1730 Mass Ave, Inc. DBA Boston Garden
Volume I (Appendix): Table of Contents

Exhibit A

Gmail

Leah Samura <lysamura@gmail.com>

Notice: Certified Economic Empowerment Recipient Status

1 message

Cannabis Control Commission <CannabisCommission@state.ma.us> Wed, Nov 20, 2019 at 3:18 PM
Reply-To: Cannabis Control Commission <CannabisCommission@state.ma.us>
To: lysamura@gmail.com

Cannabis Control Commission
COMMONWEALTH OF MASSACHUSETTS

Leah Samura
EEA#: EE202148
lysamura@gmail.com

Notice: Certified Economic Empowerment Recipient Status

Why Are You Receiving This Notice?

You are receiving this notice because you are a Certified Economic Empowerment recipient. Your certification was approved by the Cannabis Control Commission in April or May of 2018. Your certification is active and currently has no expiration date.

You should have previously received an approval notice in April or May of 2018 regarding your Certified Economic Empowerment recipient status. However, if you are unable to locate this approval notification, this notice can serve as proof of your active Certified Economic Empowerment recipient status from the Commission.

What Are Your Next Steps?

There are no required next steps regarding this notice. However, it may be prudent to have a copy of this notice on hand as proof of certification may be requested by third

parties such as municipal officials or departments during the local approval process.

If you should have any questions regarding this notice, please email licensing@cccmass.com.

Our mailing address is:
101 Federal Street, 13th Floor
Boston, MA 02110

Want to change how you receive these emails?
You can update your preferences or unsubscribe from this list.

Exhibit B

Transportation Operations and Logistics Plan

Proposed Cannabis Dispensary
1730 Massachusetts Avenue

Cambridge, Massachusetts

October 2022

FUSS & O'NEILL

190 High Street, 3rd Floor
Boston, MA 02110

Prepared for:

The Boston Garden
1730 Massachusetts Avenue
Cambridge, MA 02138

20080944.C92

FUSS & O'NEILL

Table of Contents

Transportation Operations and Logistics Plan
Proposed Cannabis Dispensary – 1730 Massachusetts Avenue
Cambridge, Massachusetts

Appendices

End of Report

Appendix A

Cannabis Retail Store Summary

Appendix B

1. Location Map
2. Multimodal Context Map
3. Curbside Use
4. Proposed Site Plan
5. Proposed Floor Plans

Appendix C

Cannabis Customer Count Data

Appendix D

Trip Generation Calculations

1 Introduction

The Boston Garden proposes to occupy approximately 5,750 square feet of the existing commercial building at 1730 Massachusetts Avenue in Cambridge, Massachusetts, with a recreational cannabis dispensary.

A total of seven vehicle parking and four short term bicycle parking spaces will be provided on site. Loading and deliveries will take place off-peak in one of the parking spaces on site.

The forthcoming transportation logistics plan has been prepared to outline how the proponent of the proposed cannabis retail establishment intends to manage traffic, parking and transportation demand, and assess any potential impacts on the adjacent roadway network.

2 Existing Conditions

2.1 Site of Development

The development site area is identified as Lot 175-75 and has a lot size of approximately 0.6 acres. A one-story building of approximately 17,940 square feet that houses multiple commercial uses partially occupies the site. The vacant commercial space was formerly occupied by a Coldwell Banker Residential Brokerage office. Other current uses in the building include a bank, two restaurants, a veterinarian office, and a small retail brokerage space.

2.2 Adjacent Roadway Network

The adjacent roadway network consists of the following roadways:

- Massachusetts Avenue
- Linnaean Street

Massachusetts Avenue is classified by Massachusetts Department of Transportation (MassDOT) as an urban principal arterial that extends for approximately four miles through Cambridge and continues through Lexington to the northeast and Boston to the south. In the vicinity of the site, the roadway carries two-way traffic with two 11-foot travel lanes in either direction. Bicycle lanes and 12-foot sidewalks are provided on both sides of the roadway. Land use along the roadway is primarily commercial.

Linnaean Street, classified by MassDOT as a local roadway, extends west from Massachusetts avenue for approximately 0.4 miles to its terminus at Garden Street. The roadway carries two-way traffic and provides two 11-foot travel lanes in either direction. Parking is provided on the north side of the roadway. Sharrow pavement markings are provided in both directions indicating that the roadway is meant to be shared with cyclists. Sidewalks are provided on both sides of the roadway. Land use along the roadway is primarily residential and institutional.

2.3 Multimodal Access

The proposed project development site is serviced by the Massachusetts Bay Transportation Authority (MBTA) bus and rail systems. Several transit access points are located within a quarter mile of the proposed site as referenced in the attached multimodal context map.

Bus stops for bus routes 77 and 96 are located within a quarter mile of the project site. Bus route 77 provides connectivity between Harvard Square and Arlington, and bus route 96 provides connectivity between Medford Square and Harvard Square.

Porter Square Station is located 0.3 miles north of the site. This station services the MBTA Red Line and the Fitchburg Commuter Rail. The Red Line provides connectivity within Cambridge, as well as access to downtown Boston, Quincy, and Braintree. The Fitchburg Commuter Rail provides access to Boston from Fitchburg and neighboring communities including Belmont, Waverley, Waltham, Lincoln, Concord, Acton, and Leominster.

Harvard Square Station is a major transportation hub and is located approximately 0.8 miles south of the project site. Harvard Square Station provides access to Downtown Boston via the MBTA Red Line and access to neighboring communities including Arlington, Medford, Belmont, Watertown, Somerville and Waverly via bus routes 71, 73, 74, 75, 77, 78, 86 and 96.

Two bike share stations managed by blue bikes are located within one quarter mile of the site, and others are located within one half mile of the site.

2.4 Curbside Occupancy

Within 500 feet of the site, public, metered, on-street parking is provided along both sides of Massachusetts Avenue, and limited, unmetered public parking is available on nearby side streets.

Parking counts were conducted on Saturday, July 23 and Wednesday, August 10, 2022, to determine weekday and weekend occupancy. On Massachusetts Avenue, the maximum occupancy of 90 percent occurred at 7:00 pm on Wednesday and Saturday. At this time, 38 spaces were occupied, and four spaces were unoccupied. Parking on side streets was between 75 and 100 percent occupied, with each side street providing between one and three unoccupied spaces.

Observed total parking occupancy ranged between 59 and 86 percent, with between eight and 23 public parking spaces available within 500 feet of the proposed development.

During the time of the parking counts three public parking spaces on Massachusetts Avenue were occupied by outdoor dining patios. These spaces were not included in parking occupancy calculations.

Parking occupancy during the study period is summarized in Table 1 below.

Table 1 – Public Parking Occupancy Within 500 Feet of the Site

SATURDAY, JULY 23, 2022					
Street	Side	Spaces	12:00 noon	3:00 PM	7:00 PM
Massachusetts Avenue	East Side	Occupied	16	14	17
		Un-Occupied	6	8	5
	West Side	Occupied	5	8	16
		Un-Occupied	14	11	3
Forest Street	North Side	Occupied	1	2	2
		Un-Occupied	2	1	1
	South Side	Occupied	0	1	2
		Un-Occupied	2	1	0
Linnaean Street	North Side	Occupied	2	4	2
		Un-Occupied	2	0	2
Exeter Park	North Side	Occupied	2	2	1
		Un-Occupied	0	0	1
	South Side	Occupied	2	2	1
		Un-Occupied	1	1	2
Prentiss Street	North Side	Occupied	1	1	1
		Un-Occupied	0	0	0
		Occupied	29	34	42
		Available	27	22	14
		Total	56	56	56

	Occupancy	**52%**	**61%**	**75%**

WEDNESDAY, AUGUST 10, 2022							
Street	Side	Time	10:00 AM	12:00 PM	3:00 PM	5:00 PM	7:00 PM
Massachusetts Avenue	East Side	Occupied	20	20	17	12	22
		Un-occupied	2	2	5	10	0
	West Side	Occupied	7	15	11	11	15
		Un-occupied	12	4	8	8	4
Forest Street	North Side	Occupied	3	3	2	1	2
		Un-occupied	0	0	1	2	1
	South Side	Occupied	1	2	2	2	2
		Un-Occupied	1	0	0	0	0
Linnaean Street	North Side	Occupied	1	2	1	1	3
		Un-occupied	3	2	3	3	1
Exeter Park	North Side	Occupied	2	2	2	2	0
		Un-occupied	0	0	0	0	2
	South Side	Occupied	3	2	3	3	3
		Un-Occupied	0	1	0	0	0
Prentiss Street	North Side	Occupied	1	1	1	1	1
		Un-occupied	0	0	0	0	0
		Occupied	38	47	39	33	48
		Available	18	9	17	23	8
		Total	56	56	56	56	56
		Occupancy	**68%**	**84%**	**70%**	**60%**	**86%**

Table 2 – Public Parking Occupancy by Type of Spaces

SATURDAY, JULY 23, 2022				
		12:00 PM	3:00 PM	7:00 PM
On Street Unmetered Public Parking	Occupied	8	11	7
	Un-occupied	5	2	6
2 hour metered parking (8:00am – 8:00pm except Sundays)	Occupied	19	21	33
	Un-occupied	22	20	8
1 hour metered parking (8:00am – 8:00pm except Sundays)	Occupied	2	2	2
	Un-occupied	0	0	0
Handicap Parking	Occupied	1	2	2
	Un-occupied	2	1	1
Loading Zone	Occupied	2	2	1
	Un-occupied	3	3	4

WEDNESDAY, AUGUST 10, 2022						
		10:00 AM	12:00 PM	3:00 PM	5:00 PM	7:00 PM
On Street Unmetered Public Parking	Occupied	10	10	9	8	9
	Unoccupied	3	3	4	5	4
2 hour metered parking (8:00am – 8:00pm except Sundays)	Occupied	26	35	28	24	37
	Unoccupied	15	6	13	17	4
1 hour metered parking (8:00am – 8:00pm except Sundays)	Occupied	2	2	2	1	2
	Unoccupied	0	0	0	1	0
Handicap Parking	Occupied	2	1	1	0	1
	Unoccupied	1	2	2	3	2
Loading Zone	Occupied	3	1	1	0	0
	Unoccupied	2	4	4	5	5

3 Future Conditions

3.1 Future Roadway Improvements

As part of the City of Cambridge cycling safety ordinance, protected bicycle lanes will be constructed on Massachusetts Avenue. A number of quick-build, partial construction, and full construction options are

under consideration for the corridor between Dudley Street and Beech Street. Both quick-build options, which are the most likely to be implemented in the near-term, eliminate vehicle parking on both sides of the roadway and maintain the existing concrete median. One near-term option maintains two travel lanes in each direction, and the other converts one travel lane in each direction to a bus lane.

The partial construction options, which may be constructed in the medium-term, eliminate the concrete median and maintain vehicle parking on one or both sides of the roadway. Each of the three full construction options eliminates the concrete median and maintains some parking on one side of the roadway.

3.2 Proposed Development

The Boston Garden proposes to occupy approximately 5,750 square feet of the existing commercial building at 1730 Massachusetts Avenue in Cambridge, Massachusetts with a recreational cannabis dispensary. Approximately 2,124 square feet in the basement will be used for office space and other employee amenities, including lockers and a break room. The dispensary entry area, sales floor, security, and vault will occupy approximately 3,624 square feet on the ground floor.

A total of seven vehicle parking and four short term bicycle parking spaces will be provided on site. Long term bicycle storage will be located inside the building. Loading and deliveries will take place outside of peak operating periods and utilize one of the on-site parking spaces.

The dispensary will operate with an appointment-only restriction in place for the first six months of operation. The dispensary does not plan to offer home delivery.

Further logistics of the proposed development are summarized in the Cannabis Retail Store Summary Form, located in Appendix A.

3.3 Trip Generation

Customer trip generation was determined by peak hour customer counts conducted by Fuss & O'Neill at three dispensaries in the Greater Boston metropolitan area within the past 18 months. These dispensaries include Garden Remedies in Newton, Ethos in Watertown, and Seed in the Jamaica Plain neighborhood of Boston.

The peak hour counts at these three dispensaries were used to develop an average rate of customers per 1,000 square feet of gross floor area for the afternoon and Saturday peak hours. This rate was applied to

the proposed development. Based on 5,750 square feet, the proposed dispensary is expected to generate 79 customers during the afternoon peak hour, and 70 customers during the Saturday peak hour.

The daily customer trip generation was determined using customer counts conducted by Fuss & O'Neill at NETA in Brookline in September of 2019. These counts indicate that approximately 12 percent of daily customer trips occur during the peak hour. Based on 79 customers anticipated during the peak hour, the anticipated daily trip generation is 658 customers.

Customer mode share was also determined using the counts conducted at NETA. Counts conducted at NETA, Garden Remedies, Ethos, and Seed have been included in Appendix C

Employee trip generation assumes that 75 percent of employees work each day, and that during the peak hour of employee trip generation, 50 percent of total employees are arriving to the site. Therefore, the anticipated daily trip generation is nine employees, and the anticipated peak hour trip generation is six employees. Employee mode share is based on the 2018 Sira Naturals PTDM.

3.4 Parking Demand

A total of seven parking spaces are provided on site, which exceeds the six spaces required by the zoning code by one space. Based on customer and employee mode share, the maximum anticipated 40 customers on site at one time, and the parking required for employees, the maximum parking demand is expected to be 23 spaces. This exceeds the available parking on site by 16 spaces. The curbside occupancy counts indicated that at on average, approximately 17 parking spaces are available within 500 feet of the site.

For the first six months, an appointment-only restriction will be in place that requires customers to indicate their anticipated mode of transportation to the site. This will prevent parking demand that exceeds on-site parking availability.

The anticipated installation of protected bike lanes on Massachusetts Avenue will likely eliminate some of the available street parking, the impact of which may be felt initially by all existing businesses along the corridor. However, the installation of protected bike lanes will likely generate additional bicycle and pedestrian traffic that may otherwise travel to the site by vehicle.

Additionally, the parking demand for the proposed dispensary is not expected to be significantly more intense than any other retail use that may occupy the space.

3.5 Customer Circulation & Queue Management

Customers will enter the dispensary via the existing recess entry on Massachusetts Avenue and check in with the receptionist at the service desk. After check-in, customers will enter the sales floor through their right-side sales door. Customers will complete their transaction at one of the nine points of sale. After completing the transaction, customers will exit the sales area through their right-side door and pass through the customer entry area to exit the building through the entry door.

The number of customers at the dispensary will be regulated by the appointment only restriction for the first six months. Customers will not be permitted to queue on the sidewalk. This regulation will be enforced by the dispensary parking attendants and the dispensary security guard.

3.6 Transportation Impact Mitigation

The following actions will be taken by the proponent in an effort to reduce single occupancy vehicle (SOV) trips to and from the proposed dispensary:

1. Provide a 100% subsidized Charlie Card and/or Commuter Rail pass to any employee who is able to utilize the MBTA system to commute to the dispensary. This will be facilitated through enrollment in the MBTA Perq program.
2. Prominently display all public transit schedules in a visible location at the dispensary.
3. Provide maps depicting MBTA station locations, Bluebike docking locations, and public bike parking locations to both employees and customers in order to supply transit users with the information required to utilize the system.
4. Prioritize the hiring of employees that live locally and may commute via local transit, by bicycle, or on foot.
5. Provide an air pump and bicycle repair tools for employees and customers to use if necessary.
6. Provide lockers for employees that walk or bike to work.
7. Offer all employees a gold level Bluebikes bikeshare membership.
8. Designate a transportation coordinator to manage the implementation of the transportation demand management measures.
9. If requested by TP&T or the Community Development Department (CDD), the applicant will provide information on employee and customer travel modes and where they customarily park,

as well as information on loading and delivery operations. Such information will be obtained via surveys designed and conducted in coordination with TP&T and CDD.

10. Make a one-time financial contribution of $35,000 to the City of Cambridge for investment in multimodal transportation improvements to mitigate the project's traffic and parking impacts on the surrounding area.

4 Conclusions

The purpose of preparing this transportation operations and logistics plan is to outline how the proponent of the proposed cannabis retail establishment at 1730 Massachusetts Avenue intends to manage traffic, parking, and transportation demand.

The site is serviced by the MBTA bus and rail systems, and two bike share stations are located within one quarter mile of the site. Additionally, four public bicycle parking spaces and 56 public on-street vehicle parking spaces are located within 500 feet of the site. The public vehicle parking was found to be between 52 and 86 percent occupied during the study period.

Based on customer count data collected at other dispensaries in Greater Boston, the proposed development is expected to attract 658 customers per day, with 79 customers expected during the afternoon peak hour and 70 customers expected during the Saturday peak hour. Based on observed mode split at other dispensaries, 55 percent of customers are expected to arrive by vehicle, and 45 percent are expected to arrive via an alternate mode of transportation.

The proponent intends to implement a variety of transportation demand management measures in an effort to promote alternate modes of transportation and reduce single occupancy vehicle trips to the site. The proponent will follow City of Cambridge procedures for monitoring and reporting transportation demand.

Based on the results of the foregoing analysis, it is the professional opinion of Fuss & O'Neill that the proposed dispensary at 1730 Massachusetts Avenue will have no significant impact on traffic operations or existing transportation infrastructure within the study area.

Appendix A

Cannabis Retail Store Summary Form

Project Site	
Store Address	1730 Massachusetts Avenue, Cambridge, MA 02138
Total floor area of store (including sales, back of house, other)	5,750 SF
Retail sales area (including customer waiting areas)	1,741 SF
Maximum customer capacity - sales area	27
Maximum customer capacity – waiting area	9
Employees	
Number of full-time employees (total)	6
Number of part – time employees (total)	6
Maximum number of employees on – site at one time.	8
Employee Mode Shares:	
% single – Occupancy vehicle (SOV) (including ride – hailing)	44%
% high – occupancy vehicle (HOV)	11%
% public transit	10%
% walk	13%
% bike	6%
% other	16%
Customers	
Number of Customers per day	658
Maximum number of customers expected at any one time	40
Customer Mode Shares:	
% single – Occupancy vehicle (SOV) (including ride – hailing)	42%
% high – occupancy vehicle (HOV)	13%
% public transit	16%
% walk	25%

% bike	2%
% other	2%
Transit availability	
List the public transportation services within a ¼ mile of the site, including type (subway, bus, bike share), walking distance and frequency	**MBTA Bus routes:** #77, #96 at Massachusetts Ave. at Linnaean St. (~1 minute walk; ~135 feet) #77, #96 at Massachusetts Ave at Exeter Park (~2 minute walk; ~300 feet) **Bluebike Stations:** Lesley University (~4 minute walk; ~0.2 miles) Graham and Parks School (~7 minute walk ~0.3 miles)
List the duration and frequency of public transit services for weekdays and weekends	**Route 77** Weekdays: AM peak – every 9-11 minutes, PM peak – every 12 minutes, Off-peak – 15 min Weekends: Saturday – every 12- 17 minutes, Sunday – every 18-20 minutes **Route 96** Weekdays: AM and PM peak – every 30 minutes, Off-peak, daytime – every 50 min, Off-peak, nighttime – every 40-60 min Weekends: Saturday – every 40-60 minutes, Sunday –every 60 minutes **MBTA - Red line** Weekdays: AM and PM Peak – every 11 minutes, Off-peak – every 12-16 minutes Weekends: every 12-16 minutes

Auto Parking Availability	
List public parking facilities within 500 feet of site (with addresses/ locations, distance, and number of spaces) and parking occupancy for minimum one weekday (e.g. minimum 10am, 12pm,3pm, 5pm, 7pm) and minimum noon, 3pm and 7pm) *comprehensive parking occupancy data is included in the accompanying narrative	**On-street Public Parking: Massachusetts Avenue – 41 spaces** Maximum Occupancy: 90% - weekday, 7 PM 90% - Saturday, 7 PM **On-street Public Parking: Linnean Street – 4 spaces** Maximum Occupancy*: 75% - weekday, 7 PM 100% - Saturday, 3 PM **On-street Public Parking: Exeter Park – 5 spaces** Maximum Occupancy: 100% - weekday, 10 AM, 3 PM, 5 PM 80% - Saturday, 12 PM, 3 PM **On-street Public Parking: Prentiss Street – 1 space** Maximum Occupancy: 100% - weekday, 10 AM, 3 PM, 5 PM 80% - Saturday, 12 PM, 3 PM **On-street Public Parking: Forest Road – 5 spaces** Maximum Occupancy: 100% - weekday, 12 PM 80% - Saturday, 7 PM
Estimated peak parking demand needed for employees	4
Estimated peak parking demand for customers	19
Number of parking spaces on-site	7
Number of employee parking spaces off-site (describe location and distance from site)	0
Number of customer parking spaces off-site (describe location and distance from site)	0

<table>
<tr><td>Bicycle Parking Availability</td><td></td></tr>
<tr><td>Number of employee long-term bicycle parking spaces on the project site</td><td>2</td></tr>
<tr><td>Number of Customer short-term bicycle parking spaces on the project site</td><td>4</td></tr>
<tr><td>Number of public bicycle parking spaces within 100 feet of the main entrance of the site</td><td>4</td></tr>
<tr><td>Loading and delivery</td><td></td></tr>
<tr><td>Address of proposed loading and delivery service location (note whether it is on street or off-street)</td><td>1730 Massachusetts Avenue, Cambridge, MA 02138: off-street</td></tr>
<tr><td>List the types of loading and delivery trips that will service the site (eg product delivery, cash pick-up, refuse collection) and expected number of trips per week for each type</td><td>Product delivery, cash pick-up, refuse collection</td></tr>
<tr><td>Project Trip Generation</td><td></td></tr>
<tr><td>Daily, Evening, and Saturday Peak Hour employees and customer trip generation by mode</td><td>
<table>
<tr><td></td><td colspan="3">Employees</td><td colspan="3">Customer</td></tr>
<tr><td></td><td>Daily</td><td>Evening</td><td>Saturday</td><td>Daily</td><td>Evening</td><td>Saturday</td></tr>
<tr><td>SOV</td><td>3</td><td>2</td><td>2</td><td>276</td><td>33</td><td>29</td></tr>
<tr><td>HOV</td><td>2</td><td>2</td><td>2</td><td>86</td><td>11</td><td>10</td></tr>
<tr><td>Transit</td><td>1</td><td>0</td><td>0</td><td>105</td><td>12</td><td>11</td></tr>
<tr><td>Walk</td><td>1</td><td>1</td><td>1</td><td>165</td><td>20</td><td>17</td></tr>
<tr><td>Bike</td><td>1</td><td>0</td><td>0</td><td>13</td><td>2</td><td>2</td></tr>
<tr><td>Other</td><td>1</td><td>1</td><td>1</td><td>13</td><td>1</td><td>1</td></tr>
</table>
</td></tr>
</table>

Appendix C

Dispensary Count Data

Time	Total	SOV	HOV	Transit	Walk	Bike	Bluebike	Scooter	Drop Off	Ride Share
10:00 AM	48	20.8%	22.9%	20.8%	27.1%	0.0%	0.0%	2.1%	2.1%	4.2%
10:15 AM	26	26.9%	30.8%	19.2%	11.5%	0.0%	0.0%	0.0%	0.0%	11.5%
10:30 AM	46	30.4%	8.7%	15.2%	28.3%	4.3%	0.0%	0.0%	4.3%	8.7%
10:45 AM	24	16.7%	25.0%	20.8%	25.0%	0.0%	0.0%	0.0%	8.3%	4.2%
11:00 AM	40	37.5%	17.5%	12.5%	22.5%	2.5%	2.5%	0.0%	0.0%	5.0%
11:15 AM	41	39.0%	12.2%	7.3%	22.0%	9.8%	0.0%	2.4%	0.0%	7.3%
11:30 AM	45	37.8%	17.8%	11.1%	26.7%	0.0%	0.0%	0.0%	0.0%	6.7%
11:45 AM	48	37.5%	22.9%	10.4%	22.9%	2.1%	2.1%	0.0%	0.0%	2.1%
12:00 PM	44	40.9%	18.2%	13.6%	18.2%	0.0%	0.0%	0.0%	0.0%	9.1%
12:15 PM	49	28.6%	20.4%	12.2%	24.5%	2.0%	0.0%	4.1%	0.0%	8.2%
12:30 PM	33	30.3%	15.2%	27.3%	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%
12:45 PM	50	32.0%	8.0%	18.0%	18.0%	4.0%	0.0%	8.0%	2.0%	10.0%
1:00 PM	42	38.1%	9.5%	21.4%	21.4%	2.4%	0.0%	2.4%	0.0%	4.8%
1:15 PM	41	51.2%	14.6%	7.3%	22.0%	2.4%	0.0%	0.0%	0.0%	2.4%
1:30 PM	38	50.0%	5.3%	10.5%	28.9%	2.6%	0.0%	0.0%	0.0%	2.6%
1:45 PM	54	33.3%	22.2%	11.1%	29.6%	0.0%	0.0%	0.0%	0.0%	3.7%
2:00 PM	65	38.5%	16.9%	12.3%	30.8%	0.0%	0.0%	1.5%	0.0%	0.0%
2:15 PM	67	38.8%	17.9%	11.9%	31.3%	0.0%	0.0%	0.0%	0.0%	0.0%
2:30 PM	49	49.0%	10.2%	10.2%	24.5%	0.0%	0.0%	0.0%	0.0%	6.1%
2:45 PM	24	41.7%	8.3%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%
3:00 PM	41	36.6%	26.8%	12.2%	22.0%	0.0%	0.0%	2.4%	0.0%	0.0%
3:15 PM	33	45.5%	6.1%	21.2%	24.2%	0.0%	0.0%	0.0%	0.0%	3.0%
3:30 PM	41	43.9%	9.8%	12.2%	19.5%	7.3%	0.0%	2.4%	0.0%	4.9%
3:45 PM	40	42.5%	15.0%	15.0%	22.5%	0.0%	0.0%	2.5%	0.0%	2.5%
4:00 PM	40	42.5%	17.5%	17.5%	20.0%	0.0%	0.0%	2.5%	0.0%	0.0%
4:15 PM	37	40.5%	18.9%	24.3%	13.5%	0.0%	0.0%	0.0%	0.0%	2.7%
4:30 PM	39	41.0%	10.3%	12.8%	25.6%	5.1%	0.0%	0.0%	0.0%	5.1%
4:45 PM	40	42.5%	20.0%	7.5%	25.0%	2.5%	0.0%	0.0%	0.0%	2.5%
5:00 PM	21	47.6%	9.5%	4.8%	23.8%	0.0%	0.0%	4.8%	0.0%	9.5%
5:15 PM	27	37.0%	18.5%	29.6%	14.8%	0.0%	0.0%	0.0%	0.0%	0.0%
5:30 PM	27	37.0%	0.0%	25.9%	37.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5:45 PM	37	37.8%	21.6%	10.8%	24.3%	2.7%	0.0%	0.0%	0.0%	2.7%
6:00 PM	40	47.5%	0.0%	22.5%	25.0%	2.5%	2.5%	0.0%	0.0%	0.0%
6:15 PM	38	39.5%	5.3%	15.8%	34.2%	2.6%	0.0%	2.6%	0.0%	0.0%
6:30 PM	30	60.0%	13.3%	16.7%	0.0%	0.0%	0.0%	0.0%	3.3%	6.7%
6:45 PM	38	36.8%	18.4%	15.8%	23.7%	2.6%	0.0%	2.6%	0.0%	0.0%
7:00 PM	36	36.1%	11.1%	16.7%	36.1%	0.0%	0.0%	0.0%	0.0%	0.0%
7:15 PM	75	33.3%	14.7%	17.3%	34.7%	0.0%	0.0%	0.0%	0.0%	0.0%
7:30 PM	72	41.7%	11.1%	15.3%	30.6%	1.4%	0.0%	0.0%	0.0%	0.0%
7:45 PM	38	44.7%	7.9%	15.8%	28.9%	0.0%	0.0%	0.0%	0.0%	2.6%
8:00 PM	36	36.1%	16.7%	16.7%	22.2%	2.8%	0.0%	0.0%	0.0%	5.6%
8:15 PM	44	38.6%	9.1%	18.2%	31.8%	2.3%	0.0%	0.0%	0.0%	0.0%
8:30 PM	48	33.3%	6.3%	22.9%	33.3%	0.0%	0.0%	0.0%	2.1%	2.1%
8:45 PM	42	47.6%	4.8%	16.7%	21.4%	4.8%	2.4%	0.0%	0.0%	2.4%
9:00 PM	32	46.9%	0.0%	18.8%	34.4%	0.0%	0.0%	0.0%	0.0%	0.0%
9:15 PM	33	39.4%	12.1%	21.2%	21.2%	0.0%	3.0%	0.0%	0.0%	3.0%
9:30 PM	48	45.8%	4.2%	14.6%	27.1%	0.0%	2.1%	0.0%	4.2%	2.1%
9:45 PM	41	39.0%	14.6%	14.6%	24.4%	2.4%	0.0%	0.0%	2.4%	2.4%
Average	41	39.2%	13.5%	16.1%	24.8%	1.5%	0.3%	0.8%	0.6%	3.3%

Seed Dispensary Footfall Counts

Friday- 3/26/21		Saturday- 3/27/21	
	Customers		Customers
4	8	**2:00**	**10**
4:15	**13**	**2:15**	**11**
4:30	**6**	**2:30**	**9**
4:45	**10**	**2:45**	**6**
5:00	**15**	3:00	5
5:15	4	3:15	8
5:30	9	3:30	5
5:45	4	3:45	11
Peak Hour Total	44		36

Garden Remedies: Customers 4/5/20- 4/10/21

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	4/5/2021	**4/6/2021**	**4/7/2021**	**4/8/2021**	**4/9/2021**	**4/10/2021**
10:00	23	27	27	25	29	6
10:30	14	15	23	25	17	5
11:00	15	19	21	15	27	9
11:30	15	15	19	19	18	15
12:00	15	19	18	18	34	23
12:30	25	22	23	24	34	33
13:00	17	18	20	23	23	34
13:30	20	19	24	25	20	33
14:00	7	5	11	9	15	10
14:30	13	12	13	19	15	11
15:00	38	33	31	22	28	23
15:30	26	22	31	26	39	41
16:00	26	32	23	24	44	34
16:30	24	20	22	29	36	42
17:00	16	27	26	29	45	32
17:30	31	30	31	35	45	24
18:00	26	37	21	37	51	27
18:30	21	27	24	31	42	28
19:00	23	25	28	22	33	24
19:30	21	18	24	25	38	13

Ethos Counts

Friday, 3/21/2021		Saturday, 3/22/21	
	Customers		Customers
3:00 PM	9	2:00 PM	**11**
3:15 PM	11	2:15 PM	**13**
3:30 PM	9	2:30 PM	**13**
3:45 PM	2	2:45 PM	**16**
4:00 PM	**16**	3:00 PM	11
4:15 PM	**9**	3:15 PM	7
4:30 PM	**10**	3:30 PM	4
4:45 PM	**13**	3:45 PM	6
5:00 PM	11	4:00 PM	15
5:15 PM	8	4:15 PM	10
5:30 PM	14	4:30 PM	16
5:45 PM	9	4:45 PM	7
6:00 PM	7	5:00 PM	11
6:15 PM	14	5:15 PM	7
6:30 PM	10	5:30 PM	10
6:45 PM	12	5:45 PM	9

Appendix D

Trip Generation Calculations

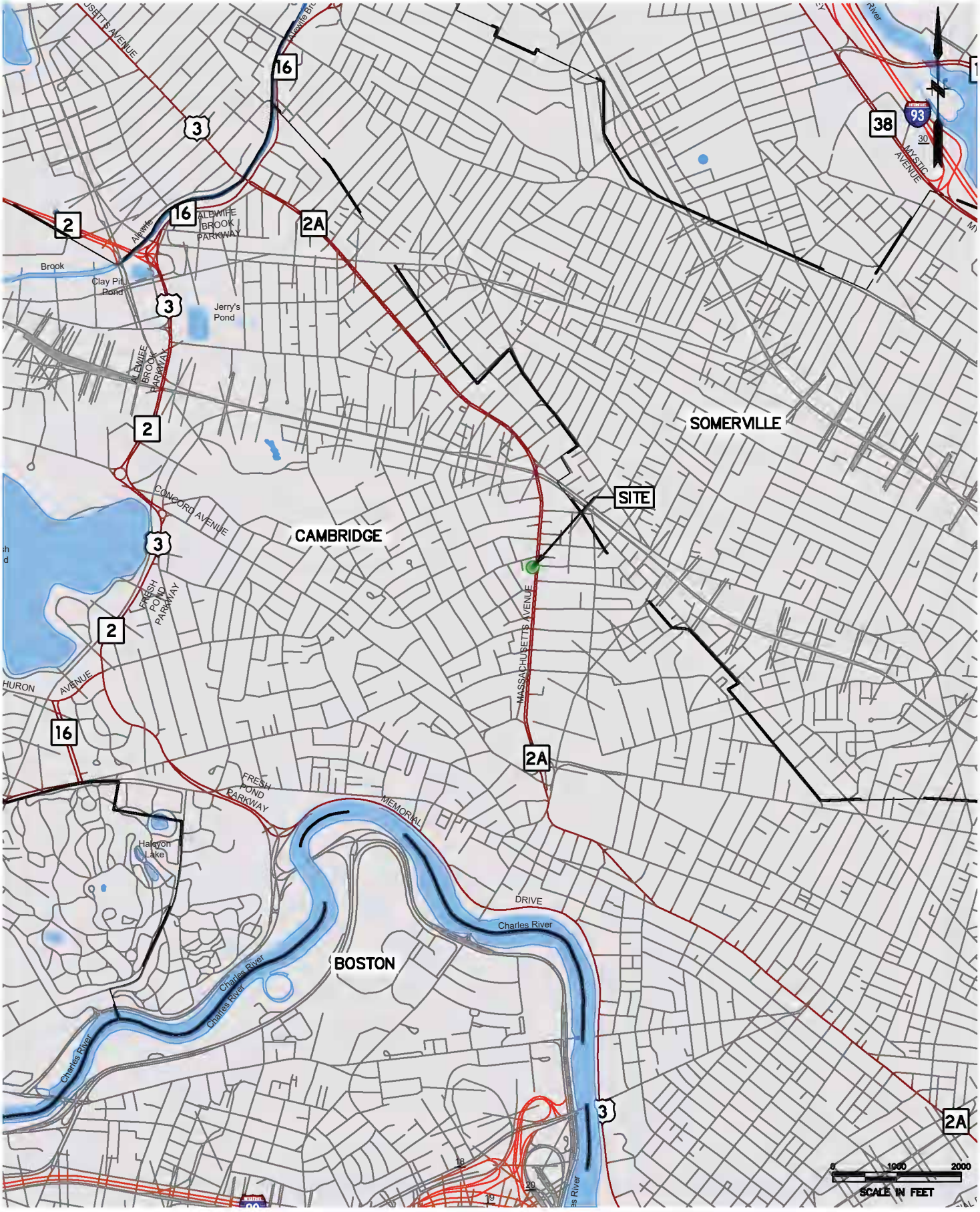
Trip Generation Calculations

	SF	PM Peak	Saturday Peak		PM Rate	Sat Rate
Garden Remedies	4480	96	76		21.42857143	16.96428571
Ethos	3900	48	53		12.30769231	13.58974359
Seed	6000	44	36		7.333333333	6
				Average Rates	13.68986569	12.18467643
				Average Rate	13.7	12.2
				Average Rate*5.75	78.775	70.15
				Trips	79	70

Peak Hour Trips: 12 percent of Daily Trips

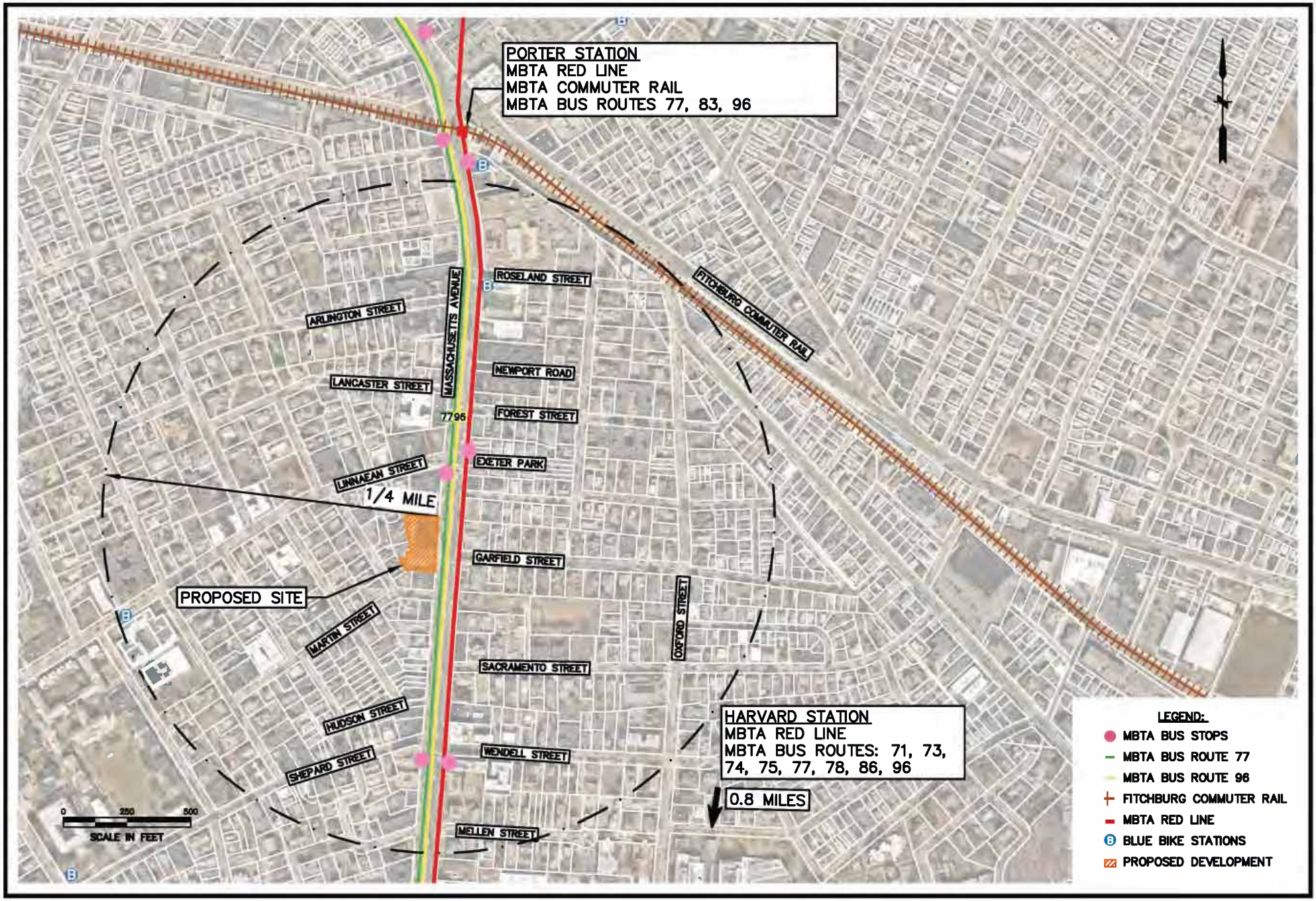
Daily Trips 658

	SOV	HOV	Transit	Walk	Bike	Other
Daily	276	86	105	165	13	13
PM	33	11	12	20	2	1
Saturday	29	10	11	17	2	1



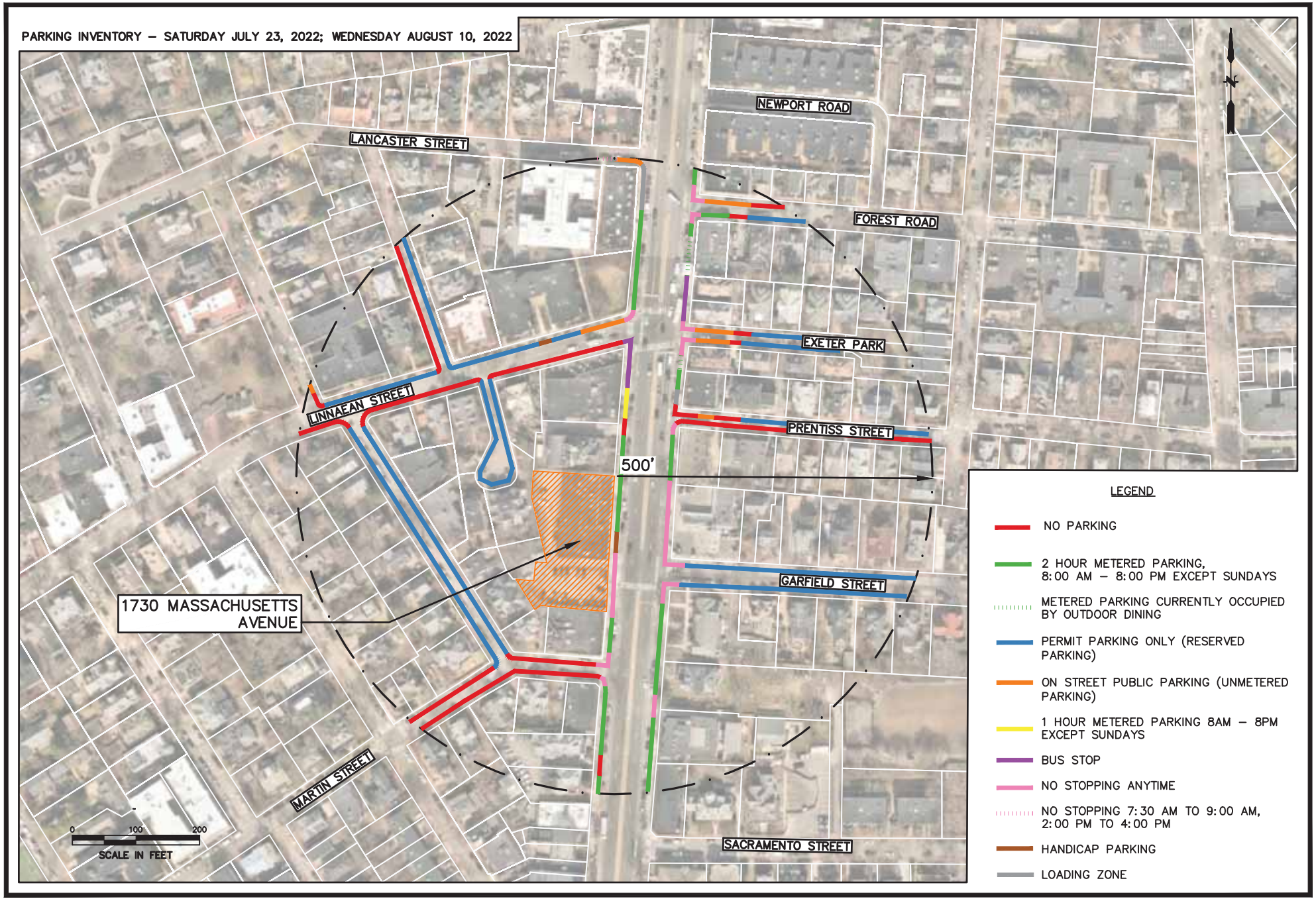
FUSS & O'NEILL

FIGURE 1: LOCATION MAP



FUSS & O'NEILL

FIGURE 2: MULTIMODAL CONTEXT MAP



FUSS & O'NEILL

EXISTING CURB USE: 1730 MASSACHUSETTS AVENUE

Exhibit C

Cannabis Business Permit
189113

Your Submission
Attachments
Guests (0)

Cannabis Business Permit Application Review (Local Approval 1)
Planning Board Special Permit (Local Approval 2)
Host Community Agreement (HCA) Execution (Local Approval 3)
CCC Municipal Notice
Receipt of Provisional License
Law Department Final Review
Cannabis Business Permit Payment Due
Cannabis Business Permit (Local Approval 4)

Your submission

Submitted Aug 9, 2022 at 3:14pm

Contact Information

Frederick McCarthy

Email address
frederick@verticalfields.com

Phone Number
917-407-0651

Mailing Address
1730 Massachusetts Ave , Cambridge, MA 02138

Locations
1 location total

PRIMARY LOCATION

1730 Massachusetts Ave
Cambridge, MA 02138

Business Information

Business Legal Name *
1730 Mass Ave., Inc

Business DBA (Doing Business As) *
N/A

Mailing Address (physical location of business. No post office boxes) *
1730 Massachusetts Ave

City *
Cambridge

State *
MA

Phone Number *
02138

Website
--

Federal Employer Identification Number (EIN) * Show
xx-xxx9919

Dun & Bradstreet Number (DUNS) *
0

Does the business currently possess any type of marijuana Special Permit in Cambridge? *
No

Are you applying as a Priority A applicant? *
Yes

Select the Priority A Applicant Type that best describes your business: *
Economic Empowerment Applicant

Proposed Hours of Operation

Sunday Operating Hours *
9:00 AM - 9:00 PM

Monday Operating Hours *
9:00 AM - 9:00 PM

Tuesday Operating Hours *
9:00 AM - 9:00 PM

Wednesday Operating Hours *
9:00 AM - 9:00 PM

Thursday Operating Hours *
9:00 AM - 9:00 PM

Friday Operating Hours *
9:00 AM - 9:00 PM

Saturday Operating Hours *
9:00 AM - 9:00 PM

Business Type

Select the option that best describes your business structure. *
Corporation

Name of Corporation *
1730 Mass Ave Inc.

Name of President *
Leah Samura

Name of Secretary *
Frederick McCarthy

Name of Treasurer *
Frederick McCarthy

Legal entities who have a beneficial interest in the applicant's business

Full name (if individual) or full legal name (if business or organization)	Ownership percentage	Interest Category	...
Sanpha Samura	0	Direct	...
Shaquia Shephard	0	Direct	...
Chris Peterson	0	Direct	...
OneEleven LLC	100	Direct	...
Leah Samura	51	Direct	...
Vertical Fields Green Co. LLC	49	Direct	...
Frederick McCarthy	49	Direct	...

Type of Establishment

Type of Establishment *
Cannabis Retail Store

Operating Information

1. Describe how the applicant will comply with employee pay standards set out in the City's Living Wage Ordinance. *

The City of Cambridge's Living Wage Ordinance, as outlined in Chapter 2.121, sets forth employee pay standards to ensure that covered employees earn an hourly wage that is needed to support a family of four. As outlined in City of Cambridge Code of Ordinance 2.121.030, 1730 Mass Ave., Inc. ("1730") shall pay all covered employees no less than the City's Living Wage. The Living Wage in Cambridge was raised to $17.19 effective March 1, 2022. 1730's management will re-evaluate the Living Wage each year no later than March first. Upon evaluation, the Living Wage will be upwardly adjusted in proportion to the increase at the immediately preceding December 31 over the year earlier level of the Annual Average Consumer Price Index for All Urban Consumers (CPI-U) Boston-Lawrence-Salem, MA-NH, as published by the Bureau of Labor Statistics, United States Department of Labor applied to $10.00.

2. Describe how the applicant will hire at least 51% minority, women and/or veterans as employees. *

Statement of Purpose
1730 Mass Ave., Inc. ("1730") is committed to establishing and maintaining an inclusive and diverse operation. As such, 1730 has prepared a thoughtful diversity plan intended to promote equity among minorities, women, veterans, individuals with disabilities, individuals of all gender identities, and individuals of all sexual orientations.

Goals
In order for 1730 to promote equity for the above-listed groups in its operations, 1730 has established the following goals:

1. We anticipate meeting and exceeding the City's requirement that at least 51% of employees identify as woman or minority because we will set our own internal targets to hire 50% women, 50% minorities, and 10% veterans at any point in time.
2. Providing tools to ensure the success of individuals falling into the above-listed demographics.

Programs
1730 has developed specific programs to effectuate its stated goals to promote diversity and equity in its operations, which will include the following:

1. Establishing partnerships with organizations that specifically engage individuals who are women, LGBTQ+, disabled, from an immigrant population, Veterans, or minorities.
2. Advertising employment opportunities in diverse publications including bilingual media, networking groups for those who identify with the above-listed demographics, and posting job options on public boards
3. Ensuring that employees have regular training and opportunities for advancement within the organization.
4. Providing a living wage, comprehensive benefits, workforce development opportunities, and a positive and collaborative environment to retain employees.

Measurements
The General Manager will administer the Plan and will be responsible for developing measurable outcomes to ensure 1730 continues to meet its commitments. Such measurable outcomes, in accordance with 1730's goals and programs described above, include:

1. An assessment of a comprehensive employee demographic survey to evidence compliance with the hiring goals.
2. Documentation of all advertisements and other postings and 1730's attendance at networking groups.
3. An internal recruitment and retention analysis.

Beginning upon receipt of 1730's first Provisional License from the Commission to operate a marijuana establishment in the Commonwealth, 1730 will utilize the proposed measurements to assess its Plan and will account for demonstrating proof of success or progress of the Plan upon the yearly renewal of the license. The General Manager will review and evaluate 1730's measurable outcomes no less than annually to ensure that 1730 is meeting its commitments. 1730 is mindful that demonstration of the Plan's progress and success will be submitted to the Commission upon renewal.

Acknowledgements
1730 will adhere to the requirements set forth in 935 CMR 500.105(4) which provides the permitted and prohibited advertising, branding, marketing, and sponsorship practices of every Marijuana Establishment.

Any actions taken, or programs instituted, by 1730 will not violate the Commission's regulations with respect to limitations on ownership or control or other applicable state laws.

3. Describe how the applicant, if they have a Board of Directors, will have a board makeup that will be at least 51% minority, women and/or veterans. *

1730 Mass Ave., Inc. has a five-member Board of Directors. Three of these members (60%) identify as women and/or minorities.

4. Describe how the applicant will work with the Cambridge Public Health Department to create and distribute educational materials to its customers as directed by the Cambridge Public Health Department. *

1730 Mass Ave., Inc. ("1730") is required pursuant to 935 CMR 500.140(8) provide educational materials, available in commonly spoken languages. Educational materials will be made available in multiple formats, including on 1730's website, placed strategically throughout its establishment, and within exit bags that customers receive at the point of sale. These educational materials will include but not be limited to appropriate materials for the visually and hearing impaired designed to help consumers make informed marijuana product purchases.

1730 will distribute educational materials that are developed in-house, in collaboration with the Cambridge Public Health Department. These educational materials will describe the varying types of products available and the types and methods of consumption, as required by 935 CMR 500.140(8). Additionally, educational materials will cover cannabis titration, which is the method of using the smallest amount of a given marijuana product necessary to bring about the desired effect, potency, proper dosing, information to assist in the selection of marijuana, and information about the delayed effects of edible marijuana products. These materials will also cover facts regarding substance abuse signs and symptoms and related treatment programs, marijuana tolerance, dependence, and withdrawal. All consumers will receive a material that will enable them to track the strains they have used and the associated effects that these strains have had. 1730 will ensure it has agents available and able to discuss the associated effects of specific strains and products at the retail site, by telephone and via email.

1730's consumer education materials will include the following:

- A warning that marijuana has not been analyzed or approved by the FDA, that there is limited information on side effects, that there may be health risks associated with using marijuana, and that it should be kept away from children;
- A warning that when under the influence of marijuana, driving is prohibited by M.G.L. c. 90, § 24, and machinery should not be operated;
- A statement that consumers may not sell marijuana to any other individual; and
- Information regarding penalties for possession or distribution of marijuana in violation of Massachusetts law.

5. Describe how the applicant will comply with directives of the Police Commissioner and of the Director of Traffic Parking and Transportation, or their designees, regarding traffic measures to be taken at and near the Cannabis Business site. *

1730 Mass Ave., Inc. ("1730") is committed to ensuring that all operations at its Cannabis Retail Store are designed to optimize local safety, minimize impact to the surrounding neighborhood, and operate seamlessly within the community. All Special Permit conditions relative to traffic, parking, and operations will be upheld at all times and 1730 will to comply with the directives of the Cambridge Police Department, the Director of Traffic Parking and Transportation or designee, and other departments as applicable.

Dissemination of Traffic and Parking Information

Clearly marked information about traffic and parking, including a map of traffic flows, for the retail facility will be posted on 1730's website and social media channels. 1730 does not anticipate conducting any outbound media activities, but in the event this changes, it will include information about traffic and parking in its responses to inbound media requests.

This information will be provided to the City of Cambridge and Cambridge Police Department, who may post or share at their discretion.

In anticipation of its opening, 1730 will prepare and send information about opening procedures and provide contact information via a mailing to the neighborhoods closest to the establishment to inform them that. Contact information may be used to receive additional information or alert management about concerns and system inefficiencies.

Prevention of Exterior Queuing + Operations

1730 intends to collaborate with Cambridge TP+T to develop a thorough operations plan which proactively mitigates exterior queuing, promotes safe and effective operations at the premises, and eliminates potential for nuisance.

Plan Evaluation

1730 would like to request the opportunity to meet with representatives from the City of Cambridge to discuss traffic and queue management at the following times:

• Prior to opening the facility;
• One week after opening;
• Two weeks after opening or as needed in the month following opening;
• Two months following opening; and
• Additionally, at the discretion of 1730's management and the City of Cambridge.

1730 will continuously assess its operations to ensure it is operating efficiently, safely, and in harmony with the surrounding community.

Property Information

Property Owner's Legal Name *
HARVARD SQUARE HOLDINGS, LLC

Property Owner's Mailing Address *
1299 Beacon Street. Brookline, MA

Property Owner's Phone Number *
(617) 232-1776

Attestation

The undersigned, by printing their name below, hereby certifies under the pains and penalties of perjury that the information herein, and all forms and supporting documentation submitted in support of the application(s), are true and accurate.

Full Name *
Leah Samura

Date *
08/09/2022

Proposed Signage Band Colors

ATAS International, Inc.

Sustainable Building Envelope Technology

STOCK • MATTE • PREMIUM • NATURAL
WOODLAND • OXIDE • LAMINATE

COLOR CHART

A leading manufacturer of sustainable building envelope technology, ATAS utilizes cool pigment paint on many color offerings. Our products reflect infrared radiation, which results in cooler surface temperatures, and maximum fade resistance.

Many of the ATAS products meet the qualifications for potential green building certification credits and industry ratings. See ATAS website for specific SRI values (www.atas.com/sri). Information on ATAS' sustainable products can be found at www.atas.com/sustainability.

70% PVDF finish carries a limited warranty against fading and chalking. ATAS coated materials are non-staining and virtually maintenance free. Any surface residue is easily removed with conventional cleaning solutions or detergents.

STOCK COLORS

70% PVDF resin based coatings provide high-performance durability for exterior and interior applications. These coatings are designed to resist fading, chalking, and abrasion. Meets the requirement of AAMA 2605-13 for aluminum substrates.

Black (02)

Classic Bronze (01)

Medium Bronze (03)

Hartford Green (27)

Forest Green (11)

Teal (19)

Hemlock Green (30)

Patina Green (12)

Chocolate Brown (04)

Boysenberry (25)

Redwood (07)

Mission Red (08)

Sierra Tan (09)

Rawhide (15)

Concord Cream (05)

Sandstone (06)

Regal Blue (18)

Slate Blue (21)

Siam Blue (14)

Rocky Grey (16)

Charcoal Grey (62)

Slate Grey (20)

Dove Grey (13)

Ascot White (10)

Bone White (26)

www.atas.com/colors

.032 thickness at sign band

Rooftop Specifications

Carrier

Turn to the experts

SPEC'D UNIT IS
48FCEA04J2A5-6F5C0

Product Data

WeatherMaker®
Single Packaged Rooftop

3 to 6 Nominal Tons

ecoblue™ technology

48/50FC**04, 05, 06, 07

48FC: Single-Package Gas Heating/Electric Cooling Rooftop Units
50FC: Electric Cooling Rooftop Units with Optional Electric Heat
with Puron® Refrigerant (R-410A)

Features/Benefits

The New Carrier WeatherMaker® rooftop units (RTU) with EcoBlue™ Technology were designed by customers for customers and integrate new technology to provide value added benefits never seen in this type of equipment before.

New major design features include:

- Patent pending, industry's first efficient indoor fan system using Vane Axial fan with electric commutated variable speed motor
- Reliable fixed speed scroll compressor on 3-5 ton sizes and 2 stage scroll technology on 6 ton sizes
- Upgraded unit control board with intuitive indoor fan adjustment
- Reliable copper tube/aluminum fin condenser coil with $^{5}/_{16}$-in. tubing to help reduce refrigerant charge versus prior designs
- New outdoor fan system with rugged — lightweight high impact composite fan blade

48/50FC WeatherMaker® units up to 6 tons are specifically designed to fit on Carrier roof curbs that were installed back to 1989, which makes replacement easy and eliminates the need for curb adapters or changing utility connections.

Single-stage units deliver SEERs up to 14.0. IEERs up to 15.2. All models are capable of either vertical or horizontal airflow.

The Carrier rooftop unit (RTU) was designed by customers for customers. With "no-strip" screw collars, handled access panels, and more, the unit is easy to install, easy to maintain, and easy to use. Your new 3 to 6 ton Carrier WeatherMaker rooftop unit (RTU) provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- optional Humidi-MiZer® adaptive dehumidification system for improved part load humidity performance
- Puron® refrigerant (R-410A)
- single point gas and electrical connections
- optional fully integrated SystemVu™ controls
- RTU Open controller for BACnet[1], LonWorks[2], Modbus[3] and Johnson Controls N2
- 3 to 5 ton models use fixed refrigerant metering devices and 6 ton models use a TXV
- Scroll compressors with internal line-break overload protection
- Units come with an easy access tool-less filter door. Filter track tilts out for filter removal and replacement. All filters are the same size in each unit

1. BACnet is a trademark of ASHRAE.
2. LonWorks is a registered trademark of Echelon Corporation.
3. Modbus is a registered trademark of Schneider Electric.

Installation ease

All WeatherMaker units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected job-site complications. Lighter units make for easy replace. Simple, fast plug-in connections to the standard integrated unit control board (UCB). Clearly labeled connections points to reduce installation time. Also, a large control box provides room to work and room to mount Carrier accessory controls.

Easy to maintain

With the new EcoBlue Vane Axial fan system and direct drive ECM motor, there is no longer a need to adjust belts or pulleys as in past designs. This frees up maintenance and installation time.

Easy access handles by Carrier provide quick and easy access to all normally serviced components. Our "no-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal.

Sloped, corrosion resistant composite drain pan sheds water; and won't rust.

Easy to use

The newly re-designed Unit Control Board by Carrier puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to access it. Setting up the fan is simple by an intuitive switch and rotary dial arrangement. Carrier rooftops have high and low pressure switches, a filter drier, and 2-in. filters standard.

Table of contents

EcoBlue™ Technology

Direct drive EcoBlue Technology indoor fan system uses Vane Axial fan design and electrically commutated motors.

This new Vane Axial design over past belt drive systems has 75% fewer moving parts, uses up to 40% less energy and has no fan belts, blower bearings and shaft.

Streamlined control and integration

Carrier controllers make connecting WeatherMaker® rooftops into existing building automation systems easy. The units are compatible with conventional thermostat controls, SystemVu™ controls and Carrier RTU Open multi-protocol controller.

Operating efficiency and flexibility

The 48/50FC rooftops meet ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016, IECC[1] (International Energy Conservation Code) IECC-2018 minimum efficiency requirements.

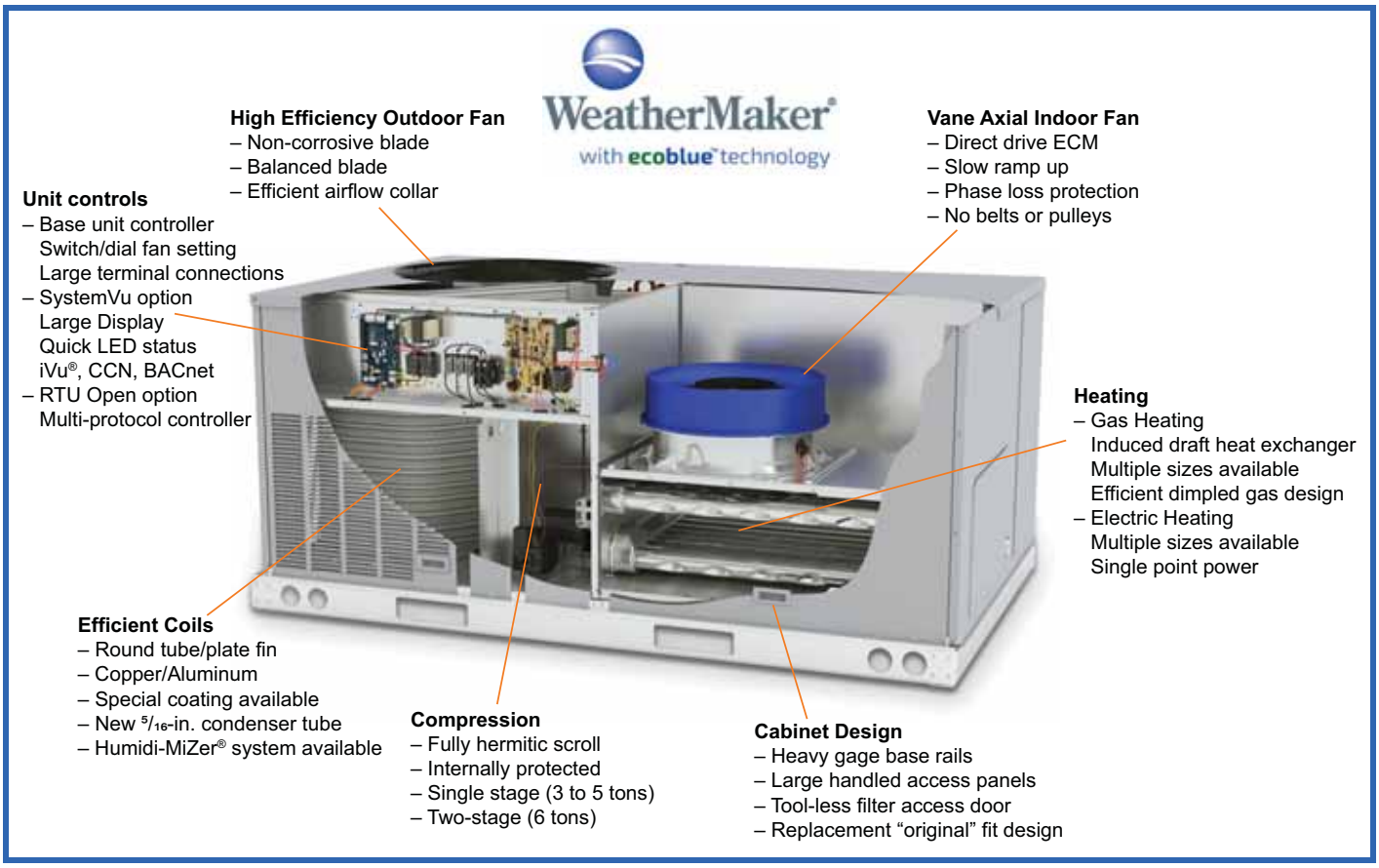
1. IECC is a registered trademark of the International Code Council, Inc.

Field convertible airflow

All WeatherMaker 3 to 6 ton units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected job-site.

Comfort control

Carrier's patented Humidi-MiZer® adaptive dehumidification system is an all-inclusive factory-installed option on gas heating/electric cooling and electric cooling/electric heat models. This system provides reliable, flexible operation to meet indoor part load sensible and latent requirements.



Model number nomenclature

SPEC'D UNIT IS
48FCEA04J2A5-6F5C0

48FC MODEL NUMBER NOMENCLATURE

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	8	F	C	D	A	0	4	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
48 = Gas Heat Packaged Rooftop

Model Series — WeatherMaker®
FC = 14.0 SEER Standard Efficiency, sizes 04-06
13.4 SEER2 Standard Efficiency, sizes 04-06
15.0 IEER Standard Efficiency, size 07

Heat Size
D = Low Gas Heat
E = Medium Gas Heat
F = High Gas Heat
L = Low NOx — Low Gas Heat[1]
S = Low Heat with Stainless Steel Exchanger
R = Medium Heat with Stainless Steel Exchanger
T = High Heat with Stainless Steel Exchanger
(Low NOx models include Stainless Steel HX)

Refrig. Systems Options
A = Std One Stage Cooling Models[1]
B = Std One Stage Cooling Models with Humidi-MiZer® [1, 2]
C = Std One Stage Cooling Models, 1-phase voltage (SEER2)[1, 3]
M = Single Circuit, Two Stage Cooling Models[4]
N = Single Circuit, Two Stage Cooling Models with Humidi-MiZer[2, 4]

Cooling Tons
04 = 3 tons
05 = 4 tons
06 = 5 tons
07 = 6 tons

Sensor Options
A = None
B = Return Air (RA) Smoke Detector
C = Supply Air (SA) Smoke Detector
D = RA + SA Smoke Detector
E = CO_2 Sensor
F = RA Smoke Detector and CO_2 Sensor
G = SA Smoke Detector and CO_2 Sensor
H = RA + SA Smoke Detector and CO_2 Sensor
J = Condensate Overflow Switch
K = Condensate Overflow Switch + RA Smoke Detector
L = Condensate Overflow Switch + RA and SA Smoke Detectors
M = Condensate Overflow Switch + SA Smoke Detector

Indoor Fan Options
1 = Direct Drive — EcoBlue — Standard Static
2 = Direct Drive — EcoBlue — Medium Static
3 = Direct Drive — EcoBlue — High Static

Coil Options (Outdoor - Indoor — Hail Guard)
A = Al/Cu - Al/Cu
B = Precoat Al/Cu - Al/Cu
C = E-coat Al/Cu - Al/Cu
D = E-coat Al/Cu - E-coat Al/Cu
E = Cu/Cu - Al/Cu
F = Cu/Cu - Cu/Cu
M = Al/Cu - Al/Cu — Louvered Hail Guard
N = Precoat Al/Cu - Al/Cu — Louvered Hail Guard
P = E-coat Al/Cu - Al/Cu — Louvered Hail Guard
Q = E-coat Al/Cu - E-coat Al/Cu — Louvered Hail Guard
R = Cu/Cu - Al/Cu — Louvered Hail Guard
S = Cu/Cu - Cu/Cu — Louvered Hail Guard

Voltage
1 = 575-3-60
3 = 208/230-1-60[1, 5]
5 = 208/230-3-60
6 = 460-3-60
9 = 400-3-50[4]

Design Revision
- = Factory Design Revision

Base Unit Controls
0 = Electromechanical Controls — can be used with field-installed W7212 EconoMi$er® IV (Non-Fault Detection and Diagnostic)[1]
2 = RTU Open Multi-Protocol Controller
3 = SystemVu™ Controls
6 = Electromechanical Controls – can be used with W7220 EconoMi$er X (with Fault Detection and Diagnostic)

Intake / Exhaust Options
A = None
B = Temperature Economizer w/ Barometric Relief
F = Enthalpy Economizer w/ Barometric Relief
K = Two-Position Damper[1]
U = Temperature Ultra Low Leak Economizer with Barometric Relief
W = Enthalpy Ultra Low Leak Economizer with Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet (CO)
2 = Powered Convenience Outlet
3 = Hinged Panels
4 = Hinged Panels and Unpowered CO
5 = Hinged Panels and Powered CO

Electrical Options
A = None
C = Non-Fused Disconnect (NFD)
D = Thru-the-Base (TTB) Connections
F = Non-Fused Disconnect and TTB Connections

Packaging & Seismic Compliance
0 = Standard
1 = LTL

[1] Size 04/05/06 models only.
[2] Units with Humidi-MiZer System include Low Ambient controller.
[3] Units meet Department of Energy 2023 SEER2 requirements.
[4] Size 07 models only.
[5] The following are not available as a factory-installed options for models with this voltage code: Humidi-MiZer System, Coated Coils or Cu Fin Coils, Louvered Hail Guards, Economizer or Two-Position Damper, Powered 115 Volt Convenience Outlet.

50FC MODEL NUMBER NOMENCLATURE

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	5	0	F	C	-	A	0	4	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
50 = Electric Heat Packaged Rooftop

Model Series — WeatherMaker®
FC = 14.0 SEER Standard Efficiency, sizes 04-06
13.4 SEER2 Standard Efficiency, sizes 04-06
15.2 IEER Standard Efficiency, size 07

Heat Size
- = No heat

Refrig. Systems Options
A = Standard One Stage Cooling Models[1]
B = Standard One Stage Cooling Models with Humidi-MiZer® system[1, 2]
C = Standard One Stage Cooling Models, 1-phase voltage (SEER2)[1, 3]
M = Single Circuit, Two Stage Cooling Models[4]
N = Single Circuit, Two Stage Cooling Models with Humidi-MiZer system[2, 4]

Cooling Tons
04 = 3 tons
05 = 4 tons
06 = 5 tons
07 = 6 tons

Sensor Options
A = None
B = Return Air (RA) Smoke Detector
C = Supply Air (SA) Smoke Detector
D = RA + SA Smoke Detector
E = CO_2 Sensor
F = RA Smoke Detector and CO_2 Sensor
G = SA Smoke Detector and CO_2 Sensor
H = RA + SA Smoke Detector and CO_2 Sensor
J = Condensate Overflow Switch
K = Condensate Overflow Switch and RA Smoke Detector
L = Condensate Overflow Switch and RA and SA Smoke Detectors
M = Condensate Overflow Switch and SA Smoke Detector

Indoor Fan Options
1 = Direct Drive – EcoBlue – Standard Static
2 = Direct Drive – EcoBlue – Medium Static
3 = Direct Drive – EcoBlue – High Static

Coil Options – (Outdoor - Indoor - Hail Guard)
A = Al/Cu - Al/Cu
B = Precoat Al/Cu - Al/Cu
C = E-coat Al/Cu - Al/Cu
D = E-coat Al/Cu - E-coat Al/Cu
E = Cu/Cu - Al/Cu
F = Cu/Cu - Cu/Cu
M = Al/Cu - Al/Cu — Louvered Hail Guard
N = Precoat Al/Cu - Al/Cu — Louvered Hail Guard
P = E-coat Al/Cu - Al/Cu — Louvered Hail Guard
Q = E-coat Al/Cu - E-coat Al/Cu — Louvered Hail Guard
R = Cu/Cu - Al/Cu — Louvered Hail Guard
S = Cu/Cu - Cu/Cu — Louvered Hail Guard

Voltage
1 = 575-3-60
3 = 208/230-1-60[1, 5]
5 = 208/230-3-60
6 = 460-3-60
9 = 400-3-50[4]

Design Revision
- = Factory Design Revision

Base Unit Controls
0 = Electromechanical Controls – can be used with field-installed W7212 EconoMi$er® IV (Non-Fault Detection and Diagnostic)[1]
2 = RTU Open Multi-Protocol Controller
3 = SystemVu™ Controls
6 = Electromechanical Controls – can be used with W7220 EconoMi$er X (with Fault Detection and Diagnostic)

Intake / Exhaust Options
A = None
B = Temperature Economizer with Barometric Relief
F = Enthalpy Economizer with Barometric Relief
K = Two-Position Damper[1]
U = Temperature Ultra Low Leak Economizer with Barometric Relief
W = Enthalpy Ultra Low Leak Economizer with Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet (CO)
2 = Powered Convenience Outlet
3 = Hinged Panels
4 = Hinged Panels and Unpowered CO
5 = Hinged Panels and Powered CO

Electrical Options
A = None
C = Non-Fused Disconnect (NFD)
D = Thru-the-Base (TTB) Connections
F = Non-Fused Disconnect and TTB Connections

Packaging & Seismic Compliance
0 = Standard
1 = LTL

[1] Size 04/05/06 models only.
[2] Units with Humidi-MiZer System include Low Ambient controller.
[3] Units meet Department of Energy 2023 SEER2 requirements.
[4] Size 07 models only.
[5] The following are not available as a factory-installed options for models with this voltage code: Humidi-MiZer System, Coated Coils or Cu Fin Coils, Louvered Hail Guards, Economizer or Two-Position Damper, Powered 115 Volt Convenience Outlet.

Capacity ratings

48FC AHRI RATINGS

48FC UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER WITH 2-SPEED INDOOR FAN MOTOR
48FC*A04	1	3	34.5	3.0	14.0	11.5	N/A
48FC*A05	1	4	47.0	4.1	14.0	11.6	N/A
48FC*A06	1	5	58.5	5.3	14.0	11.0	N/A
48FC*M07	2	6	70.0	6.4	N/A	11.0	15.0

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Integrated Energy Efficiency Ratio

NOTES:

1. Rated in accordance with AHRI Standards 210/240 (04-06 size) and 340/360 (07 size).
2. Rating are based on:
   Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
   IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All 48FC units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements.
4. 48FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

50FC AHRI RATINGS

50FC UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER WITH 2-SPEED INDOOR FAN MOTOR
50FC*A04	1	3	34.4	2.9	14.0	11.7	N/A
50FC*A05	1	4	47.0	4.0	14.0	11.8	N/A
50FC*A06	1	5	58.5	5.2	14.0	11.2	N/A
50FC*M07	2	6	70.0	6.3	N/A	11.2	15.2

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Integrated Energy Efficiency Ratio

NOTES:

1. Rated in accordance with AHRI Standards 210/240 (04-06 size) and 340/360 (07 size).
2. Rating are based on:
   Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
   IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All 50FC units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements.
4. 50FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

SOUND RATINGS TABLE

48/50FC UNIT	COOLING STAGES	OUTDOOR SOUND (dB) AT 60 Hz								
		A-WEIGHTED	63	125	250	500	1000	2000	4000	8000
A04	1	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
A05	1	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
A06	1	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
M07	2	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3

LEGEND

dB — Decibel

NOTES:

1. Outdoor sound data is measured in accordance with AHRI.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
3. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of “average” human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.

Capacity ratings (cont)

MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — NATURAL GAS AND PROPANE

UNIT	HEAT LEVEL	VOLTAGE	COOLING				HEATING*	
			MINIMUM AIRFLOW CFM	MINIMUM 2-SPEED AIRFLOW (LOW SPEED)	MINIMUM 2-SPEED AIRFLOW (HIGH SPEED)	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM
48FC04**	LOW	1 PHASE	900	N/A	N/A	1500	890	1950
	MED						800	1520
	HIGH						N/A	N/A
48FC05**	LOW	1 PHASE	1200	N/A	N/A	2000	890	2440
	MED						1050	2280
	HIGH						1220	2170
48FC06**	LOW	1 PHASE	1500	N/A	N/A	2500	890	3250
	MED						1050	2730
	HIGH						1220	2790
48FC04**	LOW	3 PHASE	900	N/A	N/A	1500	910	2010
	MED						960	1160
	HIGH						N/A	N/A
48FC05**	LOW	3 PHASE	1200	N/A	N/A	2000	910	2010
	MED						1250	2330
	HIGH						1390	2220
48FC06**	LOW	3 PHASE	1500	N/A	N/A	2500	910	2510
	MED						1250	2720
	HIGH						1390	2780
48FC07**	LOW	3 PHASE	1800	1200	1800	3000	910	3350
	MED						1250	3260
	HIGH						1390	3170

* Heating rating values are identical for aluminum heat exchangers and stainless steel heat exchangers.

MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — COOLING UNITS AND ACCESSORY ELECTRIC HEAT

UNIT	COOLING				ELECTRIC HEAT*	
	MINIMUM AIRFLOW CFM	MINIMUM 2- SPEED AIRFLOW (LOW SPEED)	MINIMUM 2- SPEED AIRFLOW (HIGH SPEED)	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM
50FC04**	900	N/A	N/A	1500	900	1500
50FC05**	1200	N/A	N/A	2000	1200	2000
50FC06**	1500	N/A	N/A	2500	1500	2500
50FC07**	1800	1200	1800	3000	1800	3000

* Electric heat modules are available as field-installed accessories for 50FC units.

HEAT RATING TABLE — NATURAL GAS AND PROPANE

48FC UNIT		GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE EFFICIENCY (%)
			INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)			
Single Phase	04	LOW	–/–	65/53	25-55	81	81
		MED	–/–	90/73	45-85	82	81
		HIGH	–/–	—	—	—	—
	05	LOW	–/–	65/53	20-55	81	81
		MED	–/–	90/73	30-65	82	81
		HIGH	–/–	130/106	45-80	81	81
	06	LOW	–/–	65/53	15-55	81	81
		MED	–/–	90/73	25-65	82	81
		HIGH	–/–	130/106	35-80	81	81
Three Phase	04	LOW	–/–	67/54	25-55	81	N/A
		MED	82/65	110/93	50-85	80	N/A
		HIGH	—	—	—	—	—
	05	LOW	–/–	67/54	25-55	81	N/A
		MED	–/–	110/88	35-65	80	N/A
		HIGH	120/96	150/120	50-80	80	N/A
	06	LOW	–/–	67/54	20-55	81	N/A
		MED	–/–	110/88	30-65	80	N/A
		HIGH	120/96	150/120	40-80	80	N/A
	07	LOW	–/–	67/54	15-55	81	N/A
		MED	–/–	110/88	25-65	80	N/A
		HIGH	120/96	150/120	30-80	80	N/A

HEAT RATING TABLE — LOW NO_X

48FC UNIT		GAS HEAT	LOW NOx HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE EFFICIENCY (%)
			INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)			
Single Phase	04	LOW	—	60/49	20-50	82.0	81.3
	05	LOW	—	60/49	20-50	82.0	81.3
	06	LOW	—	60/49	15-50	82.0	81.3
Three Phase	04	LOW	—	60/49	20-50	82.0	81.3
	05	LOW	—	60/49	20-50	82.0	81.3
	06	LOW	—	60/49	15-50	82.0	81.3

LEGEND

AFUE — Annual Fuel Utilization Efficiency
MBH — Btuh in thousands

Physical data

48/50FC 3 TO 4 TON PHYSICAL DATA

48/50FC UNIT	48/50FC*A04	48/50FC*B04	48/50FC*A05	48/50FC*B05
NOMINAL TONS	3		4	
BASE UNIT OPERATING WT (lb) 48FC/50FC*	482/437		543/498	
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1 / 1/ Scroll			
Puron® (R-410A) charge A/B (lbs-oz)	4-6	—	9-14	—
Humidi-MiZer® Puron (R-410A) charge A/B (lbs-oz)	—	7.6	—	14-6
Metering device	Acutrol			
Humidi-MiZer metering device	—	TXV-Acutrol	—	TXV-Acutrol
High-Pressure Trip/Reset (psig)	630/505			
Low-Pressure Trip/Reset (psig)	54/117	27/44	54/117	27/44
EVAPORATOR COIL				
Material (Tube/Fin)	Cu/Al			
Coil Type	3/8-in. RTPF			
Rows/FPI	2/15		3/15	
Total Face Area (ft²)	5.5			
Condensate Drain Connection Size	3/4-in.			
CONDENSER COIL				
Material	Cu/Al			
Coil Type	5/16-in. RTPF			
Rows/FPI	1/18		2/18	
Total Face Area (ft²)	11.7		15.9	
HUMIDI-MIZER COIL				
Material	—	Cu/Al	—	Cu/Al
Coil Type	—	3/8-in. RTPF	—	3/8-in. RTPF
Rows/FPI	—	1/17	—	2/17
Total Face Area (ft²)	—	4.1	—	4.1
EVAPORATOR FAN AND MOTOR				
Standard Static 1 Phase				
Motor Qty/Drive Type	1/Direct	—	1/Direct	—
Max Cont BHP	0.44	—	0.72	—
RPM Range	189-1890	—	190-1900	—
Fan Qty/Type	1/Vane Axial	—	1/Vane Axial	—
Fan Diameter (in.)	16.6	—	16.6	—
Medium Static 1 Phase				
Motor Qty/Drive Type	1/Direct	—	1/Direct	—
Max Cont BHP	0.71	—	1.06	—
RPM Range	219-2190	—	217-2170	—
Fan Qty/Type	1/Vane Axial	—	1/Vane Axial	—
Fan Diameter (in.)	16.6	—	16.6	—
High Static 1 Phase				
Motor Qty/Drive Type	1/Direct	—	1/Direct	—
Max Cont BHP	1.07	—	1.53	—
RPM Range	249-2490	—	246-2460	—
Fan Qty/Type	1/Vane Axial	—	1/Vane Axial	—
Fan Diameter (in.)	16.6	—	16.6	—
Standard Static 3 Phase				
Motor Qty/Drive Type	1/Direct			
Max Cont BHP	0.44		0.72	
RPM Range	189-1890		190-1900	
Fan Qty/Type	1/Vane Axial			
Fan Diameter (in.)	16.6			
Medium Static 3 Phase				
Motor Qty/Drive Type	1/Direct			
Max Cont BHP	0.71		1.06	
RPM Range	219-2190		217-2170	
Fan Qty/Type	1/Vane Axial			
Fan Diameter (in.)	16.6			

48/50FC 3 TO 4 TON PHYSICAL DATA (cont)

48/50FC UNIT	48/50FC*A04	48/50FC*B04	48/50FC*A05	48/50FC*B05
High Static 3 Phase				
Motor Qty/Drive Type	1/Direct			
Max Cont BHP	1.07		1.96	
RPM Range	249-2490		266-2660	
Fan Qty/Type	1/Vane Axial			
Fan Diameter (in.)	16.6			
CONDENSER FAN AND MOTOR				
Qty / Motor Drive Type	1 / Direct			
Motor HP/RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	23			
FILTERS				
RA Filter Qty / Size (in.)	2 / 16x25x2			
OA Inlet Screen Qty / Size (in.)	1 / 20x24x1			

* Base unit operating weight does not include weight of options.

Physical data (cont)

48/50FC 5 TO 6 TON PHYSICAL DATA

48/50FC UNIT	48/50FC*A06	48/50FC*B06	48/50FC*M07	48/50FC* N07
NOMINAL TONS	5		6	
BASE UNIT OPERATING WT (lb) 48FC/50FC*	556/511		607/562	
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1 / 1 / Scroll		1 / 1 / 2-Stage Scroll	
Puron® (R-410A) charge A/B (lbs-oz)	8-9	—	10-3	—
Humidi-MiZer® Puron (R-410A) charge A/B (lbs-oz)	—	15-0	—	20-8
Metering device	Acutrol		TXV	
Humidi-MiZer metering device	—	TXV-Acutrol	—	TXV
High-Pressure Trip/Reset (psig)	630/505			
Low-Pressure Trip/Reset (psig)	54/117	27/44	54/117	27/44
EVAPORATOR COIL				
Material (Tube/Fin)	Cu/Al			
Coil Type	3/8-in. RTPF			
Rows/FPI	4/15			
Total Face Area (ft²)	5.5		7.3	
Condensate Drain Connection Size	3/4-in.			
CONDENSER COIL				
Material	Cu/Al			
Coil Type	5/16-in. RTPF			
Rows/FPI	2/18			
Total Face Area (ft²)	15.9		15.0	
HUMIDI-MIZER COIL				
Material	—	Cu/Al	—	Cu/Al
Coil Type	—	3/8-in. RTPF	—	3/8-in. RTPF
Rows/FPI	—	2/17	—	2/17
Total Face Area (ft²)	—	4.1	—	5.5
EVAPORATOR FAN AND MOTOR				
Standard Static 1 Phase				
Motor Qty/Drive Type	1/Direct		—	
Max Cont BHP	1.06		—	
RPM Range	215-2150		—	
Fan Qty/Type	1/Vane Axial		—	
Fan Diameter (in.)	16.6		—	
Medium Static 1 Phase				
Motor Qty/Drive Type	1/Direct		—	
Max Cont BHP	1.44		—	
RPM Range	239-2390		—	
Fan Qty/Type	1/Vane Axial		—	
Fan Diameter (in.)	16.6		—	
Standard Static 3 Phase				
Motor Qty/Drive Type	1/Direct			
Max Cont BHP	1.06		1.31	
RPM Range	215-2150		230-2300	
Fan Qty/Type	1/Vane Axial			
Fan Diameter (in.)	16.6			
Medium Static 3 Phase				
Motor Qty/Drive Type	1/Direct			
Max Cont BHP	1.44		1.76	
RPM Range	239-2390		253-2530	
Fan Qty/Type	1/Vane Axial			
Fan Diameter (in.)	16.6			
High Static 3 Phase				
Motor Qty/Drive Type	1/Direct			
Max Cont BHP	2.43			
RPM Range	284-2836			
Fan Qty/Type	1/Vane Axial			
Fan Diameter (in.)	16.6			
CONDENSER FAN AND MOTOR				
Qty / Motor Drive Type	1 / Direct			
Motor HP/RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	23			
FILTERS				
RA Filter Qty / Size (in.)	2 / 16x25x2		4 / 16x16x2	
OA Inlet Screen Qty / Size (in.)	1 / 20x24x1			

48FC 3 TO 5 TON GAS HEAT DATA — 1 PHASE UNITS

48FC UNIT	48FC**04	48FC**05	48FC**06
GAS CONNECTION			
No. of Gas Valves		1	
Natural Gas Supply Line Pressure (in. wg)/(psig)		4-13 / 0.18-0.47	
Liquid Propane Supply Line Pressure (in. wg)/(psig)		11-13 / 0.40-0.47	
HEAT ANTICIPATOR SETTING (AMPS)			
First Stage		0.14	
Second Stage		0.14	
NATURAL GAS HEAT			
LOW			
No. of Stages / No. of Burners (total)		1 / 2	
Connection Size		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)		195 / 115	
Temperature Rise (°F)	25-55	20-55	15-55
MEDIUM			
No. of Stages / No. of Burners (total)		1 / 3	
Connection Size		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)		195 / 115	
Temperature Rise (°F)	45-85	30-65	25-65
HIGH			
No. of Stages / No. of Burners (total)	—	1 / 3	
Connection Size	—	1/2-in. NPT	
Rollout Switch Opens / Closes (°F)	—	195 / 115	
Temperature Rise (°F)	—	45-80	35-80
LIQUID PROPANE HEAT			
LOW			
No. of Stages / No. of Burners (total)		1 / 2	
Connection Size		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)		195 / 115	
Temperature Rise (°F)	25-55	20-55	15-55
MEDIUM			
No. of Stages / No. of Burners (total)		1 / 3	
Connection Size		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)		195 / 115	
Temperature Rise (°F)	45-85	30-65	25-65
HIGH			
No. of Stages / No. of Burners (total)	—	1 / 3	
Connection Size	—	1/2-in. NPT	
Rollout Switch Opens / Closes (°F)	—	195 / 115	
Temperature Rise (°F)	—	45-80	35-80
LOW NOx GAS HEAT			
LOW			
No. of Stages / No. of Burners (total)		1 / 2	
Connection Size		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)		195 / 115	
Temperature Rise (°F)	20-50		15-50

LEGEND

BHP — Break Horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

* Base unit operating weight does not include weight of options.

Physical data (cont)

48FC 3 TO 6 TON GAS HEAT DATA — 3 PHASE UNITS

48FC UNIT	48FC**04	48FC**05	48FC**06	48FC**07
GAS CONNECTION				
No. of Gas Valves	1			
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47			
Liquid Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47			
HEAT ANTICIPATOR SETTING (AMPS)				
First Stage	0.14			
Second Stage	0.14			
NATURAL GAS HEAT				
LOW				
No. of Stages / No. of Burners (total)	1 / 2			
Connection Size	1/2-in. NPT			
Rollout Switch Opens / Closes (°F)	195 / 115			
Temperature Rise (°F)	25-55		20-55	15-55
MEDIUM				
No. of Stages / No. of Burners (total)	2 / 3		1 / 3	
Connection Size	1/2-in. NPT			
Rollout Switch Opens / Closes (°F)	195 / 115			
Temperature Rise (°F)	50-85	35-65	30-65	25-65
HIGH				
No. of Stages / No. of Burners (total)	—		2/ 3	
Connection Size	—		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)	—		195 / 115	
Temperature Rise (°F)	—	50-80	40-80	35-80
LIQUID PROPANE HEAT				
LOW				
No. of Stages / No. of Burners (total)	1 / 2			
Connection Size	1/2-in. NPT			
Rollout Switch Opens / Closes (°F)	195 / 115			
Temperature Rise (°F)	25-55		20-55	15-55
MEDIUM				
No. of Stages / No. of Burners (total)	2 / 3		1 / 3	
Connection Size	1/2-in. NPT			
Rollout Switch Opens / Closes (°F)	195 / 115			
Temperature Rise (°F)	50-85	35-65	30-65	25-65
HIGH				
No. of Stages / No. of Burners (total)	—		2 / 3	
Connection Size	—		1/2-in. NPT	
Rollout Switch Opens / Closes (°F)	—		195 / 115	
Temperature Rise (°F)	—	50-80	40-80	35-80
LOW NOx GAS HEAT				
LOW				
No. of Stages / No. of Burners (total)		1 / 2		—
Connection Size		1/2-in. NPT		—
Rollout Switch Opens / Closes (°F)		195 / 115		—
Temperature Rise (°F)	20-50		15-50	—

Options and accessories

ITEM	OPTION*	ACCESSORY†
GAS HEAT (48FC units only)		
Low, Medium or High Gas Heat — Aluminized Heat Exchanger	X	
Low, Medium or High Gas Heat — Stainless Steel Heat Exchanger	X	
Propane Conversion Kit		X
High Altitude Conversion Kit		X
Flue Discharge Deflector		X
Flue Shield		X
ELECTRIC HEAT (50FC units only)		
Electric Resistance Heaters		X
Single Point Kits		X
CABINET		
Thru-the-Base electrical or gas-line connections	X	X
Hinged Access Panels	X	
MERV-8 Filters	X	
COIL OPTIONS		
Cu/Cu indoor and/or outdoor coils[1]	X	
Pre-coated outdoor coils[1]	X	
Premium, E-coated outdoor coils[1]	X	
HUMIDITY CONTROL		
Humidi-MiZer® Adaptive Dehumidification System[1]	X	
CONDENSER PROTECTION		
Condenser coil hail guard (louvered design)[1]	X	X
CONTROLS		
Thermostats, temperature sensors, and subbases		X
SystemVu™ DDC communicating controller	X	
RTU Open Multi-Protocol controller	X	
Smoke detector (supply and/or return air)	X	
Horn Strobe Annunciator[2]		X
Time Guard II compressor delay control circuit		X
Phase Monitor	X	X
Condensate Overflow switch	X	X

ITEM	OPTION*	ACCESSORY†
ECONOMIZERS AND OUTDOOR AIR DAMPERS		
EconoMi$er® IV for electro-mechanical controls - Non FDD (Standard air leak damper models)[1, 3, 9]	X	X
EconoMi$er2 for DDC controls (Standard and Ultra Low Leak air damper models)[1, 4]	X	X
EconoMi$er X for electro-mechanical controls, complies with FDD (Standard and Ultra Low Leak damper models)[1, 3, 9]	X	X
Motorized 2-position outdoor-air damper[1]	X	X
Manual outdoor-air damper (25% and 50%)		X
Barometric relief[5]	X	X
Power exhaust - prop design		X
ECONOMIZER SENSORS AND IAQ DEVICES		
Single dry bulb temperature sensors[6]	X	X
Differential dry bulb temperature sensors[6]		X
Single enthalpy sensors[6]	X	X
Differential enthalpy sensors[6]		X
CO_2 sensor (wall, duct, or unit mounted)[6]	X	X
INDOOR MOTOR AND DRIVE		
Multiple motor and drive packages	X	
LOW AMBIENT CONTROL		
Winter start kit[7]		X
Low Ambient controller to -20°F (-29°C)[7]		X
POWER OPTIONS		
Convenience outlet (powered)[1]	X	
Convenience outlet (unpowered)	X	
Non-fused disconnect[8]	X	
ROOF CURBS		
Roof curb 14-in. (356 mm)		X
Roof curb 24-in. (610 mm)		X

* Factory-installed option.

† Field-installed accessory.

NOTES:

1. Not available as a factory-installed option on single phase (-3 voltage code) models. Use field-installed accessory where available.
2. Requires a field-supplied 24V transformer for each application. See price pages for details.
3. FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
4. Models with SystemVu and RTU Open DDC controls comply with California Title 24 Fault Detection and Diagnostic (FDD).
5. Included with economizer.
6. Sensors used to optimize economizer performance.
7. See application data for assistance.
8. Non-fused disconnect switch cannot be used when unit electrical rating exceeds:
   208-230/1/60 and 208-230/3/60 = 80 amps (FLA).
   480/3/60 and 575/3/60 = 80 amps (FLA).
   Carrier RTUBuilder automatically selects the amp limitations.
9. Available as a factory-installed option for 04-06 models only.

Options and accessories (cont)

Factory-installed options

Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation; and provide cool, outside air to cool your building. This is the preferred method of low-ambient cooling. When coupled to CO_2 sensors, economizers can provide even more savings by coupling the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. Additional sensors are available as accessories to optimize the economizers. Economizers include a powered exhaust system to help equalize building pressures.

Economizers include gravity controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in Ultra Low Leak and standard low leak versions. Economizers can be factory-installed or easily field-installed.

Unit mounted CO_2 sensor

The CO_2 sensor works with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO_2 sensor detects their presence through increasing CO_2 levels, and opens the economizer appropriately. When the occupants leave, the CO_2 levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV), reduces the overall load on the rooftop, saving money. It is also available as a field-installed accessory.

Smoke detector (supply and/or return air)

Trust the experts. Smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Optional Humidi-MiZer® adaptive dehumidification system

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaker® 48/50FC04-07 rooftop unit, with the exception of single phase voltage (208-230/1/60) units.

This system expands the envelope of operation of Carrier's WeatherMaker rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has a unique dual operational mode setting. The Humidi-MiZer system provides greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode.

The WeatherMaker 48/50FC04-07 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, sub-cooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Sub-cooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

NOTE: Humidi-MiZer system includes Low Ambient controller.

Thru-the-base connections

Thru-the-base connections, available as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

Hinged access panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box access indoor fan motor access.

Cu/Cu (indoor) coils

Copper fins and copper tubes are mechanically bonded to copper tubes and copper tube sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

E-coated (outdoor and indoor) coils

A flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.

Pre-coated outdoor coils

A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. Coating is applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Single enthalpy sensor

Prevents the wheel from rotating if the outside air conditions are acceptable for free cooling. Both exhaust and supply blowers will remain on.

Stainless steel heat exchanger (48FC units only)

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gage type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

Convenience outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the outlet from the line side of the disconnect or load side as

required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

The unpowered convenience outlet is available as a 15 amp factory-installed option or a 20 amp field-installed accessory.

Non-fused disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop. When selecting a factory-installed non-fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate field-installed items such as power exhaust devices, etc. If field installing electric heat with factory-installed non-fused disconnect switch, a single point kit may or may not be required.

SystemVu™ controller

Carrier's SystemVu controller is an optional factory-installed and tested controller.

This controller takes on a whole new approach to provide an intuitive, intelligent controller that not only monitors and controls the unit, but also provides linkage to multiple building automation systems.

Each SystemVu controller makes it easy to set up, service, troubleshoot, gain historical data, generate reports and provide comfort only Carrier is noted for.

Key features include:

- Easy to read back lit four line text screen for superior visibility.
- Quick operational condition LEDs of: Run, Alert, and Fault.
- Simple navigation with large keypad buttons of: Navigation arrows, Test, Back, Enter and Menu.
- Capable of being controlled with a conventional thermostat, space sensor or build automation system.
- Service capabilities include:
  Auto run test
  Manual run test
  Component run hours and starts
  Commissioning reports
  Data logging
- Full range of diagnosis:
  Read refrigerant pressures without the need of gages
  Sensor faults
  Compressor reverse rotation
  Economizer diagnostics that meet California Title 24 requirements
- Quick data transfer via USB port:
  Unit configuration uploading/downloading
  Data logging
  Software upgrades
- Built in capacity for:
  i-Vu® open systems
  BACnet systems
  CCN systems
- Configuration and alarm point capability:
  Contain over 100 alarm codes
  Contain over 260 status, troubleshooting, diagnostic and maintenance points
  Contain over 270 control configuration setpoints

RTU Open, multi-protocol controller

Connect the rooftop to an existing BAS (building automation system) without needing complicated translators or adapter modules using the RTU Open controller. The RTU Open controller speaks the 4 most common building automation system languages (BACnet, Modbus, Johnson Controls N2, and LonWorks). Use this controller when you have an existing BAS. Besides the 4 protocols, it also communicates with a Carrier Open system (i-Vu and VVT®).

Condensate overflow switch

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:

- Indicator light – solid red (more than 10 seconds on water contact – compressors disabled), blinking red (sensor disconnected)
- 10-second delay to break – eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.

Power exhaust with barometric relief

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

Options and accessories (cont)

Field-installed accessories

Filter maintenance indicator

When the optional factory-installed filter maintenance indicator is used, a factory-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch setpoint.

Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a factory-installed option or as a field-installed accessory.

Differential enthalpy sensor

The differential enthalpy sensor is comprised of an outdoor and return air enthalpy sensors to provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.

Wall or duct mounted CO_2 sensor

The IAQ sensor shall be available in duct or wall mount. The sensor provides demand ventilation indoor air quality (IAQ) control.

Propane conversion kit (48FC units only)

Convert your gas heat rooftop from standard natural gas operation to Propane using this field-installed kit.

High altitude conversion kit (48FC units only)

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software, or the unit's service manual. High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft^3 at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

Flue discharge deflector (48FC units only)

The flue discharge deflector is a useful accessory when flue gas recirculation is a concern. By venting the flue discharge upwards, the deflector minimizes the chance for a neighboring unit to intake the flue exhaust.

MERV-8 return air filters

This factory option upgrades the return air filters from standard unit filters to high efficiency MERV-8 filters. Non-woven MERV-8 filter media with high strength, moisture-resistant frame. Filter media is securely fasted inside the filter frame on all four sides.

Phase monitor protection

The Phase Monitor Control will monitor the sequence of three phase electrical system to provide a phase reversal protection; and monitor the three phase voltage inputs to provide a phase loss protection for the three phase device. It will work on either a Delta or Wye power connection.

Winter start kit

The winter start kit by Carrier extends the low ambient limit of your rooftop to 25°F (–4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Low ambient controller

The low ambient controller is a head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling when economizer usage is either not appropriate or desired. The low ambient controller will either cycle the outdoor fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to –20°F (–29°C) ambient conditions.

Roof curb (14-in./356 mm or 24-in./610 mm)

Full perimeter roof curb with exhaust capability provides separate air streams for energy recovery from the exhaust air without supply air contamination.

Filter status indicator accessory

Monitors static pressure across supply and exhaust filters and provides indication when filters become clogged.

Power exhaust

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

Manual OA Damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% and 50% versions.

NOTE: See application tip "ROOFTOP-18-01" prior to use of this damper on 07 size models.

Motorized 2-Position Damper

The Carrier 2-position, motorized outdoor air damper admits up to 100% outside air. Using reliable, gear-driven technology, the 2-position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration.

NOTE: See application tip "ROOFTOP-18-01" prior to use of this damper on 07 size models.

Electric Heaters

Carrier offers a full-line of field-installed accessory heaters. The heaters are very easy to use, install and are all pre-engineered and certified.

Time Guard II control circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with SystemVu™ controller, RTU Open controller, or authorized commercial thermostats.

OPTIONS AND ACCESSORY WEIGHTS

OPTION / ACCESSORY NAME	48/50FC UNIT WEIGHT							
	04		05		06		07	
	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer® System*	15	7	15	7	15	7	24	11
Power Exhaust - vertical	51	23	51	23	51	23	51	23
Power Exhaust - horizontal	39	18	39	18	39	18	39	18
EconoMi$er® (X, IV or 2)	35	16	35	16	35	16	35	16
2-Position Damper	39	18	39	18	39	18	58	26
Manual Damper	12	5	12	5	12	5	18	8
Medium Gas Heat (48FC units only)	9	4	9	4	9	4	15	7
High Gas Heat (48FC units only)	—	—	63	29	63	29	63	29
Hail Guard (louvered)	13	6	13	6	13	6	17	8
Cu/Cu Condenser Coil	37	17	74	34	74	34	95	43
Cu/Cu Condenser and Evaporator Coils	75	34	112	51	112	51	165	75
Roof Curb (14-in. curb)	95	43	95	43	95	43	95	43
Roof Curb (24-in. curb)	150	68	150	68	150	68	150	68
CO_2 sensor	2	1	2	1	2	1	2	1
Flue Discharge Deflector	7	3	7	3	7	3	7	3
Optional Indoor Motor/Drive	10	5	10	5	10	5	15	7
Low Ambient Controller	9	4	9	4	9	4	9	4
Winter Start Kit	5	2	5	2	5	2	5	2
Return Air Smoke Detector	7	3	7	3	7	3	7	3
Supply Air Smoke Detector	7	3	7	3	7	3	7	3
Fan Filter Switch	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7
Powered Convenience Outlet	36	16	36	16	36	16	36	16
Unpowered Convenience Outlet	4	2	4	2	4	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1

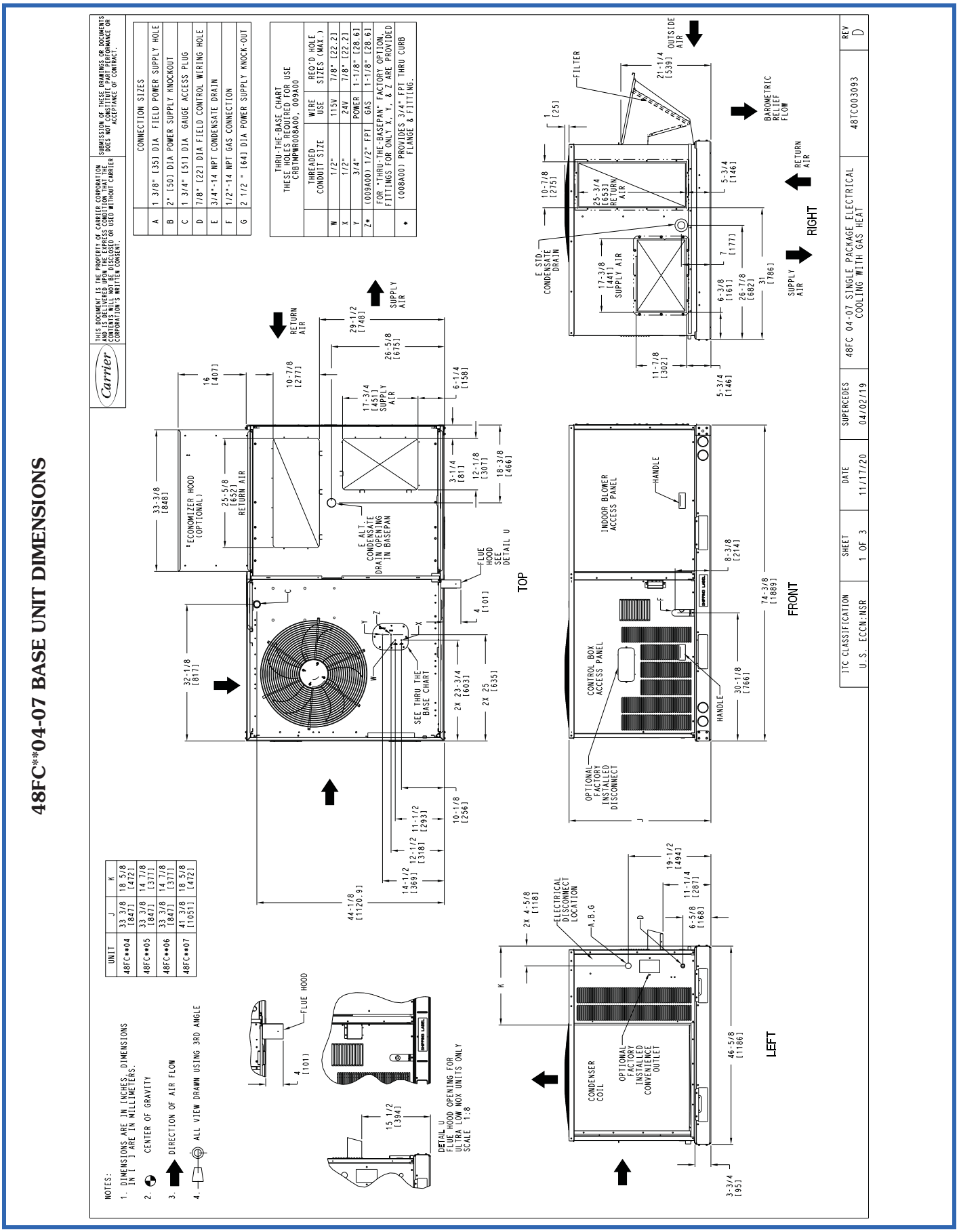
LEGEND

— Not Available

* For Humidi-MiZer system, add Low Ambient controller weight.

NOTE: Where multiple variations are available, the heaviest combination is listed.

Base unit dimensions



48FC**04-07 BASE UNIT DIMENSIONS (cont)

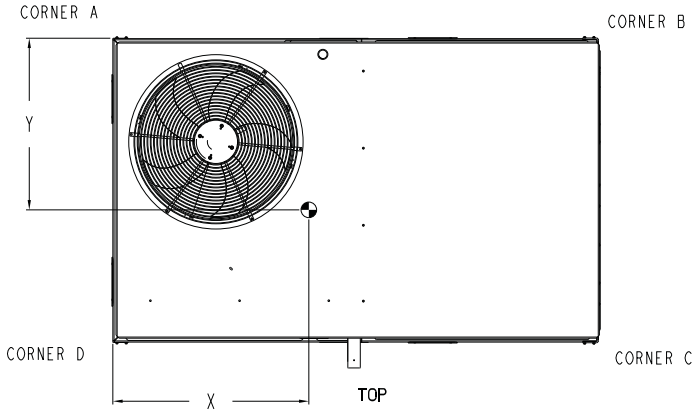
UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FC**04	482	219	113	51	116	53	128	58	125	57	37 5/8 [956]	24 9/16 [624]	18 1/4 [464]
48FC**05	543	246	138	63	133	60	133	60	138	63	36 1/2 [927]	23 3/8 [594]	18 [457]
48FC**06	556	252	142	64	136	62	136	62	142	64	36 1/2 [927]	23 3/8 [594]	18 [457]
48FC**07	607	275	162	73	152	69	141	64	151	68	36 [914]	22 1/2 [572]	19 3/8 [492]

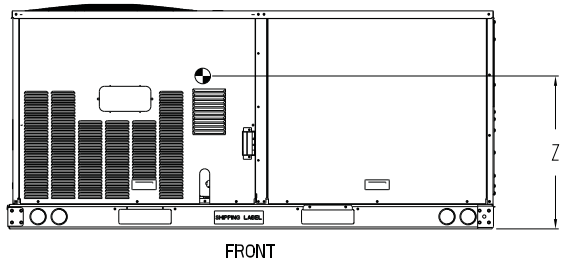
* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

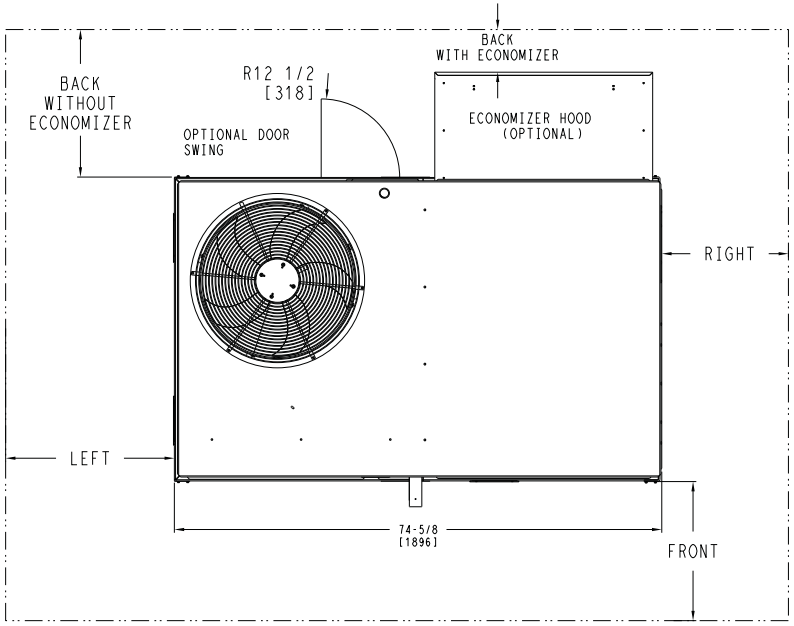
THIS TABLE IS FOR "ULTRA LOW NOX" UNITS ONLY

UNIT	STD. UNIT WEIGHT**		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FCG*04	512	233	120	55	122	55	136	62	134	61	37 1/2 [953]	24 11/16 [627]	18 1/8 [460]
48FCG*05	573	260	146	66	139	63	141	64	147	67	36 3/8 [924]	23 1/2 [597]	18 [457]
48FCG*06	586	266	149	68	143	65	144	65	151	69	36 3/8 [924]	23 1/2 [597]	18 [457]

** STANDARD UNIT WEIGHT IS WITH WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.







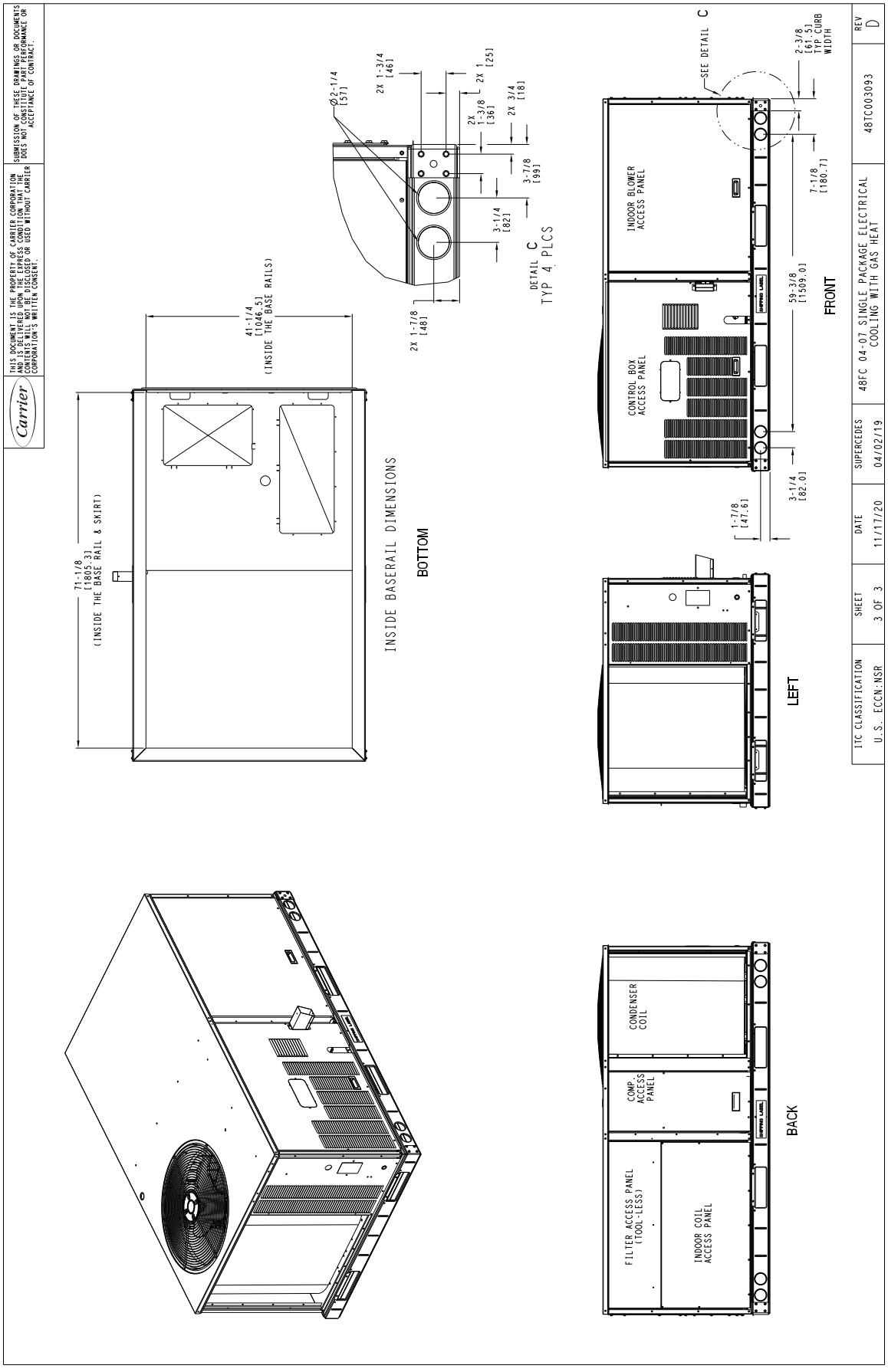
NOTES:

1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O HOOD	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

Base unit dimensions (cont)

48FC**04-07 BASE UNIT DIMENSIONS (cont)



50FC**04-07 BASE UNIT DIMENSIONS

NOTES:

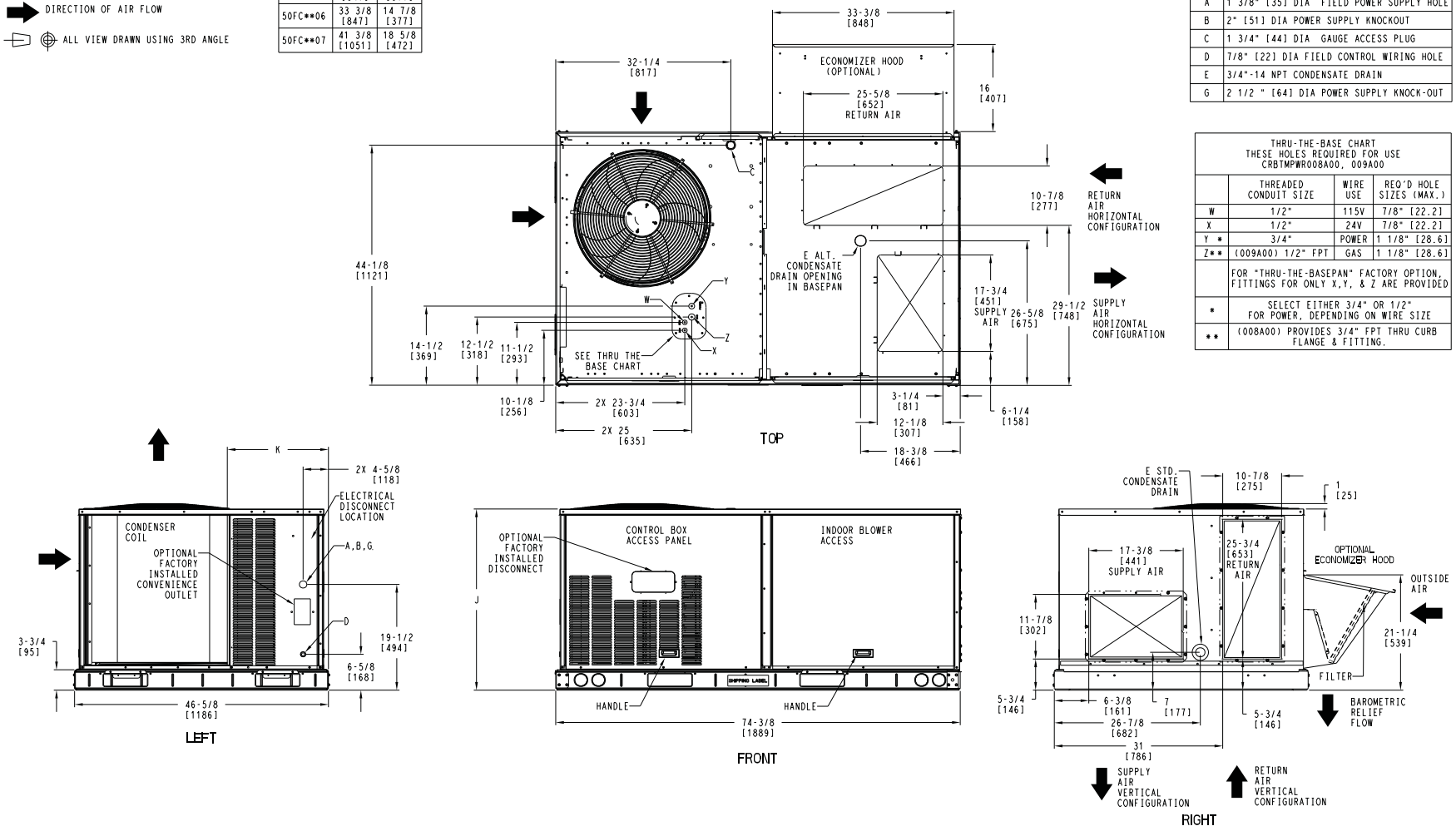
1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	J	K
50FC**04	33 3/8 [847]	18 5/8 [472]
50FC**05	33 3/8 [847]	14 7/8 [377]
50FC**06	33 3/8 [847]	14 7/8 [377]
50FC**07	41 3/8 [1051]	18 5/8 [472]

	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2" [51] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [44] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2 1/2 " [64] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR008A00, 009A00

	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	115V	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y *	3/4"	POWER	1 1/8" [28.6]
Z**	(009A00) 1/2" FPT	GAS	1 1/8" [28.6]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X,Y, & Z ARE PROVIDED		
*	SELECT EITHER 3/4" OR 1/2" FOR POWER, DEPENDING ON WIRE SIZE		
**	(008A00) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.		



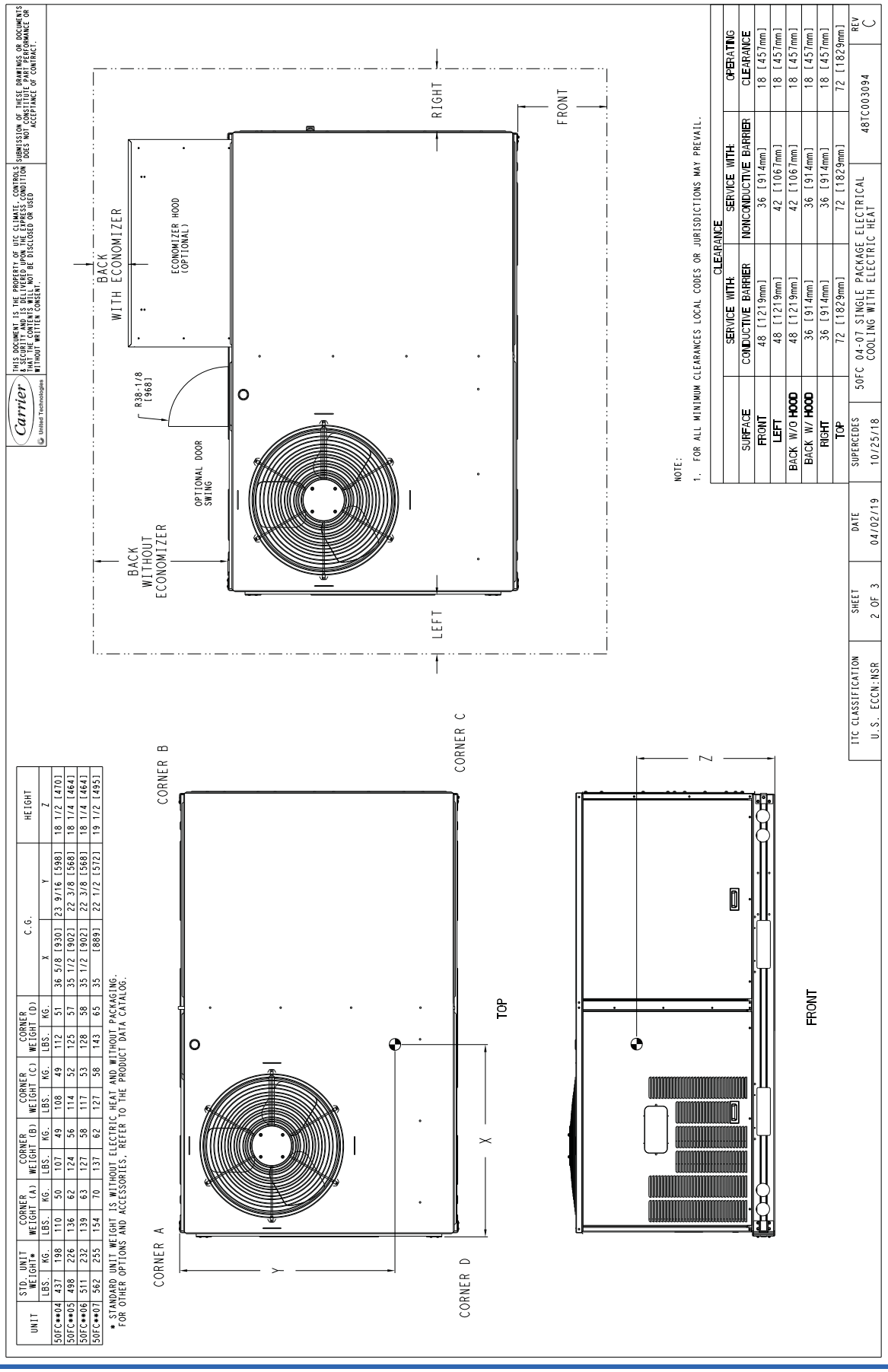
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	1 OF 3	04/02/19	10/25/18	50FC 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TC003094	C

Base unit dimensions (cont)

50FC**04-07 BASE UNIT DIMENSIONS (cont)

UNIT	STD. UNIT WEIGHT*		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50FC**04	437	198	110	50	107	49	108	49	112	51	36 5/8 [930]	23 9/16 [598]	18 1/2 [470]
50FC**05	498	226	136	62	124	56	114	52	125	57	35 1/2 [902]	22 3/8 [568]	18 1/4 [464]
50FC**06	511	232	139	63	127	58	117	53	128	58	35 1/2 [902]	22 3/8 [568]	18 1/4 [464]
50FC**07	562	255	154	70	137	62	127	58	143	65	35 [889]	22 1/2 [572]	19 1/2 [495]

* STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



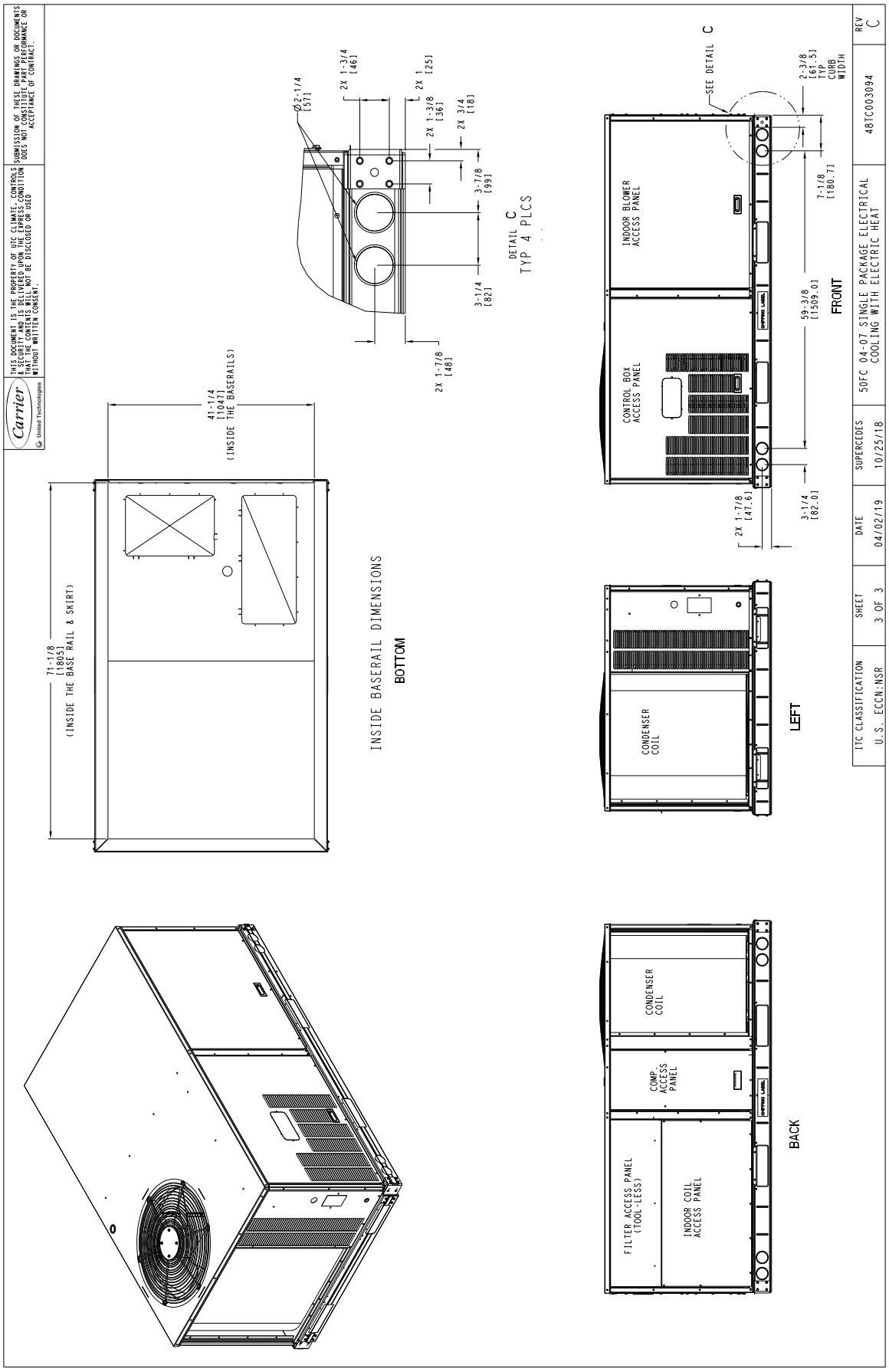
NOTE:
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

CLEARANCE			
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O HOOD	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50FC 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TC003094	REV
U.S. ECCN:NSR	2 OF 3	04/02/19	10/25/18			C

1730 Mass Ave, Inc. DBA Boston Garden
Volume IIC: Table of Contents

50FC**04-07 BASE UNIT DIMENSIONS (cont)



SPEC'D UNIT IS
48FCEM12N6A5-6F5C0

Carrier

Turn to the experts

Product Data

WeatherMaker®
Single Packaged Rooftop

7.5 to 15 Nominal Tons

ecoblue™ technology

48/50FC**08, 09, 12, 14, 16

48FC: Single-Package Gas Heating/Electric Cooling Rooftop Units
50FC: Electric Cooling Rooftop Units with Optional Electric Heat
with Puron® Refrigerant (R-410A) and EcoBlue Technology

Features/Benefits

The New Carrier WeatherMaker® rooftop units (RTU) with EcoBlue™ Technology were designed by customers with integrated new technology to provide value added benefits never seen in this type of equipment before.

New major design features include:

- Patented, industry's first efficient indoor fan system using Vane Axial fan with electric commutated variable speed motor. As compared to today's typically used belt drive with forward curve fans, system provides reliable operation with:
  - 75% fewer moving parts
  - No fan belts, pulleys, shaft, and shaft bearings
  - 40% more efficient than traditional belt drive forward curve fans
  - Slow ramp up capability for better sound and comfort control
  - Internal protection from phase reversal and phase loss situations
  - High external static capability
  - Slide out blower assembly design
- Reliable and highly safety protected 2 stage cooling with tandem scroll compressors technology, fully active evaporator coil, and mixed air temperature protection on all models
- New unit control board with intuitive indoor fan that uses simple dial and switch adjustments
- Reliable copper tube/aluminum fin condenser coil with 5/16 in. tubing to help reduce refrigerant charge and reduce weight versus prior designs

48/50FC WeatherMaker® units up to 15 tons are specifically designed to fit on Carrier roof curbs that were installed back to 1989, which makes replacement easy and eliminates the need for curb adapters, changing utility connections or supporting curb overhang situations.

2 speed staged air volume (SAV) indoor fan speed control helps deliver IEERs up to 15.0. All models are capable of either vertical or horizontal airflow without dedicated models or field install kits. The 16 size models require a field installed supply air kit.

With "no-strip" screw collars, handled access panels, and more, the unit is easy to install, easy to maintain, and easy to use. Your new 7.5 to 15 ton Carrier WeatherMaker rooftop unit (RTU) provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- optional Humidi-MiZer® adaptive dehumidification system for improved part load humidity performance
- SystemVu™ intuitive intelligent controls option that provides:
  - Large full text — multi line display
  - USB Flash Port for data transfer
  - Built in iVu®, CCN and BACnet[1]
  - Read refrigerant pressures from display – no gauges
  - Quick LED Status — Run, Alert, Fault
  - Conventional thermostat or sensor capabilities
  - Historical component runtime and starts
  - Supply air tempering
  - Navigator™ and Network Service Tool compatible
- single point gas and electrical connections
- 7.5 to 15 ton models use fixed TXV refrigerant metering devices
- Scroll compressors with internal line-break overload protection
- Units come with an easy access toolless filter door. Filter track tilts out for filter removal and replacement. All filters are the same size in each unit

1. BACnet is a trademark of ASHARE.

Installation ease

All WeatherMaker units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected job-site complications. Lighter units make for easy replacement and aid in the structural approval process. Units have simple, fast plug-in connections to the standard integrated unit control board (UCB). Clearly labeled connections points to reduce installation time. Also, a large control box provides room to work and room to mount Carrier accessory controls.

Easy to maintain

With the new EcoBlue Vane Axial fan system and direct drive ECM motor, there is no longer a need to adjust or replace belts or pulleys as in past designs. This frees up maintenance, installation and commissioning time.

Easy access handles by Carrier provide quick and easy access to all normally serviced components. Our "no-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal.

Sloped, corrosion resistant composite drain pan sheds water; and won't rust.

Table of contents

Features/Benefits (cont)

Easy to use

The newly re-designed Unit Control Board by Carrier puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to access it. Setting up the fan is simple by an intuitive switch and rotary dial arrangement.

Carrier rooftops have high and low pressure switches, a new mixed air temperature switch, a filter drier, and 2-in. filters standard.

EcoBlue™ Technology

Direct drive EcoBlue Technology indoor fan system uses Vane Axial fan design and electrically commutated motors.

This new Vane Axial design over past belt drive systems has 75% fewer moving parts, uses up to 40% less energy and has no fan belts, blower bearings and shaft. Full fan and motor assembly also slides out for easier maintenance and service.

Streamlined control and integration

Carrier controllers make connecting WeatherMaker® rooftops into existing building automation systems easy. The units are compatible with conventional thermostat controls or SystemVu™ controls for greater comfort, diagnostics and building network integration.

Operating efficiency and flexibility

These 48/50FC packaged rooftops meet the Department of Energy (DOE) 2023 efficiency standard, as well as the latest ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1 and IECC[1] (International Energy Conservation Code) minimum IEER efficiency requirements.

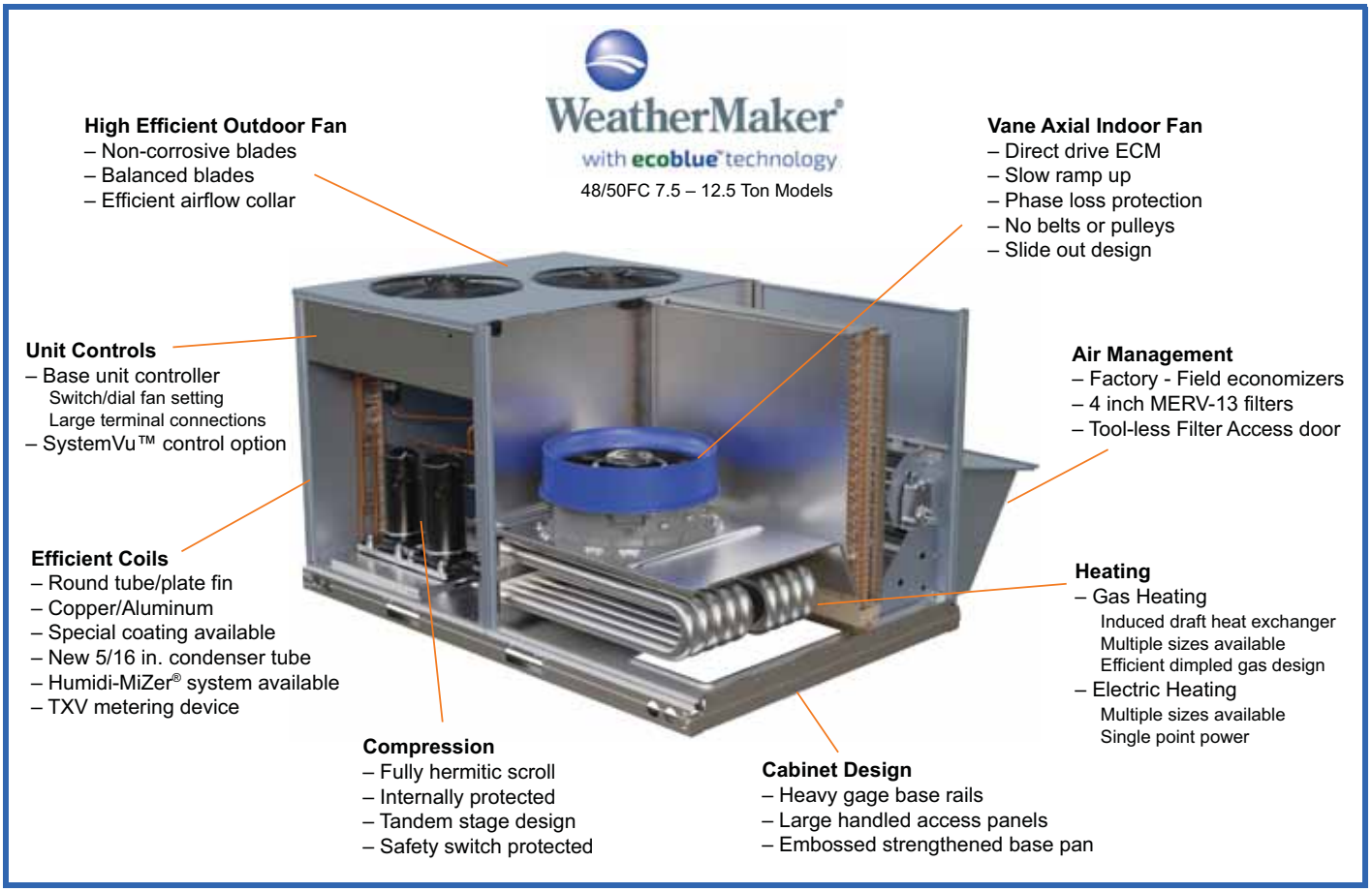
Field convertible airflow

All WeatherMaker 7.5 to 15 ton units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected job-site. 15 ton models require a simple supply duct cover kit to field convert from factory vertical to horizontal.

Comfort control

Carrier's patented Humidi-MiZer® adaptive dehumidification system is an all-inclusive factory-installed option on gas heating/electric cooling and electric cooling/electric heat models. This system provides reliable, flexible operation to meet indoor part load sensible and latent requirements as well as multiple gas heat and electric heat sized to fit an array of applications.

1. IECC is a registered trademark of the International Code Council, Inc.



Model number nomenclature

48FC MODEL NUMBER NOMENCLATURE

SPEC'D UNIT IS
48FCEM12N6A5-6F5C0

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	8	F	C	D	M	0	8	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
48 - Gas Heat Packaged Rooftop

Model Series - WeatherMaker®
FC - Standard Efficiency (EcoBlue™ Technology)

Heat Options
D = Low Heat
E = Medium Heat
F = High Heat
S = Low Heat w/ Stainless Steel Exchanger
R = Medium Heat w/ Stainless Steel Exchanger
T = High Heat w/ Stainless Steel Exchanger

Refrig. Systems Options
M = Two Stage Cooling/One Circuit Models
N = Two Stage Cooling/One Circuit Models with Humidi-MiZer® System

Cooling Tons
08 = 7.5 tons
09 = 8.5 tons
12 = 10 tons
14 = 12.5 tons
16 = 15 tons

Sensor Options
A = None
B = RA Smoke Detector
C = SA Smoke Detector
D = RA + SA Smoke Detector
E = CO_2
F = RA Smoke Detector and CO_2
G = SA Smoke Detector and CO_2
H = RA + SA Smoke Detector and CO_2
J = Condensate Overflow Switch
K = Condensate Overflow Switch + RA Smoke Detectors
L = Condensate Overflow Switch + RA and SA Smoke Detectors
M = Condensate Overflow Switch + SA Smoke Detector
N = Condensate Overflow Switch + CO_2
P = Condensate Overflow Switch + RA Smoke Detector and CO_2
Q = Condensate Overflow Switch + SA Smoke Detector and CO_2
R = Condensate Overflow Switch + RA and SA Smoke Detector and CO_2

Indoor Fan Options
2 = Standard/Medium Static Option
3 = High Static Option
5 = Standard/Medium Static Option and Filter Status Switch
6 = High Static Option and Filter Status Switch

Coil Options – RTPF (Outdoor – Indoor – Hail Guard)
A = Al/Cu – Al/Cu
B = Precoat Al/Cu – Al/Cu
C = E-coat Al/Cu – Al/Cu
D = E-coat Al/Cu – E-coat Al/Cu
E = Cu/Cu – Al/Cu
F = Cu/Cu – Cu/Cu
M = Al/Cu – Al/Cu – Louvered Hail Guard
N = Precoat Al/Cu – Al/Cu – Louvered Hail Guard
P = E-coat Al/Cu – Al/Cu – Louvered Hail Guard
Q = E-coat Al/Cu – E-coat Al/Cu – Louvered Hail Guard
R = Cu/Cu – Al/Cu – Louvered Hail Guard
S = Cu/Cu – Cu/Cu – Louvered Hail Guard

Voltage
1 = 575/3/60
5 = 208-230/3/60
6 = 460/3/60

Design Revision
- = Factory Design Revision

Base Unit Controls
0 = Electro-mechanical Controller
3 = SystemVu™ Controller
6 = Electro-mechanical Controller with W7220 Economizer Control. Can be used with EconoMi$er X (w/ Fault Detection and Diagnostic)

Intake / Exhaust Options
A = None
B = Temperature Economizer w/ Barometric Relief
F = Enthalpy Economizer w/ Barometric Relief
U = Temperature Ultra Low Leak Economizer w/ Barometric Relief
W = Enthalpy Ultra Low Leak Economizer w/ Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet
2 = Powered Convenience Outlet
3 = Hinged Access Panels
4 = Hinged Access Panels and Unpowered Convenience Outlet
5 = Hinged Access Panels and Powered Convenience Outlet
6 = 4" MERV 13 High Efficiency Filter Track
7 = Unpowered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track
8 = Powered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track
9 = Hinged Access Panels and 4" MERV 13 High Efficiency Filter Track
A = Hinged Access Panels, Unpowered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track
B = Hinged Access Panels, Powered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track

Electrical Options
A = None
C = Non-Fused Disconnect
D = Thru-The-Base Connections
F = Non-Fused Disconnect and Thru-The-Base Connections
N = Phase Monitor/Protection
Q = Phase Monitor/Protection and Non-Fused Disconnect
R = Phase Monitor/Protection and Thru-The-Base Connections
T = Phase Monitor/Protection with Non-Fused Disconnect and Thru-The-Base Connections
1 = High SCCR (Short Circuit Current Rating) Protection
2 = High SCCR Protection and Thru-The-Base Connections

Packaging Compliance
0 = Standard
1 = LTL

Model number nomenclature (cont)

50FC MODEL NUMBER NOMENCLATURE

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	5	0	F	C	-	M	0	8	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
50 – Cooling with Optional Electric Heat Packaged Rooftop

Model Series - WeatherMaker®
FC – Standard Efficiency (EcoBlue™ Technology)

Heat Size
- = No heat
(Field Installed Available)

Refrig. Systems Options
M = Two Stage Cooling, Single Circuit
N = Two Stage Cooling, Single Circuit with Humidi-MiZer® system

Cooling Tons
08 = 7.5 tons
09 = 8.5 tons
12 = 10.0 tons
14 = 12.5 tons
16 = 15 tons

Sensor Options
A = None
B = Return Air (RA) Smoke Detector
C = Supply Air (SA) Smoke Detector
D = RA + SA Smoke Detector
E = CO_2 Sensor
F = RA Smoke Detector and CO_2 Sensor
G = SA Smoke Detector and CO_2 Sensor
H = RA + SA Smoke Detector and CO_2 Sensor
J = Condensate Overflow Switch
K = Condensate Overflow Switch and RA Smoke Detector
L = Condensate Overflow Switch and RA and SA Smoke Detectors
M = Condensate Overflow Switch and SA Smoke Detector
N = Condensate Overflow Switch + CO_2
P = Condensate Overflow Switch + RA Smoke Detector and CO_2
Q = Condensate Overflow Switch + SA Smoke Detector and CO_2
R = Condensate Overflow Switch + RA and SA Smoke Detector and CO_2

Indoor Fan Options
2 = Standard/Medium Static Motor – Vane Axial EcoBlue
3 = High Static Motor – Vane Axial EcoBlue
5 = Standard/Medium Static Motor – Vane Axial EcoBlue and Filter Status Switch
6 = High Static Motor – Vane Axial EcoBlue and Filter Status Switch

Coil Options – (Outdoor - Indoor - Hail Guard)
A = Al/Cu - Al/Cu
B = Precoat Al/Cu - Al/Cu
C = E-coat Al/Cu - Al/Cu
D = E-coat Al/Cu - E-coat Al/Cu
E = Cu/Cu - Al/Cu
F = Cu/Cu - Cu/Cu
M = Al/Cu - Al/Cu — Louvered Hail Guard
N = Precoat Al/Cu - Al/Cu — Louvered Hail Guard
P = E-coat Al/Cu - Al/Cu — Louvered Hail Guard
Q = E-coat Al/Cu - E-coat Al/Cu — Louvered Hail Guard
R = Cu/Cu - Al/Cu — Louvered Hail Guard
S = Cu/Cu - Cu/Cu — Louvered Hail Guard

Voltage
1 = 575/3/60
5 = 208-230/3/60
6 = 460/3/60

Design Revision
- = Factory Design Revision

Base Unit Controls
0 = Electro-mechanical Controller
3 = SystemVu™ Controller
6 = Electro-mechanical Controller with W7220 Economizer Control. Can be used with EconoMi$er X (w/ Fault Detection and Diagnostic)

Intake / Exhaust Options
A = None
B = Temperature Economizer w/ Barometric Relief
F = Enthalpy Economizer w/ Barometric Relief
U = Temperature Ultra Low Leak Economizer w/ Barometric Relief
W = Enthalpy Ultra Low Leak Economizer w/ Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet
2 = Powered Convenience Outlet
3 = Hinged Panels
4 = Hinged Panels and Unpowered Convenience Outlet
5 = Hinged Access Panels and Powered Convenience Outlet
6 = 4" MERV 13 High Efficiency Filter Track
7 = Unpowered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track
8 = Powered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track
9 = Hinged Access Panels and 4" MERV 13 High Efficiency Filter Track
A = Hinged Access Panels, Unpowered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track
B = Hinged Access Panels, Powered Convenience Outlet and 4" MERV 13 High Efficiency Filter Track

Electrical Options
A = None
C = Non-Fused Disconnect
D = Thru-The-Base Connections
F = Non-Fused Disconnect and Thru-The-Base Connections
N = Phase Monitor/Protection
Q = Phase Monitor/Protection and Non-Fused Disconnect
R = Phase Monitor/Protection and Thru-The-Base Connections
T = Phase Monitor/Protection with Non-Fused Disconnect and Thru-The-Base Connections
1 = High SCCR (Short Circuit Current Rating) Protection
2 = High SCCR Protection and Thru-The-Base Connections

Packaging & Seismic Compliance
0 = Standard
1 = LTL

Capacity ratings

48FC AHRI RATINGS

48FC UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH 2-SPEED INDOOR FAN MOTOR	AHRI RATING CFM
48FC*M08	2	7.5	86.0	7.7	11.2	15.0	2650
48FC*M09	2	8.5	98.0	8.8	11.2	15.0	3400
48FC*M12	2	10.0	118.0	10.7	11.0	15.0	3500
48FC*M14	2	12.5	132.0	12.9	10.2	15.0	3750
48FC*M16	2	15.0	174.0	16.1	10.8	14.5	5250

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio

NOTES:

1. Rated in accordance with AHRI Standards 340/360.
2. Rating are based on:
   Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
   IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All 48FC units comply with ASHRAE 90.1-2019 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2023 (Department of Energy) Energy Standard for minimum IEER requirements.
4. 48FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

50FC AHRI RATINGS

50FC UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH 2-SPEED INDOOR FAN MOTOR	AHRI RATING CFM
50FC*M08	2	7.5	86.0	7.5	11.4	15.2	2650
50FC*M09	2	8.5	98.0	8.6	11.4	15.2	3400
50FC*M12	2	10.0	118.0	10.5	11.2	15.2	3500
50FC*M14	2	12.5	133.0	12.8	10.4	15.2	3750
50FC*M16	2	15.0	174.0	15.8	11.0	14.7	5250

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio

NOTES:

1. Rated in accordance with AHRI Standards 340/360.
2. Rating are based on:
   Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
   IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
3. All 50FC units comply with ASHRAE 90.1-2019 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2023 (Department of Energy) Energy Standard for minimum IEER requirements.
4. 50FC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

Capacity ratings (cont)

SOUND RATINGS TABLE

48/50FC UNIT	COOLING STAGES	OUTDOOR SOUND (dB) at 60 Hz								
		A-WEIGHTED	63	125	250	500	1000	2000	4000	8000
M08	2	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
M09	2	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
M12	2	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
M14	2	79	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
M16	2	87	87.0	85.2	84.6	84.9	82.8	78.4	75.3	72.9

LEGEND

dB — Decibel

NOTES:

1. Outdoor sound data is measured in accordance with AHRI.
2. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
3. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of “average” human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.

Capacity ratings (cont)

MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — NATURAL GAS AND PROPANE

UNIT	HEAT LEVEL	COOLING			HEATING[a]	
		MINIMUM 2-SPEED AIRFLOW (LOW SPEED)	MINIMUM 2-SPEED AIRFLOW (HIGH SPEED)	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM
48FC08**	LOW	1350	2250	3750	1730	3800
	MED				2100	3900
	HIGH				2240	4200
48FC09**	LOW	1275	2550	4250	1730	4750
	MED				2100	4560
	HIGH				2240	4800
48FC12**	LOW	1800	3000	5000	2100	5470
	MED				2580	5600
	HIGH				2710	5420
48FC14**	LOW	2250	3750	6250	2100	6830
	MED				2580	6720
	HIGH				2710	6330
48FC16**	LOW	2970	4500	7500	2450	9000
	MED				3000	9000
	HIGH				4040	7500

NOTE(S):

a. Heating rating values are identical for aluminum heat exchangers and stainless steel heat exchangers.

MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — COOLING UNITS AND ACCESSORY ELECTRIC HEAT

UNIT	COOLING			ELECTRIC HEAT[a]	
	MINIMUM 2-SPEED AIRFLOW (LOW SPEED)	MINIMUM 2-SPEED AIRFLOW (HIGH SPEED)	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM
50FC08**	1350	2250	3750	2250	3750
50FC09**	1275	2550	4250	2550	4250
50FC12**	1800	3000	5000	3000	5000
50FC14**	2250	3750	6250	3750	6250
50FC16**	2970	4500	7500	4500	7500

NOTE(S):

a. Electric heat modules and single point kits are available as field-installed accessories for 50FC units.

Capacity ratings (cont)

HEAT RATING TABLE — NATURAL GAS AND PROPANE

UNIT	GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)
		INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)		
48FC08**	LOW	–/–	125/103	25-55	82
	MED	120/98	180/148	35-65	82
	HIGH	180/146	224/181	40-75	81
48FC09**	LOW	–/–	125/103	20-55	82
	MED	120/98	180/148	30-65	82
	HIGH	180/146	224/181	35-75	81
48FC12**	LOW	120/98	180/148	25-65	82
	MED	180/146	224/181	30-65	81
	HIGH	200/164	250/205	35-70	82
48FC14**	LOW	120/98	180/148	20-65	82
	MED	180/146	224/181	25-65	81
	HIGH	200/160	250/205	30-70	82
48FC16**	LOW	144/118	180/146	15-55	81
	MED	192/156	240/195	20-60	81
	HIGH	280/224	350/284	35-65	81

LEGEND

MBH — Btuh in thousands

Physical data

48/50FC 7.5 TO 8.5 TON PHYSICAL DATA

48/50FC UNIT	48/50FC*M08	48/50FC*N08	48/50FC*M09	48/50FC*N09
NOMINAL TONS	7.5	7.5	8.5	8.5
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	787/743	787/743	868/805	868/805
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1 / 2 / Scroll	1 / 2 / Scroll	1 / 2 / Scroll	1 / 2 / Scroll
Puron® (R-410A) charge (lbs-oz)	13-3	—	14-0	—
Humidi-MiZer® Puron (R-410A) charge (lbs-oz)	—	19-5	—	21-0
Metering device	TXV	TXV	TXV	TXV
Humidi-MiZer metering device	—	TXV	—	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	54/117	54/117	54/117
EVAPORATOR COIL				
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	3/15	3/15	4/15	4/15
Total Face Area (ft^2)	8.9	8.9	8.9	8.9
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL				
Material	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18	2/18	2/18
Total Face Area (ft^2)	20.5	20.5	21.4	21.4
HUMIDI-MIZER COIL				
Material	—	Cu/Al	—	Cu/Al
Coil Type	—	5/16 in. RTPF	—	5/16 in. RTPF
Rows/FPI	—	2/18	—	2/18
Total Face Area (ft^2)	—	6.0	—	8.0
EVAPORATOR FAN AND MOTOR				
Standard/Medium Static				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Max Cont bhp	2.4	2.4	2.4	2.4
Range (rpm)	250-2000	250-2000	250-2000	250-2000
Fan Qty/Type	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	22	22	22	22
High Static				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Max Cont bhp	3	3	3	3
Range (rpm)	250-2200	250-2200	250-2200	250-2200
Fan Qty/Type	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	22	22	22	22
CONDENSER FAN AND MOTOR				
Qty / Motor Drive Type	2 / Direct	2 / Direct	2 / Direct	2 / Direct
Motor hp/rpm	1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22	22	22
FILTERS				
RA Filter Qty / Size (in.)	4 / 16x20x2	4 / 16x20x2	4 / 16x20x2	4 / 16x20x2
OA Inlet Screen Qty / Size (in.)	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1

NOTE(S):

a. Base unit operating weight does not include weight of options.

LEGEND

bhp — brake horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48/50FC 10 TO 12.5 TON PHYSICAL DATA

48/50FC UNIT	48/50FC*M12	48/50FC*N12	48/50FC*M14	48/50FC* N14
NOMINAL TONS	10.0	10.0	12.5	12.5
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	878/815	878/815	1041/978	1041/978
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1 / 2/ Scroll	1 / 2/ Scroll	1 / 2/ Scroll	1 / 2/ Scroll
Puron® (R-410A) charge (lbs-oz)	15-3	—	19-8	—
Humidi-MiZer® Puron (R-410A) charge (lbs-oz)	—	23-3	—	28-6
Metering device	TXV	TXV	TXV	TXV
Humidi-MiZer metering device	—	TXV	—	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	54/117	54/117	54/117
EVAPORATOR COIL				
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	4/15	4/15	4/15	4/15
Total Face Area (ft^2)	11.1	11.1	11.1	11.1
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL				
Material	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18	3/18	3/18
Total Face Area (ft^2)	25.1	25.1	25.1	25.1
HUMIDI-MIZER COIL				
Material	—	Cu/Al	—	Cu/Al
Coil Type	—	5/16 in. RTPF	—	5/16 in. RTPF
Rows/FPI	—	2/18	—	2/18
Total Face Area (ft^2)	—	8.0	—	8.0
EVAPORATOR FAN AND MOTOR				
Standard/Medium Static				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Max Cont bhp	2.4	2.4	3	3
Range (rpm)	250-2000	250-2000	250-2200	250-2200
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22	22	22
High Static				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Max Cont bhp	5	5	5	5
Range (rpm)	250-2200	250-2200	250-2200	250-2200
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22	22	22
CONDENSER FAN AND MOTOR				
Qty / Motor Drive Type	2 / Direct	2 / Direct	1 / Direct	1 / Direct
Motor hp / rpm	1/4 / 1100	1/4 / Multiple Speeds	1 / Multiple Speeds	1 / Multiple Speeds
Fan Diameter (in.)	22	22	30	30
FILTERS				
RA Filter Qty / Size (in.)	4 / 20x20x2	4 / 20x20x2	4 / 20x20x2	4 / 20x20x2
OA Inlet Screen Qty / Size (in.)	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1

NOTE(S):

a. Base unit operating weight does not include weight of options.

LEGEND

bhp — brake horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48/50FC 15 TON PHYSICAL DATA

48/50FC UNIT	48/50FC*M16	48/50FC*N16
NOMINAL TONS	15.0	15.0
BASE UNIT OPERATING WT (lb) 48FC/50FC[a]	1408/1325	1408/1325
REFRIGERATION SYSTEM		
No. Circuits/No. Compressors/Type	1 / 2/ Scroll	1 / 2/ Scroll
Puron® (R-410A) charge (lbs-oz)	24-0	34-0
Humidi-MiZer® Puron (R-410A) charge (lbs-oz)	—	34-0
Metering device	TXV	TXV
Humidi-MiZer metering device	—	—
High-Pressure Trip/Reset (psig)	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	54/117
EVAPORATOR COIL		
Material (Tube/Fin)	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	3/15	3/15
Total Face Area (ft^2)	17.5	17.5
Condensate Drain Connection Size	3/4 in.	3/4 in.
CONDENSER COIL		
Material	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18
Total Face Area (ft^2)	46.2	46.2
HUMIDI-MIZER COIL		
Material	—	Cu/Al
Coil Type	—	5/16 in. RTPF
Rows/FPI	—	2/18
Total Face Area (ft^2)	—	8.0
EVAPORATOR FAN AND MOTOR		
Standard/Medium Static		
Motor Qty / Drive Type	1 / Direct	1 / Direct
Max Cont bhp	3	3
Range (rpm)	250-2000	250-2000
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22
High Static		
Motor Qty / Drive Type	1 / Direct	1 / Direct
Max Cont bhp	5	5
Range (rpm)	250-2000	250-2000
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22
CONDENSER FAN AND MOTOR		
Qty / Motor Drive Type	3 / Direct	3 / Direct
Motor hp / rpm	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22
FILTERS		
RA Filter Qty / Size (in.)	6 / 18x24x2	6 / 18x24x2
OA Inlet Screen Qty / Size (in.)	Vertical: 2 / 24x27x1 Horizontal: 1 / 30x39x1	Vertical: 2 / 24x27x1 Horizontal: 1 / 30x39x1

NOTE(S):

a. Base unit operating weight does not include weight of options.

LEGEND

bhp — brake horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48FC 7.5 TO 15 TON GAS HEAT DATA

48FC UNIT	48FC**08	48FC**09	48FC**12	48FC**14	48FC**16
NOMINAL TONS	7.5	8.5	10.0	12.5	15
GAS CONNECTION					
No. of Gas Valves	1	1	1	1	1
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47
Liquid Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47
HEAT ANTICIPATOR SETTING (AMPS)					
First Stage	0.14	0.14	0.14	0.14	0.14
Second Stage	0.14	0.14	0.14	0.14	0.14
NATURAL GAS HEAT					
LOW					
No. of Stages / No. of Burners (total)	1 / 3	1 / 3	2 / 4	2 / 4	2 / 6
Connection Size	1/2 in. NPT	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	196 / 115
Temperature Rise (°F)	25-55	20-55	25-65	20-65	15-55
MEDIUM					
No. of Stages / No. of Burners (total)	2 / 4	2 / 4	2 / 5	2 / 5	2 / 8
Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	197 / 115
Temperature Rise (°F)	35-65	30-65	30-65	25-65	20-60
HIGH					
No. of Stages / No. of Burners (total)	2 / 5	2 / 5	2 / 5	2 / 5	2 / 10
Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	198 / 115
Temperature Rise (°F)	40-75	35-75	35-70	30-70	35-65
LIQUID PROPANE HEAT					
LOW					
No. of Stages / No. of Burners (total)	1 / 3	1 / 3	2 / 4	2 / 4	2 / 6
Connection Size	1/2 in. NPT	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	196 / 115
Temperature Rise (°F)	25-55	20-55	25-65	20-65	15-55
MEDIUM					
No. of Stages / No. of Burners (total)	1 / 3	1 / 3	2 / 5	2 / 5	2 / 8
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	197 / 115
Temperature Rise (°F)	35-65	30-65	30-65	25-65	20-60
HIGH					
No. of Stages / No. of Burners (total)	2 / 5	2 / 5	2 / 5	2 / 5	2 / 10
Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	198 / 115
Temperature Rise (°F)	40-75	35-75	35-70	30-70	35-65

Options and accessories

ITEM	OPTION[a]	ACCESSORY[b]
GAS HEAT (48FC units only)		
Low, Medium or High Gas Heat — Aluminized Heat Exchanger	X	
Low, Medium or High Gas Heat — Stainless Steel Heat Exchanger	X	
Propane Conversion Kit		X
High Altitude Conversion Kit		X
Flue Discharge Deflector		X
Flue Shield (08-14 sizes only)		X
ELECTRIC HEAT (50FC units only)		
Electric Resistance Heaters		X
Single Point Kits		X
CABINET		
Thru-the-Base electrical or gas-line connections	X	X
Hinged Access Panels	X	
UV-C Ultraviolet Lamp[c]		X
MERV-13, 4 in. Filters	X	
MERV-13, 2 in. Filters		X
MERV-8, 2 in. Filters		X
4 in. Filter Rack (filters not included)		X
Disconnect Switch Bracket[d]		X
Supply Duct Cover[d]		X
COIL OPTIONS		
Cu/Cu indoor and/or outdoor coils	X	
Pre-coated outdoor coils	X	
Premium, E-coated outdoor coils	X	
HUMIDITY CONTROL		
Humidi-MiZer® Adaptive Dehumidification System	X	
CONDENSER PROTECTION		
Condenser coil hail guard (louvered design)	X	X
CONTROLS		
Thermostats, temperature sensors, and subbases		X
SystemVu™ DDC communicating controller	X	
Smoke detector (supply and/or return air)	X	X
Horn Strobe Annunciator[e]		X
Time Guard II compressor delay control circuit		X
Phase Monitor	X	X

ITEM	OPTION[a]	ACCESSORY[b]
ECONOMIZERS AND OUTDOOR AIR DAMPERS		
EconoMi$er® IV for electro-mechanical controls - Non FDD (Standard air leak damper models)[f]		X
EconoMi$er2 for DDC controls (Low and Ultra Low Leak air damper models)[g]	X	X
EconoMi$er X for electro-mechanical controls, complies with FDD (Low and Ultra Low Leak damper models)[f]	X	X
Motorized 2-position outdoor-air damper		X
Manual outdoor-air damper (25% and 50%)		X
Barometric relief[h]	X	X
Power exhaust - prop design		X
Condensate Overflow switch	X	X
ECONOMIZER SENSORS AND IAQ DEVICES		
Single dry bulb temperature sensors[i]	X	X
Differential dry bulb temperature sensors[i]		X
Differential enthalpy sensors[i]		X
CO_2 sensor (wall, duct, or unit mounted)[i]	X	X
INDOOR MOTOR AND DRIVE		
Multiple motor and drive packages	X	
LOW AMBIENT CONTROLS		
Winter start kit[j]		X
Low Ambient controller to 0°F (–18°C)[j]		X
POWER OPTIONS		
Convenience outlet (powered)	X	
Convenience outlet (unpowered)	X	
Convenience outlet, 20 amp (unpowered)		X
Non-fused disconnect[k]	X	
High SCCR Protection[l]	X	
ROOF CURBS		
Roof curb 14 in. (356 mm)		X
Roof curb 24 in. (610 mm)		X

NOTE(S):

a. Factory-installed option.
b. Field-installed accessory.
c. UV-C kits can not be used on units with Humidi-MiZer system.
d. For Size 16 units only.
e. Requires a field-supplied 24V transformer for each application. See price pages for details.
f. FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
g. Models with SystemVu controls comply with California Title 24 Fault Detection and Diagnostic (FDD).
h. Included with economizer.
i. Sensors used to optimize economizer performance.
j. See application data for assistance.
k. Non-fused disconnect switch cannot be used when unit FLA electrical rating exceeds –
   Sizes 08-14: 80 amps, all voltages.
   Size 16: 100 amps, all voltages.
   Carrier RTUBuilder automatically selects the amp limitations.
l. High SCCR (Short Circuit Current Rating) is not available on the following: units with Humidi-MiZer system, Low Ambient controls, Phase loss monitor, Non-fused disconnect, and 575V.

Options and accessories (cont)

Factory-installed options

Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation; and provide cool, outside air to cool your building. This is the preferred method of low-ambient cooling. When coupled to CO_2 sensors, economizers can provide even more savings by coupling the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. Additional sensors are available as accessories to optimize the economizers. Economizers include a powered exhaust system to help equalize building pressures.

Economizers can be factory-installed or easily field-installed.

Unit mounted CO_2 sensor

The CO_2 sensor works with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO_2 sensor detects their presence through increasing CO_2 levels, and opens the economizer appropriately. When the occupants leave, the CO_2 levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV), reduces the overall load on the rooftop, saving money. It is also available as a field-installed accessory.

Smoke detector (supply and/or return air)

Trust the experts. Smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Optional Humidi-MiZer® adaptive dehumidification system

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaker® 48/50FC*08-16 rooftop unit.

This system expands the envelope of operation of Carrier's WeatherMaker rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has a unique dual operational mode setting. The Humidi-MiZer system provides greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode.

The WeatherMaker 48/50FC*08-16 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, sub-cooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Sub-cooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

NOTE: Humidi-MiZer system includes Low Ambient controller.

Thru-the-base connections

Thru-the-base connections, available as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

Hinged access panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box access indoor fan motor access.

Cu/Cu (indoor) coils

Copper fins and copper tubes are mechanically bonded to copper tubes and copper tube sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

E-coated (outdoor and indoor) coils

A flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.

Pre-coated outdoor coils

A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. Coating is applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Stainless steel heat exchanger (48FC units only)

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gage type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

Convenience outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the outlet from the line side of the disconnect or load side as required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

The unpowered convenience outlet is available as a 15 amp factory-installed option or a 20 amp field-installed accessory.

Non-fused disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop. When selecting a factory-installed non-fused disconnect, note they are sized for the unit as ordered from

Options and accessories (cont)

the factory. The sizing of these do not accommodate field-installed items such as power exhaust devices, etc. If field installing electric heat with factory-installed non-fused disconnect switch, a single point kit may or may not be required.

SystemVu™ controller

Carrier's SystemVu controller is an optional factory-installed and tested controller.

This controller takes on a whole new approach to provide an intuitive, intelligent controller that not only monitors and controls the unit, but also provides linkage to multiple building automation systems.

Each SystemVu controller makes it easy to set up, service, troubleshoot, gain historical data, generate reports and provide comfort only Carrier is noted for.

Key features include:

- Easy to read back lit four line text screen for superior visibility.
- Quick operational condition LEDs of: Run, Alert, and Fault.
- Simple navigation with large keypad buttons of: Navigation arrows, Test, Back, Enter and Menu.
- Capable of being controlled with a conventional thermostat, space sensor or build automation system.
- Service capabilities include:
  - Auto run test
  - Manual run test
  - Component run hours and starts
  - Commissioning reports
  - Data logging
- Full range of diagnosis:
  - Read refrigerant pressures without the need of gages
  - Sensor faults
  - Compressor reverse rotation
  - Economizer diagnostics that meet California Title 24 requirements
- Quick data transfer via USB port:
  - Unit configuration uploading/downloading
  - Data logging
  - Software upgrades
- Built in capacity for:
  - i-Vu® open systems
  - BACnet systems
  - CCN systems
- Configuration and alarm point capability:
  - Contain over 100 alarm codes
  - Contain over 260 status, troubleshooting, diagnostic and maintenance points
  - Contain over 270 control configuration setpoints

Condensate overflow switch

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:

- Indicator light – solid red (more than 10 seconds on water contact – compressors disabled), blinking red (sensor disconnected)
- 10-second delay to break – eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressors operation when condensate plug is detected, but still allows fans to run for economizer.

Power exhaust with barometric relief

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

MERV-13 4 in. return air filters

This factory option upgrades the return air filters from standard unit filters to high efficiency MERV-13 filters. Non-woven MERV-13 filter media with high strength, moisture-resistant frame. Filter media is securely fasted inside the filter frame on all four sides.

High Short Circuit Current Rating (SCCR) protection

This factory-installed option provides high short circuit current protection to each compressor, plus all indoor and outdoor fan motors of 10 kA against high potential fault current situations.

Standard unit comes with 5 kA rating.

This option is not available with factory installed Non-Fused Disconnect, Humidi-MiZer system, Low Ambient controls, Phase loss monitor/protection and 575 Volt models.

Options and accessories (cont)

Electric heaters

Carrier offers a full-line of field-installed accessory heaters. The heaters are very easy to use, install and are all pre-engineered and certified.

Time Guard II control circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with SystemVu™ controller or authorized commercial thermostats.

Disconnect switch bracket

Provides a pre-engineered and sized mounting bracket for applications requiring a unit mounted fused and non-fused disconnect of greater than 100 amps. Bracket assures that no damage will occur to coils when mounting with screws and other fasteners (16 size only).

OPTIONS AND ACCESSORY WEIGHTS[a]

OPTION / ACCESSORY NAME	48/50FC UNIT WEIGHT									
	08		09		12		14		16	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer® System[b]	25	12	34	16	34	16	34	16	55	25
Power Exhaust - Vertical	75	34	75	34	75	34	75	34	85	39
Power Exhaust - Horizontal	30	14	30	14	30	14	30	14	75	34
EconoMi$er® (X, IV or 2)	55	25	55	25	55	25	55	25	85	39
2-Position Damper	58	26	58	26	58	26	58	26	65	29
Manual Damper	18	8	18	8	18	8	18	8	25	11
Medium Gas Heat (48FC units only)	15	7	15	7	18	8	18	8	18	8
High Gas Heat (48FC units only)	30	14	30	14	27	12	27	12	36	16
Hail Guard (louvered)	17	8	17	8	17	8	17	8	44	20
Cu/Cu Condenser Coil	85	39	85	39	100	46	150	68	180	82
Cu/Cu Evaporator Coil	50	23	100	46	100	46	100	46	120	55
Roof Curb (14 in. curb)	143	65	143	65	143	65	143	65	180	82
Roof Curb (24 in. curb)	245	112	245	112	245	112	245	112	255	116
CO_2 Sensor	2	1	2	1	2	1	2	1	2	1
Flue Discharge Deflector	7	3	7	3	7	3	7	3	7	3
Optional Indoor Motor[c]	30	14	30	14	30	14	30	14	0	0
Low Ambient Controller	9	4	9	4	9	4	9	4	9	4
Winter Start Kit	5	2	5	2	5	2	5	2	5	2
Return Air Smoke Detector	7	3	7	3	7	3	7	3	7	3
Supply Air Smoke Detector	7	3	7	3	7	3	7	3	7	3
Fan Filter Switch	2	1	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7
Powered Convenience Outlet	36	16	36	16	36	16	36	16	36	16
Unpowered Convenience Outlet	4	2	4	2	4	2	4	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1
4 in. MERV 13 Filters	11	5	14	7	14	7	14	7	20	9

NOTE(S):

a. Where multiple variations are available, the heaviest combination is listed.
b. For Humidi-MiZer system, add Low Ambient controller weight.
c. Add the Optional Indoor Motor weight to the weight of the base unit.

48FC**08*12 BASE UNIT DIMENSIONS

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	J	K	H
48FC-M08	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
48FC-M09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
48FC-M12	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)

	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION 3/4"-14 NPT GAS CONNECTION
G	2 " [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART (FIELD INST)

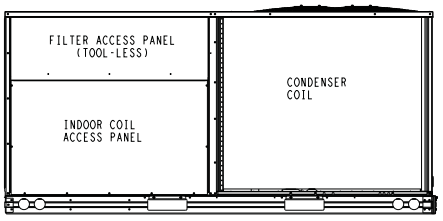
THESE HOLES REQUIRED FOR USE WITH ACCY KITS:
CRBTMPWR002A01: GAS THRU CURB
CRBTMPWR004A01: GAS THRU BASEPAN

	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(004) 3/4" FPT	GAS	1 3/4" [44.4]
*	(002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING. HOLE SIZE: 2" [50.8]		

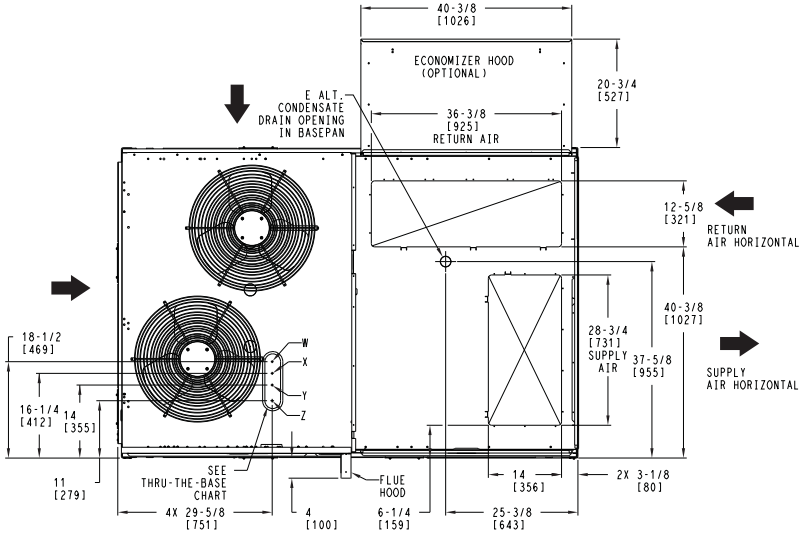
THRU-THE-BASE CHART (FIOP)

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED. **

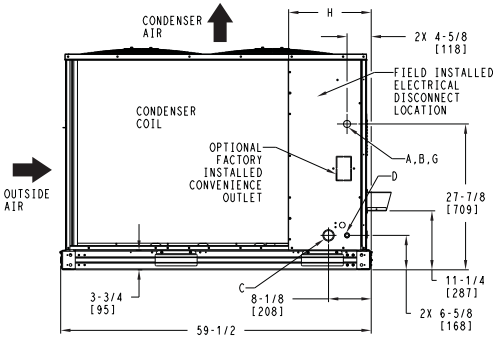
**	FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48FCD,S*08,09



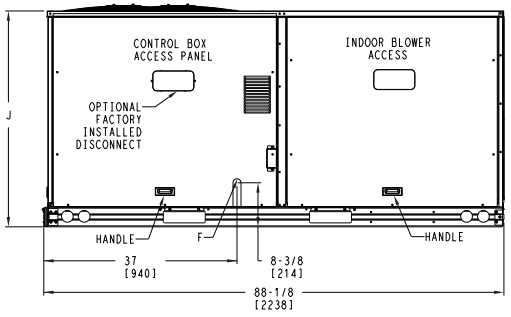
BACK



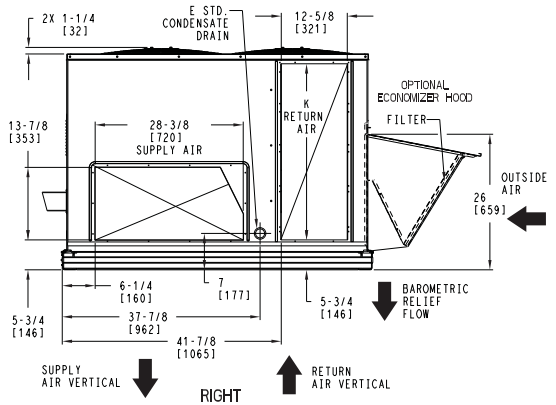
TOP



LEFT



FRONT



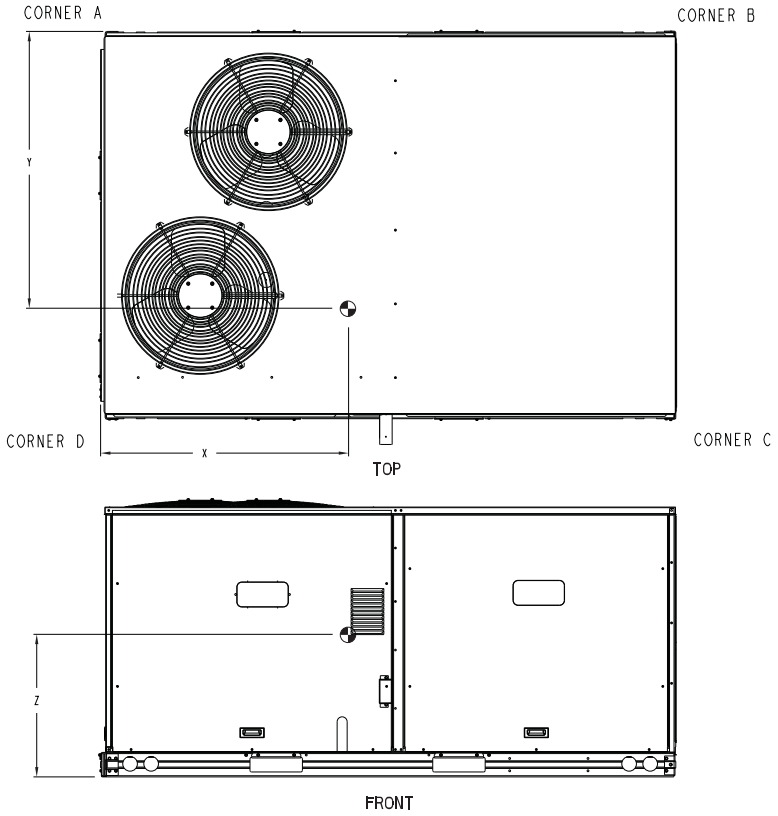
RIGHT

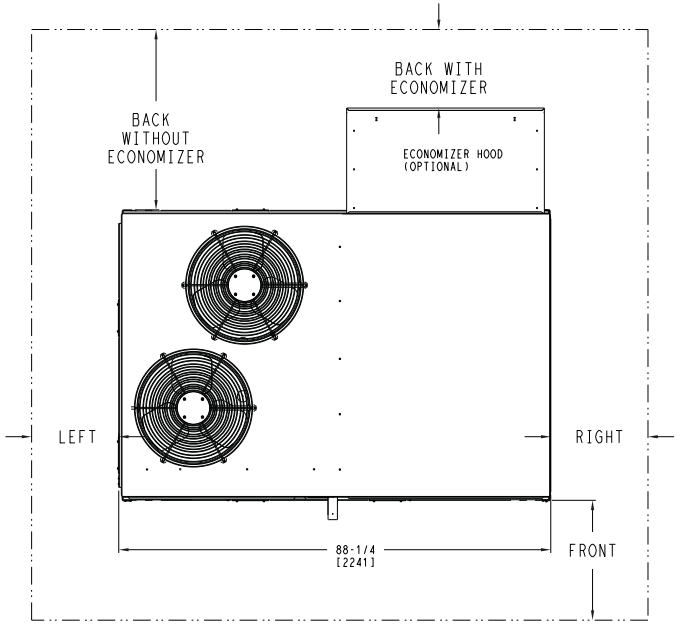
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 3	03/12/21	-	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006295	REV -

48FC**08-12 BASE UNIT DIMENSIONS (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT ***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FC-M08	RTPF	787	357	181	82	150	68	207	94	249	113	40 [1016]	34 1/2 [876]	19 3/8 [492]
48FC-M09	RTPF	868	394	197	89	160	73	229	104	282	128	39 1/2 [1003]	35 [889]	18 5/8 [473]
48FC-M12	RTPF	878	398	213	97	175	80	221	100	268	121	39 7/8 [1013]	33 1/4 [841]	18 1/2 [470]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



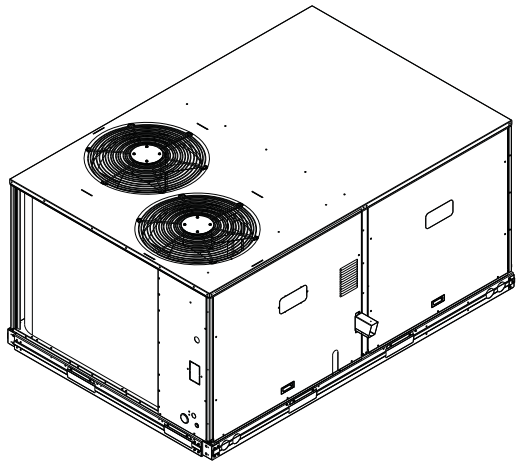


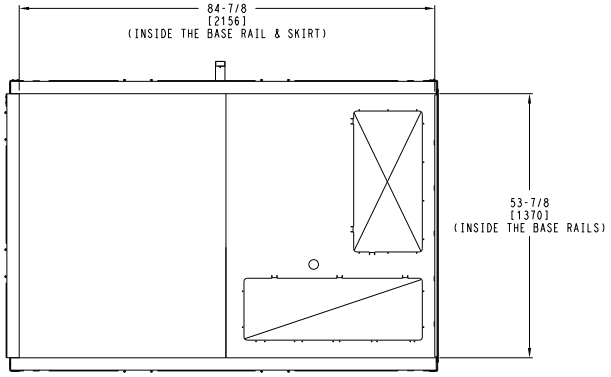
NOTE:

1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

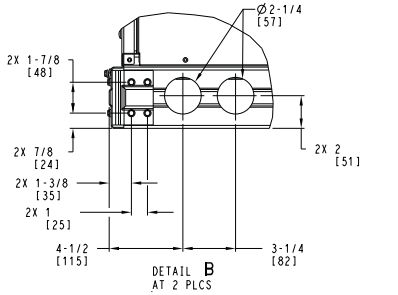
48FC**08-12 BASE UNIT DIMENSIONS (cont)



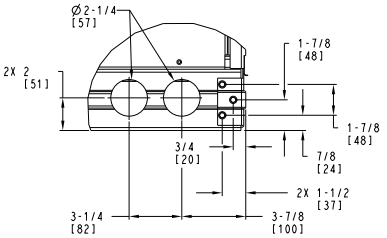


INSIDE BASERAIL DIMENSIONS

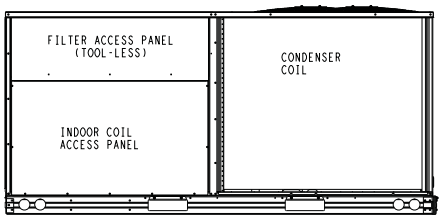
BOTTOM



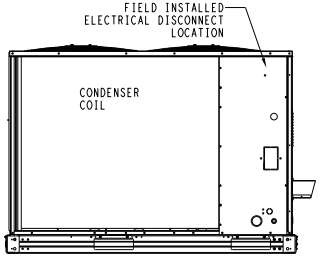
DETAIL B
AT 2 PLCS



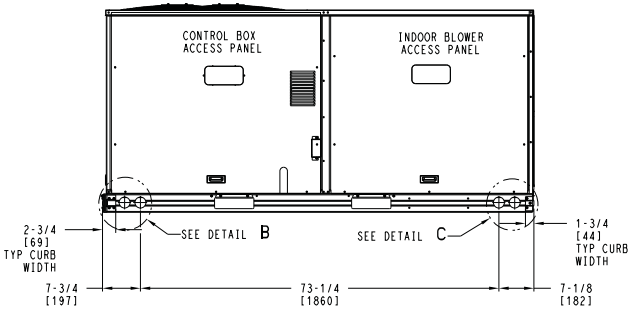
DETAIL C
AT 2 PLCS



BACK



LEFT



FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN: NSR	3 OF 3	03/12/21	-	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006295	-

48FC**14 BASE UNIT DIMENSIONS

NOTES:

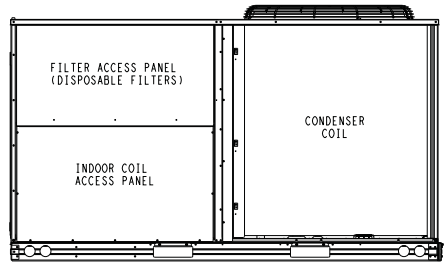
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	H
48FC-M14	RTPF	15 7/8 [403]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)		

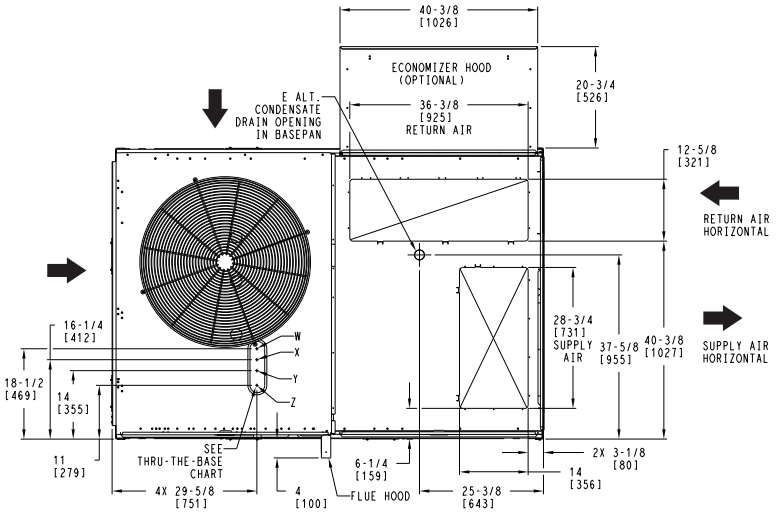
	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	3/4"-14 NPT GAS CONNECTION
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR002A01,004A01

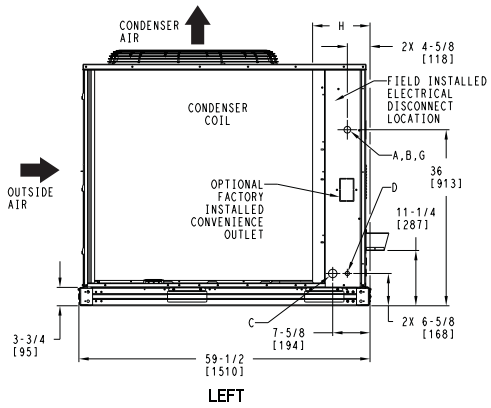
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z*	(004) 3/4" FPT	GAS	1 5/8" [41.3]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED		
*	(002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.		



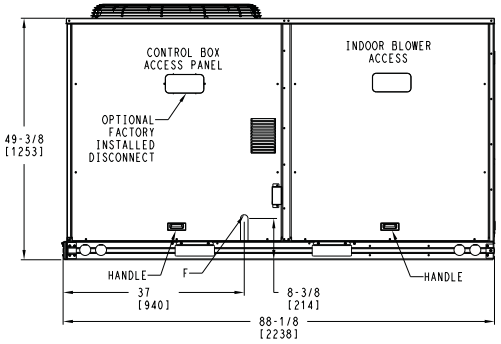
BACK



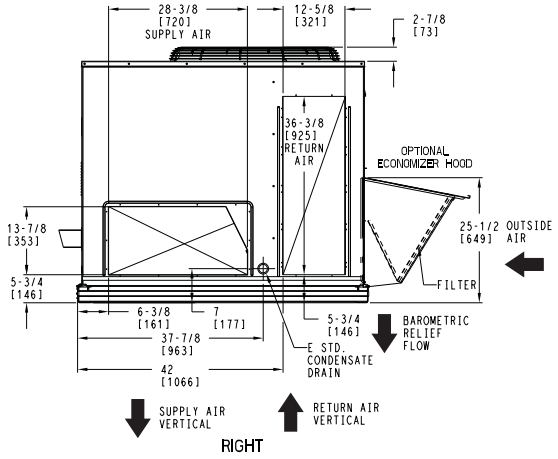
TOP



LEFT



FRONT



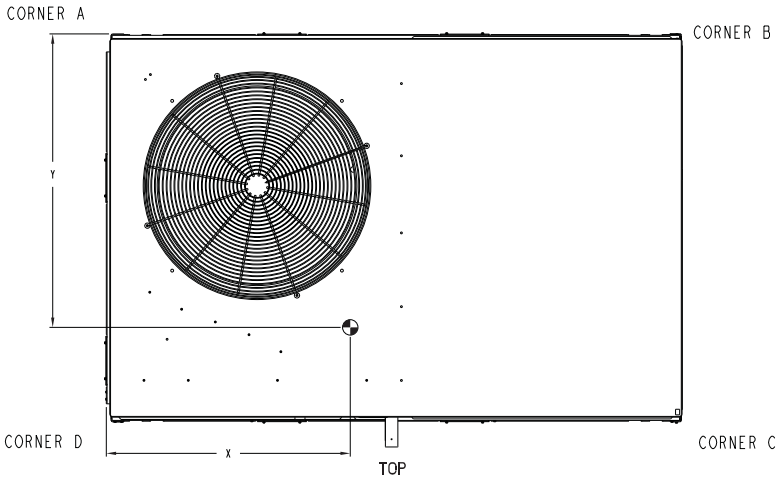
RIGHT

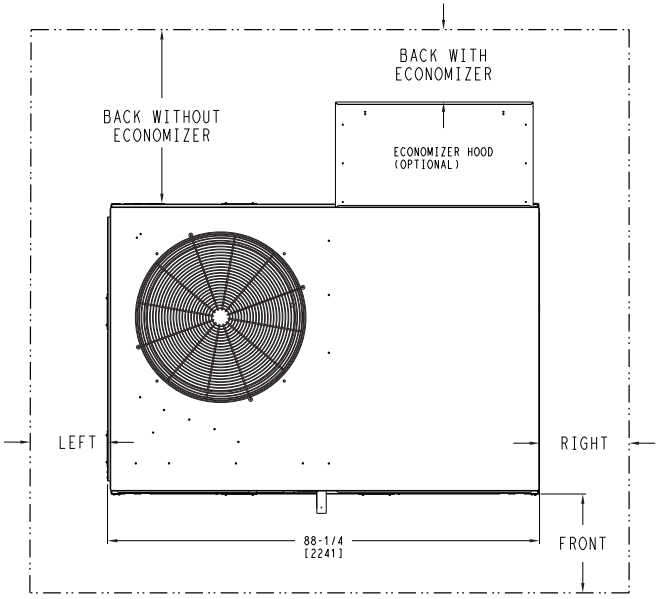
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 3	03/12/21	-	48FC-14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006297	REV -

48FC**14 BASE UNIT DIMENSIONS (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FC-M14	RTPF	1041	472	243	110	195	88	269	122	335	152	39 1/4 [997]	34 1/2 [876]	21 7/8 [556]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.





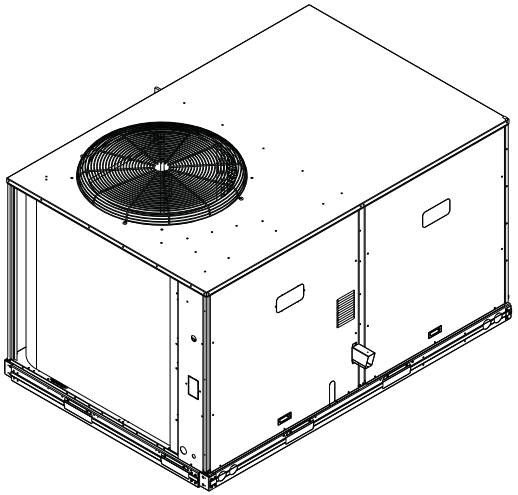
NOTE:

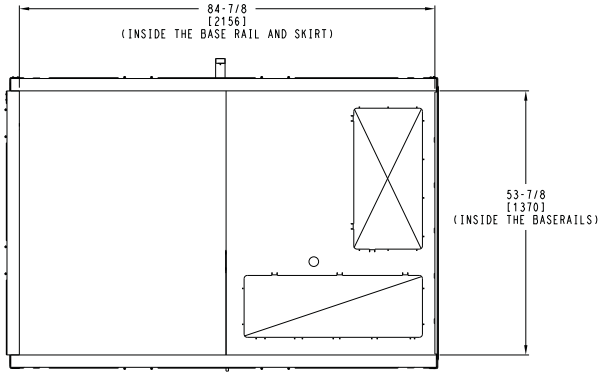
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

CLEARANCE			
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

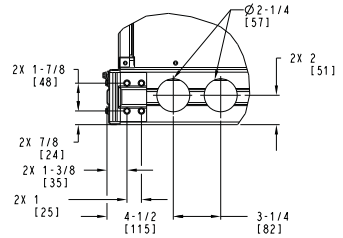
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		REV
U.S. ECCN:NSR	2 OF 3	03/12/21	-	48FC-14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006297	-

48FC**14 BASE UNIT DIMENSIONS (cont)

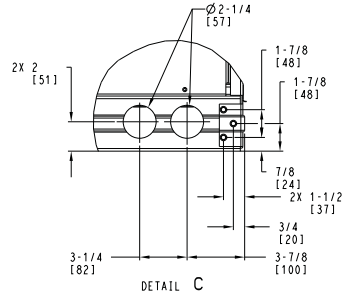




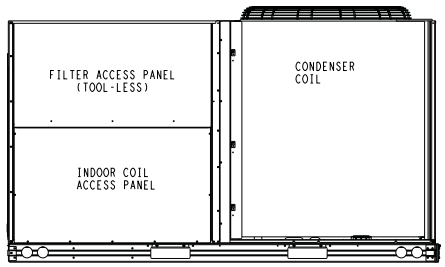
INSIDE BASERAIL DIMENSIONS
BOTTOM



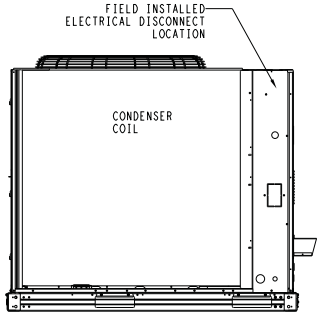
DETAIL B
AT 2 PLCS



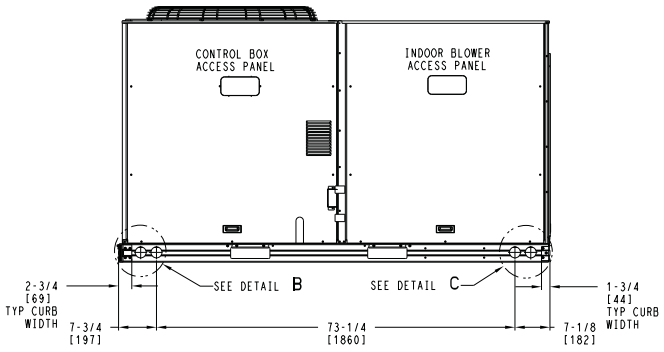
DETAIL C
AT 2 PLCS



BACK



LEFT



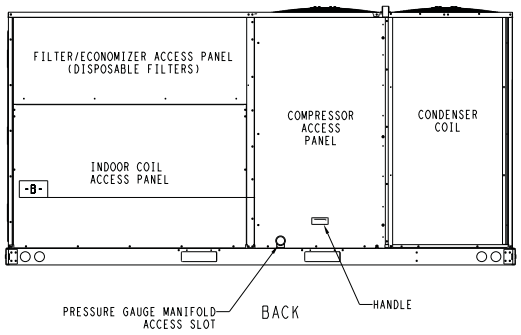
FRONT

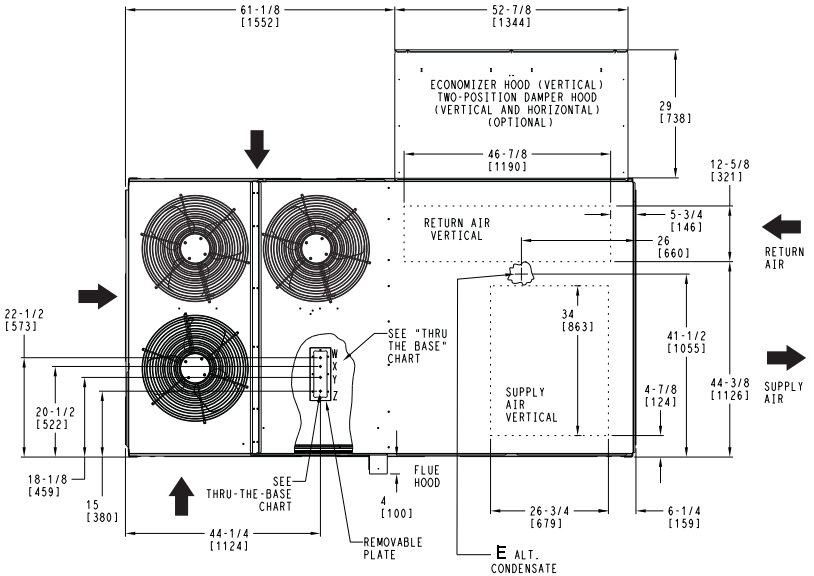
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 3	03/12/21	-	48FC-14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006297	-

48FC**16 BASE UNIT DIMENSIONS

NOTES:

1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

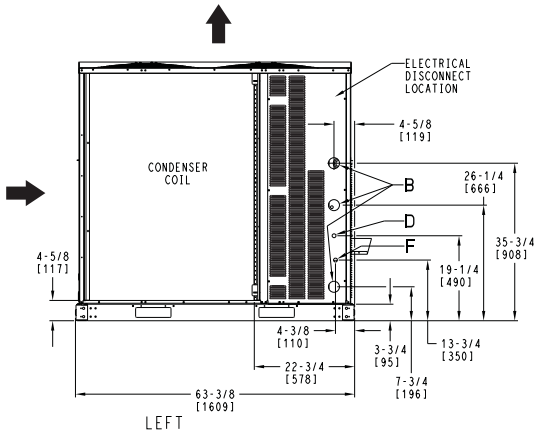


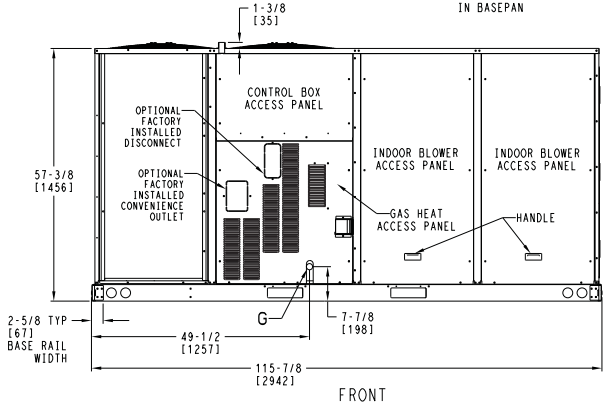


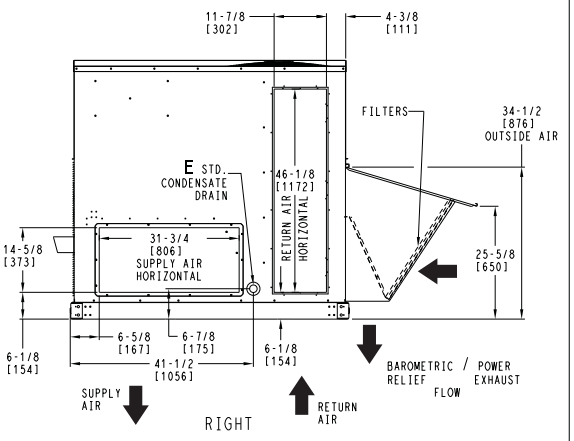
	CONNECTION SIZES
B	2 1/2" [64] DIA POWER SUPPLY HOLE
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	7/8" [22] DIA FIELD CONVENIENCE OUTLET HOLE
G	3/4"-14 NPT GAS CONNECTION

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR005A00,006A00,007A00

ACCESSORY NO.		THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
006	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".			





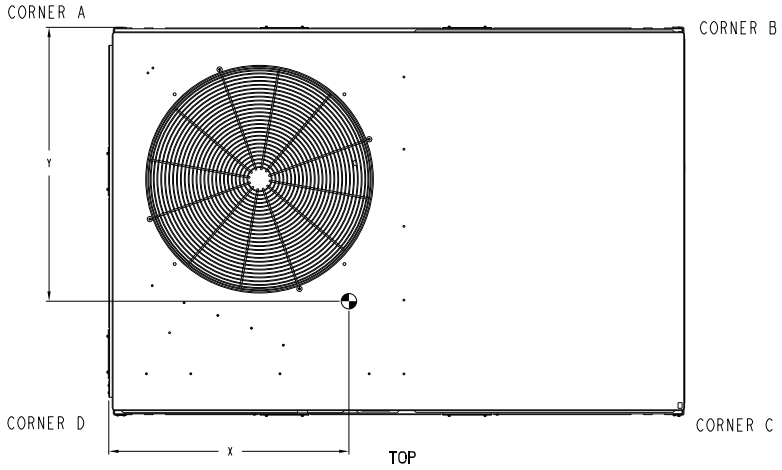


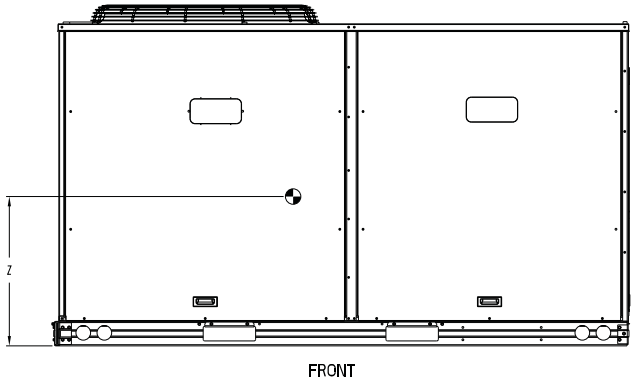
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	1 OF 2	06/28/22	06/10/21	48FC 16 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50TM002025	A

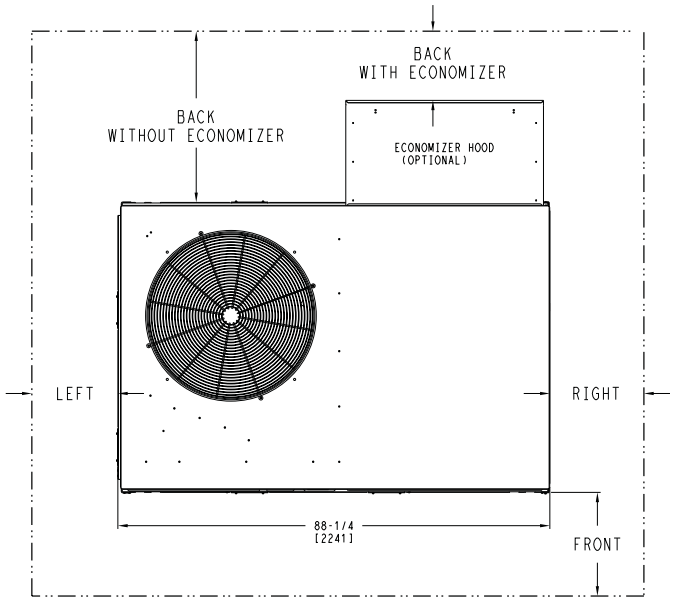
50FC**14 BASE UNIT DIMENSIONS (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50FC-M14	RTPF	978	444	234	106	300	136	249	113	195	88	49 1/2 [1257]	27 [686]	20 1/2 [521]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.





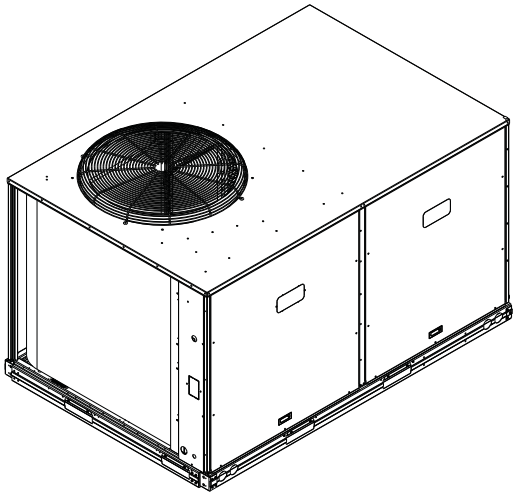


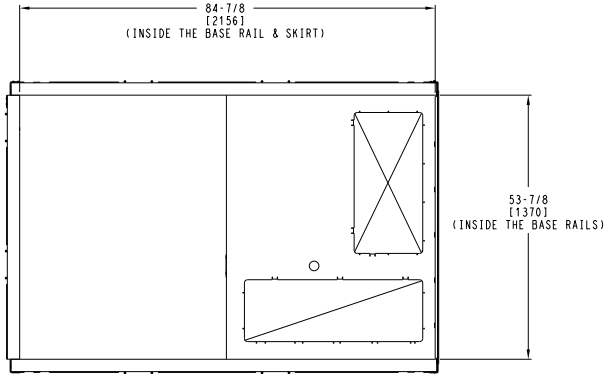
NOTE:

1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

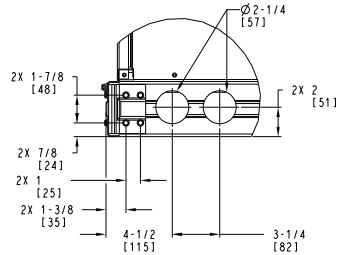
	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

50FC**14 BASE UNIT DIMENSIONS (cont)

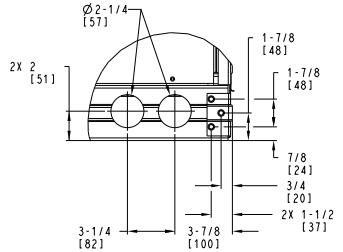




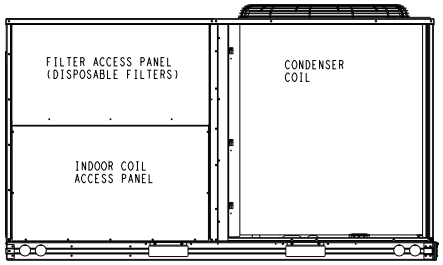
INSIDE BASERAIL DIMENSIONS
BOTTOM



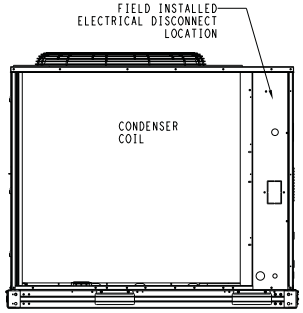
DETAIL B
TYP 2 PLCS



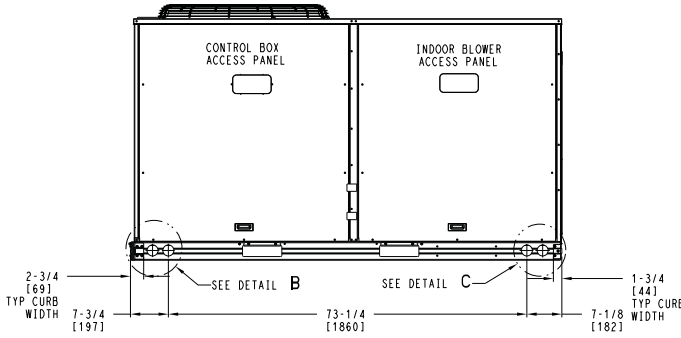
DETAIL C
TYP 2 PLCS



BACK



LEFT



FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 3	03/12/21	-	50FC-14 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM006298	-

50FC**16 BASE UNIT DIMENSIONS

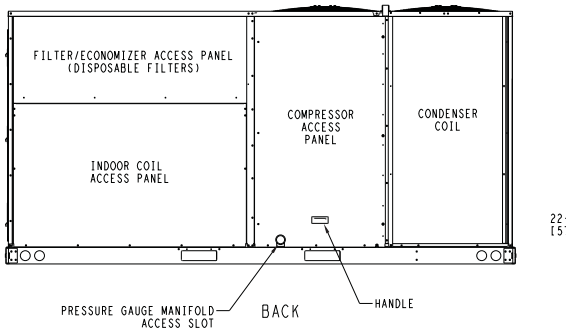
NOTES:

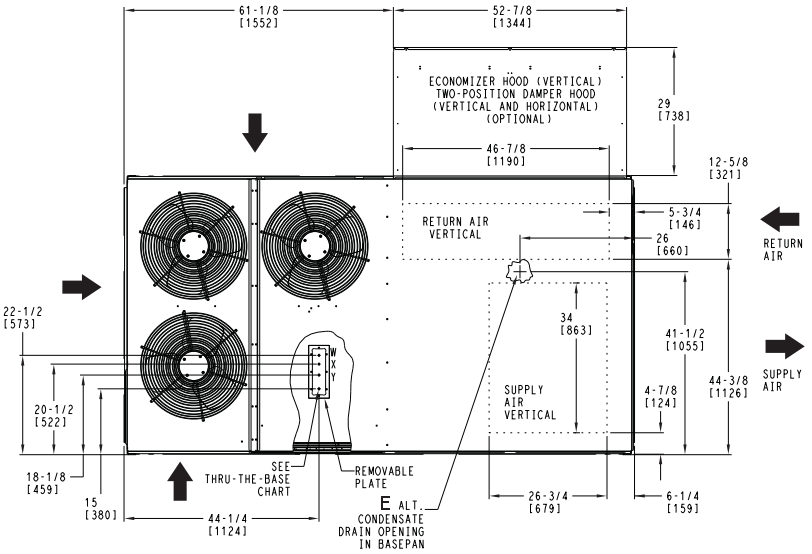
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

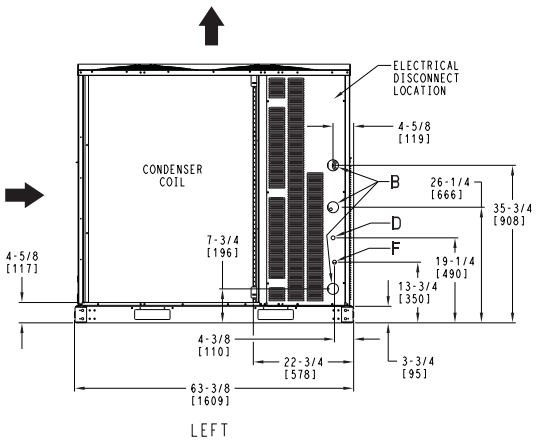
	CONNECTION SIZES
B	2 1/2" [64] DIA POWER SUPPLY HOLE
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	7/8" [22] DIA FIELD CONVENIENCE OUTLET HOLE

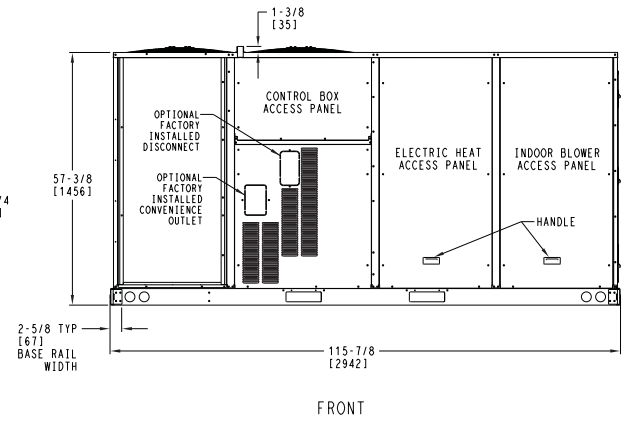
THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE
CRBTMPWR005A00,006A00,007A00

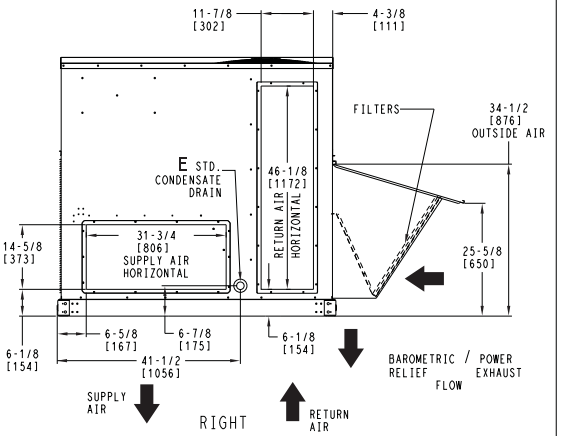
ACCESSORY NO.		THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
006	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".			









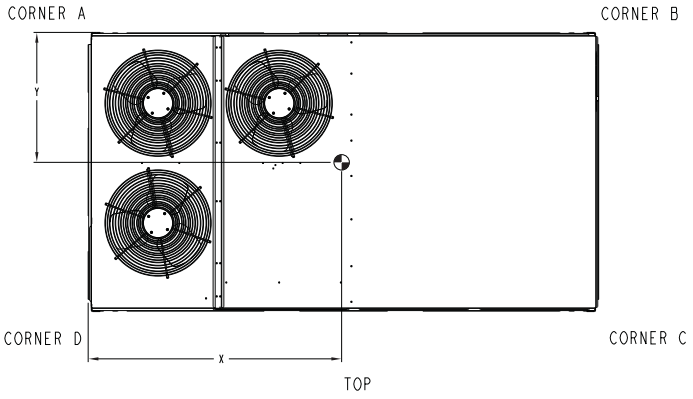


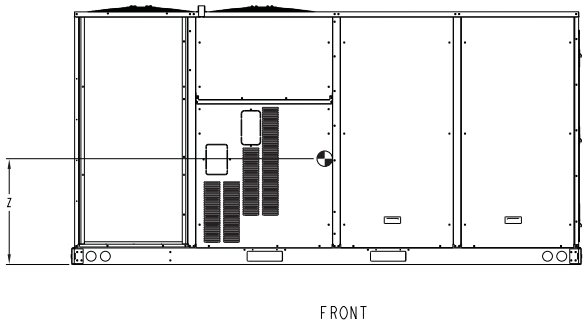
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 2	06/10/21	-	50FC 16 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	50TM002026	REV -

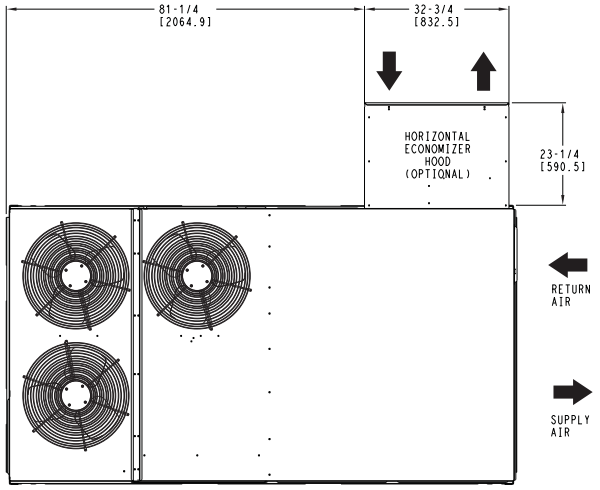
50FC**16 BASE UNIT DIMENSIONS (cont)

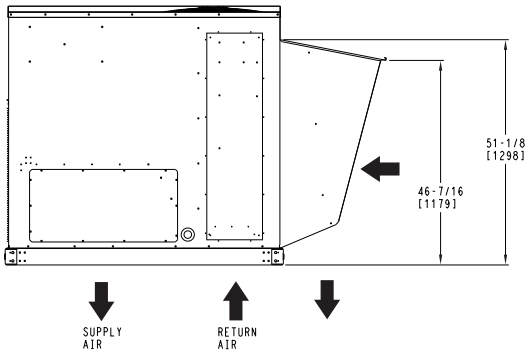
UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50FC-M16	1325	601	370	168	312	142	294	133	349	158	53 [1345]	30 3/4 [781]	22 [559]

STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.







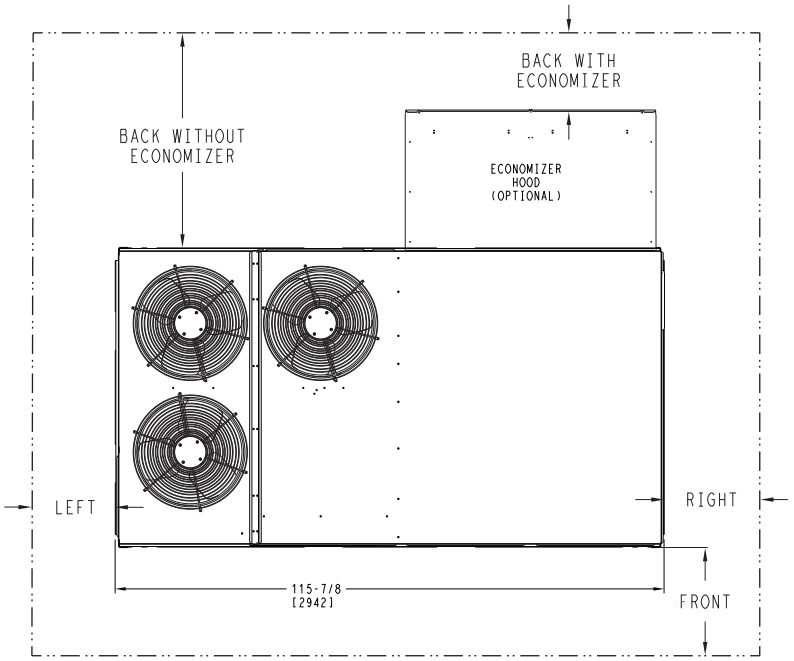


HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 2	06/10/21	-	50FC 16 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	50TM002026	-

Base unit dimensions (cont)

50FC**16 BASE UNIT DIMENSIONS – CLEARANCES



CLEARANCE[a, b]			
SURFACE	**Service with Conductive Barrier**	**Service with Non-conductive Barrier**	**Operating Clearance**
FRONT	48 in. (1219 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/O ECONOMIZER	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/ ECONOMIZER	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
RIGHT	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	72 in. (1829 mm)	72 in. (1829 mm)	72 in. (1829 mm)

NOTE(S):

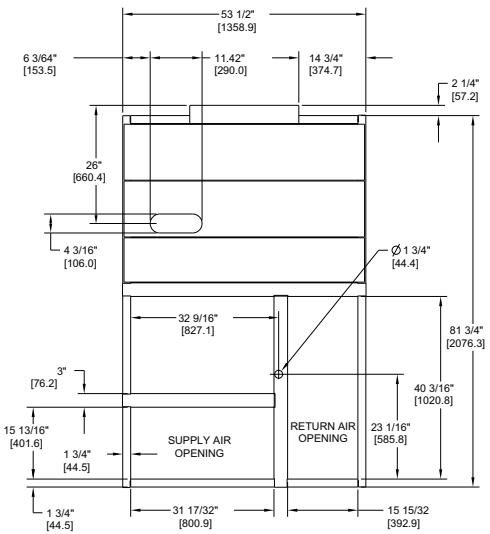
a. For all minimum clearances local codes or jurisdictions may prevail.
b. See page 29 for50FC 08-12 clearances. See page 32 for 50FC 14 clearances.

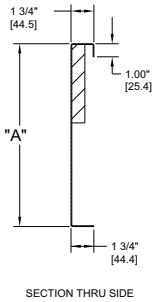
ROOF CURB DIMENSIONS — 48/50FC 08-14

ROOF CURB ACCESSORY #	A
CRRFCURB003A01	14" [356]
CRRFCURB004A01	24" [610]

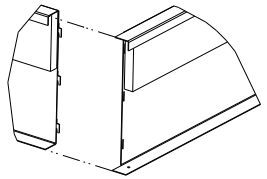
NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4] # DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: 18 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
7. ▨ DIRECTION OF AIR FLOW.
8. CONNECTOR PACKAGE CRBTMPWR002A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR004A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR002A01	THRU THE CURB	3/4" [19] NPT	1 1/4" [31.7] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR004A01	THRU THE BOTTOM				

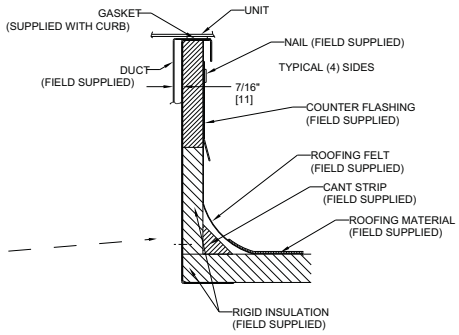


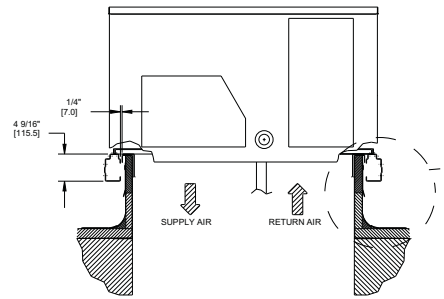


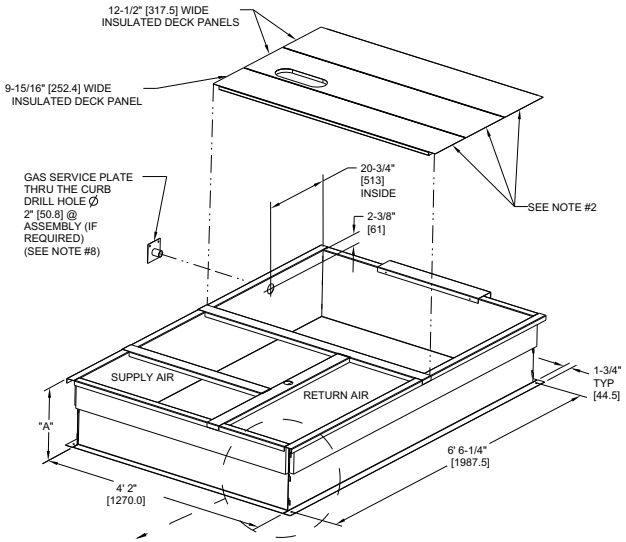
SECTION THRU SIDE



VIEW "B"
CORNER DETAIL







CERTIFIED DRAWING

REV	REVISION RECORD	DATE	BY	CHK'D	APP'D	ECN NO.
C	6' 61/4" WAS 6' 7 1/6", 4'2' WAS 4' 2 13/16"; 18 GA WAS 16 GA.; 15 13/16" WAS 15 15/16"; NAIL FIELD SUPPLIED WAS WITH CURB	4/22/13	MMC	-	-	1067898

DRAWING RELEASE LEVEL:	PRODUCTION
THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: 1 DEC ± - 2 DEC ± - 3 DEC ± - ANG ± °
MATERIAL	- - -
AUTHORIZATION NUMBER	1029120
ENGINEERING REQUIREMENTS	T-005, Y-002
ENGINEERING	- -
MANUFACTURING	- -
WEIGHT:	-
DRAFTER	MMC 12/16/09
CHECKER	- -
SURFACE FINISH	-
MFG/PURCH	PURCH
MODEL (INTERNAL USE ONLY)	
NEXT DRAWING	-
SCALE	N/A
DISTRIBUTION	-

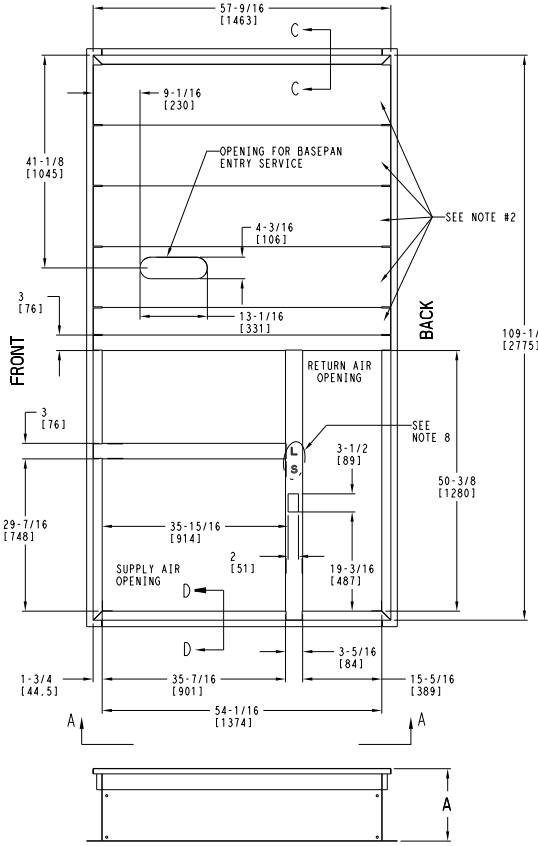
TITLE: CURB ASY, ROOF

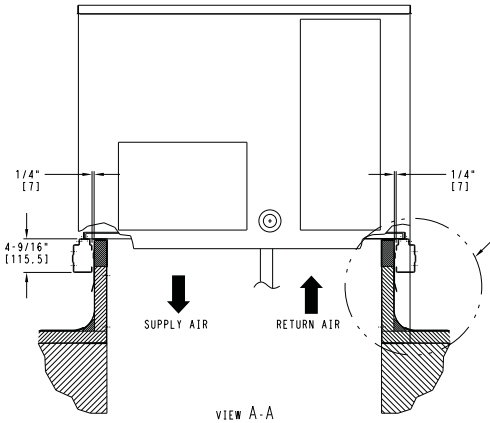
SIZE	DRAWING NUMBER	REV
D	50HJ405012 SHEET 5 OF 5	C

ROOF CURB DIMENSIONS — 48/50FC 16

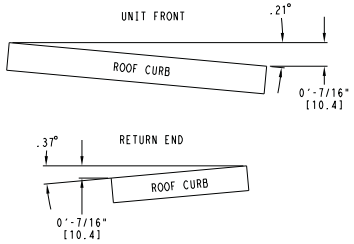
ROOF CURB ACCESSORY #	A
CRRFCURB074A00	14" [356]
CRRFCURB075A00	24" [610]

NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB SIDEWALLS: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FT ON EACH SIDE.
7. ➡ DIRECTION OF AIR FLOW.
8. "L" & "S" DESIGNATIONS DENOTE LOCATION OF COMMON CROSS RAIL. (POSITION "L" FOR LARGE DUCT OPENING CURB).

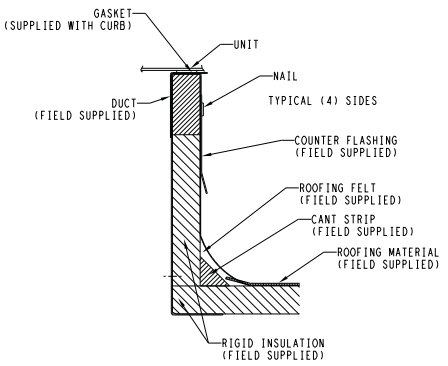




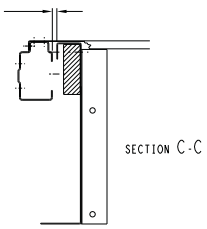
VIEW A-A

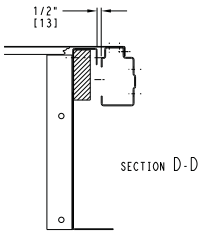


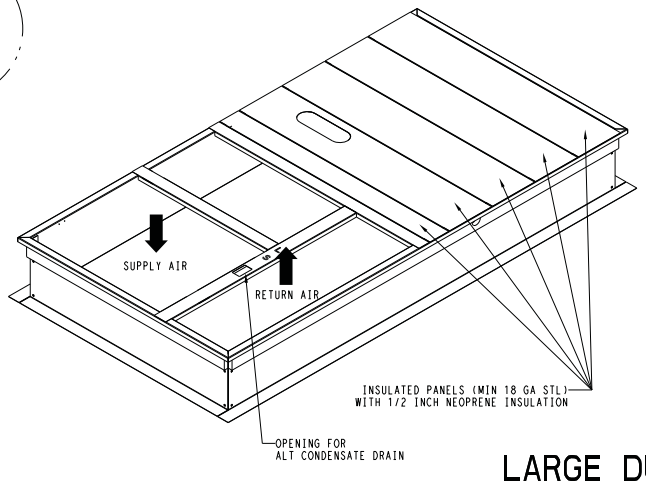
MAX CURB LEVELING TOLERANCES



DETAIL E







LARGE DUCT OPENINGS

50TM500780	REV B

MXZ-SM36NAMHZ-U1
3-TON MULTI-ZONE INVERTER HEAT-PUMP SYSTEM

Job Name:

System Reference: Date:

FEATURES

- Compatible with M- and P-Series and CITY MULTI indoor units. Branch box required for connection with M- and P-Series
- Variable speed INVERTER-driven compressor
- Seacoast protection on heat exchanger and base panel (rated for 2,000 hrs in accordance with ASTM B117 testing)
- Thermal Differential 1°F (with PAC-MKA32/52BC only)
- Built-in base pan heater
- Quiet outdoor unit operation, rated sound pressure as low as 49 dB(A)
- High pressure protection
- Compressor thermal protection
- Compressor overcurrent detection
- Fan motor overheating/voltage protection
- Hyper-heating performance offers 100% heating capacity at 5°F and 75% heating capacity at -13°F
- ENERGY STAR® certified (non-ducted, mixed & ducted)

ENERGY STAR products are third-party certified by an EPA-recognized Certification Body.

SPECIFICATIONS: MXZ-SM36NAMHZ-U1

Cooling[1] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	36,000 // 36,000 // 36,000
	Rated Capacity	BTU/H	36,000 // 36,000 // 36,000
	Minimum Capacity	BTU/H	15,500 // 15,500 // 15,500
	Maximum Power Input	W	2,400 // 2,610 // 2,855
	Rated Power Input	W	2,400 // 2,610 // 2,855
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5
Heating at 47°F[2] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	42,000 // 42,000 // 42,000
	Rated Capacity	BTU/H	42,000 // 42,000 // 42,000
	Minimum Capacity	BTU/H	22,500 // 22,500 // 22,500
	Maximum Power Input	W	3,080 // 3,200 // 3,325
	Rated Power Input	W	3,080 // 3,200 // 3,325
	Power Factor (208V, 230V)	%	98.5, 98.5 // 98.5, 98.5 // 98.5, 98.5
Heating at 17°F[3] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	42,000 // 42,000 // 42,000
	Rated Capacity	BTU/H	33,000 // 33,000 // 33,000
	Maximum Power Input	W	5,730 // 6,050 // 2,400
	Rated Power Input	W	3,450 // 3,600 // 3,750
Heating at 5°F[4] (Non-Ducted // Mix // Ducted)	Maximum Capacity	BTU/H	42,000 // 42,000 // 42,000
	Maximum Power Input	W	6,155 // 6,315 // 6,480
Efficiency (Non-Ducted // Mix // Ducted)	SEER		23.0 // 20.65 // 18.3
	EER[1]		15.0 // 13.8 // 12.6
	HSPF (IV)		12.5 // 12.1 // 11.7
	COP at 47°F[2]		4.0 // 3.85 // 3.7
	COP at 17°F at Maximum Capacity[3]		2.1 // 2.03 // 1.9
	COP at 5°F at Maximum Capacity[4]		2.0 // 1.95 // 1.9
	ENERGY STAR® Certified		Yes // No // Yes
Electrical	Voltage, Phase, Frequency		208/230, 1, 60
	Guaranteed Voltage Range	V AC	187-253
	Voltage: Indoor - Outdoor, S1-S2	V AC	208/230
	Voltage: Indoor - Outdoor, S2-S3	V DC	24
	Short-circuit Current Rating (SCCR)	kA	5
	Recommended Fuse/Breaker Size if Branch Box Powered by Outdoor Unit	A	45
	Recommended Fuse/Breaker Size without Branch Box or Branch Box Powered Separate	A	40
	Recommended Wire Size (Indoor - Outdoor)	AWG	16
	MCA if Branch Box Powered by Outdoor Unit	A	42.0
	MCA without Branch Box or Branch Box Powered Separate	A	36
	MOCP if Branch Box Powered by Outdoor Unit	A	50
	MOCP without Branch Box or Branch Box Powered Separate	A	40
	Fan Motor Full Load Amperage	A	0.6+0.6
	Fan Motor Output	W	74
Outdoor unit	Airflow Rate (Cooling / Heating)	CFM	3,885 / 3,885
	Refrigerant Control		LEV
	Defrost Method		Reverse Cycle
	Heat Exchanger Type		Plate fin coil
	Heat Exchanger Coating		Blue Fin Coating
	Sound Pressure Level,Cooling[1]	dB(A)	49
	Sound Pressure Level,Heating[2]	dB(A)	53
	Compressor Type		Hermetic
	Compressor Model		ANB33FJSMT
	Compressor Motor Output	kW	2.8
	Compressor Rated Load Amps	A	19
	Compressor Locked Rotor Amps	A	22.0
	Compressor Oil Type // Charge	oz.	FV50S // 73
	Base Pan Heater		Built-in
	Unit Dimensions	W: In. [mm]	41-11/32[1,050]
		D: In. [mm]	13[330]
		H: In. [mm]	52-11/16[1,338]
	Package Dimensions	W: In. [mm]	43 [1,090]
		D: In. [mm]	18 [450]
		H: In. [mm]	57 [1,430]
	Unit Weight	Lbs.[kg]	278 [126]
	Package Weight	Lbs.[kg]	302 [137]

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)

[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB

Conditions

[*]Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
[*A] when 1 or more PLA-A·EA7 connected
[*B] Branch box should be placed within the level between the outdoor unit and indoor units
[*C] 5°F DB - 115°F DB when optional wind baffles are installed

For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

SPECIFICATIONS: MXZ-SM36NAMHZ-U1

Outdoor unit operating temperature range	Cooling Intake Air Temp (Maximum / Minimum)	°FDB	115 / 23
	Cooling Thermal Lock-out / Re-start Temperatures	°FDB	N/A / N/A
	Heating Intake Air Temp (Maximum / Minimum)	°FWB	59 / -13
	Heating Thermal Lock-out / Re-start Temperatures	°FDB	-24 / -14
Refrigerant	Type		R410A
	Charge	Lbs, oz	10, 9.0
Indoor unit connection	Maximum Number of Connected IDU with Branch Box		4 (3)*A
	Maximum Number of Connected IDU without Branch Box		11
	Minimum Number of Connected IDU with Branch Box		2
	Minimum Number of Connected IDU without Branch Box		1
	Minimum Connected Capacity with Branch Box	BTU/H	12,000
	Maximum Connected Capacity	BTU/H	46,000
Piping	Liquid Pipe Size O.D. (Flared)	In.[mm]	3/8 [9.52]
	Gas Pipe Size O.D. (Flared)	In.[mm]	5/8 [15.88]
	Total Piping Length when using Branch Box	Ft. [m]	492 [150]
	Total Piping Length without Branch Box	Ft. [m]	984 [300]
	Maximum Height Difference*B, ODU above IDU	Ft. [m]	164 [50]
	Maximum Height Difference*B, ODU below IDU	Ft. [m]	131 [40]
	Maximum Height Difference*B, between branch boxes	Ft. [m]	49 [15]
	Maximum Height Difference*B, between branch boxes and IDU	Ft. [m]	49 [15]
	Maximum Height Difference between IDU and IDU without branch box	Ft. [m]	49 [15]
	Max. Piping Length between ODU and Branch Box	Ft. [m]	180 [55]
	Farthest Piping Length from ODU to IDU with Branch Box	Ft. [m]	262 [80]
	Farthest Piping Length from ODU to IDU without Branch Box	Ft. [m]	492 [150]
	Farthest Piping Length after Branch Box	Ft. [m]	82 [25]
	Total Piping Length between Branch Boxes and IDU	Ft. [m]	311 [95]
	Maximum Number of Bends for IDU		15

NOTES:

AHRI Rated Conditions (Rated data is determined at a fixed compressor speed)	[1]Cooling (Indoor // Outdoor)	°F	80 DB, 67 WB // 95 DB, 75 WB
	[2]Heating at 47°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 47 DB, 43 WB
	[3]Heating at 17°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 17 DB, 15 WB
Conditions	[4]Heating at 5°F (Indoor // Outdoor)	°F	70 DB, 60 WB // 5 DB, 4 WB

*Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for low ambient temperature conditions.
*A when 1 or more PLA-A·EA7 connected
*B Branch box should be placed within the level between the outdoor unit and indoor units
*C 5°F DB - 115°F DB when optional wind baffles are installed

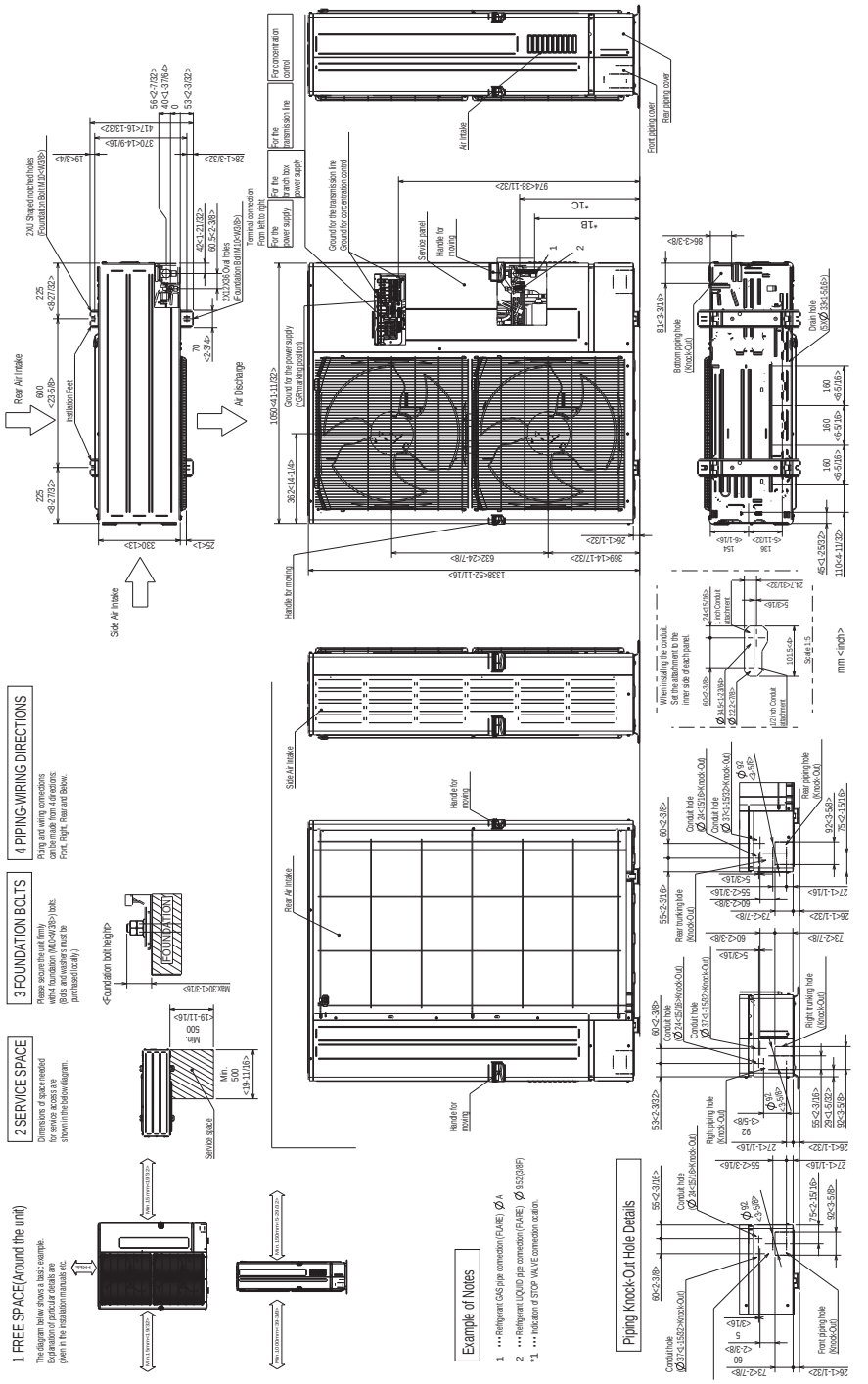
For actual capacity performance based on indoor unit type and number of indoor units connected, please refer to MXZ Operational Performance.
Although the maximum connectable capacity is 130%, the outdoor unit cannot provide more than 100% of the rated capacity. Please utilize this over capacity capability for load shedding or applications where it is known that all connected units will NOT be operating at the same time.

OUTDOOR UNIT ACCESSORIES: MXZ-SM36NAMHZ-U1

Air Deflector	Vertical Air Deflector	☐ ADV-1
Air Outlet Guide	Air Outlet Guide (1 Piece)	☐ PAC-SH96SG-E (two pieces are required)
Ball Valve	Refrigeration Ball Valve - 1/2”	☐ BV12FFSI2
	Refrigeration Ball Valve - 1/4”	☐ BV14FFSI2
	Refrigeration Ball Valve - 3/8”	☐ BV38FFSI2
	Refrigeration Ball Valve - 5/8”	☐ BV58FFSI2
Branch Box	Branch Box	☐ PAC-MKA32BC
	Branch Box	☐ PAC-MKA52BC
	Branch Box Enclosure	☐ BBE-1
Centralized Drain Pan	Central Drain Pan	☐ PAC-SH97DP-E
Control Wire	M-Net Control Wire, 1,000’ Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	☐ CW162S-1000
	M-Net Control Wire, 250’ Roll (16-AWG, Standard, Twisted Pair, Shielded, Jacketed- Plenum rated)	☐ CW162S-250
Control/Service Tool	Maintenance Tool Interface	☐ PAC-USCMS-MN-1
Distribution pipe	Brazed Connection	☐ MSDD-50BR-E
	Flare Connection	☐ MSDD-50AR-E
Hail Guards	Hail Guard	☐ HG-A2
Mini-Split Wire	14 Gauge, 4 wire MiniSplit Cable—250 ft. roll	☐ S144-250
	14 Gauge, 4 wire MiniSplit Cable—50 ft. roll	☐ S144-50
	16 Gauge, 4 wire MiniSplit Cable—250 ft. roll	☐ S164-250
	16 Gauge, 4 wire MiniSplit Cable—50 ft. roll	☐ S164-50
Mounting Pad	Condensing Unit Mounting Pad: 24” x 42” x 3”	☐ ULTRILITE2
	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	☐ DSD-400P
Port Adapter	Adaptor: 1/2” x 3/8”	☐ MAC-A455JP-E
	Adaptor: 1/2” x 5/8”	☐ MAC-A456JP-E
	Adaptor: 3/8” x 1/2”	☐ MAC-A454JP-E
	Adaptor: 3/8” x 5/8”	☐ PAC-SG76RJ-E
Stand	18” Dual Fan Stand	☐ QSMS1802M
	24” Dual Fan Stand	☐ QSMS2402M
	Condenser Wall Bracket	☐ QSWB2000M-1
	Condenser Wall Bracket - Stainless Steel Finish	☐ QSWBSS
	Outdoor Unit Stand — 12” High	☐ QSMS1202M
Wind Baffle	Front Wind Baffle	☐ WB-PA3 (two pieces are required)

OUTDOOR UNIT DIMENSIONS: MXZ-SM36NAMHZ-U1

Unit: mm
<inch>



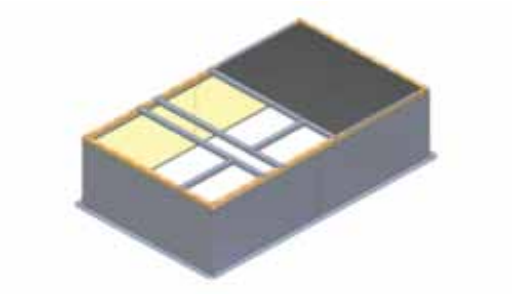
MODEL NAME	DIMENSION A	DIMENSION B	DIMENSION C
MXZ-SM36NAMHZ MXZ-SM42NAMHZ MXZ-SM48NAMHZ	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>
MXZ-SM60NAM	19.05 (3/4F)	393 <15-15/32>	450 <17-23/32>
MXZ-SM36NAM MXZ-SM48NAM	15.88 (5/8F)	426 <16-25/32>	485 <19-3/32>

SOLUTIONS THAT WORK HARD FOR YOU

thybar CORPORATION

Thybar makes it right the first time, every time

Prefabricated Insulated Roof Curbs



Prefabricated Roof Curbs are available as insulated TypeTC-1, TC-2 and TC-3.

For Insulated Roof Curb submittal form click here then send to Curbs@thybar.com for pricing.

Insulated Curbs - Standard Contruction

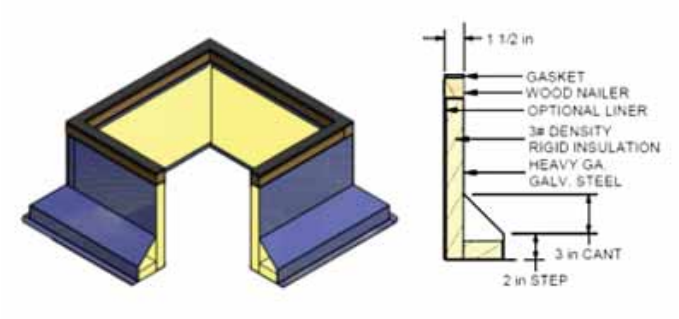
1. Factory installed wood nailer.
2. Standard height 14”.
3. Prime G-90 Galvanized Steel
4. Fully welded corners
5. Base flange attachments for securing to the building structure
6. Reinforced sides
7. 1 1/2 inch thick 3-pound density rigid insulation
8. Gasketing

Optional Features Available

- Special heights
- Heavier gauge of metal
- Aluminium construction and stainless steel
- Liners

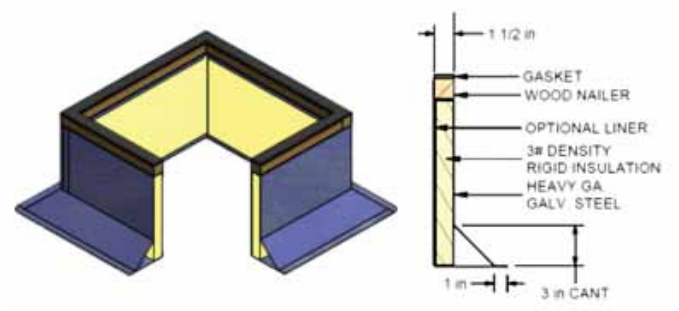
- Factory installed burglar bars
- Construction to fit single or double roof pitches
- Extended base plates for dampers
- Chemically treated wood nailers

Types



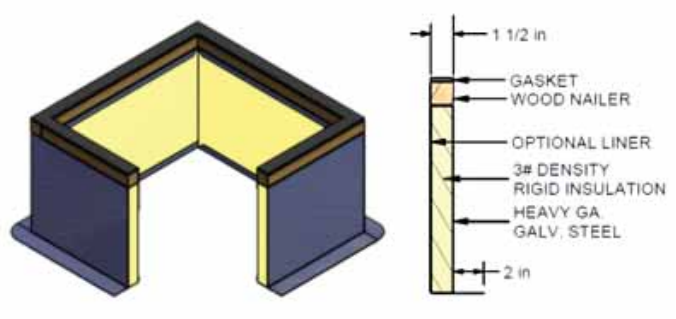
TC-1 Roof curb

For insulated roof decks has fully mitered 3" cant and step to match deck insulation thickness. Standard step dimension 2". Step dimensions over 2" available as an option.



TC-2 Roof curb

For non-insulated roof decks with a fully mitered 3" cant



TC-3 Roof curb

For Single-Ply roofing. Lightweight fill or tapered insulation.

Specifications

Prefabricated roof curb to be manufactured of prime galvanized steel construction, 20 , 18, 16 or 14 gauge as required, meeting ASTM A653/653M, with welded corners and with seams joined by continuous water and air tight welds. Roof curb shall be internally reinforced with angles 48" on center and factory installed wood nailer. Internally insulated with 1 1/2” thick 3 lbs. density rigid insulation. Heights to be 8" above finished roof deck or as detailed. Top of all roof curbs shall be level, with pitch built into curb when deck slopes.

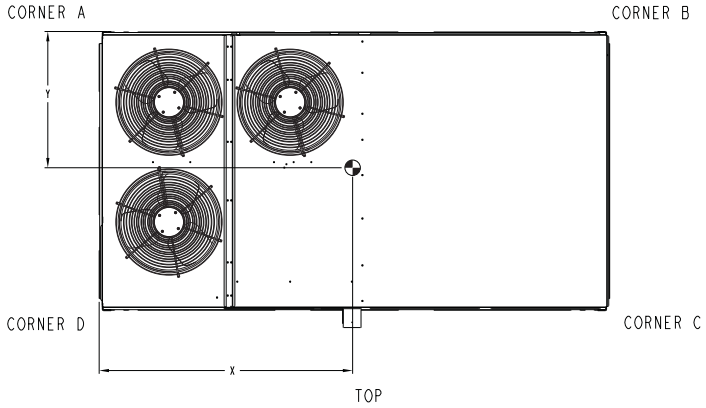
Thybar Corporation

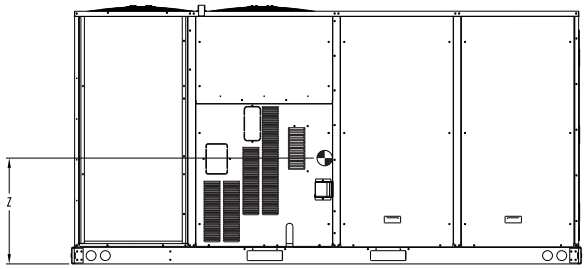
913 S. Kay Avenue Addison, IL 60101
P: 800.666.CURB (2872)

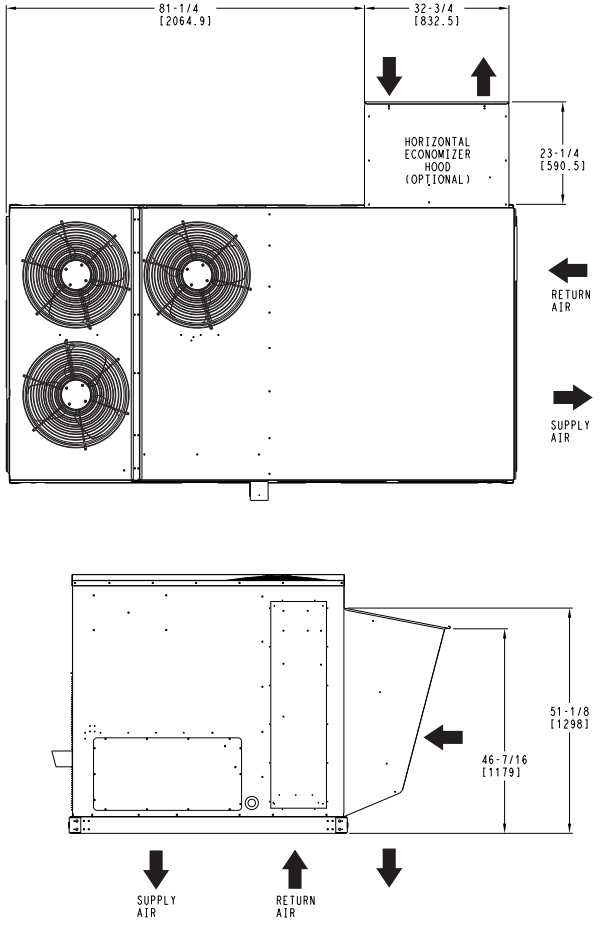
48FC**16 BASE UNIT DIMENSIONS (cont)

UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FC-M16	1408	639	373	169	341	155	332	150	362	164	55 3/8 [1407]	31 1/4 [794]	21 1/8 [537]

STANDARD UNIT WEIGHT IS WITH LOW HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.





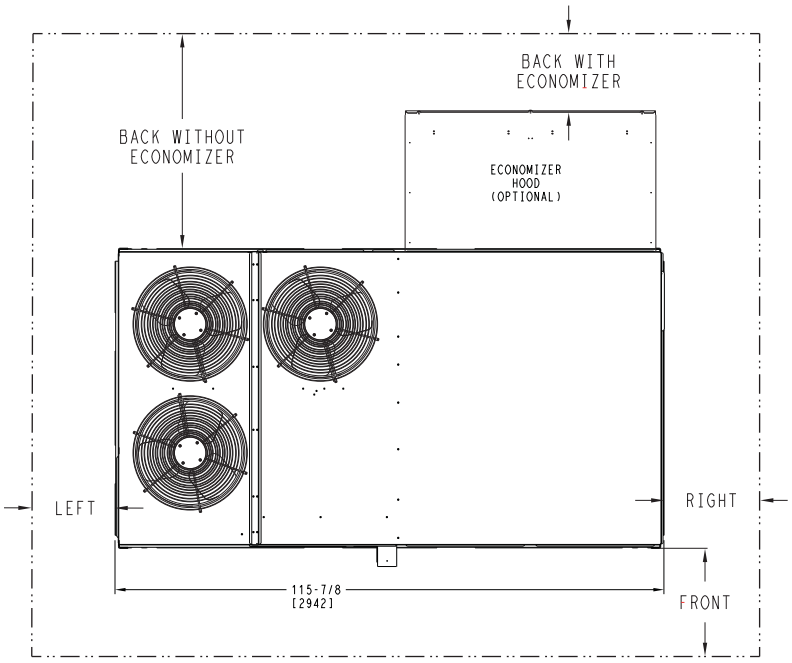


HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 2	06/28/22	06/10/21	48FC 16 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50TM002025	A

Base unit dimensions (cont)

48FC**16 BASE UNIT DIMENSIONS – CLEARANCES



	CLEARANCE[a, b]		
SURFACE	**Service with Conductive Barrier**	**Service with Non-conductive Barrier**	**Operating Clearance**
FRONT	48 in. (1219 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/O ECONOMIZER	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/ ECONOMIZER	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
RIGHT	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	72 in. (1829 mm)	72 in. (1829 mm)	72 in. (1829 mm)

NOTE(S):

a. For all minimum clearances local codes or jurisdictions may prevail.
b. See page 20 for 48FC 08-12 clearances. See page 23 for 48FC 14 clearances.

50FC**08*12 BASE UNIT DIMENSIONS

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	J	K	H
50FC-M08	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
50FC-M09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
50FC-M12	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)				

	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2 " [51] DIA POWER SUPPLY KNOCK-OUT

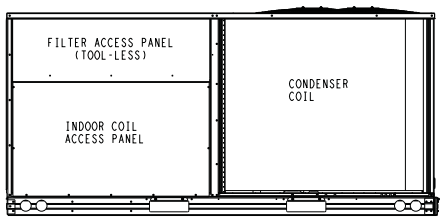
THRU-THE-BASE CHART (FIELD INST)

THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTMPWR002A01

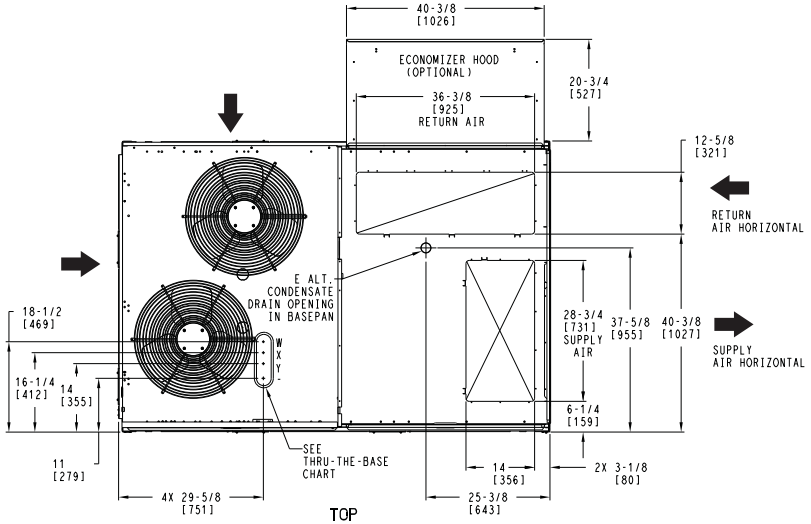
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002)	POWER	1 3/4" [44.4]

THRU-THE-BASE CHART (FIOP)

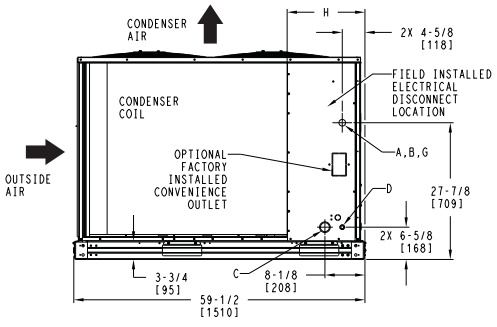
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED: (1) 1/2" & (1) 1 1/4" ELECTRICAL FITTINGS.



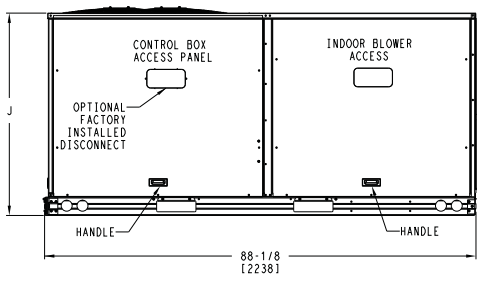
BACK



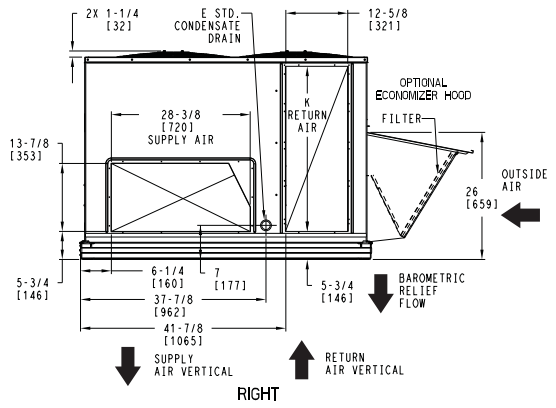
TOP



LEFT



FRONT



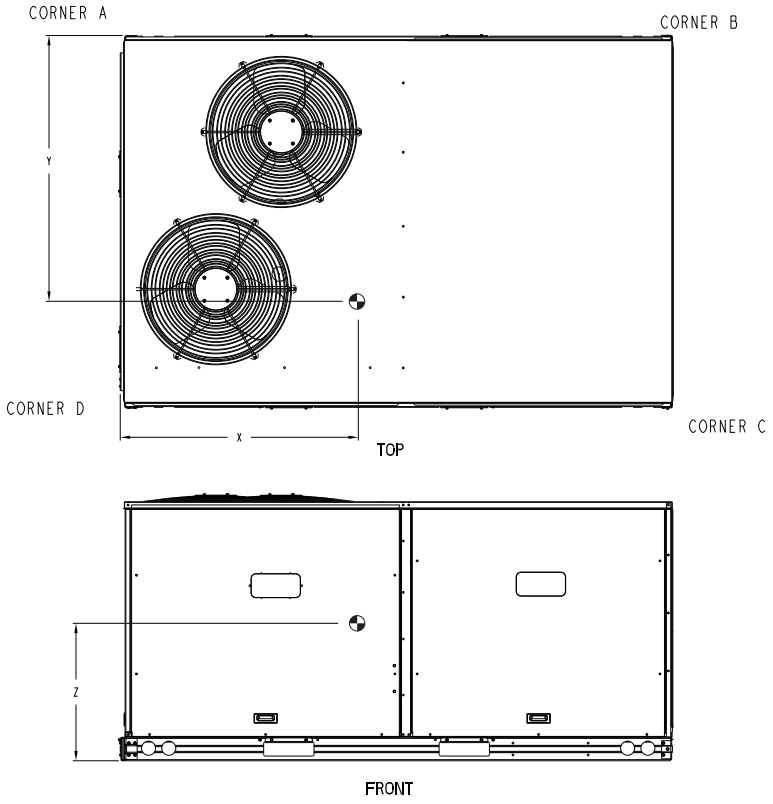
RIGHT

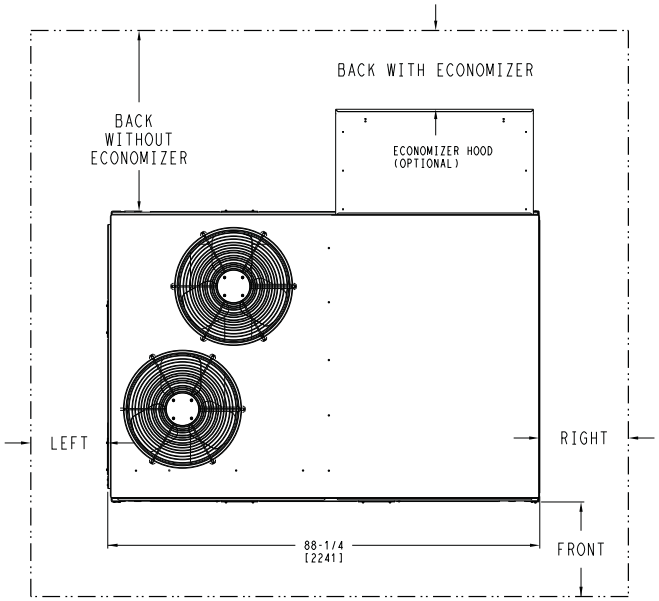
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	1 OF 3	03/12/21	-	50FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM006296	-

50FC**08-12 BASE UNIT DIMENSIONS (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT ***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50FC-M08	RTPF	743	337	170	77	142	64	196	89	235	107	40 [1016]	34 1/2 [838]	20 [508]
50FC-M09	RTPF	805	365	196	89	251	114	201	91	157	71	49 1/2 [1257]	26 1/2 [673]	19 1/8 [486]
50FC-M12	RTPF	815	370	198	90	254	115	204	92	159	72	49 1/2 [1257]	26 1/2 [673]	19 1/8 [486]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.





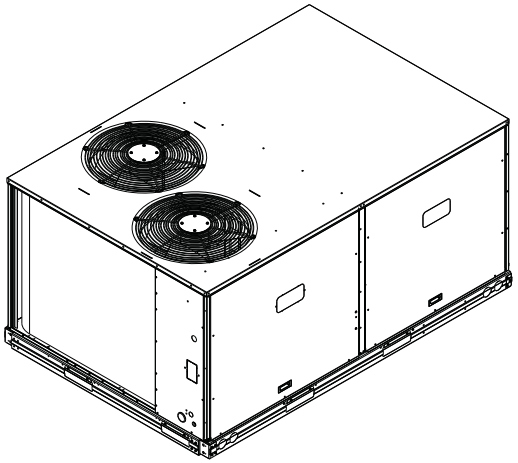
NOTE:

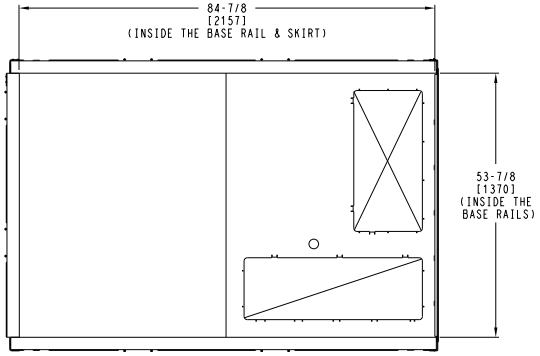
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		REV
U.S. ECCN:NSR	2 OF 3	03/12/21	-	50FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM006296	-

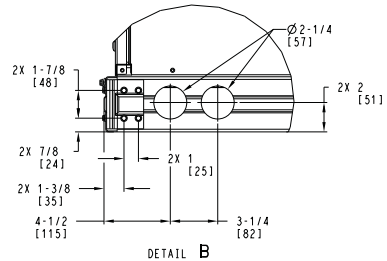
50FC**08-12 BASE UNIT DIMENSIONS (cont)



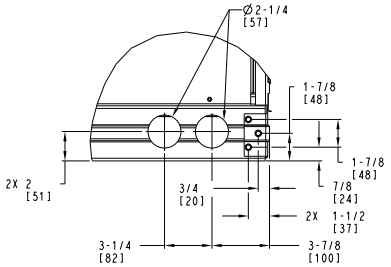


INSIDE BASERAIL DIMENSIONS

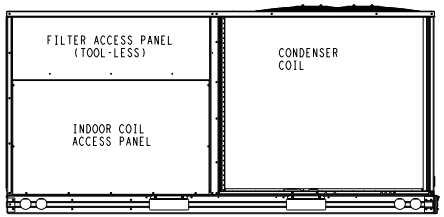
BOTTOM



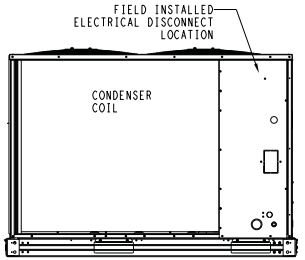
DETAIL B
AT 2 PLCS



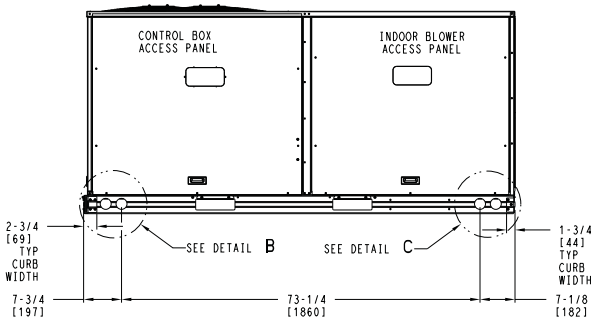
DETAIL C
AT 2 PLCS



BACK



LEFT



FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 3	03/12/21	-	50FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM006296	-

50FC**14 BASE UNIT DIMENSIONS

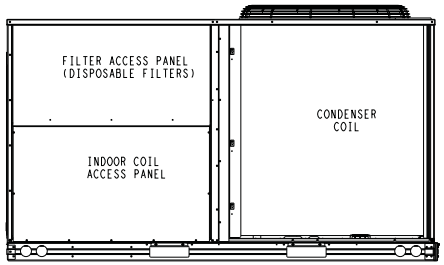
NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

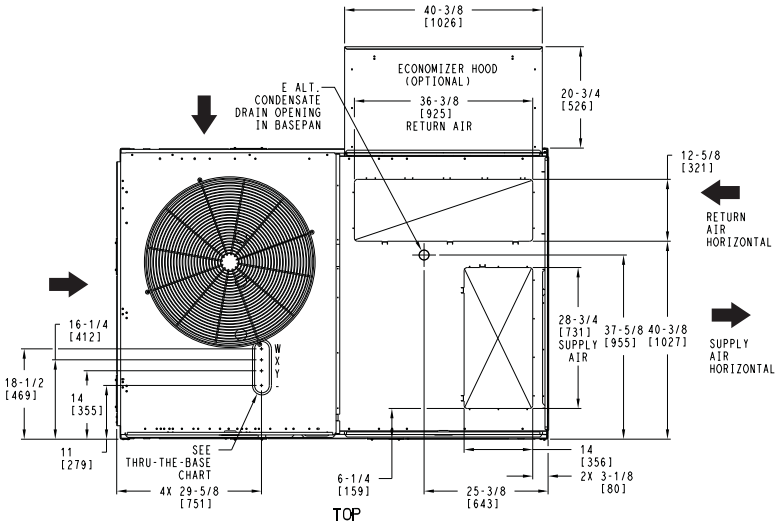
UNIT	OUTDOOR COIL TYPE	H
50FC-M14	RTPF	15 7/8 [403]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)		

	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

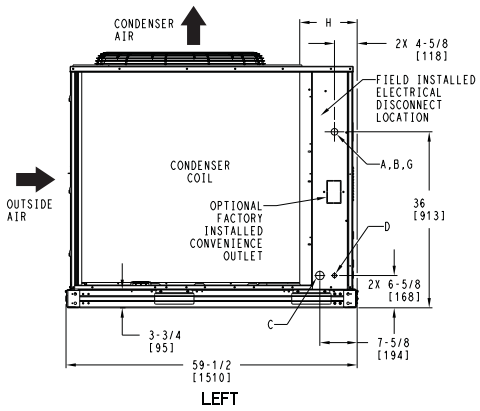
THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR002A01			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002)	POWER	1 3/4" [44.4]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED		



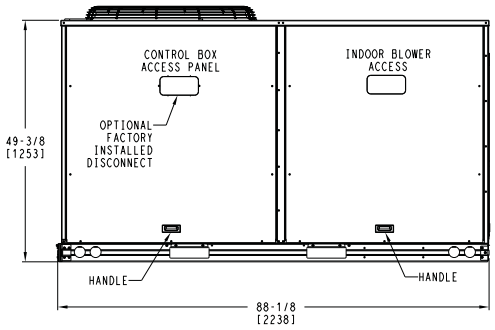
BACK



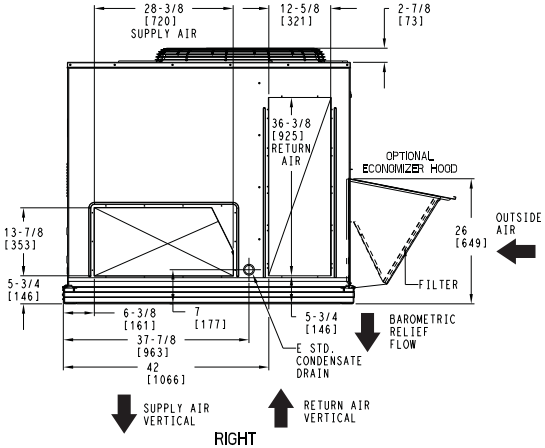
TOP



LEFT



FRONT



RIGHT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 3	03/12/21	-	50FC-14 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM006298	REV -