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Wood Dale, Illinois 60191  
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[www.WCWengineers.com](http://www.WCWengineers.com)

**CITY OF WOOD DALE MUNICIPAL BUILDING  
404 NORTH WOOD DALE ROAD  
WOOD DALE, IL 60191**

**ENGINEERING RECOMMENDATIONS FOR REPLACEMENT  
FOR WOOD DALE  
MUNICIPAL BUILDING HVAC SYSTEMS**

September 13, 2024

WCW NO. 24181.00

PREPARED BY:  
**WCW ENGINEERS, INC.**  
**CONSULTING ENGINEERS**  
760 Creel Drive  
Wood Dale, Illinois 60191



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Engineering Recommendations for  
Municipal Building HVAC Systems

City of Wood Dale Municipal Building  
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WCW #24181.00

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Our office visited the above referenced facility during August of 2024 for the purpose of reviewing the existing mechanical HVAC systems in the areas of the building specified by Brad Wilson and other representatives of the City of Wood Dale and to provide an engineering evaluation with a report. The areas reviewed per the request of the City of Wood Dale representatives include the 1<sup>st</sup> and 2<sup>nd</sup> floors of the Business/Administrative Building. The attached standard conditions apply to the contents herein and are made part of this report.

GENERAL INFORMATION

1. City Representative: Brad Wilson – Finance Director, City of Wood Dale
2. Engineering Representative: Sung Kwon – WCW Engineers, Inc.  
Luis Roman – WCW Engineers, Inc
3. Building Description:  
The building is a multi-level building with numerous types of mechanical HVAC systems. Based on the existing drawings, the building and HVAC systems were constructed in the late 1980's but additional remodeling and equipment replacement has occurred since then. The building is used primarily as offices for municipal departments. The mechanical systems in the areas of the building that were reviewed consist of packaged HVAC unitary rooftop units, split systems (furnaces, evaporators, and condensing units), and exhaust fans. The majority of the mechanical equipment is located in mechanical equipment rooms, outdoor on grade, or on the roof over the areas they serve.
4. Site Description:  
The building is located near the intersection of N. Wood Dale Road and W. Center Street in Wood Dale, IL is a primarily residential area.



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### COMMENTS/RECOMMENDATIONS

1. Proper air balance of the air distribution system is necessary to maintain adequate comfort with occupied spaces. Room plan changes, occupancy changes, adjustments to volume dampers, and deteriorating equipment operation have resulted into an unbalanced air system. Balancing of the air distribution system to design air quantities is recommended to provide maximum energy efficiency, equipment performance, and improve occupancy comfort. Restoring airflow rates to those shown on the existing mechanical drawings dated, 05/01/1989 and new proposed work, should aid in achieving those desired affects. For areas of the building where the layout has changed, considerations should be taken for distributing the air to these areas appropriately.
2. **For the 1<sup>st</sup> floor corridor system**, replace with a direct like-for-like air cooled condensing unit, ACCU-5, located outside on the ground behind the building adjacent to W. Center St., and furnace/cooling coil (F-5/CC-5) located in #102 mechanical room on the 1<sup>st</sup> floor. Remove existing units and install new units in same location. Reconnect to existing ductwork, flues, condensate, gas piping, etc.
3. **For the 2<sup>nd</sup> floor corridor system**, replace with a direct like-for-like air cooled condensing unit, ACCU-6, located outside on the ground behind the building adjacent to W. Center St., Twinned furnace and cooling coil (F-6/CC-6) located in #102 mechanical room on the 1<sup>st</sup> floor. Remove existing units and install new units in same location and secure and connect to existing ductwork, flues, condensate, gas piping, etc.
4. To supplement the cooling on the 2<sup>nd</sup> floor corridor, we recommend installing two (2) mini-split systems. They are noted as ACCU-11/ACCU-12 and FCU-11/FCU-12 on the drawings. New condensing units are to be located on the roof and cassette type indoor units installed in the ceiling grid system in the 2<sup>nd</sup> floor corridor.
5. For the rooms #203/#205 legislative offices, to supplement cooling, we recommend installing (1) mini-split system. This system is noted as ACCU-10 and FCU-10 on the drawings. New condensing unit to be located on the roof and cassette type indoor unit installed in the ceiling grid system.



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6. For the room1 #201 computer office, to supplement cooling, we recommend installing (1) mini-split system. This system is noted as ACCU-13 and FCU-13 on the drawings. New condensing unit to be located on the roof and cassette type indoor unit installed in the ceiling grid system.
7. We recommend replacing most of the exhaust fans as they are not properly operating. We recommend replacing the noted units with direct like for like replacements.
  - EF-16(roof mounted unit) – serving 1<sup>st</sup> floor and 2<sup>nd</sup> floor toilet rooms.
  - EF-17(ceiling mounted unit) – serving #228 mechanical room.
  - EF-18(roof mounted unit) – serving #200 conference room.
  - EF-19(roof mounted unit) – serving #229 mechanical room.
  - EF-20(suspended mounted unit) – serving #102 mechanical room.
  - EF-22(roof mounted unit) – serving #213 office room area.
  - EF-25(roof mounted unit) – serving #221 office room area.
  - EF-26(ceiling mounted unit) – serving #101 storage room.
  - EF-27(ceiling mounted unit) – serving #100 conference room
8. A door is installed at room #107 where the main return air grille is located, blocking return airflow back to the air handling unit. We recommend new transfer air grilles to be installed for a proper air flow back to the air handling unit.





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WCW Engineers, Inc.  
STANDARD CONDITIONS  
Remodeling/Rehabilitation

In as much as the evaluation of building requires that certain assumptions be made regarding the existing conditions, and because some of these assumptions may not be verifiable without expending additional sums of money, or destroying otherwise serviceable portions of the building, the Owner agrees that, except for negligence on the part of the Design Professional (WCW Engineers, Inc.), the Owner will hold harmless, indemnify and defend the Design Professional from and against any and all claims arising out of the professional services provided under this agreement.

It should be recognized, in view of the limited information, that all conditions as they actually exist may not be disclosed in this report. Further, since conditions may change, we reserve the right at any time to amend this report to reflect changes that heretofore were not recognized and/or brought to our attention. Accordingly, we cannot assume to have foresight regarding latent defects that may appear, oversights, or to be in agreement or disagreement with differing opinions of others that may arise.

We take no responsibility for matters that may be legal in nature, accounting, surveys, drawings, specifications, original design/engineering, and informational data, or opinions provided by others.

We have attempted to keep our comments objective in delineating the nature and physical state of the property; however, we recommend that anyone interested in this property perform their own observations and draw their own conclusions. It is not our intent to imply endorsement or condemnation of the property in part or in whole; and therefore, for these reasons and others which may or may not appear, our comments shall not be construed by anyone to warrant or to guarantee the facility and/or its components under any circumstances. Neither this report nor WCW Engineers, Inc., and their agents shall be used to represent to anyone anything to the contrary.

WCW Engineers, Inc. and their agents have no interest in this property or any other property which would influence the comments in this report. Any values indicated, assumed, or associated with this report bear no relation to the fee charged.

The report to which these Standard Conditions are attached shall not be used in part without consideration of the whole, nor shall it be used for implying WCW Engineers, Inc. endorsement.



# Product Data

ACCU-5



Performance  
 SERIES

**Fig. 1 — 24AHA4 Unit**

**NOTE:** Images are for illustration purposes **only**. Actual models may differ slightly.

Carrier air conditioners with **Puron®** refrigerant provide a collection of features unmatched by any other family of equipment. The 24AHA4 has been designed utilizing Carrier's **Puron®** refrigerant. This environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer.

**NOTE:** Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory ([www.ahridirectory.org](http://www.ahridirectory.org)) for the most up-to-date ratings information.

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## INDUSTRY LEADING FEATURES / BENEFITS

### Energy Efficiency

- 14 SEER/11.7 - 12.2 EER

(Based on tested combinations)

### Sound

- Levels as low as 66 dBA

### Design Features

- Small footprint
- WeatherArmor cabinet
  - All steel cabinet construction
  - Mesh coil guard

### Reliability, Quality and Toughness

- Scroll compressor
- Factory-supplied filter drier
- High pressure switch
- Line lengths up to 250ft (76.2 m)
- Low ambient operation (down to -20°F/-28.9°C with low ambient accessories)

## DIMENSIONS-ENGLISH

UNIT	Series	Electrical Characteristics				A	B	C	D	E	F	G	H	J	K	L	M	N	P	Operating Weight (lbs)	Shipping Weight (lbs)	Shipping Dimensions (L x W x H)
24AHA418	0	X	0	0	0	31 1/8"	36 15/16"	14 9/16"	16"	23 7/16"	17 3/16"	23 1/8"	28 1/16"	13"	6 5/8"	11 1/4"	5/8"	2 7/8"	5 13/16"	146	166	42 15/16" x 18" x 34 1/8"
24AHA424	0	X	0	0	0	31 1/8"	36 15/16"	14 9/16"	16"	23 7/16"	17 3/16"	23 1/8"	28 1/16"	14"	6 3/4"	11 5/8"	3/4"	2 7/8"	5 13/16"	148	168	42 15/16" x 18" x 34 1/8"
24AHA430	0	X	0	0	0	37 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 1/8"	34 1/16"	13 11/16"	8 1/8"	15 7/8"	3/4"	3 3/8"	6 3/8"	183	213	50 1/2" x 20 1/2" x 40 1/8"
24AHA436	0	X	0	X	X	37 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 1/8"	34 1/16"	13 11/16"	8 1/8"	15 7/8"	7/8"	3 3/8"	6 3/8"	184	214	50 1/2" x 20 1/2" x 40 1/8"
24AHA448	0	X	0	X	X	37 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 1/8"	34 1/16"	14 1/2"	8 1/2"	18 7/8"	7/8"	3 3/8"	6 3/8"	213	243	50 1/2" x 20 1/2" x 40 1/8"
24AHA460	0	X	0	X	X	43 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	35 1/8"	40 1/16"	14 1/2"	8 1/2"	18 7/8"	7/8"	3 3/8"	6 3/8"	245	275	50 1/2" x 20 1/2" x 46 1/8"
		208-230-1-60																				
		203-1-60																				
		208/230-3-60																				
		460-3-60																				

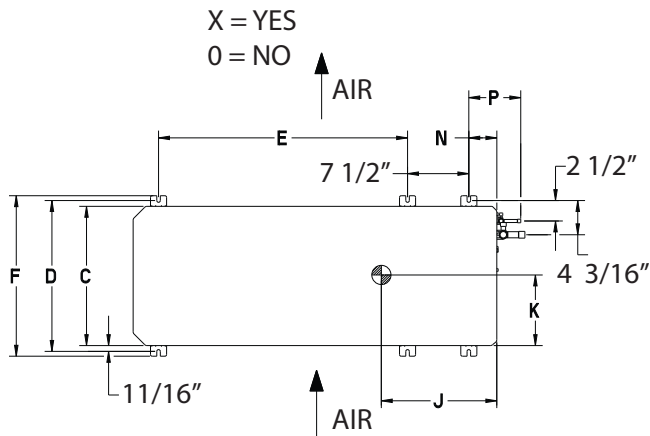


Fig. 2 — Dimensions

### 1. Clearance Requirements:

#### a. Single Unit Applications:

With the coil facing the wall, allow 6in (152mm) minimum clearance on the coil side, the coil end, and allow 20in (508mm) minimum clearance on the fan side.

With the fan facing the wall, allow 8in (203mm) minimum clearance on the fan side, 6in (152mm) on the coil end and 20in (508mm) minimum clearance on the coil side.


#### b. Multi Unit Applications:

Allow 24in (610mm) minimum clearance between the fan and the coil sides of the multiple units. Arrange the units so the discharge of one unit does not enter the inlet of the other unit. When two units are installed end to end with the coil ends facing each other allow 12in (305mm) in minimum clearance between the units.

#### c. Compressor End Service Clearance:

Allow 24in (610mm) minimum clearance on the compressor end when the units are stacked or there is less than 40 in. (1016mm) of clearance above the top of the unit. If there is 40 in. (1016mm) of clearance above the unit and top panel is accessible for removal, allow 8in (203mm) minimum clearance minimum clearance on the compressor end for service.

**IMPORTANT: When installing single or multiple units in an alcove, roof well, or partially enclosed area, ensure there is adequate ventilation to prevent recirculation of discharged air.**

- Minimum outdoor operating ambient in the **COOLING** mode is 55°F (13°C) and a maximum of 125°F (52°C).
- Series designation is the 13th position of the unit model number
- Center of gravity 
- All dimensions are in inches unless noted.

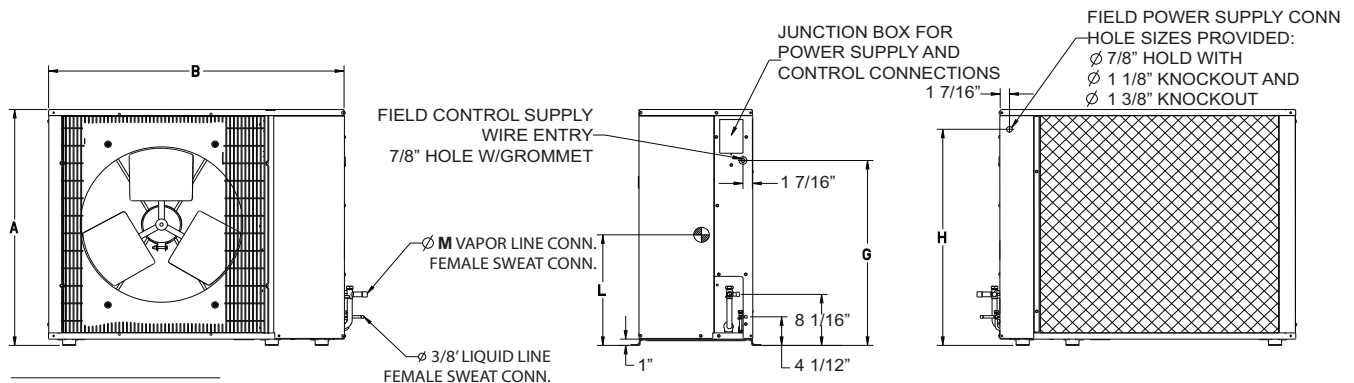


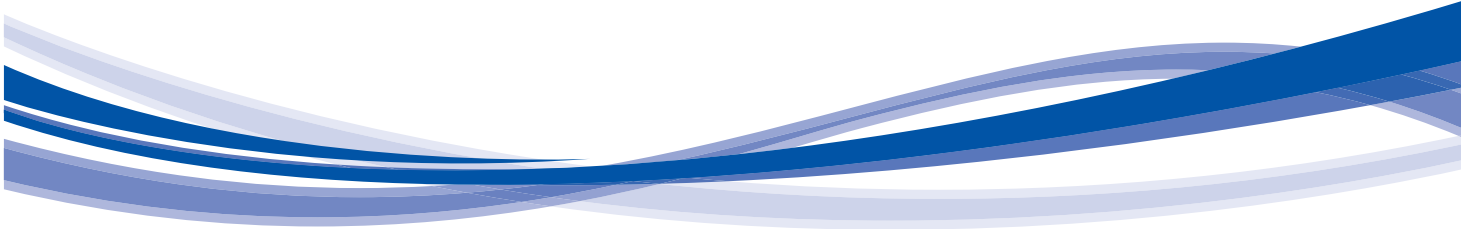
Fig. 3 — Dimensions

UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18,24	23" x 42"
30,36,48,60	24" x 50"



## Product Data

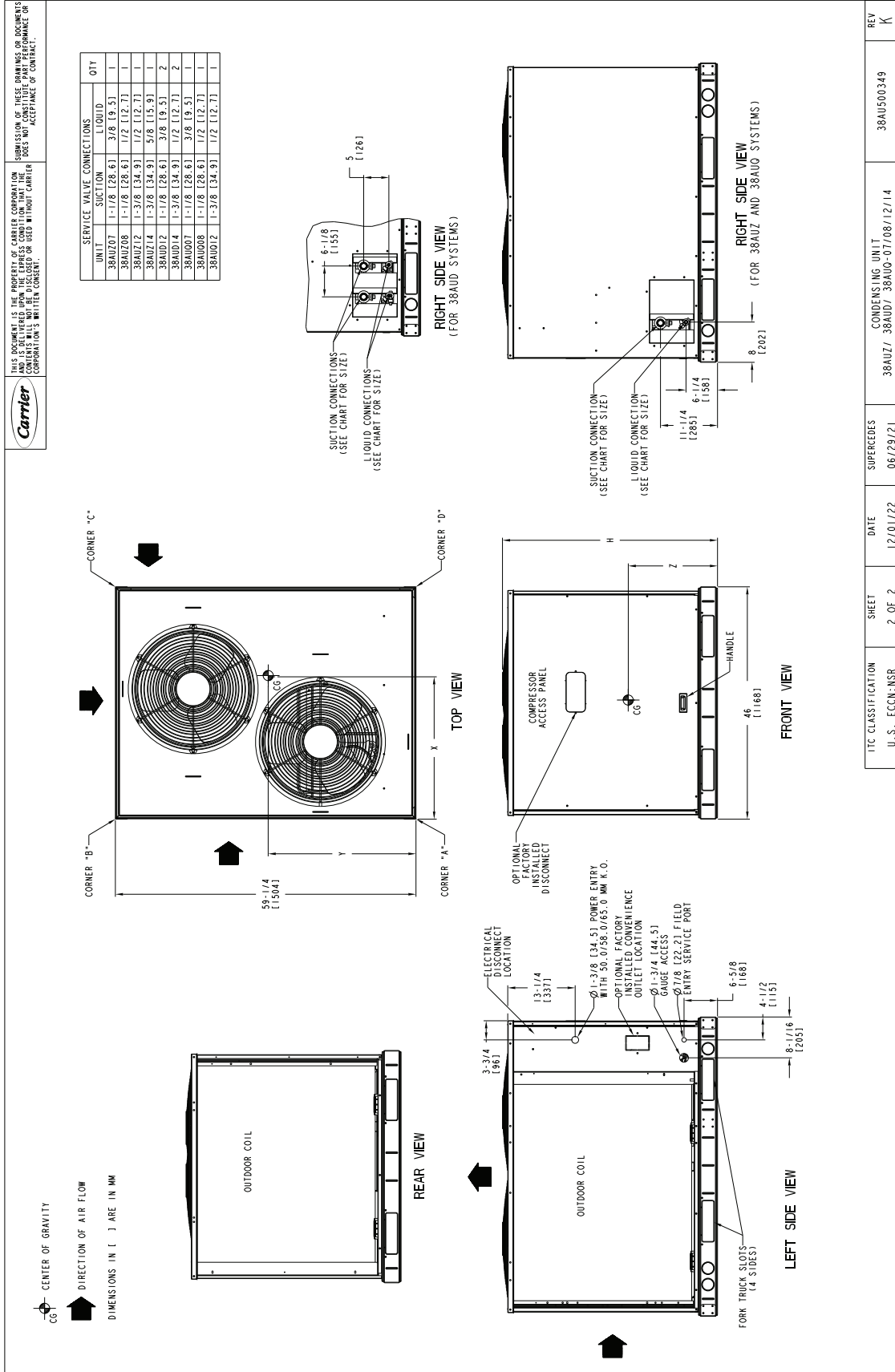
# Commercial Split Systems Air Conditioning Condensing Units 6 to 25 Tons



38AUZ07,08,12,14 Shown

38AUZ, AUD 07-28 Single and Dual Circuit Condensing Units  
with Puron® R-410A Refrigerant

## 38AUD/Z 07-14 Base Unit Dimensions





CC-5



Turn to the experts



# EVAPORATOR COILS

Enhanced durability, comfort  
and peace of mind



Models CAPMP, CAPVU, CVPVA,  
CSPVA, CVPMA, CSPHP, CNPVP

# DESIGNED WITH YOUR COMFORT IN MIND

Efficiency, reliability, quality: Our aluminum evaporator coils complement your Carrier system for optimum efficiency and comfort. Made from recyclable aluminum, these tough, durable coils support the Carrier legacy of environmental stewardship. At the same time, they deliver lasting performance in corrosive environments.



### EFFICIENCY

The evaporator coil is the unsung hero of your heat pump or air conditioning system. It provides the heat transfer needed to ensure peak energy efficiency and comfort capacity. And, with its outstanding corrosion resistance, it protects your system from efficiency loss experienced in corrosive environments.



### DURABILITY

The sturdy, 22-gauge cabinet is painted to match your Carrier indoor unit for years of scratch-resistant good looks. Aluminum construction with thicker coil walls and our enhanced fin design combine to provide lasting durability and performance.



### ENVIRONMENT

Carrier was the first to offer systems with Puron® refrigerant, which does not contribute to ozone depletion. Our century-plus commitment to environmental concerns continues with efficient designs that can reduce energy use as well as using recyclable materials such as aluminum.



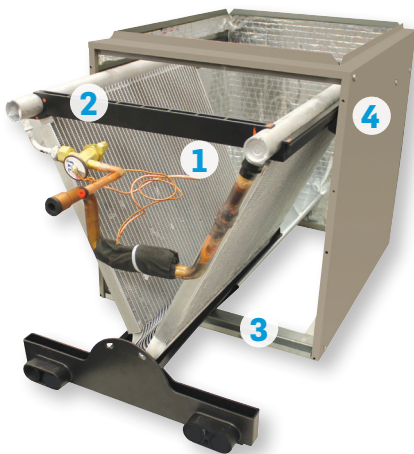
### LIMITED WARRANTY

To the original owner, our Carrier evaporator coils are covered by a 10-year parts limited warranty upon timely registration. The limited warranty period is five years if not registered within 90 days of installation except in jurisdictions where warranty benefits cannot be conditioned upon registration. See warranty certificate at [carrier.com](http://carrier.com) for complete details and restrictions.

# THE CARRIER DIFFERENCE

## RESHAPING THE FUTURE OF HVAC

If you could look under the hood of a Carrier CVPVA or CVPMA aluminum evaporator coil with Vertex™ Technology, you'd see what drives the performance – a serious commitment to quality. Here are some of the features and functions that show how we are reshaping the future of HVAC:



**VERTEX™**  
Technology

### 1 V-Shaped Coil

– The new Carrier V-shaped aluminum coil delivers similar performance to an A-coil in the size of an N-coil with better reliability, better condensate management and better quality. The V-shaped geometry provides improved heat transfer, more even and controlled airflow over the coil, and improved system efficiency† in a lighter, corrosion-resistant coil.

### 2 Vertex Coil Design/Technology

– Our new coil is constructed of flat, aluminum refrigerant channels brazed to ridged aluminum fins. It is configured in a “V” shape with the header tubes positioned at the top. The “V” configuration reduces pressure drop and enhances heat transfer. Combined, these design changes allow for the same or better SEER ratings without growing the size of the coil.

### 3 Rugged, Lasting Drain Pans

– The corrosion-resistant drain pan is designed in a Polybutylene Terephthalate (PBT) material that offers unsurpassed pan strength. It is engineered with proper slope to help ensure water drainage and improved moisture removal as well.

### 4 Durable, Fully-Insulated Cabinet

– Our aluminum V-coil is housed in a durable, 24-gauge, pre-painted taupe metallic cabinet. The fully insulated cabinet (foil faced with R-2.1 insulation properties) provides for quiet efficient operation of the evaporator coil.

† With optimized outdoor unit under new M1 test procedures.

## A RANGE OF COMFORT

Carrier delivers comfort systems in a range of shapes and sizes. Check out this side-by-side comparison of our durable and efficient evaporator coils.



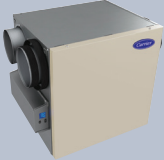
Aluminum Evaporator Coils	A-Coils		V-Coils		Slab Coil	N-Coil
	CAPVU	CAPMP	CVPVA/CSPVA	CVPMA	CSPHP	CNPVP
Upflow/Downflow	•	•	•	•		•
Multipoise		•		•		
Horizontal		•		•	•	
Factory-Installed TXV*	•	•	•	•	•	•
Cased Coil		•	•	•	•	•
Puron® Refrigerant	•	•	•	•	•	•
Compatible with AC and HP	•	•	•	•	•	HP Only

\* Thermostatic Expansion Valve



# GAIN MORE CONTROL WITH A COMPLETE HOME COMFORT SYSTEM

CC-5

Control	Air Conditioner or Heat Pump	Evaporator Coil	Air Purifier	Humidifier	Ventilator
 <p>Wi-Fi®-enabled smart thermostat learns your schedule for greater efficiency and comfort.</p>	 <p>Provides efficient cooling or cooling/heating for comfort and potential energy savings.</p>	 <p>Matches to the proper outdoor unit to provide more cooling efficiency and years of reliable service.</p>	 <p>Uses Captures &amp; Kills® technology to inactivate 99% of select airborne pathogens trapped by the filter, including coronavirus, bacteria and other pathogens.<sup>1</sup></p>	 <p>Adds moisture to the air, helping keep static and dry skin at bay.</p>	 <p>Combines fresh outdoor air with conditioned indoor air for improved air quality.</p>

<sup>1</sup> The Infinity® air purifier has demonstrated effectiveness against the murine coronavirus, based on third-party testing (2020) showing a >99% inactivation, which is a virus similar to the human novel coronavirus (SARS-CoV-2) that causes COVID-19. Therefore, the Infinity air purifier can be expected to be effective against SARS-CoV-2 when used in accordance with its directions for use. Third-party testing (2012, 2007) also shows ≥99% inactivation for the type of virus that causes common colds, Streptococcus pyogenes and human influenza. Airborne particles must flow through your HVAC system and be trapped by the Infinity filter to be inactivated at 99%. Learn how it works at [Carrier.com/purifier](http://Carrier.com/purifier).

## MORE THAN A CENTURY OF COOL

In 1902, a determined engineer answered one of mankind's most nagging questions: How do we make hot, sticky, indoor air go away? In creating the world's first modern air conditioning system, Willis Carrier forever changed indoor life, and, more than a century later, the corporation that bears his name takes inspiration from his example.

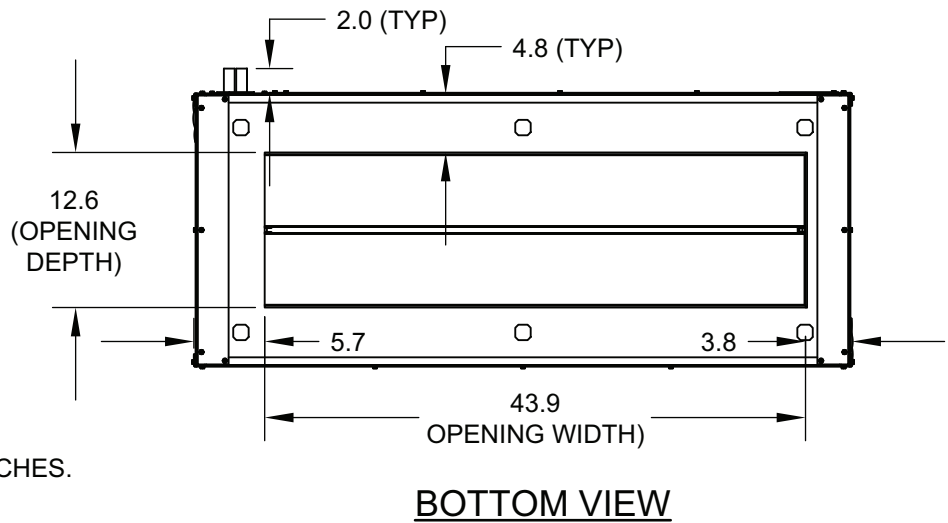
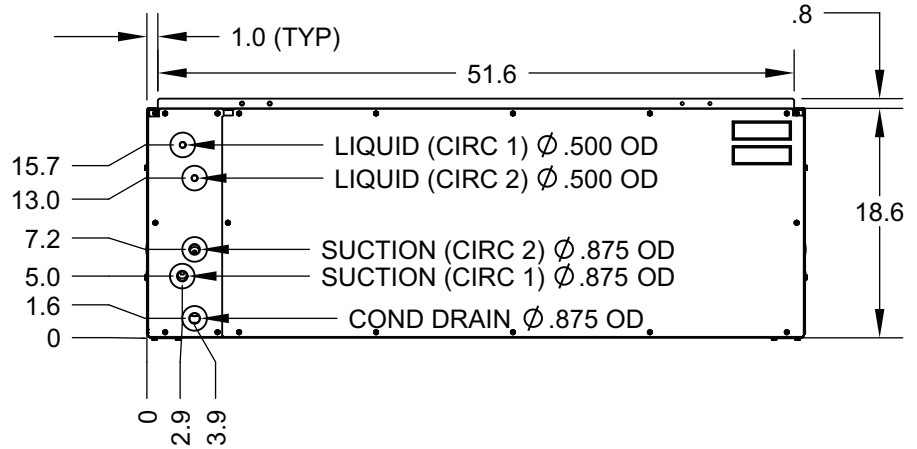
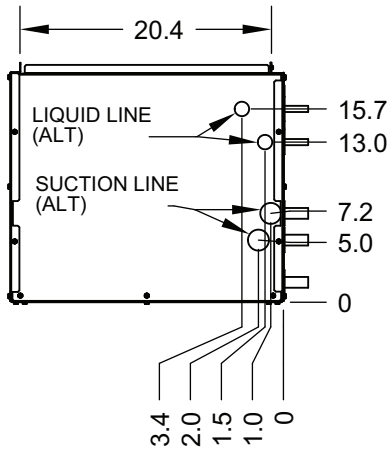
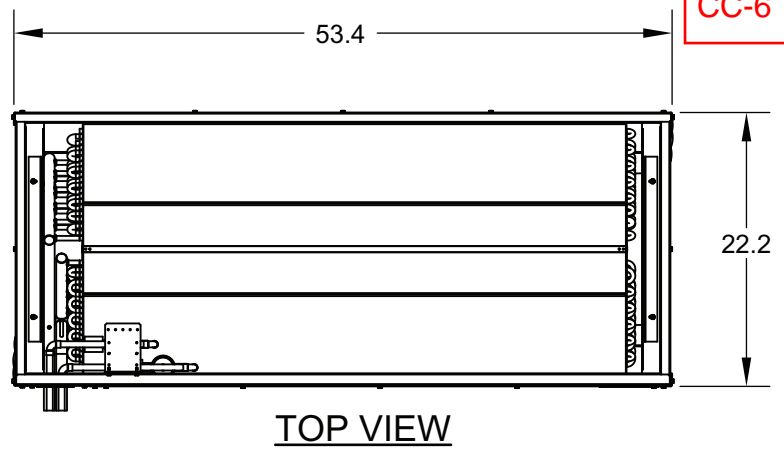
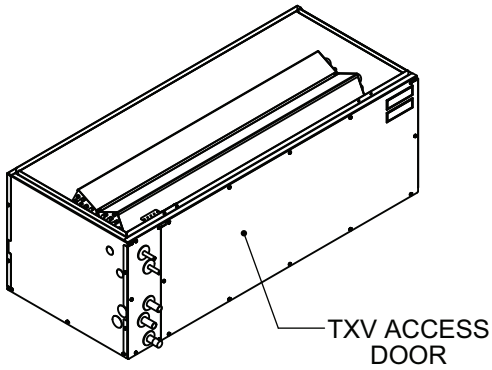
Carrier strives to improve on our founder's breakthroughs, introducing new technologies that make life at home even cooler. Today, a nationwide network of experts continues to advance Willis Carrier's lifework. Your expert Carrier dealer is equipped to evaluate your home and create a customized system designed around your lifestyle.



Turn to the experts

[carrier.com](http://carrier.com) 1-800-CARRIER  
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Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice or without incurring obligations. Third-party trademarks and logos are the property of their respective owners.



NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. CONNECTION TYPE IS SWT.

Fig. 2 - CAVTcoil\*12 Unit Dimensions

C11311

(1)F-5 / (2)F-6



Turn to the experts



# 2023 COMFORT™ 80 GAS FURNACES

Quiet, reliable comfort  
with 80.0% AFUE



Models 58SB0, 58SB1, 58SC0, 58SC1



# DESIGNED WITH YOUR COMFORT IN MIND

(1)F-5 / (2)F-6

Innovation, efficiency, quality: Our Carrier Comfort 80 gas furnaces offer dependable heating and enhanced airflow capabilities for efficient performance you'll appreciate every day this winter. Throughout our Comfort line, we never lose sight of the Carrier quality, environmental stewardship and lasting durability that have endured for more than a century. And, to provide superior year-round efficiency with both gas and electric heating capabilities, your dealer can include a Carrier heat pump and compatible thermostat to create a Hybrid Heat® dual-fuel system.



## EFFICIENCY

AFUE (Annual Fuel Utilization Efficiency) ratings are like your car's MPG – the higher the number, the greater the potential for savings. The Comfort 80 furnace delivers 80.0% AFUE heating.



## MORE PRECISE AIRFLOWS

Eighteen fan speed options allow the furnace to be tailored to your specific home. Upon system setup, your dealer will adjust these fan speeds to deliver more precise airflows allowing the system to better optimize comfort levels.



## DURABILITY

Our PowerHeat™ hot surface ignition is one of the most robust and durable ignition systems available. It eliminates the need for a pilot light, reducing gas usage and promoting more consistent operation. Aluminized steel heat exchangers also contribute to lasting durability.



## HYBRID HEAT SYSTEM

Combining a Comfort 80 gas furnace, a Carrier heat pump and a compatible thermostat, our Hybrid Heat system automatically switches between electric and gas heating to optimize the efficiency of each fuel source. It's a great way to help manage unpredictable utility costs.



## LIMITED WARRANTY

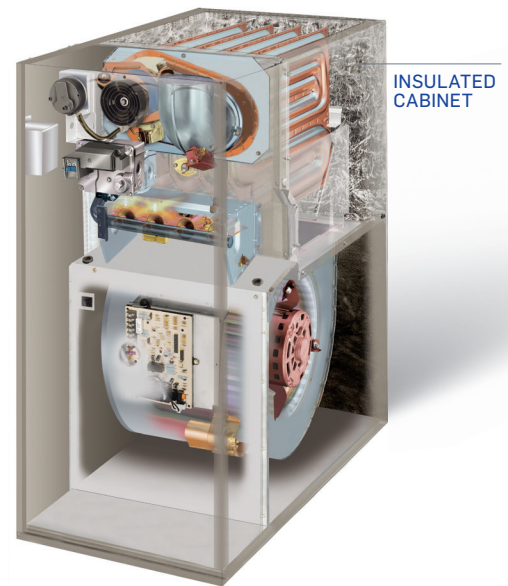
To the original owner, our Comfort 80 gas furnaces are covered by a 10-year parts and 20-year heat exchanger limited warranty upon timely registration. The parts limited warranty period is five years if not registered within 90 days of installation except in jurisdictions where warranty benefits cannot be conditioned upon registration. See warranty certificate at [carrier.com](http://carrier.com) for complete details and restrictions.

(1)F-5 / (2)F-6

# THE CARRIER DIFFERENCE

If you could look under the hood of a Carrier Comfort 80, Models 58SC0 and 58SC1, gas furnace, you'd see what drives the performance: a serious commitment to quality. Keeping sound to a minimum is an underrated part of home comfort. These models help keep operational sound under wraps with a fully insulated cabinet.

And for even greater confidence know that 100% of our products are run tested before they leave our factory. In fact, we test well beyond industry standards, using over 200 specifically designed tests, to ensure the highest quality performance possible.



COMFORT 80  
GAS FURNACE

## A RANGE OF COMFORT

Carrier delivers gas furnaces with a range of features and functionality. Check out this side-by-side comparison to see how our smart and efficient Comfort 80 gas furnaces measure up against our Infinity® and Performance™ models.

	Infinity System	Performance Series	Comfort Series
Motor Performance	Fully-communicating, variable-speed operation	Non-communicating, variable-speed operation	Non-communicating, multi-speed operation
Efficiency	80.0% AFUE	80.0% AFUE	80.0% AFUE
Airflow Operation	Constant airflow	Two-stage airflow (high/low)	Single-stage airflow (on/off)
Durability	Fully-insulated, 20-gauge steel cabinet and doors	Fully-insulated, 20-gauge steel cabinet and doors	Fully-insulated <sup>1</sup> , 20-gauge steel cabinet and doors
Cool Compatibility	Multi-stage	Two-stage and Single-stage	Single-stage
Recommended Control <sup>2</sup>	Infinity system control	ecobee for Carrier smart thermostat	ecobee for Carrier smart thermostat
Limited Warranty	10-year parts <sup>3</sup> Lifetime heat exchanger <sup>4</sup>	10-year parts <sup>3</sup> 20-year heat exchanger	10-year parts <sup>3</sup> 20-year heat exchanger






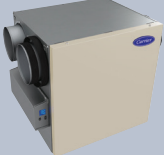
<sup>1</sup> 58SC models only

<sup>2</sup> Control sold separately, other options available.

<sup>3</sup> Upon timely registration, the warranty period is five years if not registered within 90 days of installation except where restricted by jurisdiction.

<sup>4</sup> Upon timely registration, the warranty period is 20 years if not registered within 90 days of installation except where restricted by jurisdiction.

# GAIN MORE CONTROL WITH A COMPLETE HOME COMFORT SYSTEM

Control	Air Conditioner or Heat Pump	Evaporator Coil	Air Purifier	Humidifier	Ventilator
 <p>Wi-Fi®-enabled smart thermostat learns your schedule for greater efficiency and comfort.</p>	 <p>Provides efficient cooling or cooling/heating for comfort and potential energy savings.</p>	 <p>Matches to the proper outdoor unit to provide more cooling efficiency and years of reliable service.</p>	 <p>Uses Captures &amp; Kills® technology to inactivate 99% of select airborne pathogens trapped by the filter, including coronavirus, bacteria and other pathogens.<sup>1</sup></p>	 <p>Adds moisture to the air, helping keep static and dry skin at bay.</p>	 <p>Combines fresh outdoor air with conditioned indoor air for improved air quality.</p>

<sup>1</sup> The Infinity® air purifier has demonstrated effectiveness against the murine coronavirus, based on third-party testing (2020) showing a >99% inactivation, which is a virus similar to the human novel coronavirus (SARS-CoV-2) that causes COVID-19. Therefore, the Infinity air purifier can be expected to be effective against SARS-CoV-2 when used in accordance with its directions for use. Third-party testing (2012, 2007) also shows ≥99% inactivation for the type of virus that causes common colds, Streptococcus pyogenes and human influenza. Airborne particles must flow through your HVAC system and be trapped by the Infinity filter to be inactivated at 99%. Learn how it works at [Carrier.com/purifier](http://Carrier.com/purifier).

## MORE THAN A CENTURY OF COOL

In 1902, a determined engineer answered one of mankind's most nagging questions: How do we make hot, sticky, indoor air go away? In creating the world's first modern air conditioning system, Willis Carrier forever changed indoor life, and, more than a century later, the corporation that bears his name takes inspiration from his example.

Carrier strives to improve on our founder's breakthroughs, introducing new technologies that make life at home even cooler. Today, a nationwide network of experts continues to advance Willis Carrier's lifework. Your expert Carrier dealer is equipped to evaluate your home and create a customized system designed around your lifestyle.



Turn to the experts

**Comfort**  
SERIES

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**ACCU-10/ACCU-11/ACCU-12/ACCU-13**

# Product Data



**Fig. 1 — Sizes 06K - 36K**

A220408

**NOTE:** Images are for illustration purposes **only**. Actual models may differ slightly.

## INDUSTRY LEADING FEATURES / BENEFITS

### A PERFECT BALANCE BETWEEN BUDGET LIMITS, ENERGY SAVINGS AND COMFORT.

The **38MARB** series ductless systems are a matched combination of an outdoor condensing unit and an indoor fan coil unit connected only by refrigerant tubing and wires.

The ductless system permits creative solutions to design problems such as:

- Add-ons to current space (an office or family room addition)
- Special space requirements
- When changes in the load cannot be handled by the existing system
- When adding air conditioning to spaces that are heated by hydronic or electric heat and have no ductwork
- Historical renovations or any application where preserving the look of the original structure is essential.

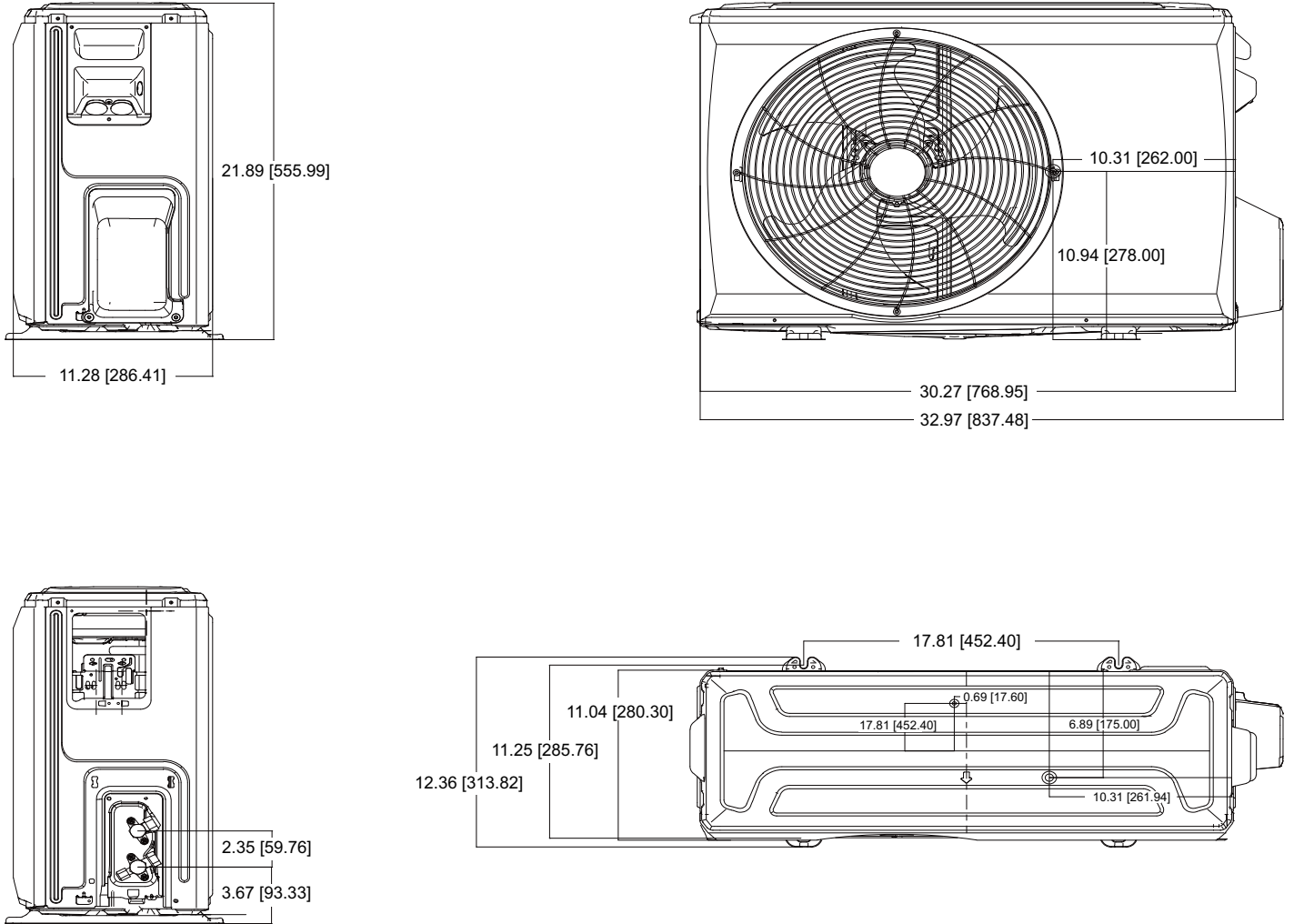
The ideal compliment to your ducted system when it is impractical or prohibitively expensive to use ductwork.

The compact indoor fan coil units take up very little space in the room and do not obstruct windows. The fan coils are attractively styled to blend with most room decors. Advanced system components incorporate innovative technology to provide reliable cooling performance at low sound levels.

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# DIMENSIONS

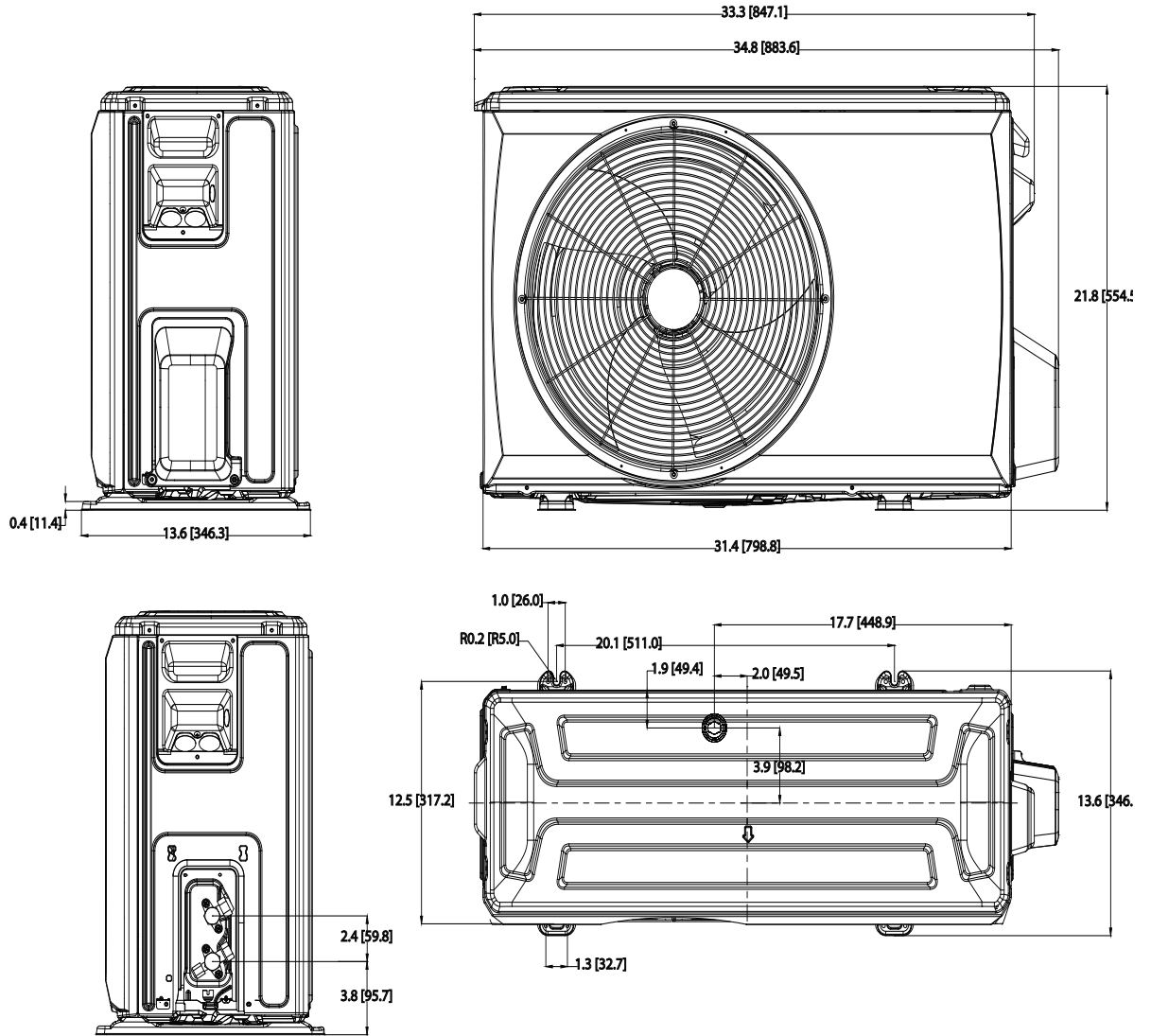


**Fig. 3 —Dimensions Sizes 12K (115V) and 6K (208/230V)**



**DIMENSIONS (CONT)**

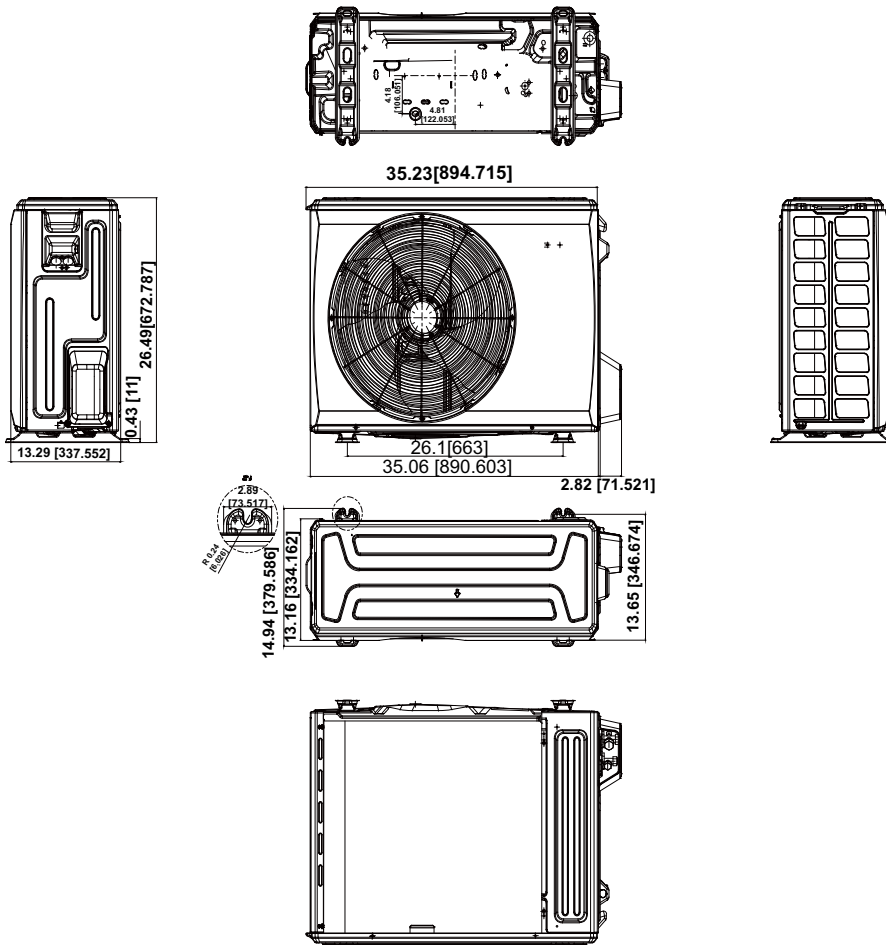
11.28.2004.41



**Fig. 4 —Dimension Sizes 09K-12K**

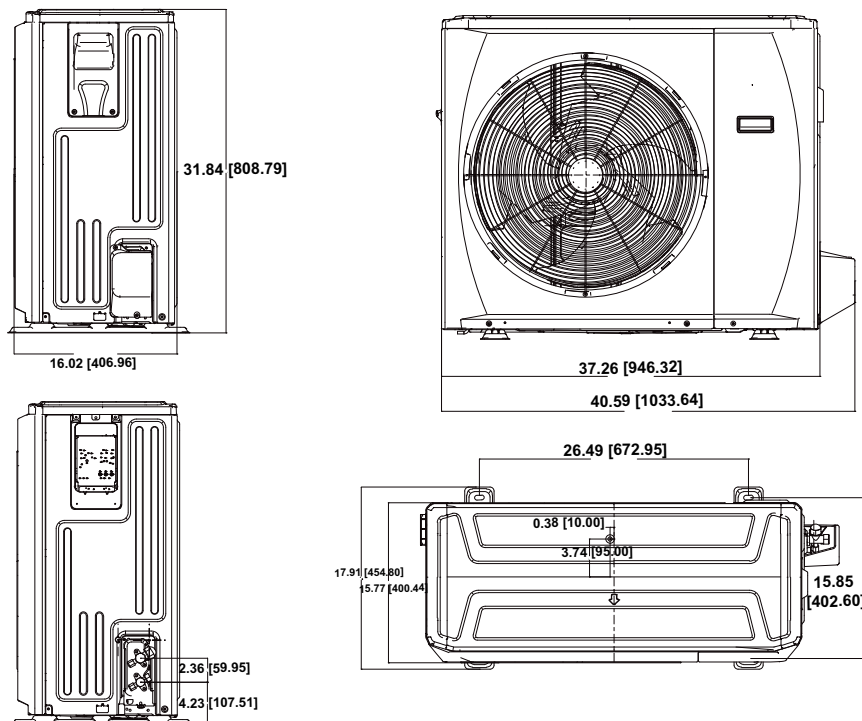
A220416

**DIMENSIONS (CONT)**



**Fig. 5 —Dimension Size 18K**

A220417



**Fig. 6 —Dimension Sizes 24K, 30K, and 36K**

A220418

# Product Data

FCU-10/FCU-11/FCU-12/FCU-13

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Fig. 1 — Cassette



Fig. 2 — Cassette



Fig. 3 — Remote

NOTE: Images are for illustration purposes only. Actual models may differ slightly.

## INDUSTRY LEADING FEATURES / BENEFITS

### A PERFECT BALANCE BETWEEN BUDGET LIMITS, ENERGY SAVINGS AND COMFORT

The 40MBCQ series ductless systems are a matched combination of an outdoor condensing unit and an indoor fan coil unit connected only by refrigerant tubing and wires.

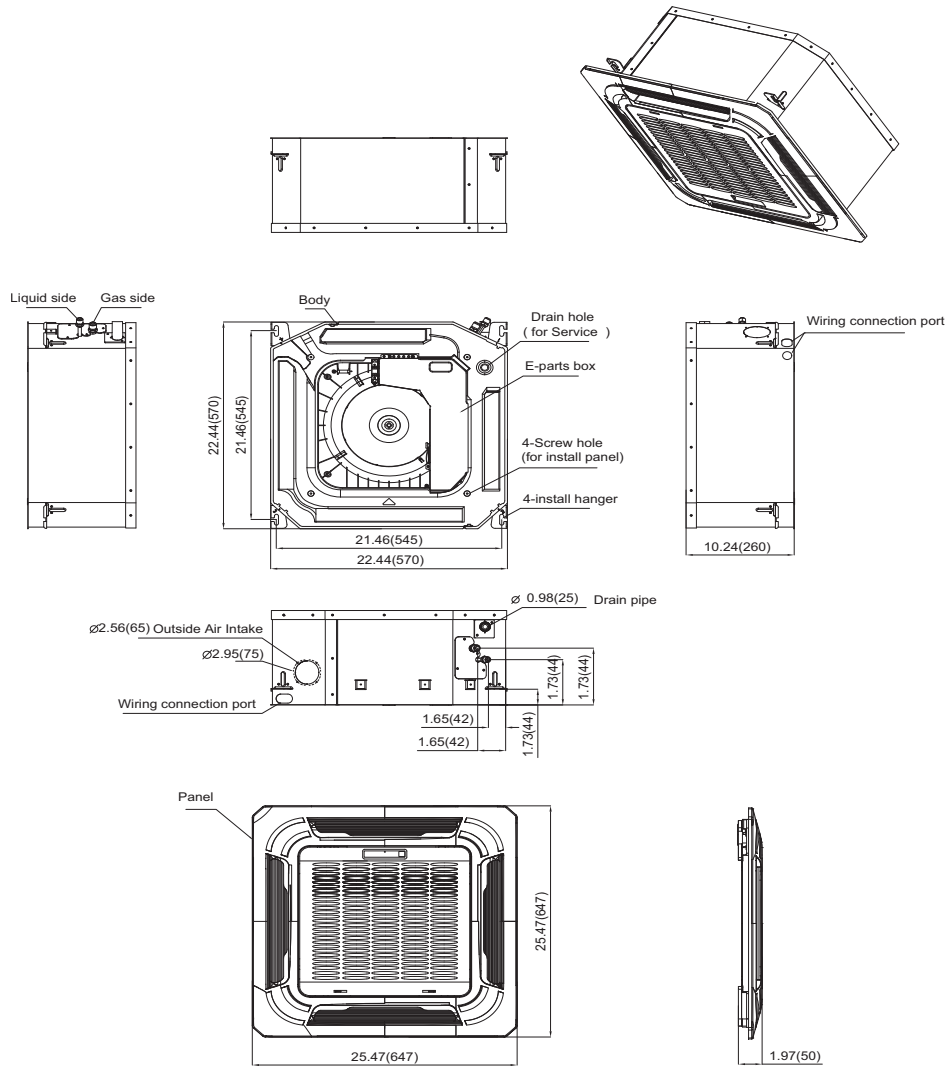
The in-ceiling cassette fan coils are ideal for retrofit or modernization projects where a false ceiling is available. This selection of fan coils permits inexpensive and creative solutions to design problems such as:

- Add-ons to current space (an office or family room addition)
- Special space requirements
- When changes in the load cannot be handled by the existing system
- Historical renovations or any application where preserving the look of the original structure is essential.

The ideal compliment to your ducted system when it is impractical or prohibitively expensive to use ductwork. These compact indoor fan coil units take up very little space in the room and do not obstruct windows. The fan coils are attractively styled to blend with most room decors. Advanced system components incorporate innovative technology to provide reliable cooling performance at low sound levels.

# DIMENSIONS

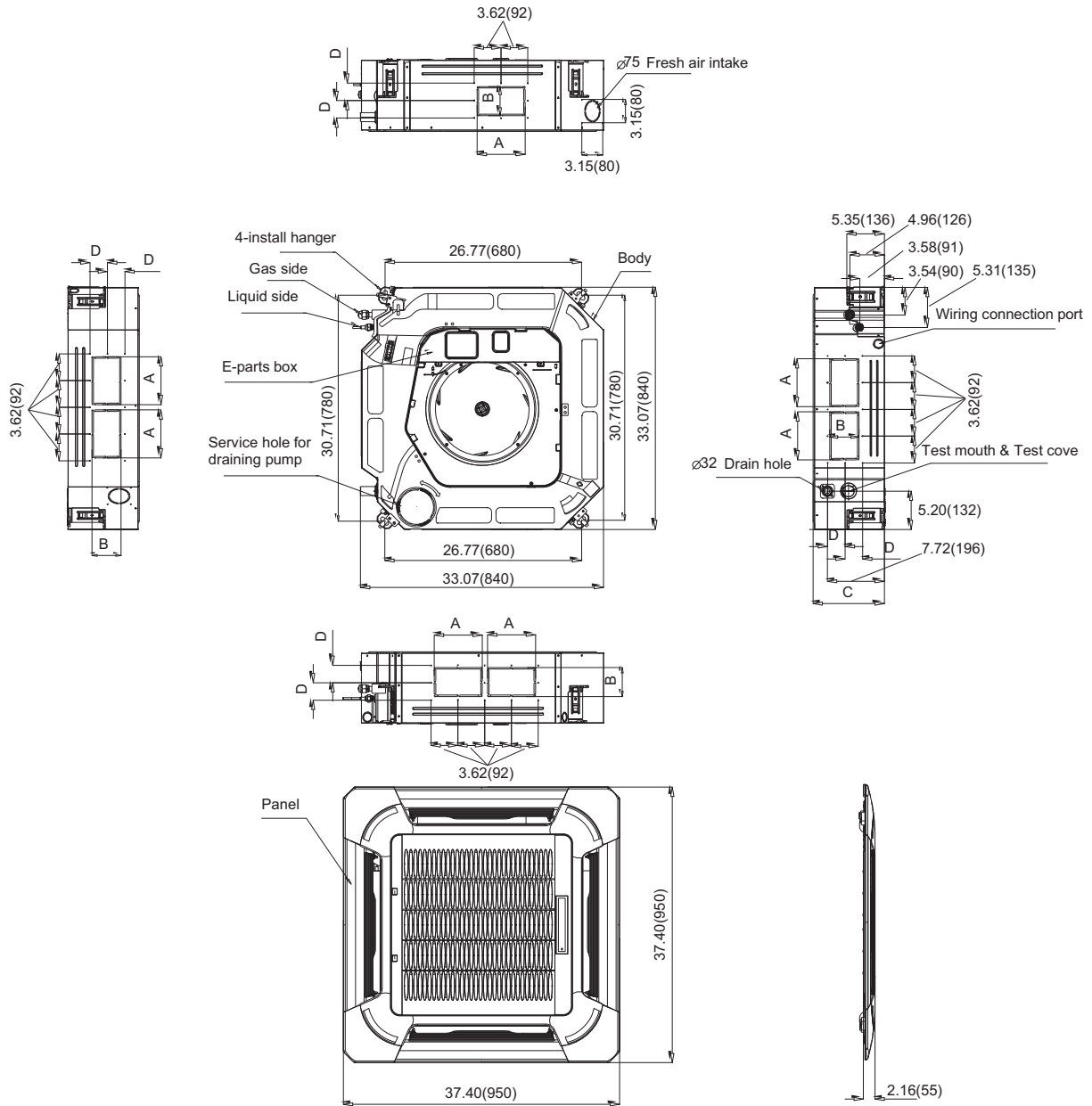
**FCU-11/FCU-12/FCU-13**



**Fig. 4 — Indoor Unit (Sizes 9-18)**

UNIT SIZE		9K		12K		18K		24K		36K		48K	
		Body	Panel	Body	Panel	Body	Panel	Body	Panel	Body	Panel	Body	Panel
<b>DIMENSIONS</b>													
Height	in (mm)	10.24 (260)	1.97 (50)	10.24 (260)	1.97 (50)	10.24 (260)	1.97 (50)	8.07 (205)	2.17 (55)	9.65 (245)	2.17 (55)	11.3 (287)	2.17 (55)
Width	in (mm)	22.44 (570)	25.47 (647)	22.44 (570)	25.47 (647)	22.44 (570)	25.47 (647)	33.07 (840)	37.4 (950)	33.07 (840)	37.4 (950)	33.07 (840)	37.4 (950)
Depth	in (mm)	22.44 (570)	25.47 (647)	22.44 (570)	25.47 (647)	22.44 (570)	25.47 (647)	33.07 (840)	37.4 (950)	33.07 (840)	37.4 (950)	33.07 (840)	37.4 (950)
<b>PACKAGING</b>													
Height	in (mm)	11.42 (290)	4.84 (123)	11.42 (290)	4.84 (123)	11.42 (290)	4.84 (123)	8.54 (217)	3.54 (90)	10.12 (257)	3.54 (90)	11.5 (292)	3.54 (90)
Width	in (mm)	25.79 (655)	28.15 (715)	25.79 (655)	28.15 (715)	25.79 (655)	28.15 (715)	35.43 (900)	40.75 (1035)	35.43 (900)	40.75 (1035)	35.43 (900)	40.75 (1035)
Depth	in (mm)	25.79 (655)	28.15 (715)	25.79 (655)	28.15 (715)	25.79 (655)	28.15 (715)	35.43 (900)	40.75 (1035)	35.43 (900)	40.75 (1035)	35.43 (900)	40.75 (1035)
Weight-Gross	Lbs (kg)	41.88 (19)	9.92 (4.5)	41.88 (19)	9.92 (4.5)	46.3 (21)	9.92 (4.5)	54.23 (24.6)	17.64 (8)	66.14 (30)	17.64 (8)	72.53 (32.9)	17.64 (8)
Weight-Net		35.27 (16)	5.51 (2.5)	35.27 (16)	5.51 (2.5)	39.68 (18)	5.51 (2.5)	46.3 (21)	11.02 (5)	58.2 (26.4)	11.02 (5)	63.27 (28.7)	11.02 (5)

# DIMENSIONS (CONT)



**Fig. 5 — Indoor Unit (Sizes 24-48)**

Capacity (Btu/h)		A	B	C	D
24K	mm	160	75	205	50
	inch	6.30	2.95	8.07	1.97
36K	mm	160	95	245	60
	inch	6.30	3.74	9.65	2.36
48K	mm	160	95	287	60
	inch	6.30	3.74	11.30	2.36