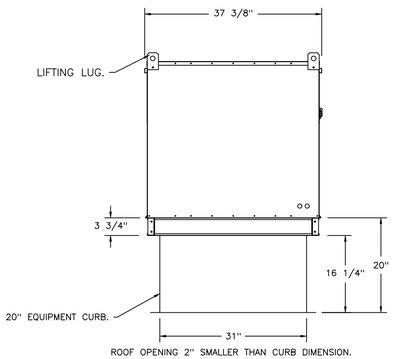
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".

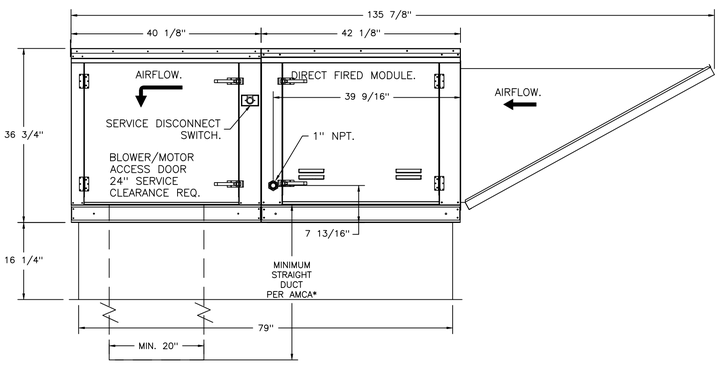
SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 21°F. TEMP. RISE = 55°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 213072.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 231600.
OUTPUT BTUs AT ALTITUDE OF 26 FT. = 212872.
INPUT BTUs AT ALTITUDE OF 26 FT. = 231382.



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AKENO SUSHI – ALEXANDRIA, VA
611 King Street,
Alexandria, VA, 22314

**DATE:** 2/7/2025

**DWG.#:** 7328257

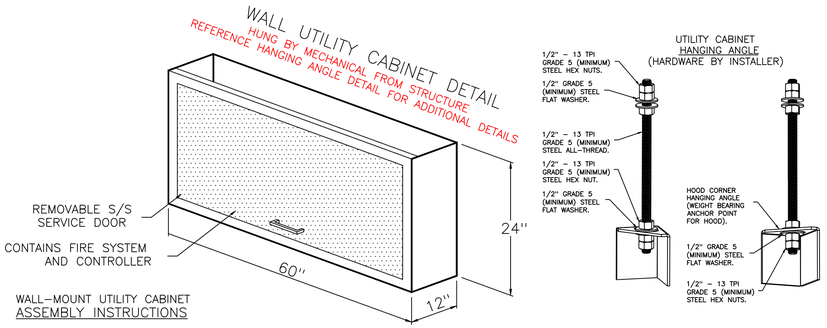
**DRAWN BY:** BY–121

**SCALE:** NTS

**SHEET NO.** 3

ELECTRICAL PACKAGE – JOB#7328257

| NO | TAG | PACKAGE # | LOCATION | SWITCHES | | OPTION | FANS CONTROLLED | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LOCATION | QUANTITY | | FAN TAG | TYPE | ϕ | HP | VOLT | FLA |
| 1 | ECP–1 | SC–311110MA | WALL UTILITY CABINET LEFT | FACE MOUNT LEFT SIDE OF HOOD | 1 LIGHT | SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY ON/OFF WITH SUPPLY | KEF–1 | EXHAUST | 3 | 5.000 | 208 | 15.2 |
| | | | | HOOD # 1 | 1 FAN | | MAU–1 | SUPPLY | 3 | 3.000 | 208 | 9.5 |




WALL–MOUNT UTILITY CABINET
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" – 13 TPI GRADE 5 (MINIMUM) ALL–THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" – 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH UTILITY CABINET HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT–LBS.

CABINET TO BE HUNG BY HOOD INSTALLER. SEE UTILITY CABINET SCHEDULE FOR CABINET SIZE.

WALL–MOUNT UTILITY CABINET

| HOOD NO | LOCATION | SIZE | UTILITY CABINET(S) | | | | |
|---|---|---|---|---|---|---|---|
| | | | FIRE SYSTEM | | ELECTRICAL | SWITCHES | WEIGHT |
| | | | TYPE | SIZE | MODEL # | QUANTITY | |
| 1 | WALL MNT | 12"x60"x30" | TANK FS | 4.0/4.0/4.0 | SC–311110MA | 1 LIGHT<br>1 FAN | 440.00 LBS |

SEQUENCE OF OPERATIONS:

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

– AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER–DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.2.8.

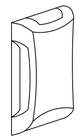
– MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.

– SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.

– OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD–WIRED INTERLOCK).

– FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

## ROOM TEMPERATURE SENSOR

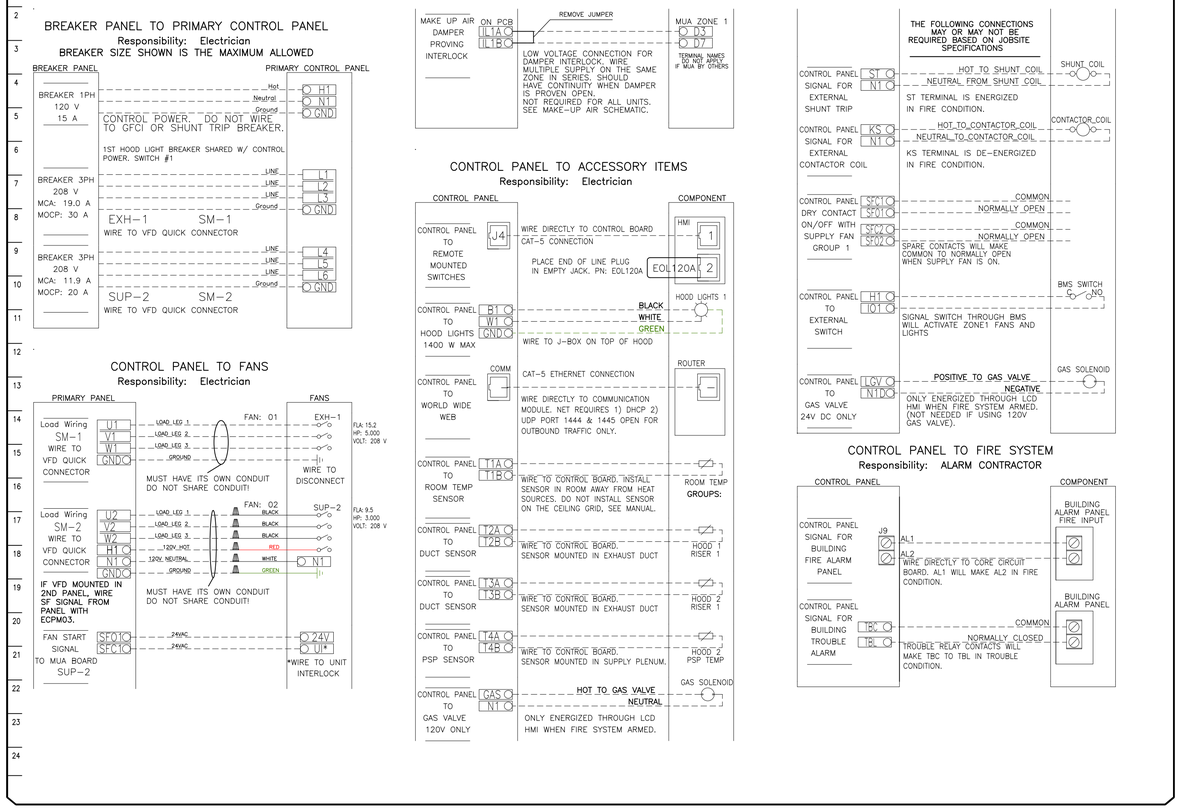


The Room Temperature sensor is a 10K Ohm Thermistor. The sensor provides constant room temperature to the controller. It should be installed on a wall somewhere in the space but not directly under the hood or close to an appliance so that the reading is not affected by heat.

Typically a system will have one room temperature sensor. However, systems configured with 2 fan zones have the option to be ordered with 2 room temperature sensors, one for each zone. They should be mounted in the space accordingly.

| JOB NO | MODEL NUMBER | ISSUED | COMMENTS |
|---|---|---|---|
| 7328257 | SC–311110MA | 2/7/2025 | INSTALL |
| JOB NAME | AKENO SUSHI – ALEXANDRIA, VA | | ECP #1–1 |

DESCRIPTION OF OPERATION:
3 Phase w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Relay On/Off with Supply Fan, Fan(s) On/Off Thermostatically Controlled. Room temperature sensor shipped loose for field installation. INVERTER DUTY 3 PHASE MOTOR REQUIRED FOR USE WITH VFD.




# ELECTRICAL SCHEMATIC FOR COORDINATION PURPOSES ONLY

CAPTIVEAIRE ELECTRIC PRE–WIRE CONTROL PACKAGE FIELD WIRING DIAGRAM SHOWN ABOVE.

ALL FIELD WIRING BY ELECTRICAL CONTRACTOR. THE PRE–WIRE PANEL IS PROVIDED BY MECHANICAL CONTRACTOR.



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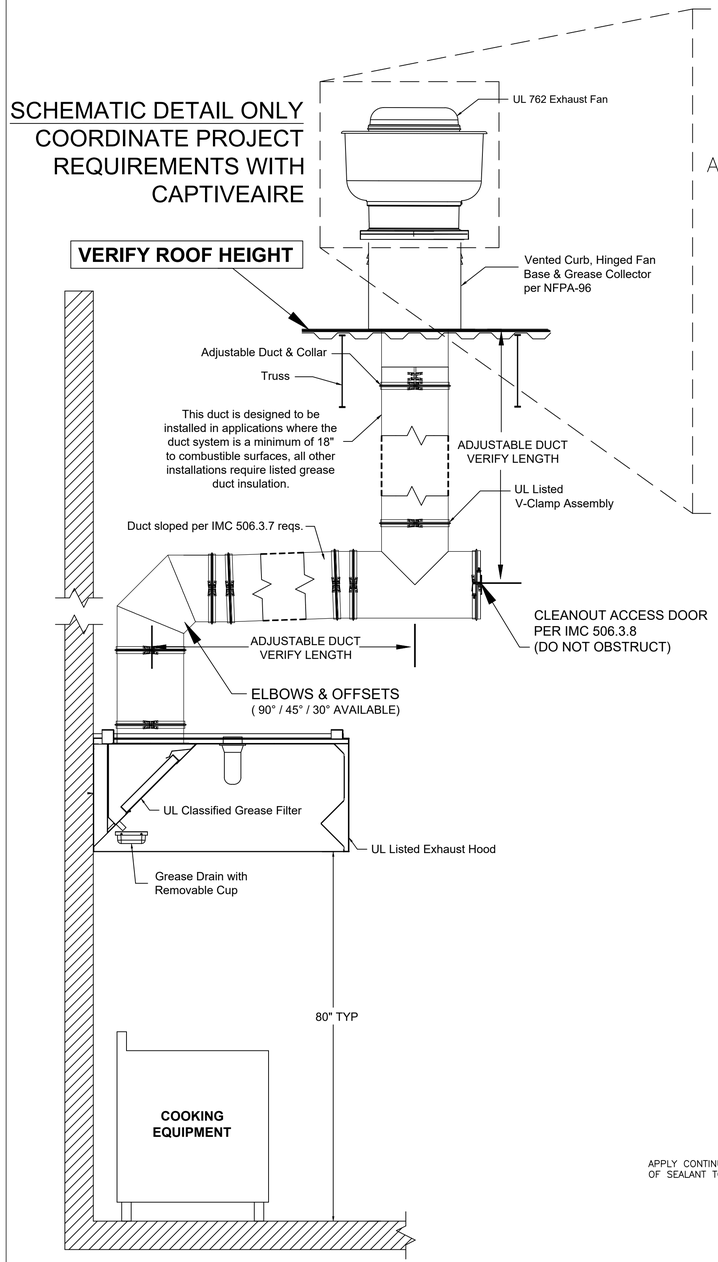
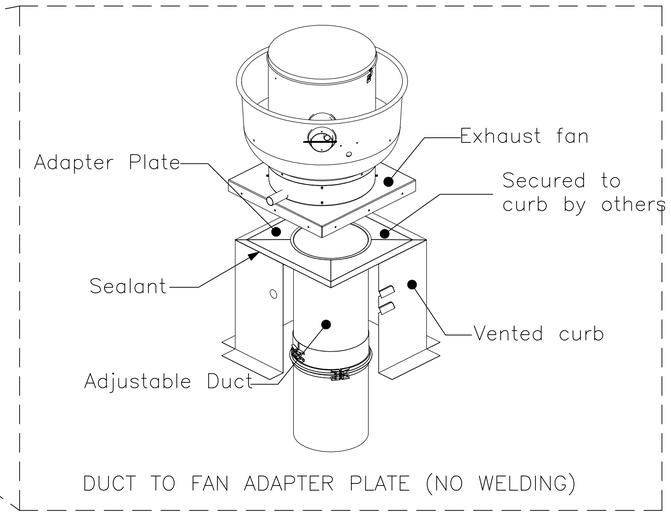
**SHEET NO.** 4

# GREASE EXHAUST DUCT DETAILS

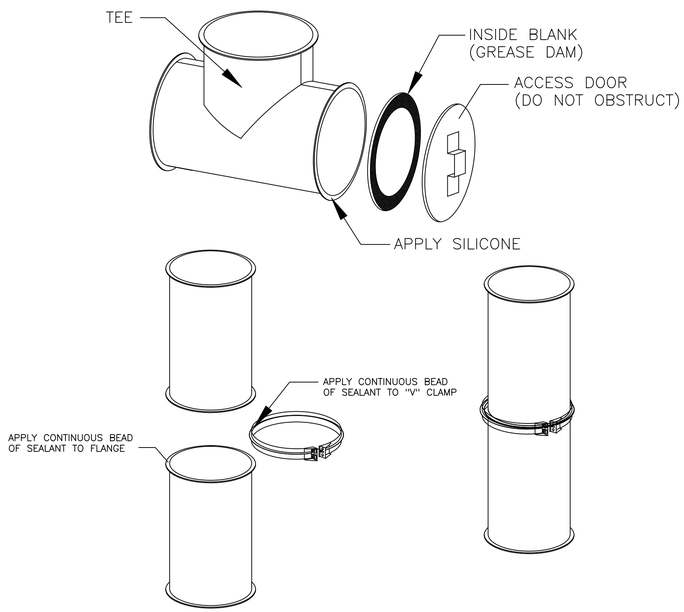
> CaptiveAire Grease Exhaust Duct is UL Listed and requires no field welding
> Complies with IMC and NFPA96 requirements
> Double-wall pre-insulated ductwork is also available




"TYPICAL" HOOD SECTION VIEW
DRAWING NOT TO SCALE




* NOTE: CAPTIVEAIRE UTILITY SET FANS ARE ALSO COMPATIBLE WITH NO-WELD CONNECTIONS FOR CAPTIVEAIRE FACTORY GREASE EXHAUST DUCT




## GREASE DUCT SPECIFICATION

Furnish single-wall, factory built, grease duct for use with Type I kitchen hoods, which conforms to the requirements of NFPA-96.
Products shall be ETL listed to UL-1978 for venting air and grease vapors from commercial cooking operations as described in NFPA-96.

The duct wall shall be constructed of .036 thick type 430 stainless steel and be available in diameters 8" through 24".
All supports, fan adapters, hood connections, fittings and expansion joints required to install grease duct shall be included.

Roof penetrations shall comply with listed clearance to combustibles, see *"Clearance to Combustibles"* guide for details.
The grease duct will terminate at the fan adapter plate, will be fully welded to the fan adapter plate and the fan adapter plate will be fastened to the curb using a suitably sized fastener provided by others; see page 12 of the *"Installation, Operation and Maintenance Manual"* for details.

Grease duct joints shall be held together by means of formed vee clamps and sealed with *3M Fire Barrier 2000+*. Screws used to secure the vee clamps shall be of the hex-head type with flanged stops and tapered "lead in" threads for easy starting. Nuts shall be retained by means of a free-floating cage to allow easy alignment.

Single-Wall Grease Duct shall be installed in accordance with the manufacturer's *"Installation, Operation and Maintenance Manual"*, ETL listing and state and local codes.
Grease duct installed outside of the building shall be protected against accidental damage or vandalism.
Support vertically installed grease duct from the building structure using rigid structural supports. Anchor supports to the structure by welding or bolting steel expansion anchors or concrete inserts. Support horizontally installed grease duct from the building structure using above method or use *Duct Mate, Wire Rope & Clutchers*, part numbers WR20 & CL20. 1/2" Threaded rod and saddles may also be used for the support of horizontal grease duct.
Fans shall be supported independently from the grease duct sections. Protect grease duct from twisting or movement caused by fan torque or vibration.

| CLEARANCE TO COMBUSTIBLES | | | |
|---|---|---|---|
| DIAMETER | COMBUSTIBLES | LIMITED COMBUSTIBLES | NON COMBUSTIBLES |
| 8" – 24" | 18" | 3" | 0" |

| HORIZONTAL CLEANOUT MAXIMUM SPACING | |
|---|---|
| DUCT DIAMETER | MAXIMUM SPACING |
| 8" – 24" | 12' |

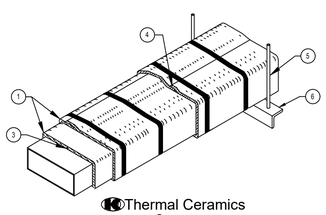
| HORIZONTAL SUPPORT MAXIMUM SPACING (FT) | |
|---|---|
| DUCT DIAMETER | MAXIMUM SPACING (FT) |
| 8" – 24" | 10' |

| VERTICAL CLEANOUT MAXIMUM SPACING | |
|---|---|
| DUCT DIAMETER | MAXIMUM SPACING |
| 8" – 24" | ONE PER FLOOR |

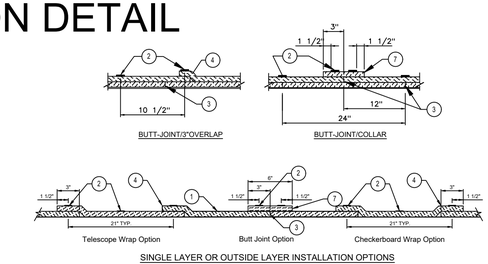
| VERTICAL SUPPORT MAXIMUM SPACING (FT) | |
|---|---|
| DUCT DIAMETER | MAXIMUM SPACING (FT) |
| 8" – 24" | 10' |

CONTACT CAPTIVEAIRE FOR A CUSTOMIZED DUCT SUBMITTAL
EMAIL: reg121@captiveaire.com
PHONE: (703) 214-2101

## DUCT INSULATION DETAIL (IF REQUIRED)



Thermal Ceramics
Pyroscat© Duct Wrap XL
Commercial Kitchen Grease Duct Enclosure System
Air Ventilation Duct Enclosure System
1 or 2 Hour Shaft Alternative / Zero Clearance to Combustibles




SINGLE LAYER OR OUTSIDE LAYER INSTALLATION OPTIONS

| LEGEND | |
|---|---|
| 1 | Two Layers of Pyroscat Duct Wrap XL Blanket for Grease Duct Enclosures<br>One Layer of Pyroscat Duct Wrap XL Blanket for Air Ventilation Duct Enclosures |
| 2 | Steel banding minimum 1/2" wide by 0.015" thick. |
| 3 | Tight butt joints on inner layer |
| 4 | Min. 3" overlap on perimeter and between adjacent blanket on outside layer |
| 5 | Min. 3/8" diameter hanger rod |
| 6 | Min. 2" x 2" x 1/8" angle for Grease Duct Enclosures<br>Min. 1-1/2" x 1-1/2" x 1/8" angle or SMACNA Equivalent for Air Ventilation Duct Enclosures |
| 7 | Optional 6" FireMaster Pyroscat Duct Wrap XL collar |

The integrity of Pyroscat duct systems is limited to the quality of the installation.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611 King Street,
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**DATE:** 2/7/2025
**DWG.#:** 7328257
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**SCALE:** NTS
**SHEET NO.** 5