COMFORT SYSTEMS USA

Quality People. Building Solutions.

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Date: 2/16/2023
Return Request: 2/26/2023
Project: ATU – Jones Hall
Supplier: Airetech
Manufacturer: LG
Submittal: VRF HVAC Systems (CU-1 thru CU-13)
Submittal Number: 23 82 30-01
Drawing # and Installation: Mechanical Drawings

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Notes:

*Updated Submittal - Version 2

CSUSA PROJECT NO.
22-620
sean@comfortar.com

ALESSI KEYES CONSTRUCTION
REVIEWED FOR GENERAL COMPLIANCE
WITH CONTRACT DOCUMENTS
Charley Dawson 2/28/2023

Installation, Operation and Maintenance Manual

EQUIPMENT: **LG WALL MOUNTED/INDOOR VRF**

PROJECT: **ATU JONES HALL**
LOCATION: **Russellville, Arkansas**

MECHANICAL CONTRACTOR: **Comfort Systems USA Construction**

SUBMITTED BY: **Forrest Moseley**
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ENGLISH
FRANÇAIS
ESPAÑOL

INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product.
Please retain this installation manual for future reference after reading it thoroughly.

WALL MOUNTED
Original instruction

MFL69485426
Rev.01_041921

www.lghvac.com
www.lg.com

IMPORTANT!

Please read this instruction sheet completely before installing the product.
This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others. Installation of all field wiring and components MUST conform with local building codes or, in the absence of local codes, with the National Electrical Code 70 and the National Building Construction and Safety Code or Canadian Electrical code and National Building Code of Canada.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

CAUTION

Improper installation, adjustment, alteration, service or maintenance can void the warranty. The weight of the condensing unit requires caution and proper handling procedures when lifting or moving to avoid personal injury. Use care to avoid contact with sharp or pointed edges.

Safety Precautions

- Always wear safety eye wear and work gloves when installing equipment.
- Never assume electrical power is disconnected. Check with meter and equipment.
- Keep hands out of fan areas when power is connected to equipment.
- R-410A causes frostbite burns.
- R-410A is toxic when burned.

NOTE TO INSTALLING DEALER

: The Owners Instructions and Warranty are to be given to the owner or prominently displayed near the indoor Furnace/Air Handler Unit.

⚠ WARNING

When wiring:

Electrical shock can cause severe personal injury or death. Only a qualified, experienced electrician should attempt to wire this system.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause accidental injury or death.
- Ground the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- The choice of materials and installations must comply with the applicable local/national or international standards.

When transporting:

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your finger.

When installing...

... in a wall: Make sure the wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

... in a room: Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to wall and floors.

... in moist or uneven locatinons: Use a raised concrete pad or concrete blocks provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

... in an area with high winds: Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

... in a snowy area(for Heat Pump Model): Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When connecting refrigerant tubing

- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Check carefully for leaks before starting the test run.

When servicing

- Turn the power OFF at the main power box(mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed tightly while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number :

Serial number :

You can find them on a label on the side of each unit.

Dealer's name :

Date of purchase :

IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product

⚠ WARNING

It can result in serious injury or death when the directions are ignored

⚠ CAUTION

It can result in minor injury or product damage when the directions are ignored

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation MUST conform with local building codes.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

Installation

- Don't use a power cord, a plug or a loose socket which is damaged.
  - Otherwise, it may cause a fire or electrical shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.
  - Do not disassemble or repair the product. There is risk of fire or electric shock.

- Always ground the product.
  - There is risk of fire or electric shock.
- Install the panel and the cover of control box securely.
  - There is risk of fire or electric shock.
- Always install a dedicated circuit and breaker.
  - Improper wiring or installation may cause fire or electric shock.
- Use the correctly rated breaker or fuse.
  - There is risk of fire or electric shock.
- Do not modify or extend the power cable.
  - There is risk of fire or electric shock.
- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.
  - Moisture may condense and wet or damage furniture.
- Be cautious when unpacking and installing the product.
  - Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.
- For installation, always contact the dealer or an Authorized Service Center.
  - There is risk of fire, electric shock, explosion, or injury.
- Do not install the product on a defective installation stand.
  - It may cause injury, accident, or damage to the product.
- Be sure the installation area does not deteriorate with age.
  - If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.
- There is a risk of fire and explosion.
  - Inert gas (nitrogen) should be used when you check plumbing leaks, cleaning or repairs of pipes etc. If you are using combustible gases including oxygen, product may have the risk of fires and explosions.
- Use a vacuum pump or Inert (nitrogen) gas when doing leakage test or air purge. Do not compress air or Oxygen and do not use Flammable gases. Otherwise, it may cause fire or explosion.
  - There is the risk of death, injury, fire or explosion.

- Do not turn on the breaker or power under condition that front panel, cabinet, top cover, control box cover are removed or opened.
  - Otherwise, it may cause fire, electric shock, explosion or death.
  - For refrigerant leakage, consult your dealer. When the air conditioner is to be installed in a small room, it is necessary to take proper measures so that the amount of any leaked refrigerant does not exceed the limiting concentration even when it leaks. If the refrigerant leaks exceeding the level of limiting concentration, an oxygen deficiency accident may happen.
- The appliance shall be installed in accordance with the national wiring regulation.

Operation

- Do not store or use flammable gas or combustibles near the product.
  - There is risk of fire or failure of product.
- Never use flammable spray such as hair spray, lacquer, or paint near the unit.
- Tear apart and throw away plastic packaging bags so that children will not play with them.

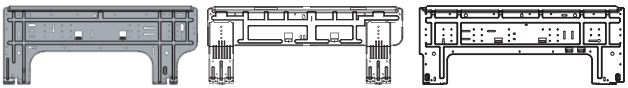
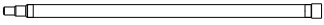
⚠ CAUTION

Installation

- Always check for gas (refrigerant) leakage after installation or repair of product.
  - Low refrigerant levels may cause failure of product.
- Install the drain hose to ensure that water is drained away properly.
  - A bad connection may cause water leakage.
- Keep level even when installing the product.
  - To avoid vibration or water leakage.
- Use two or more people to lift and transport the product.
  - Avoid personal injury.
- Do not install the unit in potentially explosive atmospheres.

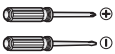
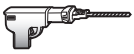
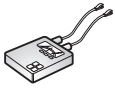
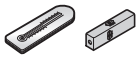
TABLE OF CONTENTS

INSTALLATION PARTS

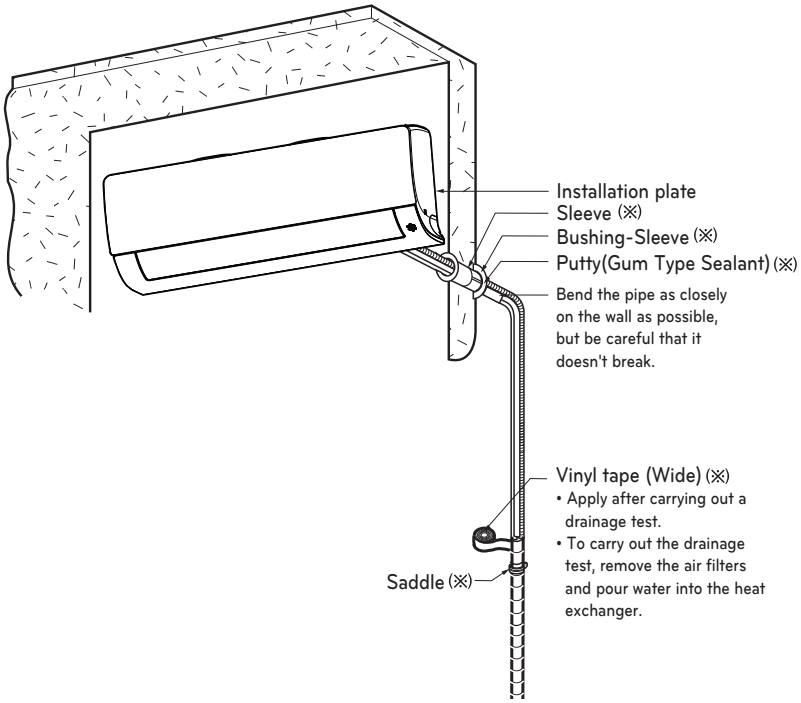
Name	Quantity	Shape
Installation plate	1 EA	 SJ SK
Drain hose	1 EA	
Type "A" screw	5 EA	
Type "C" screw	2 EA	
Cloth tape	1 EA	
Conduit mounting plate	1 EA	

Cloth tape is not attached to the product.

INSTALLATION TOOLS

Figure	Name	Figure	Name
	Screw driver		Multi-meter
	Electric drill		Hexagonal wrench
	Measuring tape, Knife		Ammeter
	Hole core drill		Gas-leak detector
	Spanner		Thermometer, Level
	Torque wrench		Flaring tool set

INSTALLATION MAP



* The feature can be changed according to type of model.

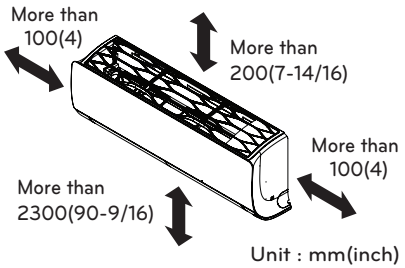
NOTE

- You should purchase the installation parts.

INSTALLATION

Select the best Location

- There should not be any heat or steam near the unit.
- Select a place where there are no obstacles around of the unit.
- Make sure that condensation drainage can be conveniently routed away.
- Do not install near a doorway.
- Ensure that the interval between a wall and the left (or right) of the unit is more than 100 mm. The unit should be installed as high as possible on the wall, allowing a minimum of 200 mm from ceiling.
- Use a metal detector to locate studs to prevent unnecessary damage to the wall.



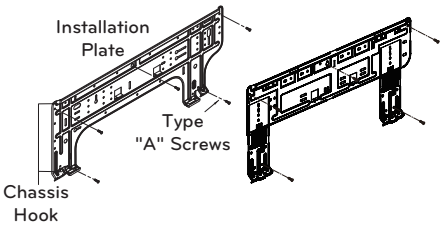
* The feature can be changed according to type of model.

> **CAUTION**
>
> Install the indoor unit on the wall where the height from the floor is more than 2300 mm.

Fixing Installation Plate

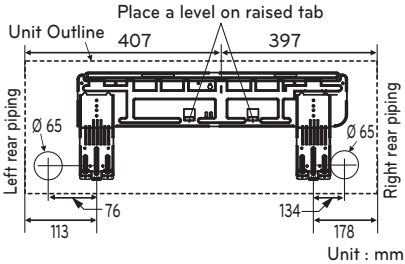
The wall you select should be strong and solid enough to prevent vibration

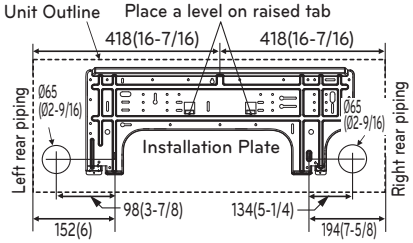
1 Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
   - Mount the installation plate horizontally by aligning the centerline using Horizontal meter .

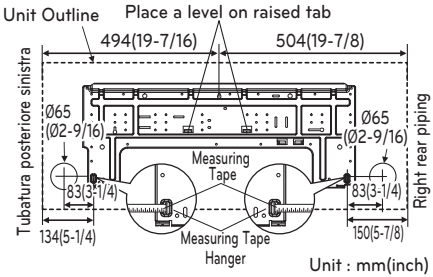


* The feature can be changed according to type of model.

2 Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate. Routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.



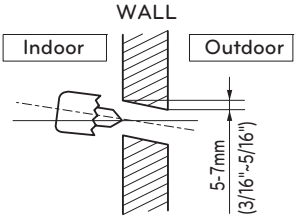




* The feature can be changed according to type of model.

Drill a Hole in the Wall

- Drill the piping hole with a Ø 65 mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.

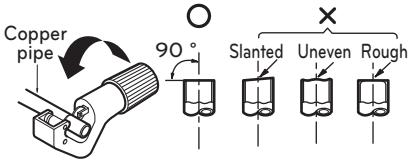


Flaring Work

Main cause for gas leakage is due to defect of flaring work. Carry out correct flaring work in the following procedure.

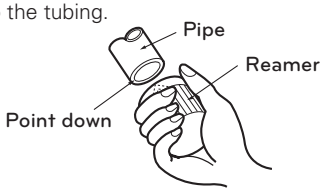
Cut the pipes and the cable

1 Use the piping kit accessory or the pipes purchased locally.
2 Measure the distance between the indoor and the outdoor unit.
3 Cut the pipes a little longer than measured distance.
4 Cut the cable 1.5m longer than the pipe length.



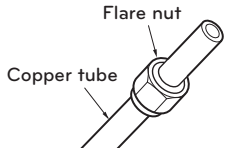
Burrs removal

1. Completely remove all burrs from the cut cross section of pipe/tube.
2. While removing burrs put the end of the copper tube/pipe in a downward direction while removing burrs location is also changed in order to avoid dropping burrs into the tubing.



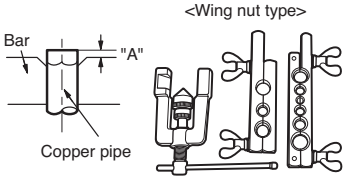
Putting nut on

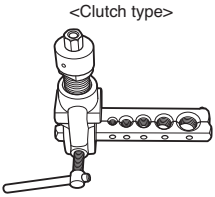
- Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal.
(not possible to put them on after finishing flare work)



Flaring work

1 Firmly hold copper pipe in a bar with the dimension shown in below table table below.
2 Carry out flaring work with the flaring tool.



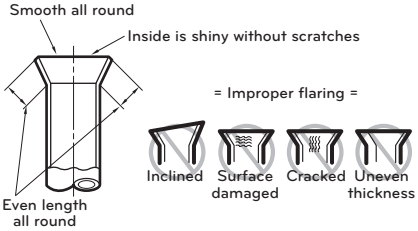


Pipe diameter Inch (mm)	A inch (mm)	
	Wing nut type	Clutch type
Ø 1/4 (Ø 6.35)	0.04~0.05 (1.1~1.3)	0~0.02 (0~0.5)
Ø 3/8 (Ø 9.52)	0.06~0.07 (1.5~1.7)	
Ø 1/2 (Ø 12.7)	0.06~0.07 (1.6~1.8)	
Ø 5/8 (Ø 15.88)	0.06~0.07 (1.6~1.8)	
Ø 3/4 (Ø 19.05)	0.07~0.08 (1.9~2.1)	

Check

1 Compare the flared work with the figure by.

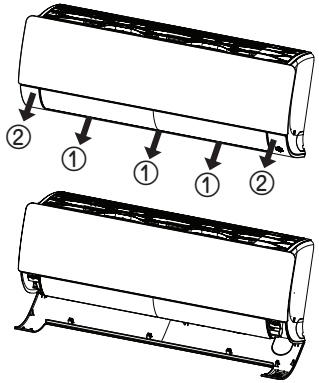
2 If a flared section is defective, cut it off and do flaring work again.



Connecting the Piping

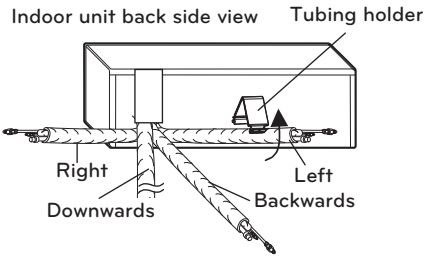
1 Pull the cover at the bottom of the indoor unit. Pull the cover ① → ②.

2 Remove the cover from the indoor unit.



3 Pull back the tubing holder.

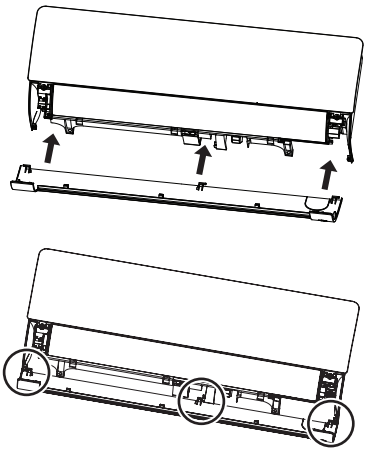
4 Remove pipe port cover and positioning the tubing



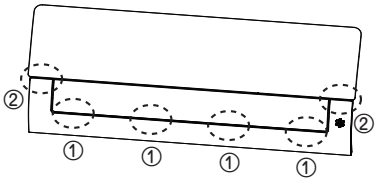
* The feature can be changed according to type of model.

Assembly of chassis cover

1 Insert 3 hooks of the chassis cover into gap of the chassis certainly.

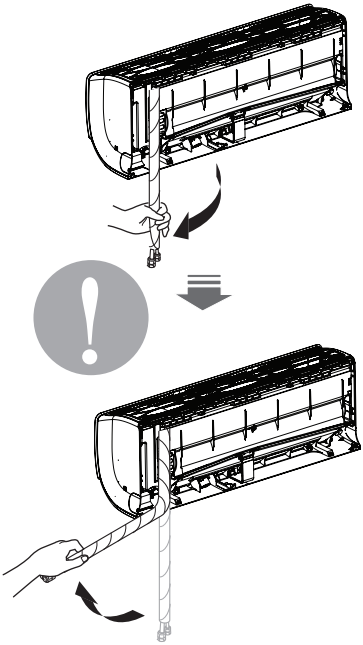


2 Push the hooks to assemble chassis cover. Push the chassis cover ① → ②.



Good case

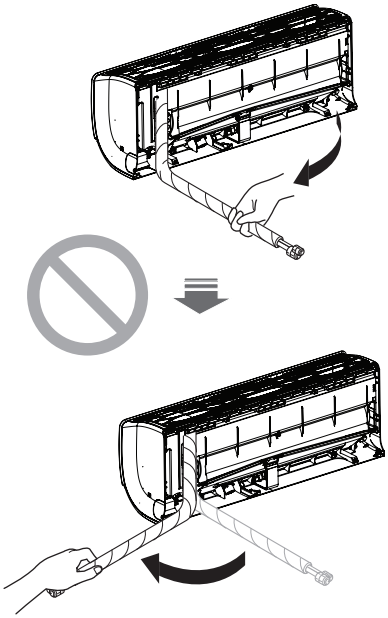
- Press on the tubing cover and unfold the tubing to downward slowly. And then bend to the left side slowly.



* The feature can be changed according to type of model.

Bad case

- Following bending case from right to left directly may cause damage to the tubing.



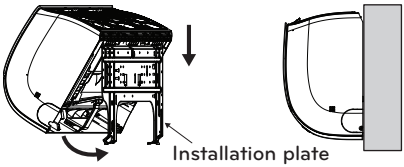
* The feature can be changed according to type of model.

CAUTION

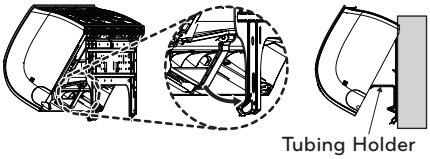
Installation Information. For right piping. Follow the instruction above.

Installation of Indoor Unit

1 Hook the indoor unit onto the upper portion of the installation plate.(engage the three hooks at the top of the indoor unit with the upper edge of the installation plate) Ensure that the hooks are properly seated on the installation plate by moving it left and right



2 Unlock the tubing holder from the chassis and mount between the chassis and installation plate in order to separate the bottom side of the indoor unit from the wall.

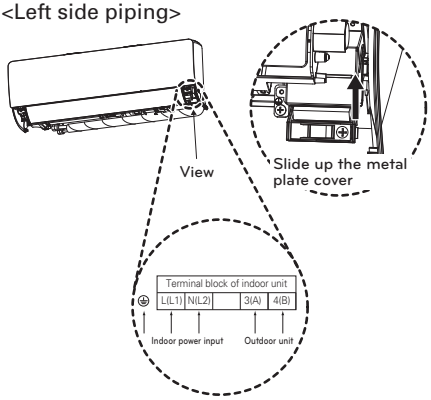


* The feature can be changed according to type of model.

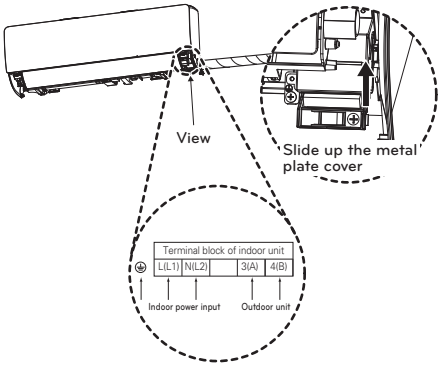
Piping

1 Insert the connecting cable through the bottom side of indoor unit and connect the cable (You can see detail contents in 'Connecting the cables' section)

<Left side piping>



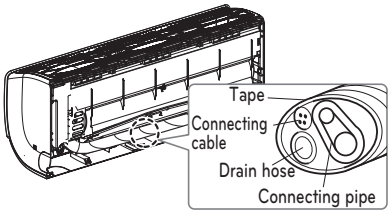
<Right side piping>



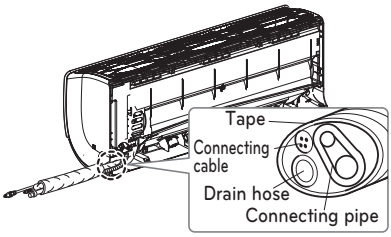
2 Secure the cable onto the control board with the cable retainer.

3 Tape the tubing pipe, drain hose and the connection cable. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause overflow from the drain pan through the inside of the unit.

<Left side piping>



<Right side piping>



* The feature can be changed according to type of model.

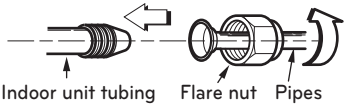
CAUTION

If the drain hose is routed inside the room insulate the hose with an insulation material* so that dripping from sweating condensation) will not damage furniture or floors.

* Foamed polyethylene or equivalent is recommended.

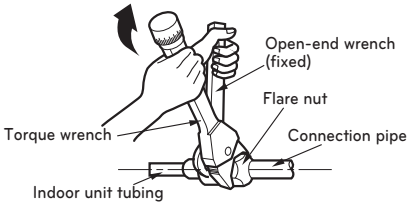
Connecting the installation pipe and drain hose to the indoor unit.

1 Align the center of the pipes and sufficiently tighten the flare nut by hand

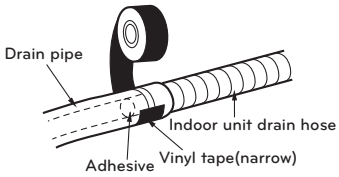


2 Tighten the flare nut with a wrench

Outside diameter		Torque
mm	inch	kgf.m
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.5
Ø15.88	5/8	6.3~8.2
Ø19.05	3/4	9.9~12.1

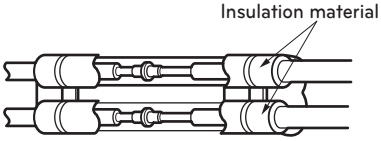


3 When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing

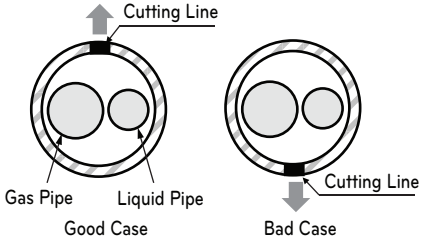


Wrap the insulation material around the connecting portion.

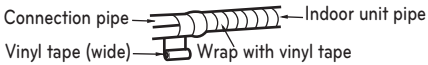
1 Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl tape so that there may be no gap.

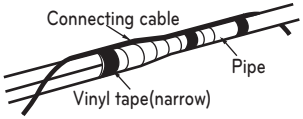


2 Set the tubing cutting line upward. Wrap the area which accommodates the rear piping housing section with vinyl tape.

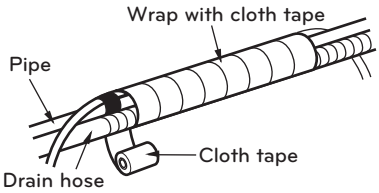


* Tubing cutting line have to be upward.





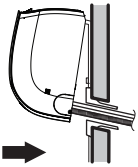
3 For left rear piping, bundle the piping and drain hose together by wrapping them cloth tape over the range within which they fit into the rear piping housing section.

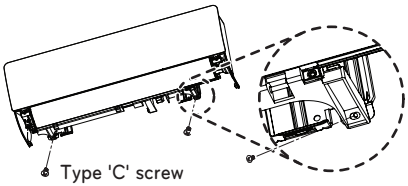


* Wrap the piping of the indoor unit that are visible from the outside with vinyl tape.

Finishing the indoor unit installation

1 Mount the tubing holder in the original position.
2 Ensure that the hooks are properly seated on the installation plate by moving it left and right.
3 Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots (clicking sound).
4 Finish the assembly by screwing the unit to the installation plate by using two pieces of type "C" screws. And assemble a chassis cover.

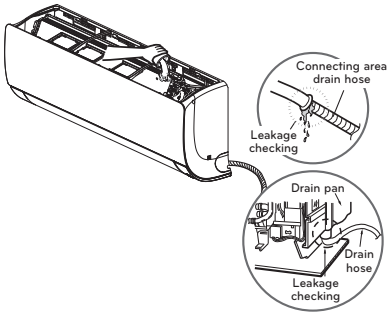




Checking the Drainage

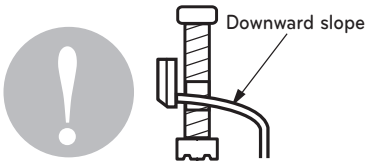
To check the drainage

1 Pour a glass of water on the evaporator.
2 Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

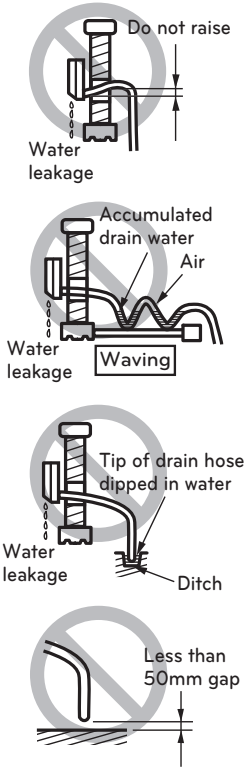


Drain piping

1 The drain hose should point downward for easy drain flow.



2 Do not make drain piping like the following.



* The feature can be changed according to type of model.

Manual the decor, air filter Assembly & Disassembly

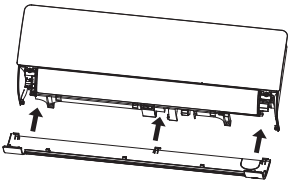
Disassemble the decor

1 Turn off the power and unplug the power cord.
2 Pull the decor at the bottom of the indoor unit.

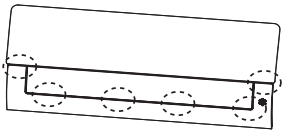
3 Remove the decor from the indoor unit.

Assemble the decor

1 Turn off the power and unplug the power cord.
2 Insert 3 hooks of the decor into gap of the indoor unit certainly.



3 Push the hooks to assemble the decor.



NOTE

The air filter can be broken when it is bended.

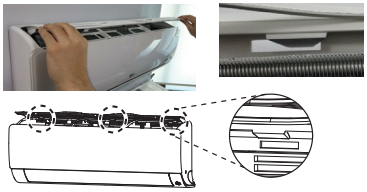
Disassemble the air filter

1 Turn off the power and unplug the power cord.
2 Hold the knob of air filter, Lift it up slightly.

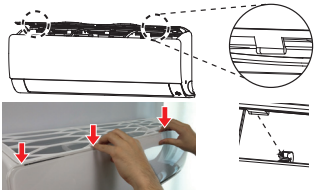
3 Hold the knob of the air filter, lift it up slightly and remove it from the unit.

Assemble the air filter

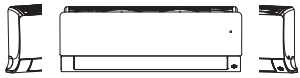
1 Turn off the power and unplug the power cord.
2 Insert the hooks of the air filter into the front grille.



3 Push down hooks to assemble the air filter.



4 Check side of the front grille for the air filter assembled correctly.



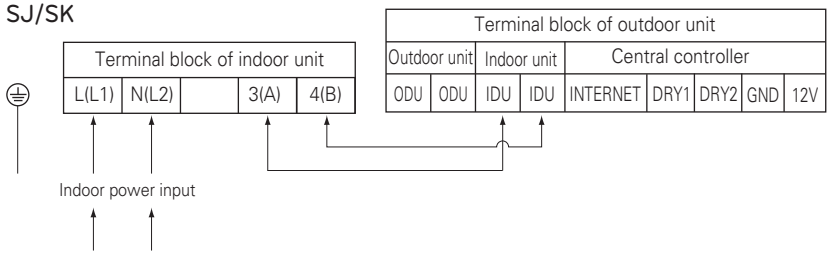
NOTE

If the air filter is not assembled correctly, Dust and other substance come into the indoor unit. If look at the indoor unit from higher than it, can assemble the air filter easily.

Wiring Connection

- Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively.

SJ/SK

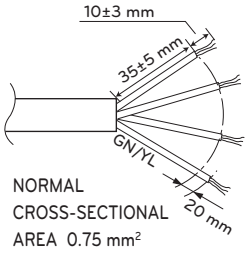


※ Resistance measurement position for incorrect wiring.

CAUTION

The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (This equipment shall be provided with a cable set complying with the national regulation).

If the supply cable is damaged, it must be replaced by a special cable or assembly available from the manufacturer of its service agent.



WARNING

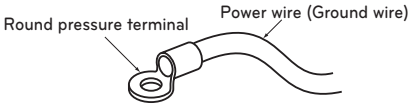
Make sure that the screws of the terminal are free from looseness.

CAUTION

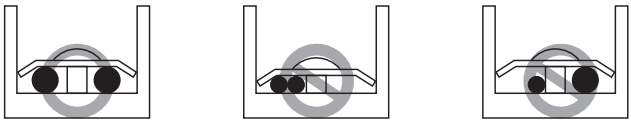
The Power cord connected to the unit should be selected according to the following specifications.

Precautions when laying power and ground wiring

Use round pressure terminals for connections to the power terminal block.
When laying ground wiring, you must use round pressure terminals.

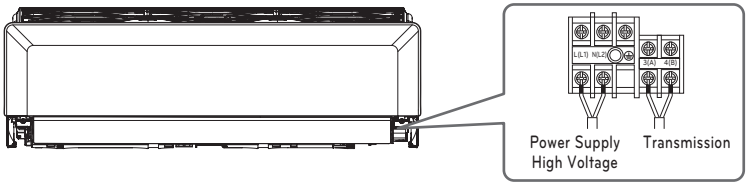


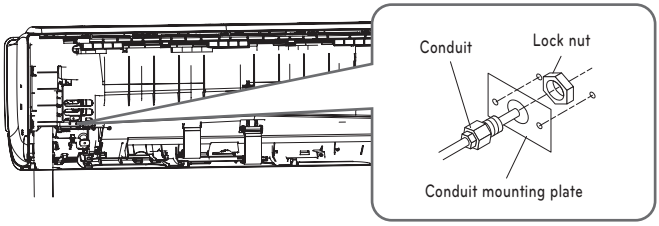
When none are available, follow the instructions below.
- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.

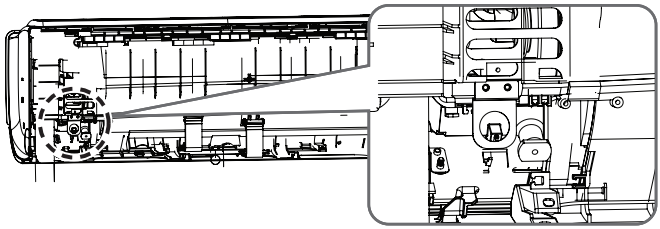


Connection method of the connecting cable(Example)

SJ/SK Chassis







⚠ CAUTION

Be sure to test the power line and communication line for incorrect wiring before power is applied.

1) If the power line and communication line are swapped over, the product will be damaged.

2) Incorrect wiring confirmation test method
   : Measure the resistance across the power terminals (L,N) using a multi meter.
   - Resistance value of a normal connection: 1MΩ or more
   - Incorrect wiring resistance value: 500MΩ or less

⚠ CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

1) Never fail to have separate power specially for the air conditioner. As for the method of wiring, follow the circuit diagram pasted on the inside of control box cover.
2) Provide a circuit breaker switch between power source and the unit.
3) The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)
4) Confirm the Specification of power source
5) Confirm that electrical capacity is sufficient.
6) Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
7) Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)
8) Do not install the leakage breaker in a place which is wet or moist. Water or moist may cause short circuit.
9) The following troubles would be caused by voltage drop-down.
   - Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
   - Proper starting power is not given to the compressor.
10) Before applying power to the indoor unit, be sure to check for incorrect wiring of the power and communication lines.

DIP Switch Setting

Indoor Unit

	Function	Description	Setting Off	Setting On	Default
SW1	Communication	N/A (Default)	-	-	Off
SW2	Cycle	N/A (Default)	-	-	Off
SW3	Group Control	Selection of Master or Slave	Master	Slave	Off
SW4	Dry Contact Mode	Selection of Dry Contact Mode	Wired/Wireless remote controller Selection of Manual or Auto operation Mode	Auto	Off
SW5	Installation	Fan continuous operation	Continuous operation Removall	-	Off
SW6	Heater linkage	N/A	-	-	Off
SW7	Ventilator linkage	Selection of Ventilator linkage	Linkage Removal	Working	Off
	Vane selection (Console)	Selection of up/down side Vane	Up side + Down side Vane	Up side Vane Only	
	Region selection	Selection tropical region	General model	Tropical model	
SW8	Etc.	Spare	-	-	Off

* Whether the DIP Switch function of PCB is applied or not may be different depending on the model.

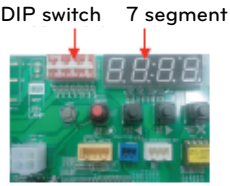
CAUTION

For Multi V Models, DIP switch 1, 2, 6, 8 must be set OFF.

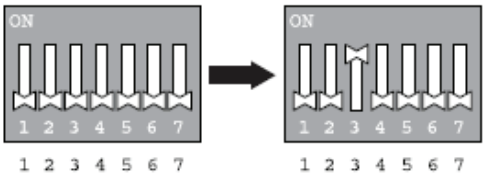
Outdoor Unit

In case that the products meet specific conditions, “Auto addressing” function can start automatically with the improved speed by turning the DIP switch #3 of the outdoor unit and resetting the power.

* Specific conditions:
  - All names of the indoor units are ARNU****4
  - The serial number of Multi V super IV (outdoor units) is after October 2013,



Outdoor Unit PCB

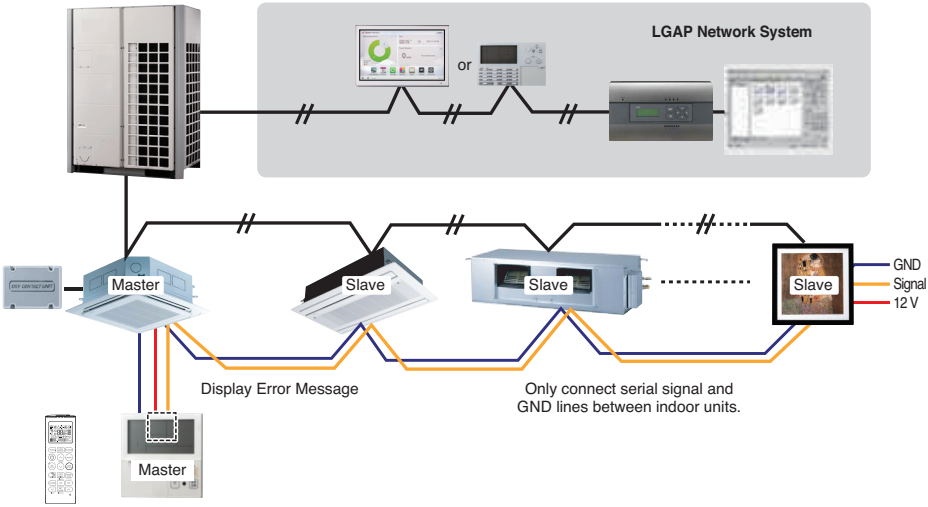


Outdoor Unit DIP Switch

Group Control Setting

Group Control 1

■ Wired remote controller 1 + Standard Indoor Units



■ DIP Switch in PCB

① Master Setting
- No. 3 Off

② Slave Setting
- No. 3 On

Indoor Unit DIP Switch

Some products have no DIP switch on PCB. It is possible to set indoor units to Master or Slave by using the wireless remote controller instead of DIP switch.

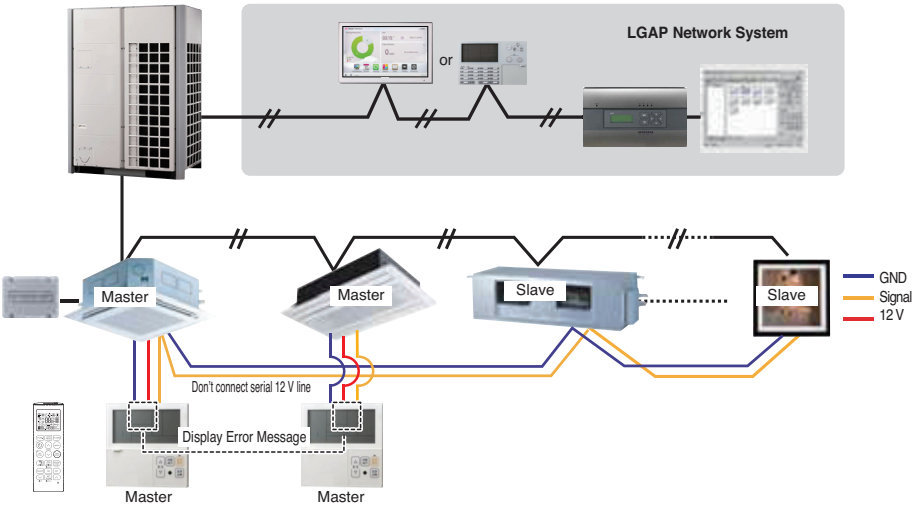
For the details of the setting, please refer to the manual of the wireless remote controller.

1. It is possible to 16 indoor units(Max.) by one wired remote controller.
   Set only one indoor unit to Master, set the others to Slave.
2. It is possible to connect with every type of indoor units.
3. It is possible to use wireless remote controller at the same time.
4. It is possible to connect with Dry Contact and Central controller at the same time.
   - The Master indoor unit is possible to recognize Dry Contact and Central Controller only.
5. In case that any error occurs at indoor unit, the error code is displayed on the wired remote controller.
   It is possible to control the other indoor units except the error units.

* It is possible to connect indoor units since Feb. 2009.
* It can be the cause of malfuctions when there is no setting of master and slave.
* In case of Group Control, it is possible to use following functions.
  - Selection of operation, stop or mode
  - Temperature setting and room temperature check
  - Current time change
  - Control of flow rate (High/Middle/Low)
  - Reservation settings
  - It is not possible at some functions.

Group Control 2

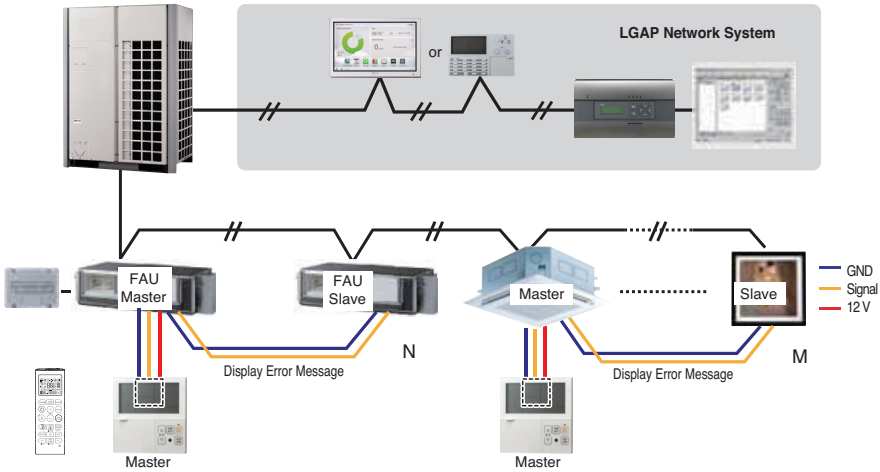
■ Wired remote controllers + Standard Indoor Units



* It is possible to control 16 indoor units(Max.) with the master wired remote control.
* Other than those, it is same with the Group Control 1.

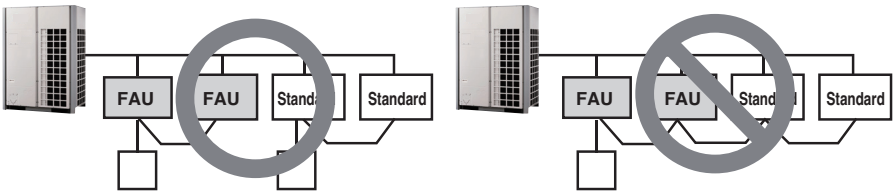
Group Control 3

■ Mixture connection with indoor units and Fresh Air Intake Unit



* In case of connecting with standard indoor unit and Fresh Air Intake Unit, separate Fresh Air Intake Unit with standard units. (N, M ≤ 16) (Because setting temperature are different.)

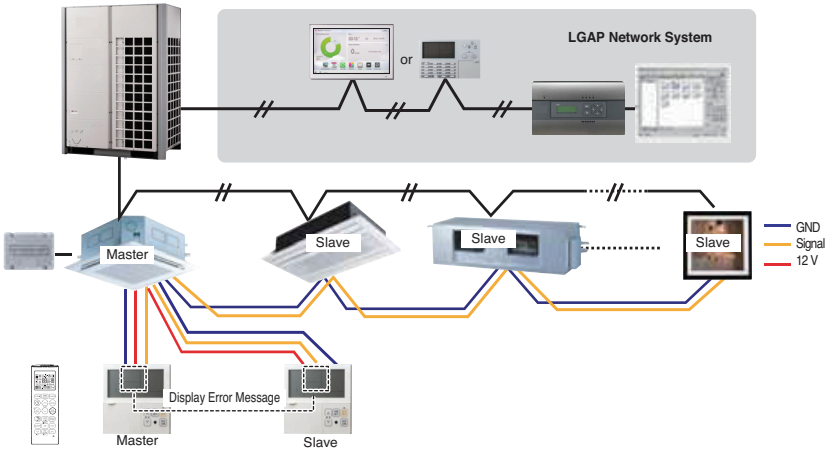
* Other than those, it is same with Group Control 1.



* FAU : Fresh Air Intake Unit
Standard: Standard Indoor Unit

2 Remote Control

■ Wired remote controller 2 + Indoor unit 1

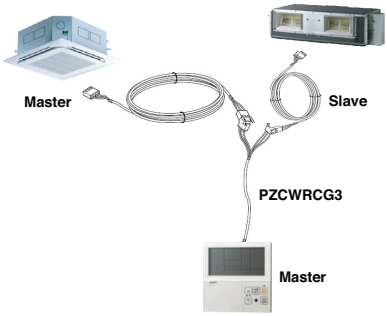


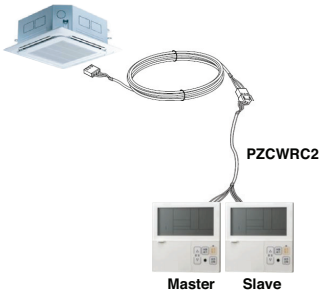
1. It is possible to connect two wired remote controllers (Max.) with one indoor unit.
   Set only one indoor unit to Master, set the others to Slave.
   Set only one wired remote controller to Master, set the others to Slave.
2. Every types of indoor unit is possible to connect two remote controller.
3. It is possible to use wireless remote controller at the same time.
4. It is possible to connect with Dry Contact and Central controller at the same time.
5. In case that any error occurs at indoor unit, the error code is displayed on the wired remote controller.
6. There isn't limits of indoor unit function.

Accessories for group control setting

It is possible to set group control by using below accessories.

Indoor unit 2 EA +Wired remote controller	Indoor unit 1 EA +Wired remote controller 2EA
* PZCWRCG3 cable used for connection	* PZCWRC2 cable used for connection

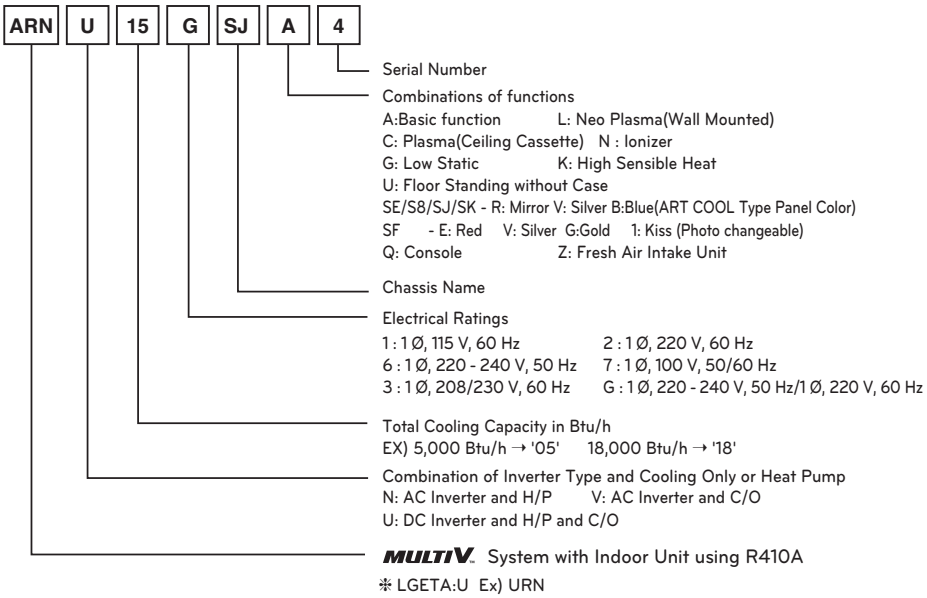




⚠ CAUTION

Apply totally enclosed noncombustible conduit in case of local building code Requiring plenum cable usage.

Model Designation



Airborne Noise Emission

The A-weighted sound pressure emitted by this product is below 70 dB.

** The noise level can vary depending on the site.

The figures quoted are emission level and are not necessarily safe working levels. Whilst there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factor that influence the actual level of exposure of the workforce include the characteristics of the work room and the other sources of noise, i.e. the number of equipment and other adjacent processes and the length of time for which an operator exposed to the noise. Also, the permissible exposure level can vary from country to country. This information, however, will enable the user of the equipment to make a better evaluation of the hazard and risk.

Limiting concentration

Limiting concentration is the limit of Freon gas concentration where immediate measures can be taken without hurting human body when refrigerant leaks in the air. The limiting concentration shall be described in the unit of kg/m^3 (Freon gas weight per unit air volume) for facilitating calculation

Limiting concentration: 0.44 kg/m^3 (0.027 lbs/ft^3)

■ Calculate refrigerant concentration

$$\text{Refrigerant concentration} = \frac{\text{Total amount of replenished refrigerant in refrigerant facility [kg(lbs)]}}{\text{Capacity of smallest room where indoor unit is installed [m}^3\text{(ft}^3\text{)]}}$$

FRANÇAIS

MANUEL D'INSTALLATION

CLIMATISEUR

Veuillez lire ce manuel dans son intégralité avant d'installer le climatiseur.
Après avoir lu ce manuel attentivement, conservez-le pour pouvoir vous y reporter ultérieurement.

MONTAGE MURAL

Traduction de l'instruction originale

www.lghvac.com
www.lg.com

IMPORTANT!

Veuillez lire ces instructions au complet avant d'installer ce produit.

Ce système de climatisation réunit strictement les standards de sécurité et de fonctionnement. En tant qu'installeur ou technicien spécialisé, une partie importante de votre travail consiste à installer et à réaliser le service technique de ce système d'une manière telle qu'il fonctionne de façon sûre et efficiente.

⚠ AVERTISSEMENT

- Une installation ou une réparation réalisées par des personnes non qualifiées peut provoquer des accidents. L'installation d'un câblage et des composantes sur site DOIVENT être conformes aux codes de construction locaux ou, en l'absence de codes locaux, au Code National d'Électricité 70 et au Code National de Sécurité et de Construction de Bâtiment ou le code canadien de l'électricité et le Code national de construction du Canada.
- L'information contenue dans ce manuel a été conçue pour être utilisé par un technicien qualifié, informé des procédures de sécurité et équipé avec les outils et les instruments d'essai appropriés.
- Si les instructions de ce manuel ne sont pas lues avec soin et respectées, cela peut provoquer un mauvais fonctionnement de l'appareil, un dommage du bien, des blessures personnelles, voire la mort.

ATTENTION:

Un défaut d'installation, du service technique ou dans l'entretien, et une réparation ou une modification inappropriées peuvent annuler la garantie. Le poids de l'unité de condensation exige des précautions et des procédures de manipulation appropriées au moment de déposer ou déplacer l'unité afin d'éviter des blessures personnelles. Veillez à éviter également le contact avec les bords pointus ou aiguisés.

Mesures de sécurité

- Utilisez toujours des protections de sécurité pour les yeux et des gants de travail lors de l'installation de l'appareil.
- Assurez-vous toujours que l'alimentation soit coupée. Vérifiez-le à l'aide des dispositifs et des instruments appropriés.
- Gardez les mains loin du ventilateur lorsque l'appareil est branché.
- Le R-410A provoque des gelures.
- Le R-410A est toxique lorsqu'il est brûlé.

REMARQUE POUR L'INSTALLEUR

: Les Instructions pour le propriétaire et la Garantie sont remises au propriétaire ou affichées clairement près de l'unité intérieure de contrôle d'air/chauffage.

⚠ AVERTISSEMENT

Lors du câblage:

Un choc électrique peut provoquer des blessures personnelles graves, voire la mort. Seulement un électricien qualifié et expérimenté doit réaliser le câblage du système.

- Ne mettez pas l'unité sous tension jusqu'à ce que tout le câblage et le drainage soient complétés ou rebranchés et vérifiés.
- Des voltages électriques très dangereux sont utilisés dans ce système. Lisez avec soin le diagramme de câblage et ces instructions lors du câblage. Des connexions inappropriées et une mise à la terre incorrecte peuvent provoquer des blessures, voire la mort.
- Mettez l'unité à la terre suivant les codes électriques locaux.
- Serrez bien les câbles. Un câble mal serré peut provoquer la surchauffe des points de connexion et constitue un risque d'incendie.
- Le choix des matériaux et des installations doit être conforme aux normes nationales/locales ou internationales applicables.

Lors du transport:

Levez et transportez avec soin les unités intérieure et extérieure. Cherchez de l'aide pour le faire et fléchissez vos genoux pour le déposer afin d'éviter l'effort de votre dos. Les bords aiguisés ou les rebords tranchants d'aluminium du climatiseur peuvent vous couper les doigts.

Lors de l'installation...

... dans un mur: assurez-vous que le mur soit assez fort pour supporter le poids de l'unité. Il peut être nécessaire de construire un cadre en bois ou en métal afin d'assurer un support supplémentaire.

... dans une pièce: Isolez de façon appropriée toute la tuyauterie de drainage dans la pièce pour éviter la « transpiration », qui peut provoquer des égouttements et des problèmes d'humidité dans les murs et les planchers.

... dans des endroits humides ou non nivelés: Utilisez une base de béton ou des blocs de béton pour donner une base solide et nivelée à l'unité extérieure. Cela prévient les problèmes d'humidité et les vibrations anormales.

... dans un secteur avec des vents très forts: Ancrez l'unité extérieure solidement à l'aide de boulons et d'un cadre métallique. Assurez un flux d'air approprié.

... dans un secteur ou il neige beaucoup (seulement pour le modèle Pompe à chaleur): Installez l'unité extérieure sur une plateforme élevée, qui se trouve au-dessus du niveau de la neige tombée. Installez des conduits d'échappement de neige.

Lors de la connexion de la tuyauterie de réfrigération

- Gardez tous les drainages les plus courts possible.
- Utilisez la méthode d'évasement pour raccorder les tuyaux.
- Vérifiez soigneusement s'il y a des pertes avant de commencer le drainage d'essai.

Lors de la réparation

- Coupez l'alimentation principale (dans le tableau d'alimentation principale) avant d'ouvrir l'unité pour vérifier ou réparer les pièces et les câbles électriques.
- Eloignez vos doigts et vos vêtements de toutes les pièces mobiles.
- Nettoyez le secteur après avoir fini. Assurez-vous qu'il n'y ait pas de tournure de fer ni de morceaux de câbles à l'intérieur de l'unité réparée.

ASTUCES POUR ECONOMISER L'ENERGIE

Nous vous donnons ici quelques astuces qui vous permettront de minimiser la consommation d'énergie lorsque vous utilisez le climatiseur. Vous pouvez utiliser un climatiseur de manière plus efficace en vous référant aux instructions ci-dessous.

- Evitez un refroidissement excessif des unités intérieures. Une telle application pourrait représenter un danger pour votre santé et entraîner une plus grande consommation de courant.
- Evitez d'exposer le climatiseur aux rayons solaires à l'aide des rideaux ou des persiennes lorsqu'il est en marche.
- Maintenez les portes et les fenêtres complètement fermées lorsque vous utilisez le climatiseur.
- Ajustez le sens du débit d'air verticalement ou horizontalement pour permettre la circulation de l'air intérieur.
- Accélérez le ventilateur pour refroidir ou réchauffer rapidement l'air intérieur en peu de temps.
- Ouvrez régulièrement des fenêtres pour des besoins d'aération étant donné que la qualité de l'air intérieur peut se détériorer si vous utilisez le climatiseur pendant plusieurs heures.
- Nettoyez le filtre à air une fois toutes les 2 semaines. La poussière et la saleté qui se sont accumulées à l'intérieur du filtre à air peuvent empêcher la circulation de l'air ou réduire les fonctions de refroidissement / déshumidification.

Pour vos archives

Agrafez votre reçu sur cette page dans le cas où vous en avez besoin pour prouver la date d'achat ou pour des besoins de garantie. Ecrivez le numéro du modèle et le numéro de série ici:

Numéro du modèle: _____

Numéro de série: _____

Ces numéros sont disponibles sur l'étiquette de chaque côté du climatiseur.

Nom du distributeur: _____

Date d'achat: _____

CONSIGNES DE SECURITE IMPORTANTES

LISEZ ENTIEREMENT LES INSTRUCTIONS AVANT D'UTILISER L'APPAREIL.

Respectez toujours les consignes suivantes pour éviter des situations dangereuses et garantir une performance optimale de votre produit.

⚠ AVERTISSEMENT

Le non respect de ces consignes peut être fatal ou provoquer des blessures graves.

⚠ ATTENTION

Le non respect de ces consignes peut provoquer des blessures légères ou endommager le produit.

⚠ AVERTISSEMENT

- Les travaux d'installation ou de dépannage effectués par des personnes non qualifiées peuvent vous exposer aux risques en même temps que les autres personnes.
- L'installation DOIT être conforme aux codes de construction locaux.
- Les informations contenues dans ce manuel sont destinées à un technicien de maintenance qualifié qui maîtrise les consignes de sécurité et dispose d'outils et d'instruments de test appropriés.
- Le fait de ne pas lire attentivement et de ne pas respecter les instructions de ce manuel peut provoquer un dysfonctionnement de l'équipement, des dégâts matériels, des blessures individuelles et/ou la mort.

Installation

- N'utilisez pas un cordon d'alimentation, une fiche ou une prise démontable endommagés.
  - Sinon, ils peuvent provoquer un incendie ou un choc électrique.
- Pour les travaux électriques, contactez le fournisseur, le vendeur, un électricien qualifié ou un Centre de service agréé.
  - Vous ne devez pas démonter ou dépanner le produit. Il existe un risque d'incendie ou de choc électrique.

- Vous devez toujours mettre le produit à la masse.
  - Il existe un risque d'incendie ou de choc électrique.
- Installez le panneau et le couvercle de la boîte de commande de façon sécurisée.
  - Il existe un risque d'incendie ou de choc électrique.
- Installez toujours un circuit et un disjoncteur dédiés.
  - Un mauvais câblage ou une mauvaise installation peut causer un incendie ou un choc électrique.
- Utilisez un disjoncteur ou un fusible dont les estimations sont correctes.
  - Il existe un risque d'incendie ou de choc électrique.
- Vous ne devez pas modifier ou prolonger le câble d'alimentation.
  - Il existe un risque d'incendie ou de choc électrique.
- Ne faites pas fonctionner le climatiseur pendant longtemps lorsque l'humidité est très élevée et lorsqu'une porte ou fenêtre a été laissée ouverte.
  - Il est possible que l'humidité se condense, mouille ou endommage les meubles.
- Faites attention lorsque vous déballez et installez le produit.
  - Vous pouvez être blessé(e) par des bords pointus. Faites surtout attention aux extrémités du boîtier et aux ailettes du condensateur et de l'évaporateur.
- Pour l'installation, contactez toujours le fournisseur ou un Centre de service agréé.
  - Il existe un risque d'incendie, de choc électrique, d'explosion ou de blessures.
- N'installez pas le produit sur un support d'installation défectueux.
  - Une telle installation peut causer des blessures, des accidents ou endommager le produit.
- Assurez-vous que le lieu d'installation ne va pas se détériorer avec le temps.
  - Si la base s'effondre, elle sera accompagnée dans sa chute par le climatiseur, ce qui va causer des dégâts matériels, une défaillance du produit et des blessures individuelles.
- Risque d'incendie et d'explosion.
  - Utilisez un gaz interne (azote) lorsque vous recherchez la présence de fuites sur les tuyaux, procédez au nettoyage ou réparez des tuyaux, etc. Si vous utilisez un gaz combustible comme l'oxygène, vous risquez un incendie ou une explosion.

- Utilisez une pompe à vide ou un gaz Inerte (azote) lorsque vous faites des essais de fuite ou la purge d'air. Ne compressez pas l'air ou l'oxygène et n'utilisez pas de gaz inflammable. Cela pourrait provoquer un incendie ou une explosion.
  - Risque de décès, de blessure, d'incendie ou d'explosion.
- N'allumez pas le disjoncteur ni l'alimentation lorsque le panneau frontal, le boîtier, le capot supérieur ou le couvercle du boîtier de commande sont retirés ou ouverts.
  - À défaut, vous vous exposez à un risque d'incendie, de choc électrique, d'explosion ou de décès.
  - Para fugas de refrigerante, consulte a su distribuidor. Cuando el acondicionador de aire debe instalarse en una habitación pequeña, es necesario tomar las medidas adecuadas para que la cantidad de refrigerante que se filtre no exceda la concentración límite incluso cuando tiene fugas. Si el refrigerante tiene una fuga que excede el nivel de concentración límite, un accidente de deficiencia de oxígeno puede ocurrir.
- L'appareil doit être installé conformément aux églementations de câblage nationales.

Fonctionnement

- N'utilisez pas de gaz ou de combustibles inflammables à proximité du produit.
  - Il existe un risque d'incendie ou de défaillance du produit.
- Nunca use aerosoles inflamables como aerosoles, lacas o pintura cerca de la unidad.
- Arranque y tire bolsas de plástico para que los niños no jueguen con ellas.

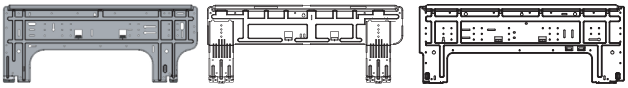
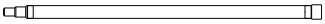
⚠ ATTENTION

Installation

- Vérifiez toujours le niveau de gaz (réfrigérant) pour détecter des fuites après l'installation ou le dépannage du produit.
  - Un niveau de réfrigérant faible peut causer une défaillance du produit.
- Installez le tuyau de vidange pour garantir une évacuation normale de l'eau.
  - Un mauvais raccordement peut provoquer des fuites d'eau.
- Maintenez le niveau même lorsque vous installez le produit.
  - Pour éviter des vibrations et des fuites d'eau.
- Le produit doit être soulevé et transporté par deux ou plusieurs personnes.
  - Evitez des blessures individuelles.
- N'installez pas l'unité dans des atmosphères potentiellement explosives.

TABLE DES MATIÈRES

COMPOSANTS D'INSTALLATION

Nom	Quantité	Forme
Plaque d'installation	1 EA	 SJ SK
Flexible d'évacuation	1 EA	
Vis de type "A"	5 EA	
Vis de type "C"	2 EA	
Bande de tissu	1 EA	
Plaque de montage du conduit	1 EA	

La bande de tissu n'est pas fournie avec l'appareil.

OUTILLAGE NÉCESSAIRE

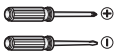
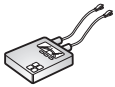
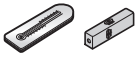
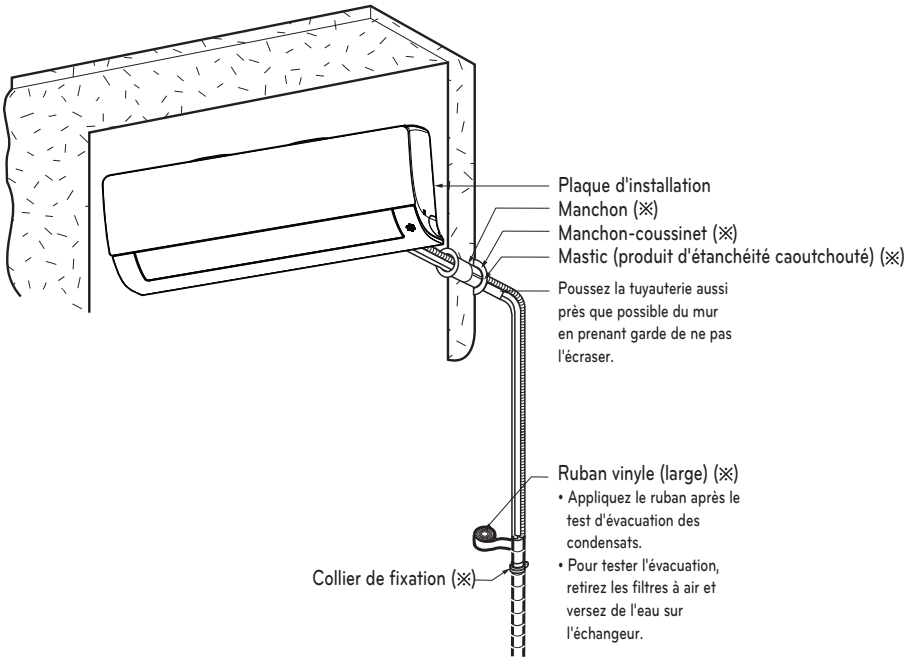
Figure	Nom	Figure	Nom
	Tournevis		Multimètre
	Visseuse électrique		Clé hexagonale
	Mètre à ruban, Cutter		Ampère-mètre
	Perceuse et foret		Détecteur de fuite
	Clé plate		Thermomètre, Niveau
	Clé dynamométrique		Dudgeonnière

SCHÉMA D'INSTALLATION



* Le composant peut varier selon le modèle.

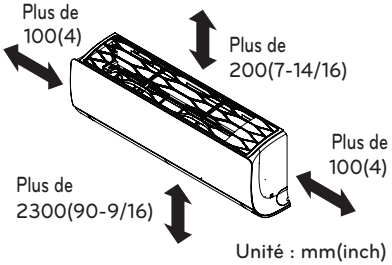
REMARQUE

• Vous devez vous procurer les pièces nécessaires à l'installation.

INSTALLATION

Choix de l'emplacement

- L'unité ne doit pas être installée à proximité d'une source de chaleur ou de vapeur.
- Aucun obstacle ne doit se trouver autour l'unité.
- Assurez-vous que les condensats sont correctement évacués.
- N'installez pas l'unité à proximité d'une porte.
- Laissez un intervalle de plus de 100 mm entre le mur et le côté droit ou gauche de l'unité. L'unité doit être placée aussi haut que possible sur le mur et à 200 mm au moins du plafond.
- Utilisez un détecteur de métaux pour localiser les clous ou chevilles déjà en place et éviter d'endommager le mur.



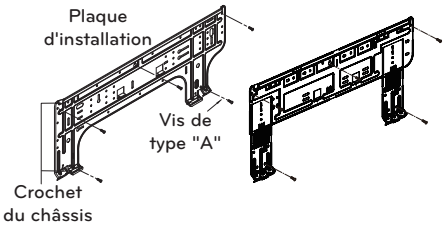
* Le composant peut varier selon le modèle.

> **ATTENTION**
>
> Installez l'unité intérieure sur le mur à un emplacement où la hauteur depuis le sol est supérieure à 2,3 m.

Fixation de la plaque d'installation

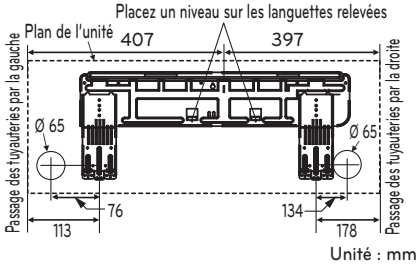
Le mur sur lequel vous allez effectuer l'installation doit être suffisamment solide pour protéger l'unité contre les vibrations.

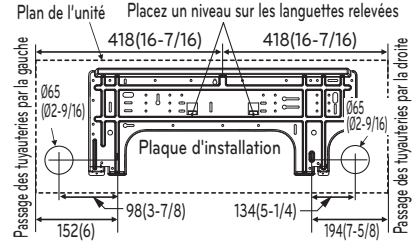
1 Fixez la plaque d'installation sur le mur à l'aide des vis de type "A". En cas de fixation sur un mur en béton, utilisez des boulons d'ancrage.
   - Fixez la plaque d'installation horizontalement en alignant la ligne de repère centrale à l'aide d'un mètre.

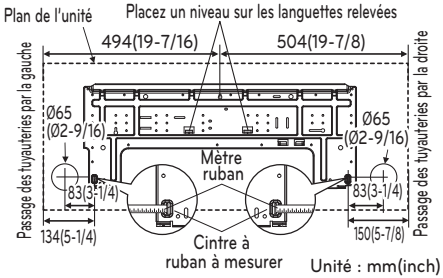


* Le composant peut varier selon le modèle.

2 Mesurez le mur et marquez la ligne de repère centrale. Soyez vigilant également dans le choix de l'emplacement de la plaque d'installation. L'acheminement des câbles se fait généralement à travers les murs. Prenez donc les précautions nécessaires lorsque vous percez le trou de fixation.



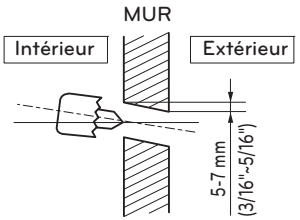




* Le composant peut varier selon le modèle.

Perçage d'un trou dans le mur

- Percez un trou pour la tuyauterie à l'aide d'un foret de 65 mm de diamètre.
  Percez le trou du côté droit ou gauche en inclinant le foret légèrement vers le bas.

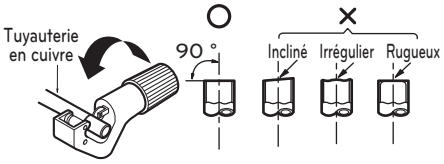


Travail d'évasement

Les fuites de gaz proviennent principalement d'un défaut de raccordement. Il convient donc d'effectuer les raccordements en respectant la procédure suivante.

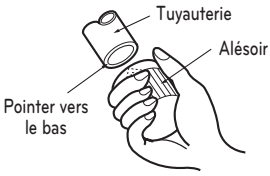
Coupez les tuyauteries et le câble

1 Utilisez le kit d'accessoires ou achetez des tuyauteries sur place.
2 Mesurez la distance entre l'unité intérieure et l'unité extérieure
3 La longueur de tuyauterie doit être légèrement supérieure à la distance mesurée.
4 Coupez le câble à une longueur de 1,5 m supérieure à celle de la tuyauterie.



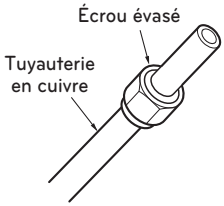
Ebavurez

1 Ebavurage complètement la partie de la tuyauterie que vous avez coupée.
2 Pendant cette opération, dirigez l'extrémité de la tuyauterie vers le bas afin d'éviter que des particules ne tombent à l'intérieur.



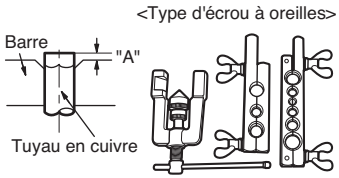
Pose des écrous

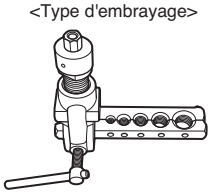
- Retirez les écrous évasés fixés sur les unités intérieure et extérieure, puis placez-les sur la tuyauterie après avoir éliminé les bavures (il est impossible de les fixer après le travail d'évasement).



Évasement

1 Maintenez solidement la tuyauterie de cuivre dans une filière aux dimensions indiquées dans le tableau suivant.
2 Réalisez le travail d'évasement à l'aide de l'outil d'évasement.



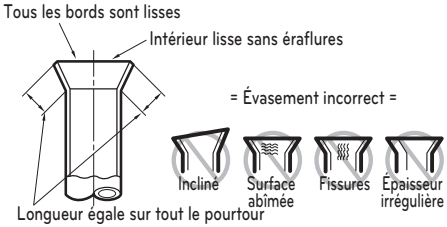


Diamètre du tuyau (mm)	Pouce (mm)	
	Type d'écrou à oreilles	Type d'embrayage
Ø 1/4 (Ø 6.35)	0.04~0.05 (1.1~1.3)	0~0.02 (0~0.5)
Ø 3/8 (Ø 9.52)	0.06~0.07 (1.5~1.7)	
Ø 1/2 (Ø 12.7)	0.06~0.07 (1.6~1.8)	
Ø 5/8 (Ø 15.88)	0.06~0.07 (1.6~1.8)	
Ø 3/4 (Ø 19.05)	0.07~0.08 (1.9~2.1)	

Contrôle

1 Comparez le résultat de l'évasement avec le schéma ci-contre.

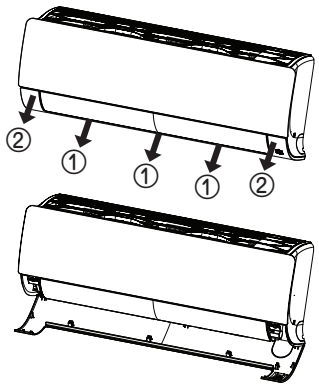
2 Si une section d'évasement est incorrecte, coupez-la et recommencez l'opération.



Raccordement de la tuyauterie

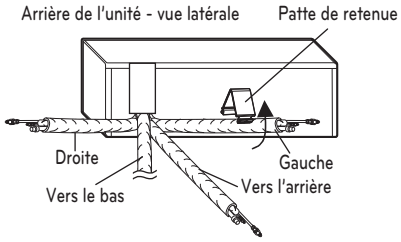
1 Retirez les caches des vis au bas de l'unité intérieure. Tirez le couvercle ① → ②.

2 Enlevez le couvercle de l'unité intérieure.



3 Retirez la patte de retenue de la tuyauterie.

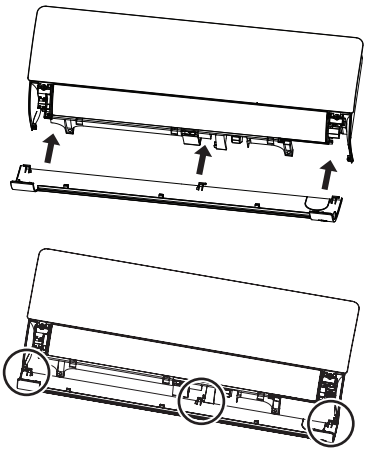
4 Enlevez le système de bouchage et positionnez la tuyauterie.



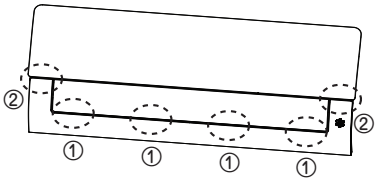
* Le composant peut varier selon le modèle.

Montage du couvercle du châssis

1 Insérez fermement 3 ergots du couvercle du châssis dans les orifices de l'unité intérieure.

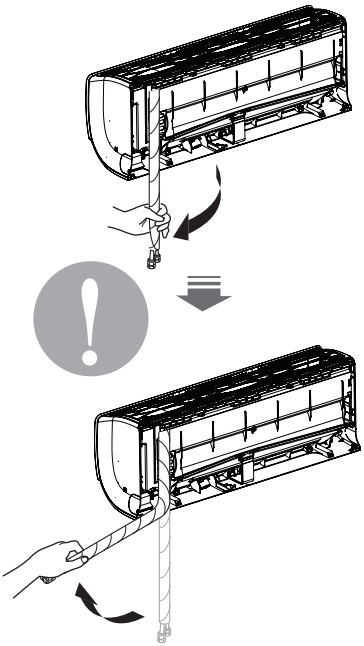


2 Poussez les ergots pour monter le couvercle du châssis. Poussez le couvercle du châssis ① → ②.



Méthode correcte

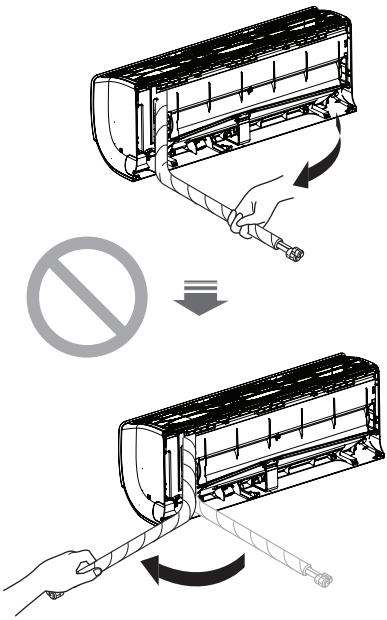
- Appuyez sur le cache de la tuyauterie et dépliez doucement celle-ci vers le bas. Courbez-la légèrement vers la gauche.



* Le composant peut varier selon le modèle.

Méthode incorrecte

- Si vous pliez la tuyauterie de la gauche vers la droite, vous risquez de l'abîmer.

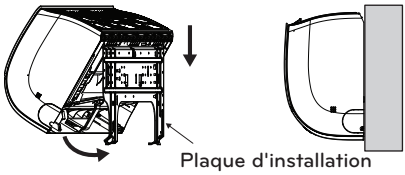


* Le composant peut varier selon le modèle.

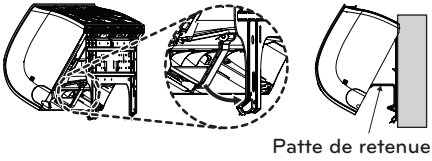
⚠ ATTENTION

Remarques sur l'installation. Pour une mise en place correcte des tuyauteries, suivez les instructions ci-dessous.

1 Accrochez l'unité intérieure à la partie supérieure de la plaque d'installation.(Engagez les trois crochets situés en haut de l'unité intérieure sur le bord supérieur de la plaque d'installation.) Vérifiez que les crochets sont bien en place sur la plaque d'installation en bougeant latéralement l'unité.



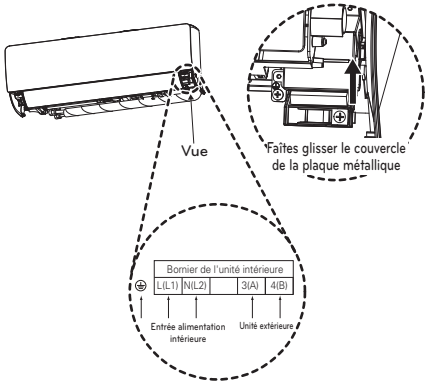
2 Débloquez la patte de retenue du châssis et insérez-la entre le châssis et la plaque d'installation afin de séparer du mur la partie basse de l'unité intérieure.



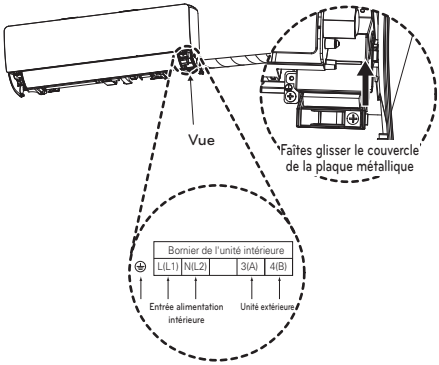
* Le composant peut varier selon le modèle.

1 Insérez le câble de connexion dans l'ouverture en bas de l'unité intérieure et raccordez-le (voir la section "Raccordement des câbles" pour plus de détails).

<Passage des tuyauteries par la gauche>



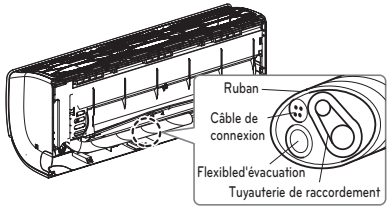
<Passage des tuyauteries par le côté droit>



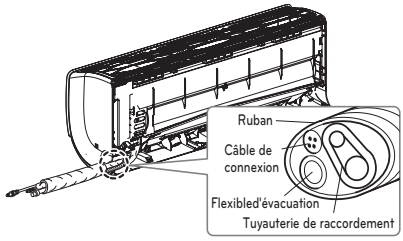
2 Fixez le câble au tableau de commande à l'aide de l'attache-câble.

3 Raccordez les tuyauteries, le flexible d'évacuation et le câble de connexion. Veillez à ce que le flexible d'évacuation se trouve en dessous de toutes les tuyauteries. Le fait qu'il soit au-dessus des autres risque d'entraîner un débordement du bac d'évacuation dans l'unité.

<Passage des tuyauteries par la gauche>



<Passage des tuyauteries par le côté droit>



* Le composant peut varier selon le modèle.

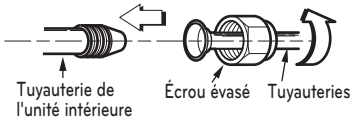
⚠ ATTENTION

Si le flexible d'évacuation traverse la pièce, isolez-le à l'aide d'un matériau isolant approprié* pour éviter que d'éventuelles gouttes d'eau dues à la condensation endommagent le sol ou les meubles.

* Il est recommandé d'utiliser de la mousse de polyéthylène ou un produit équivalent.

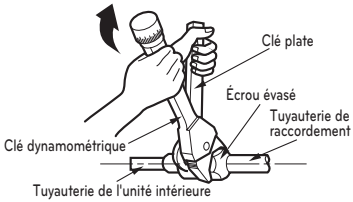
Raccordement de la tuyauterie et du flexible d'évacuation à l'unité intérieure

1 Alignez le centre des tuyauteries et resserrez manuellement l'écrou évasé.

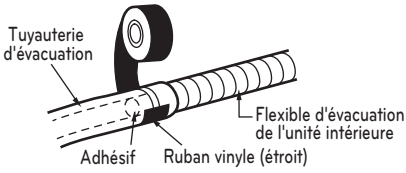


2 Serrez l'écrou évasé à l'aide d'une clé.

Diamètre extérieur		pouce
mm	Couple	kgf.m
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.5
Ø15.88	5/8	6.3~8.2
Ø19.05	3/4	9.9~12.1

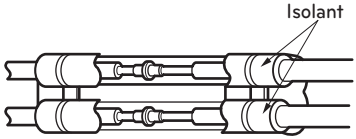


3 S'il est nécessaire d'étendre le flexible de l'unité intérieure, installez la tuyauterie d'évacuation comme indiqué sur le schéma.

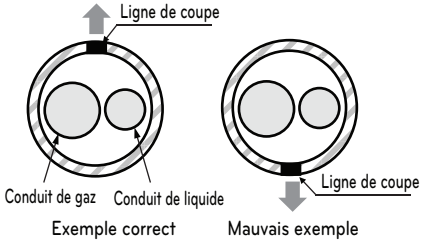


Enveloppez la zone du raccordement avec le matériau isolant

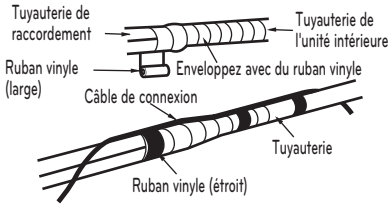
1 Faites chevaucher le matériau isolant de la tuyauterie de raccordement avec le matériau isolant de la tuyauterie de l'unité intérieure. Maintenez-les ensemble à l'aide d'un ruban vinyle en évitant les interstices.



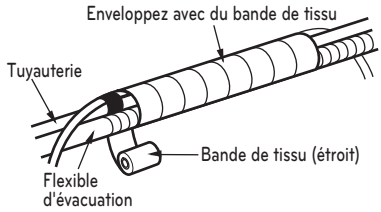
2 finissez la ligne de coupe du tube vers le haut. Enveloppez la zone de raccordement à l'arrière des tuyauteries avec du ruban vinyle.



* La ligne de coupe du tube doit être orientée vers le haut.



3 Regroupez les tuyauteries et le flexible d'évacuation en les enveloppant à l'aide de bande de tissu sur toute la longueur de leur raccordement à l'arrière de l'unité.



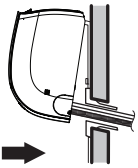
Finaliser l'installation de l'unité intérieure

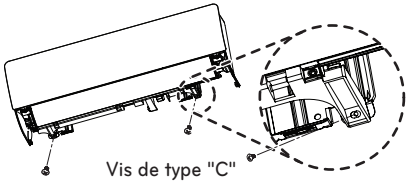
1 Remettez la patte de retenue des tuyauteries en place.

2 Assurez-vous que les crochets sont bien en place sur la plaque d'installation en bougeant latéralement l'unité.

3 Poussez l'unité contre la plaque d'installation en appuyant sur les côtés droit et gauche jusqu'à ce que les crochets soient entièrement enclenchés dans les encoches prévues (vous devez entendre un clic).

4 Terminez le montage en vissant l'unité à la plaque d'installation à l'aide de deux vis de type "C".
Remettez le capot du châssis en place.



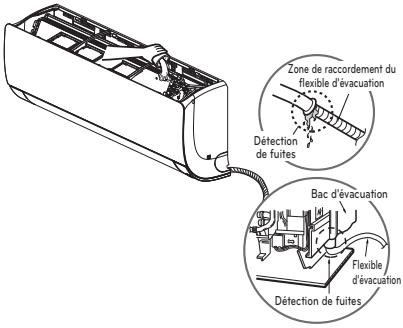


Vérification de l'évacuation

Vérification de l'évacuation

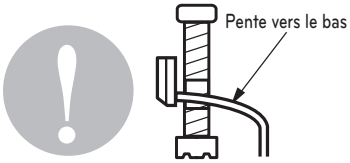
1 Versez un verre d'eau sur l'évaporateur.

2 Assurez-vous que l'eau s'écoule dans le flexible d'évacuation de l'unité intérieure sans fuite, jusqu'au raccordement sur la tuyauterie d'évacuation.

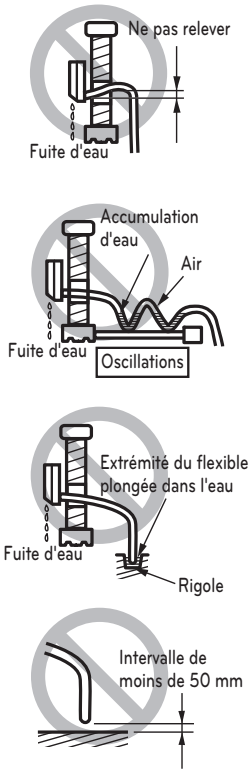


Tuyauteries d'évacuation

1 Le flexible d'évacuation doit être dirigé vers le bas pour faciliter l'écoulement.



2 N'installez pas les tuyauteries d'évacuation comme dans les schémas ci-dessous.



* Le composant peut varier selon le modèle.

Montage et démontage du cache décoratif et du filtre à air

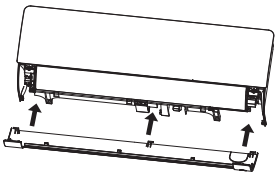
Démontez le cache décoratif

1 Éteignez l'appareil et débranchez le cordon d'alimentation.
2 Tirez le cache décoratif vers le bas de l'unité intérieure.

3 Retirez le cache décoratif de l'unité intérieure.

Montage du cache décoratif

1 Éteignez l'appareil et débranchez le cordon d'alimentation.
2 Insérez fermement 3 ou 4 ergots du cache décoratif dans les orifices de l'unité intérieure.



3 Poussez les ergots pour monter le cache décoratif.

REMARQUE

Quand il est plié, le filtre à air peut être abîmé.

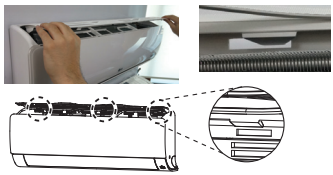
Démontage du filtre à air

1 Éteignez l'appareil et débranchez le cordon d'alimentation.
2 Tenez le bouton du filtre à air, soulevez-le légèrement

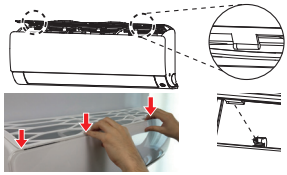
3 Tout en maintenant enfoncé le bouton du filtre à air, soulevez-le légèrement et sortez-le de l'unité.

Montage du filtre à air

1 Éteignez l'appareil et débranchez le cordon d'alimentation.
2 Insérez les ergots du filtre à air dans la grille frontale.



3 Enfoncer les crochets pour assembler le filtre à air.



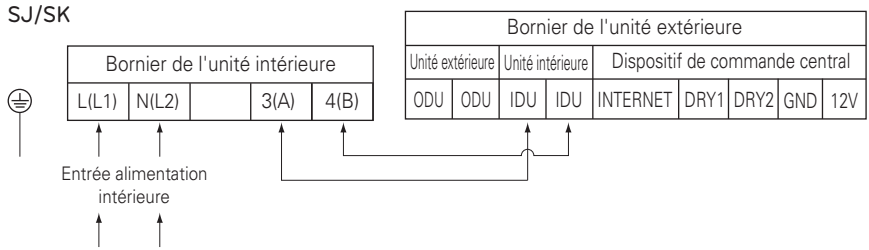
4 Vérifiez sur les côtés de la grille frontale que le filtre à air est correctement monté.

REMARQUE

Lorsque le filtre à air n'est pas monté correctement, la poussière et d'autres substances entrent dans l'unité intérieure. Vous pouvez monter plus facilement le filtre à air en regardant l'unité intérieure du dessus.

Branchements électriques

- Branchez individuellement les fils sur les bornes du coffret électrique selon le branchement de l'unité extérieure.
- Vérifiez que les couleurs des fils de l'unité extérieure et des bornes correspondent à celles de l'unité intérieure.

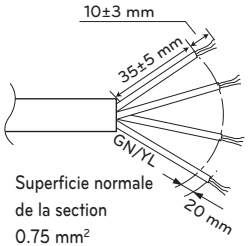


※ Mesure de la résistance pour contrôler un mauvais raccordement.

⚠ ATTENTION

Le câble de connexion connecté sur l'unité intérieure et l'unité extérieure doit être conforme aux spécifications suivantes (cet appareil doit être fourni avec un jeu de câbles conforme aux réglementations locales et nationales)

Si le câble d'alimentation est endommagé, vous devez le remplacer par un cordon spécial ou un câble fourni par le fabricant ou son représentant.



⚠ AVERTISSEMENT

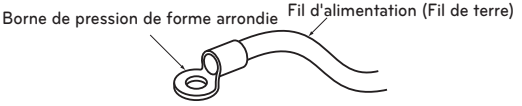
Assurez-vous que les vis du bornier ne présentent aucun desserrement.

⚠ ATTENTION

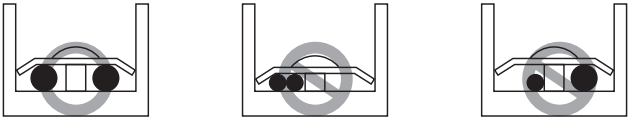
Le cordon d'alimentation connecté sur l'appareil doit être sélectionné selon les spécifications suivantes.

Précautions à prendre lors de la pose du câble d'alimentation et du fil de terre

Utilisez des cosses serties à anneau pour les connexions au bornier de puissance.
Lors de la pose du fil de terre, vous devez utiliser des bornes à pression rondes

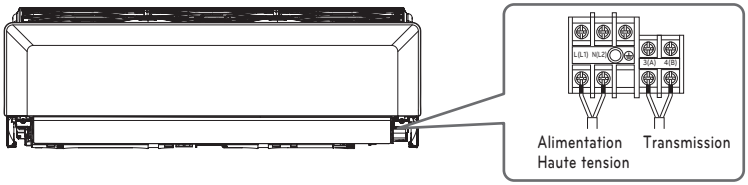


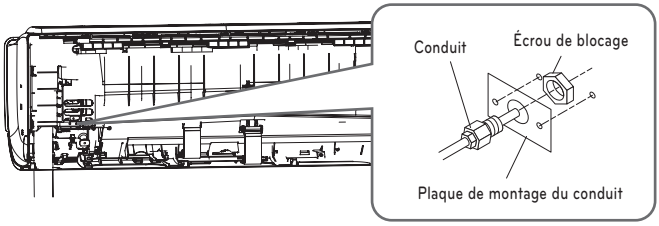
Si vous ne disposez pas de câble, suivez les instructions ci-dessous.
- Ne connectez pas des câbles d'épaisseurs différentes aux bornes d'alimentation (tout jeu au niveau des câbles d'alimentation peut générer une chaleur anormale).
- Lorsque vous raccordez des câbles de même épaisseur, procédez conformément aux schémas ci-dessous.

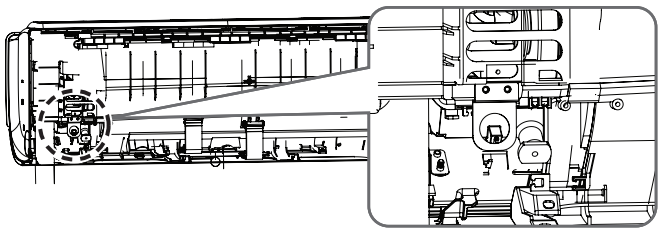


Méthode de raccordement du câble de liaison (exemple)

SJ/SK Châssis







⚠ ATTENTION

Assurez vous de tester les câbles d'alimentation et de communication d'un câblage incorrect avant d'enclencher l'alimentation.

1) Si les câbles d'alimentation et de communication sont changés, il y a un risque de détérioration du produit.
2) Methode de contrôle du câblage
   : Mesurer la résistance sur le bornier de puissance (L,N) en utilisant un appareil de mesure de résistance électrique.
   - la résistance normale doit être de 1MΩ ou plus
   - une mauvaise résistance sera de 500MΩ ou moins

⚠ ATTENTION

Après vous être assuré que les conditions ci-dessus sont remplies, effectuez le câblage comme suit :

1) Veillez toujours à avoir une alimentation séparée, surtout pour le climatiseur.
   Pour le câblage, référez-vous au schéma électrique figurant à l'intérieur du couvercle du coffret électrique.
2) Installez un disjoncteur entre la source d'alimentation et l'appareil.
3) Les vis maintenant les fils branchés sur les bornes risquent de se desserrer sous l'effet des vibrations auxquelles l'appareil est soumis pendant son transport.
   Vérifiez-les et assurez-vous qu'elles sont bien serrées.(Sinon, les fils risquent de brûler.)
4) Confirmez les spécifications de la source d'alimentation
5) Vérifiez que la puissance électrique est suffisante.
6) Assurez-vous que la tension de démarrage se maintient à un niveau supérieur à 90 % de la tension nominale indiquée sur la plaque signalétique.
7) Vérifiez que la section des câbles correspond aux spécifications relatives à l'alimentation électrique.
   (Contrôlez en particulier le rapport entre la longueur du câble et la section).
8) N'installez pas de disjoncteur dans un endroit mouillé ou humide.
   L'eau ou l'humidité peut provoquer un court-circuit.
9) Une baisse de tension peut provoquer les problèmes suivants :
   - Vibration d'un commutateur magnétique, dégradation de son point de contact, rupture du fusible, perturbation du fonctionnement normal d'un dispositif de protection contre les surtensions.
   - Le compresseur n'a pas disposé de la puissance de démarrage nécessaire.
10) Avant d'alimenter l'unité intérieure, assurez-vous d'avoir contrôlé le bon raccordement des câbles d'alimentation et de communication.

Paramétrage des commutateurs DIP

Unité intérieure

	Fonction	Description	Réglage Off	Réglage On	Par défaut
SW1	Communication	N/A (par défaut)	-	-	Off
SW2	Cycle	N/A (par défaut)	-	-	Off
SW3	Commande de groupe	Sélection Maître/Esclave	Maître	Modèle général	Off
SW4	Mode Contact sec	Sélection du mode Contact sec	Sélection du mode de fonctionnement manuel ou auto du dispositif de régulation à distance filaire/sans fil	Auto	Off
SW5	Installation	Fonctionnement en continu du ventilateur	Suppression du fonctionnement en continu	-	Off
SW6	Tringlerie chauffage	N/A	-	-	Off
SW7	Tringlerie ventilateur	Sélection de la tringlerie ventilateur	Dépose tringlerie	En fonctionnement	Off
	Sélection de vanne (Console)	Sélection de vanne coté montant/descendant	Vanne côté montant + côté descendant	Vanne côté montant uniquement	
	Sélection de région	Sélection région tropicale	Modèle général	Modèle tropical	
SW8	Etc.	Pièce de rechange	-	-	Off

* Si la fonction Commutateur DIP du PCB est appliquée ou peut être différente selon le modèle.

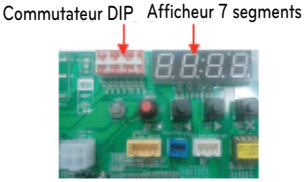
⚠ ATTENTION

Pour des modèles Multi V, le commutateur DIP 1, 2, 6, 8 doit être réglé sur OFF.

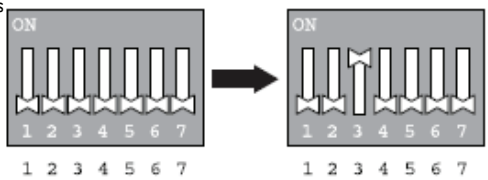
Unité extérieure

Dans le cas où les produits rencontreraient l'une des deux conditions spécifiques suivantes, la fonction "Adressage automatique" peut démarrer automatiquement le commutateur n° 3 de l'unité extérieure et relancer le courant.

* Conditions spécifiques :
- Le nom de toutes les unités intérieures est ARNU****4.
- Le numéro de série du Multi V super IV (unités extérieures) se situe après Octobre 2013.



Circuit imprimé de l'unité extérieure

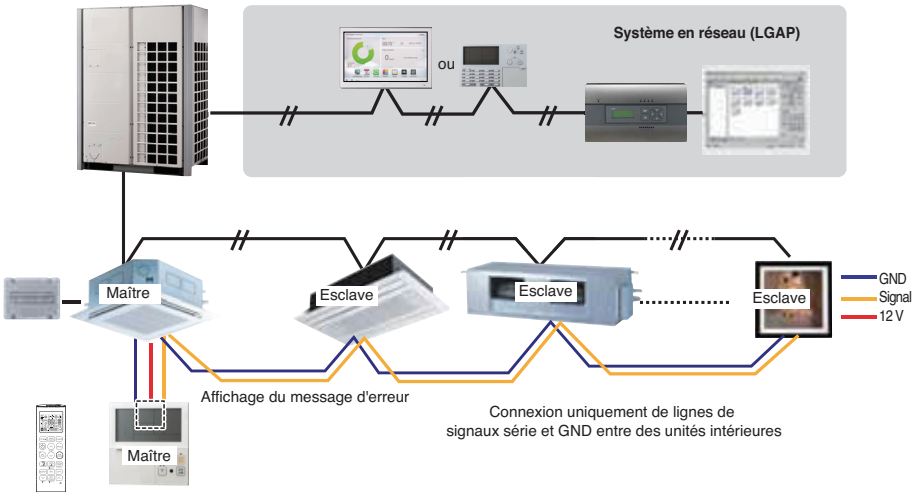


Commutateur DIP de l'unité extérieure

Configuration de la commande de groupe

Commande de groupe 1

■ Dispositif de régulation à distance filaire 1 + Unités intérieures standard



■ Commutateur DIP en PCB (unités intérieures avec cassettes et types de conduits)

① Réglage Maître
- No. 3 Off

② Réglage esclave
- No. 3 On

Commutateur DIP de l'unité intérieure

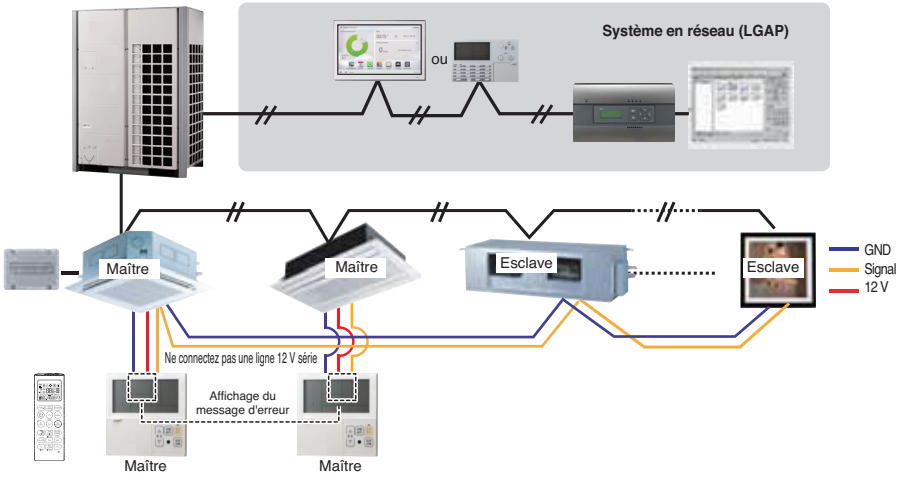
Certains produits ne possèdent pas de commutateur DIP sur leur circuit imprimé. Il est possible de régler les unités intérieures sur maître ou esclave en utilisant la télécommande sans fil à la place du commutateur DIP. Pour plus de détails concernant le réglage, veuillez vous référer au manuel de la télécommande sans fil.

1. Jusqu'à 16 unités intérieures sont acceptées avec un dispositif de régulation à distance filaire. Ne sélectionnez qu'une unité intérieure comme Maître et définissez les autres comme Esclave.
2. La connexion est possible avec tous les types d'unité intérieure.
3. Il est possible d'utiliser un dispositif de régulation à distance sans fil au même moment.
4. Il est possible d'établir une connexion avec un dispositif de régulation Contact sec et Central en même temps.
   - L'unité intérieure Maître est en mesure de reconnaître le dispositif de régulation Contact sec et Central uniquement.
5. Si une erreur se produit sur l'unité intérieure, le code erreur s'affichera sur la télécommande filaire. Il est possible de contrôler les autres unités intérieures, sauf les unités erronées.

* Il est possible de connecter des unités intérieures depuis février 2009.
* Cela peut être la cause de dysfonctionnement si aucun réglage maître/esclave n'a été effectué.
* Dans le cas d'une commande de groupe, il est possible d'utiliser les fonctions suivantes.
  - Sélection d'un fonctionnement, de l'arrêt ou d'un mode
  - Contrôle du réglage de température et de la température de la pièce
  - Changement d'heure
  - Contrôle du débit (Élevé/Moyen/Faible)
  - Réglage de programmation
  - Il est en revanche impossible d'utiliser certaines fonctions.

Commande de groupe 2

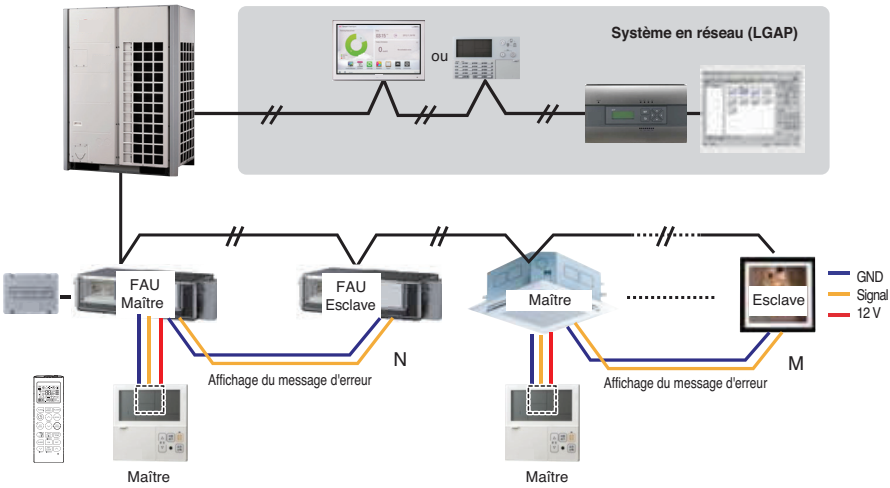
■ Dispositifs de régulation à distance filaires + Unités intérieures standard



* Il est possible de contrôler 16 unités intérieures (au maximum) avec la télécommande filaire principale.
* Autrement, c'est la même procédure que pour la commande de groupe 1.

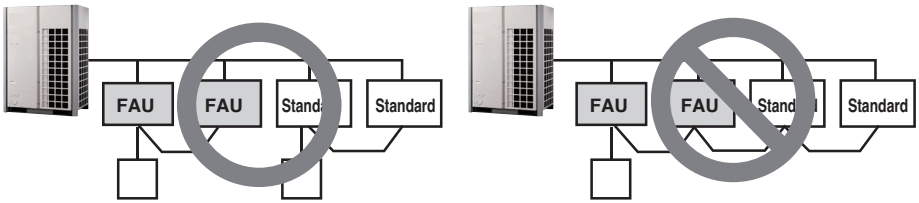
Commande de groupe 3

■ Connexion combinée avec des unités intérieures et une unité de prise d'air frais



* En cas de connexion avec une unité intérieure standard et une unité d'admission d'air frais, séparez les unités d'admission d'air frais par des unités standards. (N, M ≤ 16), (Parce que les paramètres de température sont différents.)

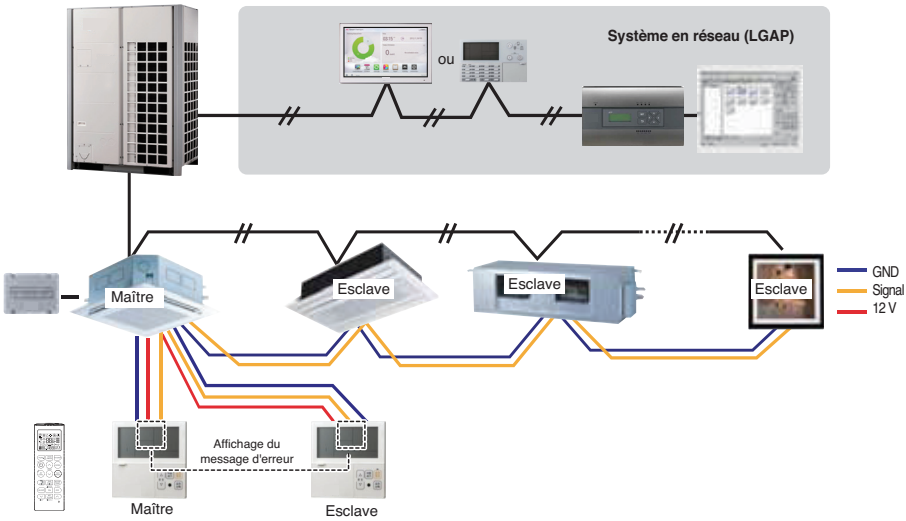
* Autres que ceux-ci, ils sont les mêmes que le contrôle du groupe 1.



* FAU : Unité de prise d'air frais
Standard: Unité de prise d'air frais

2 Dispositif de régulation à distance

■ Dispositif de régulation à distance filaire 2 + Unité intérieure 1

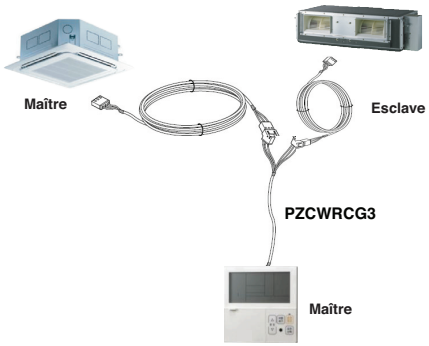


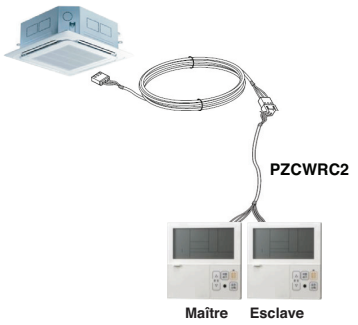
1. Avec une unité intérieure, il est possible de connecter deux dispositifs de régulation à distance filaires (au maximum).
   Réglez une seule unité intérieure sur maître, réglez les autres sur esclave.
   Réglez une seule télécommande filaire sur maître, réglez les autres sur esclave.
2. Pour tous les types d'unité intérieure, il est possible de connecter deux dispositifs de régulation à distance.
3. Il est possible d'utiliser un dispositif de régulation à distance sans fil au même moment.
4. Il est possible d'établir une connexion avec un dispositif de régulation Contact sec et Central en même temps.
5. Si se produce algún error en la unidad interior, se mostrará el error en el control remoto con cable.
6. Il n'existe pas de limites de fonctions des unités intérieures.

Accessoires pour le réglage des commandes de groupe

Il est possible de définir une commande de groupe à l'aide des accessoires ci-dessous.

Unité intérieure 2 EA + dispositif de régulation à distance filaire	Unité intérieure 1 EA + dispositif de régulation à distance filaire 2EA
* Câble PZCWRCG3 utilisé pour la connexion	* Câble PZCWRC2 utilisé pour la connexion

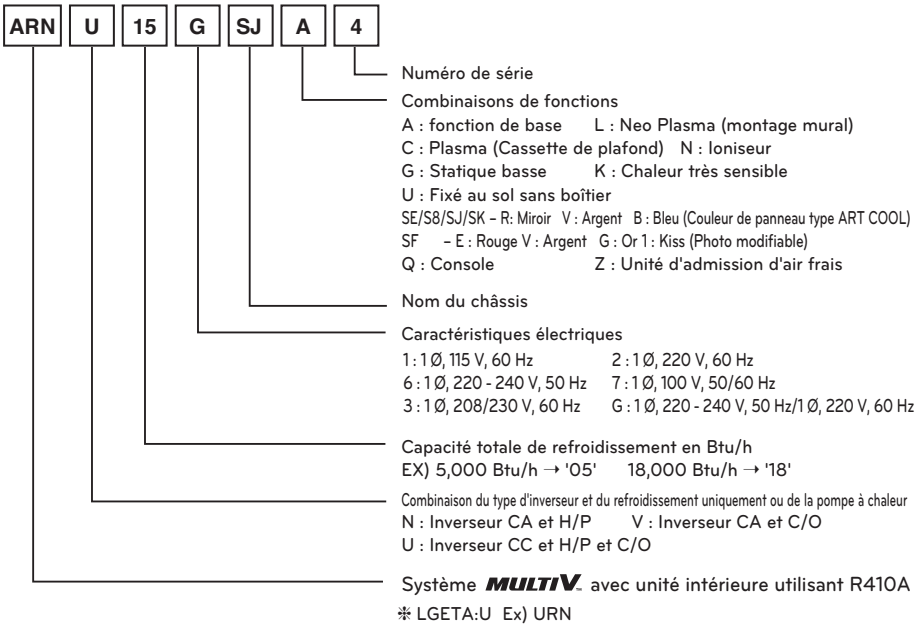




ATTENTION

Utilisez un conduit non combustible complètement fermé si les normes de construction locales exigent un câble pour vide technique.

Désignation du modèle



Émission de bruit aérien

Le niveau de pression acoustique pondéré A émis par ce produit est inférieur à 70 dB.

** Le niveau sonore peut varier selon le site. Les chiffres indiqués correspondent au niveau d'émission et ne sont pas nécessairement des niveaux opérationnels sans danger. Alors qu'il existe une corrélation entre les niveaux d'émission et d'exposition, elle ne peut pas être utilisée de façon fiable pour déterminer si des précautions supplémentaires sont nécessaires ou non.

Le facteur qui influence le niveau réel d'exposition de la force de travail inclut les caractéristiques de l'espace de travail et les autres sources de bruit, c'est-à-dire le nombre d'équipement et autres processus adjacents et la durée d'exposition d'un opérateur au bruit. De même, le niveau d'exposition admissible peut varier d'un pays à l'autre. Toutefois, ces informations vont permettre à l'utilisateur de l'équipement de réaliser une meilleure évaluation des dangers et des risques.

Concentration limite

La concentration limite est la limite de concentration du gaz Fréon où des mesures immédiates peuvent être appliquées sans atteinte corporelle en cas de fuite du réfrigérant dans l'air.

La concentration limite est décrite selon l'unité de kg/m^3 (poids du gaz Fréon par volume d'air de l'unité) pour faciliter le calcul

Concentration limite : 0.44 kg/m^3 (0.027 lbs/ft^3)

■ Calculer la concentration de réfrigérant

$$\text{Concentration de réfrigérant} = \frac{\text{Volume total du réfrigérant renouvelé dans l'installation de réfrigérant [kg(lbs)]}}{\text{Capacité de la plus petite pièce dans laquelle une unité intérieure est installée [m}^3\text{(ft}^3\text{)]}}$$

ESPAÑOL

MANUAL DE INSTALACIÓN

AIRE ACONDICIONADO

Por favor, lea completamente este manual antes de instalar el producto.
Una vez haya leído el manual atentamente, guárdelo para futuras referencias.

MONTADO EN LA PARED

Traducción de las instrucciones originales

www.lghvac.com
www.lg.com

¡IMPORTANTE!

Lea completamente este manual de instrucciones antes de instalar el producto.
Este sistema acondicionador de aire cumple estrictamente las normas de funcionamiento y seguridad. Como instalador o persona de mantenimiento, una parte importante de su trabajo es instalar o realizar el mantenimiento del sistema de modo que funcione de modo eficiente y seguro.

⚠ ADVERTENCIA

- La instalación o reparaciones realizadas por personas no cualificadas pueden poner en riesgo a las personas. La instalación del cableado de campo y de los componentes DEBE ser conforme a los códigos locales de la construcción o, en su defecto, con el Código Eléctrico Nacional 70 y el Código sobre Seguridad y Construcción de Inmuebles Nacional, o el Código Eléctrico canadiense y el Código de la Construcción Nacional de Canadá.
- La información contenida en el manual está pensada para ser utilizada por un técnico cualificado familiarizado con los procedimientos de seguridad y equipado con las herramientas e instrumentos de comprobación adecuados.
- Si no lee atentamente ni sigue las instrucciones de este manual puede producirse un mal funcionamiento en el equipo, daños materiales, lesiones personales y/o muerte.

PRECAUCIÓN

La instalación, ajuste, modificación, reparación o mantenimiento inadecuados pueden anular la garantía. Dado el peso de la unidad condensadora se requiere precaución y la utilización de procedimientos de manejo adecuados al levantarla o desplazarla para evitar lesiones personales. Evite el contacto con los bordes afilados o puntiagudos.

Precauciones de seguridad

- Utilice siempre material de protección para los ojos y guantes de trabajo para instalar el equipo.
- Nunca dé por hecho que el suministro eléctrico está desconectado. Compruébelo con el medidor y el equipamiento.
- Mantenga las manos alejadas de las zonas de ventiladores cuando la alimentación esté conectada al equipo.
- R-410A produce quemaduras por congelación.
- R-410A es tóxico cuando se quema.

NOTA PARA EL INSTALADOR

: El manual de instrucciones y la garantía deben entregarse al propietario o quedar expuestos a la vista cerca de la unidad interior de ventilación/calefacción.

⚠ ADVERTENCIA

Al realizar la conexión:

Una descarga eléctrica puede producir graves lesiones personales o muerte. Sólo debe realizar la conexión de este sistema un electricista cualificado y experimentado.

- No suministre energía a la unidad hasta que se hayan completado o reconectado y comprobado todas las conexiones y tuberías.
- Este sistema utiliza voltajes eléctricos altamente peligrosos. Consulte atentamente el esquema de cableado y estas instrucciones cuando realice las conexiones. Una conexión incorrecta y una puesta a tierra inadecuada pueden ocasionar lesiones por accidente o muerte.
- Ponga a tierra la unidad siguiendo los códigos eléctricos locales.
- Apriete fuertemente todas las conexiones. Los cables flojos pueden causar un sobrecalentamiento en los puntos de conexión y un posible peligro de incendio.
- La selección de los materiales e instalaciones debe ser conforme a los estándares locales/nacionales o internacionales aplicables.

Al realizar el transporte:

Tenga cuidado al recoger y desplazar las unidades interior y exterior. Es necesario la ayuda de otra persona y doblar las rodillas al levantar la unidad para reducir la tensión en su espalda. Los bordes afilados o las aletas de aluminio delgado del acondicionador de aire pueden producir cortes en los dedos.

Al realizar la instalación...

... en una pared: Asegúrese de que la pared es lo suficientemente resistente como para soportar el peso de la unidad. Puede que sea necesario construir un bastidor de metal o madera resistente para proporcionar más apoyo.

... en una habitación: Aísle adecuadamente cualquier tubería situada en el interior de una habitación para evitar la "condensación" que puede producir goteo y daños en pared y suelo.

... en emplazamientos húmedos o no uniformes: Utilice una base de hormigón elevada o bloques de hormigón para proporcionar una base sólida y nivelada para la unidad exterior. Esto evita los daños por agua y las vibraciones anormales.

... en áreas con fuertes vientos: Ancle firmemente la unidad exterior con pernos y un bastidor metálico. Instale un deflector de aire adecuado.

... en áreas con nieve (para el modelo de bomba de calor): Instale la unidad la unidad exterior sobre una plataforma elevada a un nivel más alto que el de la nieve. Instale rejillas para la nieve.

Al conectar las tuberías de refrigerante

- Mantenga la longitud de todas las tuberías lo más corta posible.
- Utilice el método de abocinado para conectar las tuberías.
- Compruebe con cuidado las fugas antes de realizar la prueba de funcionamiento.

Al realizar el mantenimiento

- Desconecte la alimentación en el cuadro principal (red) antes de abrir la unidad para comprobar o reparar piezas eléctricas y el cableado.
- Mantenga alejados los dedos y la ropa de las piezas móviles.
- Limpie la zona antes de finalizar el mantenimiento, recordando comprobar que no quedan en el interior de la unidad residuos metálicos o trozos de cableado.

CONSEJOS PARA AHORRAR ENERGÍA

Estos consejos le ayudarán a reducir el consumo de energía cuando utilice el aire acondicionado. Podrá utilizar el aparato de aire acondicionado de forma eficiente siguiendo estas instrucciones:

- No enfríe excesivamente los espacios. Puede ser nocivo para su salud y consumirá más electricidad.
- Evite el paso de la luz solar con persianas o cortinas cuando esté utilizando el aire acondicionado.
- Mantenga las puertas y ventanas bien cerradas mientras tenga en funcionamiento el aire acondicionado.
- Ajuste la dirección del flujo de aire vertical u horizontalmente para que circule el aire en el interior.
- Aumente la velocidad del ventilador para enfriar o calentar el aire interior con rapidez y en periodo corto de tiempo.
- Abra las ventanas con regularidad para ventilar, porque la calidad del aire interior puede deteriorarse si se utiliza el aire acondicionado durante muchas horas.
- Limpie el filtro del aire una vez cada dos semanas.
  El polvo y las impurezas recogidas en el filtro de aire puede bloquear el flujo de aire o debilitar las funciones de refrigeración / deshumidificación.

Como referencia

Grape el justificante de compra en esta página, ya que será su prueba de compra para la garantía. Escriba aquí el número de modelo y el número de serie:

Número de modelo: _____

Número de serie: _____

Los encontrará en una etiqueta en el lateral de cada unidad.

Número de modelo: _____

Número de serie: _____

INSTRUCCIONES DE SEGURIDAD IMPORTANTES

LEA TODAS LAS INSTRUCCIONES ANTES DE UTILIZAR EL APARATO

Cumpla con las siguientes precauciones para evitar situaciones de peligro y garantizar un funcionamiento óptimo de su producto.

⚠ ADVERTENCIA

Puede sufrir lesiones de gravedad o mortales si ignora las instrucciones

⚠ PRECAUCIÓN

Puede sufrir lesiones menores o dañar el producto si ignora las instrucciones

⚠ ADVERTENCIA

- Las instalaciones o reparaciones realizadas por personas no cualificadas pueden dar lugar a peligros para usted y otras personas.
- La instalación DEBE cumplir con los códigos de construcción locales.
- La información de este manual está dirigida a personal técnico cualificado, familiarizado con los procedimientos de seguridad y equipado con las herramientas e instrumentos de prueba adecuados.
- Lea detenidamente y cumpla con todas las instrucciones de este manual. De lo contrario, el aparato podría no funcionar correctamente, o producirse lesiones graves o mortales y daños materiales.

Instalación

- No utilice un cable de alimentación eléctrica, un enchufe o una toma que estén dañados.
  - De lo contrario, podría producirse un incendio o descargas eléctricas.
- Para los trabajos eléctricos, póngase en contacto con su distribuidor, un electricista cualificado o un Servicio Técnico Autorizado.
  - No desmonte ni repare el producto. Existe riesgo de descarga eléctrica o incendio.
- Conecte a tierra el producto.
  - Existe riesgo de descarga eléctrica o incendio.
- Instale correctamente el panel y la tapa de la caja de control.
  - Existe riesgo de descarga eléctrica o incendio.

- Utilice siempre un circuito y un disyuntor dedicados.
  - El cableado o instalación incorrectos pueden causar un incendio o descargas eléctricas.
- Utilice un disyuntor o fusible de la capacidad correcta.
  - Existe riesgo de descarga eléctrica o incendio.
- No modifique ni alargue el cable de alimentación.
  - Existe riesgo de descarga eléctrica o incendio.
- No deje el aire acondicionado en funcionamiento durante un tiempo prolongado si la humedad es muy alta o si se han dejado abiertas una puerta o una ventana.
  - Puede condensarse la humedad y mojar o dañar el mobiliario.
- Tenga cuidado al desembalar e instalar el producto.
  - Los bordes cortantes podrían causarle heridas.
    Tenga especial cuidado con los bordes de la carcasa y las aletas del condensador y el evaporador.
- Para la instalación, póngase en contacto con su distribuidor o un Servicio Técnico Autorizado.
  - Existe riesgo de incendio, descargas eléctricas, explosión o lesiones.
- No instale el producto sobre un soporte defectuoso.
  - Podría ser causa de accidentes, lesiones o daños en el producto.
- Asegúrese de que el área de instalación no se deteriore con el paso del tiempo.
  - Si se cae la base, también lo hará el aparato de aire acondicionado, y causará daños materiales, fallos del producto y lesiones.
- Existe un riesgo de incendio y explosión.
  - El gas inerte (nitrógeno) debe ser utilizado a la hora de verificar escapes en las tuberías, de limpiar o reparar tubos, etc.
    En caso de utilizar gases combustibles, oxigeno incluido, el producto puede causar incendios y explosiones.
- Utilice una bomba al vacío o gas inerte (nitrógeno) cuando proceda a pruebas de escape o purga de aire. No comprima ni el aire ni el oxígeno, ni utilice gases inflamables. En caso contrario, podría causar un incendio o una explosión.
  - Existe riesgo de muerte, lesión, incendio o explosión.
- No encienda el disyuntor ni la alimentación en caso de que el panel frontal, el gabinete, la cubierta superior o la cubierta de la caja de control se hayan extraído o abierto.

- De lo contrario, podría producirse un incendio, una descarga eléctrica, una explosión o incluso la muerte.
- Pour une fuite de réfrigérant, consultez votre revendeur. Lorsque le climatiseur doit être installé dans une petite pièce, il est nécessaire de prendre les mesures appropriées pour que la quantité de fluide frigorigène qui fuit ne dépasse pas la concentration limite même en cas de fuite. Si le réfrigérant fuit au-delà du niveau de concentration limite, un accident de carence en oxygène peut se produire.

• El aparato debe instalarse de acuerdo con las normas nacionales de cableado.

Funcionamiento

• No guarde ni utilice gases inflamables o combustibles cerca del producto.
- Existe incendio o fallo del producto.

• N'utilisez jamais de vaporisateur inflammable comme des laques pour cheveux, de la laque ou de la peinture à proximité de l'appareil.

• Déchirer et jeter les sacs d'emballage en plastique afin que les enfants ne jouent pas avec eux.

⚠ PRECAUCIÓN

Instalación

• Compruebe las posibles fugas de gas (refrigerante) tras la instalación o reparación del producto.
- El nivel bajo de refrigerante puede causar fallos del producto.

• Instale la manguera de drenaje de modo que el agua se vacíe correctamente.
- Una conexión defectuosa puede causar fugas de agua.

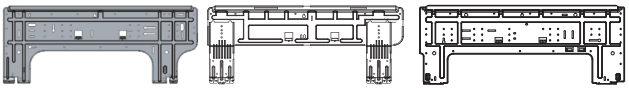
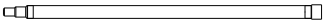
• Mantenga el nivel incluso durante la instalación del producto.
- Para evitar vibraciones o fugas de agua.

• Utilice dos o más personas para elevar y transportar el producto.
- Evite sufrir lesiones.

• No instale la unidad en atmósferas potencialmente explosivas.

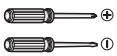
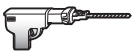
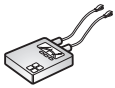
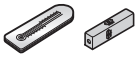
TABLA DE CONTENIDOS

COMPONENTES DE INSTALACIÓN

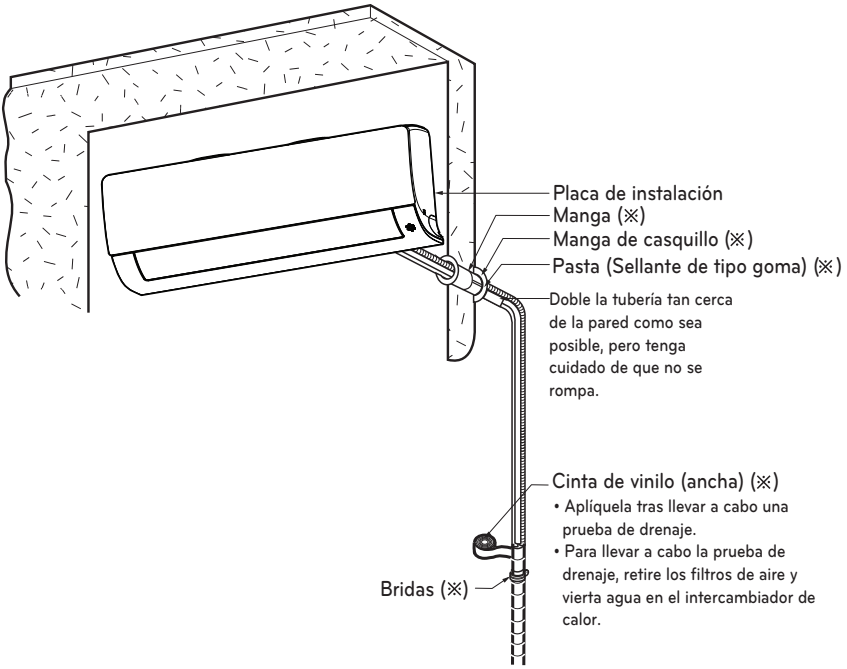
Nombre	Cantidad	Forma
Placa de instalación	1 EA	 SJ SK
Manguera de drenaje	1 EA	
Tornillo de tipo "A"	5 EA	
Tornillo de tipo "C"	2 EA	
Cinta americana	1 EA	
Place de montaje del conducto	1 EA	

La cinta americana no está incluida con el producto.

HERRAMIENTAS DE INSTALACIÓN

Figura	Nombre	Figura	Nombre
	Destornillador		Polímetro
	Taladro eléctrico		Llave hexagonal
	Cinta métrica, cuchillo		Amperímetro
	Broca hueca		Detector de fugas de gas
	Llave fija		Termómetro, Nivel
	Llave de carraca		Juego de herramientas de abocinado

MAPA DE INSTALACIÓN



* La placa puede cambiar dependiendo del tipo de modelo.

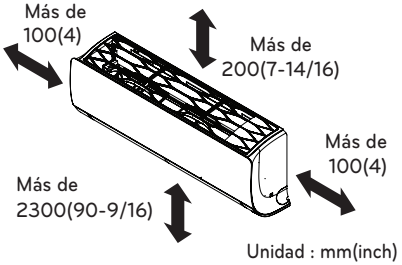
NOTA

- Debe comprar los componentes de instalación.

INSTALACIÓN

Seleccione la mejor ubicación

- No debe haber ninguna fuente de calor o vapor cerca de la unidad.
- Seleccione un lugar donde no haya obstáculos alrededor de la unidad.
- Asegúrese de que el drenaje de la condensación pueda ser conducido cómodamente hacia fuera.
- No lo instale cerca del hueco de una puerta.
- Asegúrese de que la separación entre la pared y la izquierda (o derecha) de la unidad es mayor de 100 mm. La unidad debe instalarse en la pared a la mayor altura que sea posible, dejando una separación mínima de 200 mm del techo.
- Utilice un detector de metales para localizar pernos y evitar daños innecesarios a la pared.



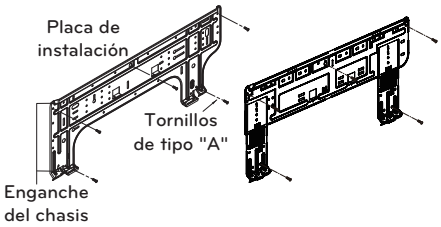
* La placa puede cambiar dependiendo del tipo de modelo.

> **⚠ PRECAUCIÓN**
>
> Instale la unidad de interior sobre la pared en un lugar donde la distancia del suelo sea mayor a 2.300 mm.

Fijación de la placa de instalación

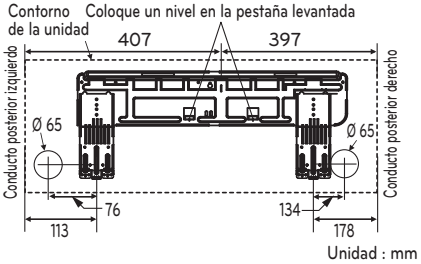
La pared que seleccione debe ser lo suficiente fuerte y sólida para evitar la vibración

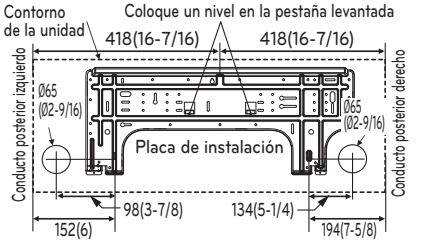
1 Monte la placa de instalación en la pared con tornillos de tipo “A”. Si monta la unidad en una pared de cemento, use pernos de anclaje.
   - Monte la placa de instalación horizontalmente alineando la línea central utilizando un nivel.

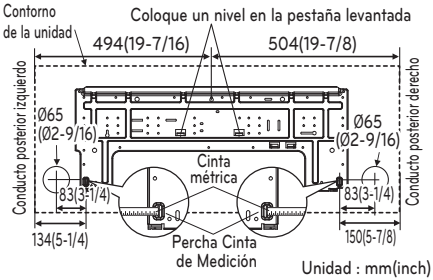


* La placa puede cambiar dependiendo del tipo de modelo.

2 Mida la pared y marque la línea central. También es importante tener cuidado con relación a la ubicación de la placa de instalación. El recorrido del cableado a las tomas de corriente se hace típicamente por la pared. Taladre un orificio en la pared para que las conexiones de conductos puedan realizarse con seguridad.



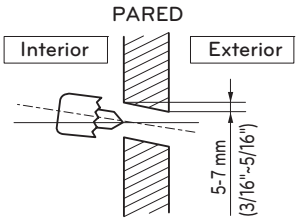




* La placa puede cambiar dependiendo del tipo de modelo.

Taladre un orificio en la pared

- El taladro de conductos debe realizarse con una broca de Ø 65 mm. Realice el taladro a la derecha o izquierda con el orificio ligeramente inclinado hacia el exterior.

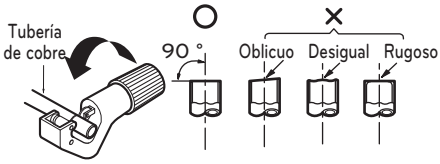


Abocinado

La causa principal de las fugas de gas es un abocinado defectuoso. Lleve a cabo correctamente el abocinado como se detalla a continuación.

Corte las tuberías y el cable

1 Utilice el kit de accesorios de tuberías o las tuberías compradas localmente.
2 Mida la distancia entre la unidad de interior y la de exterior.
3 Corte las tuberías un poco más largas que la distancia medida.
4 Corte el cable 1.5m más largo que la tubería.

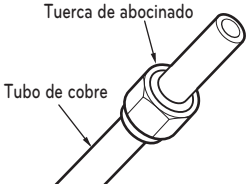


Eliminación de rebabas

1 Elimine completamente todas las rebabas de la sección cortada de la tubería/conducto.
2 Al eliminar las rebabas, ponga el extremo de la tubería de cobre hacia abajo. Esto también se hace para evitar que las rebabas caigan dentro de la tubería.

Colocación de la tuerca

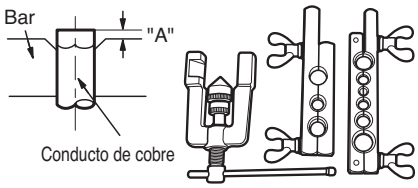
- Retire las tuercas de abocinado de las unidades de interior y exterior y colóquelas en la tubería una vez eliminadas las rebabas. (Es imposible colocarlas una vez abocinada la tubería)



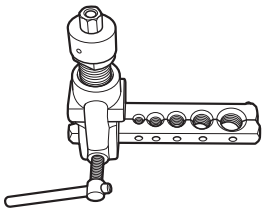
Abocinado

1 Sujete la tubería de cobre firmemente en una vara con la dimensión mostrada en la tabla siguiente.
2 Lleve a cabo el abocinado con la herramienta adecuada.

<Tipo de tuerca de ala>



<Tipo de embrague>



Diámetro de la tubería pulgadas (mm)	pulg (mm)	
	Tipo de tuerca de ala	Tipo de embrague
Ø 1/4 (Ø 6.35)	0.04~0.05 (1.1~1.3)	0~0.02 (0~0.5)
Ø 3/8 (Ø 9.52)	0.06~0.07 (1.5~1.7)	
Ø 1/2 (Ø 12.7)	0.06~0.07 (1.6~1.8)	
Ø 5/8 (Ø 15.88)	0.06~0.07 (1.6~1.8)	
Ø 3/4 (Ø 19.05)	0.07~0.08 (1.9~2.1)	

Compruebe

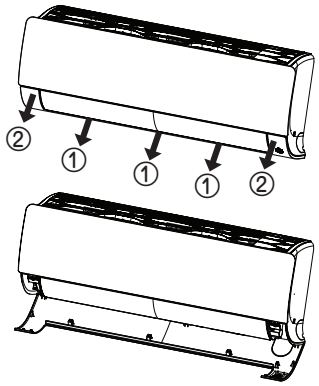
1 Compare el abocinado con la figura.

2 Si la sección abocinada está defectuosa, córtela y vuelva a abocinarla.

Conexión de las tuberías

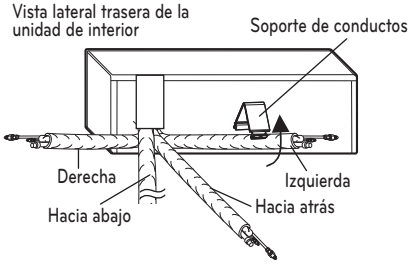
1 Tire de la tapa de la parte inferior de la unidad interior. Tire de la tapa ① → ②.

2 Retire la tapa de la unidad interior.



3 Tire del soporte del tubo.

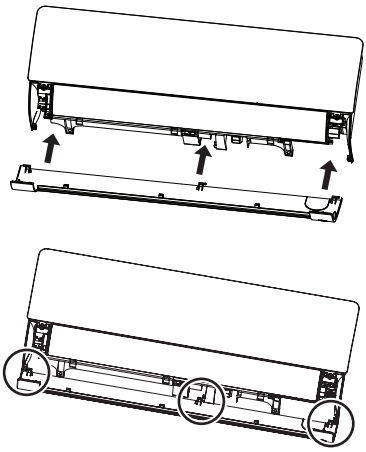
4 Retire la entrada del conducto y colóquelo en su lugar.



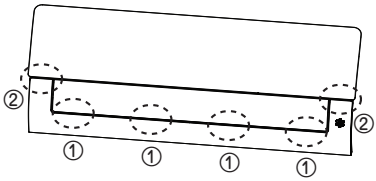
* La placa puede cambiar dependiendo del tipo de modelo.

Montaje de la tapa del chasis

1 Inserte los 3 ganchos de la tapa del chasis en la separación del chasis.

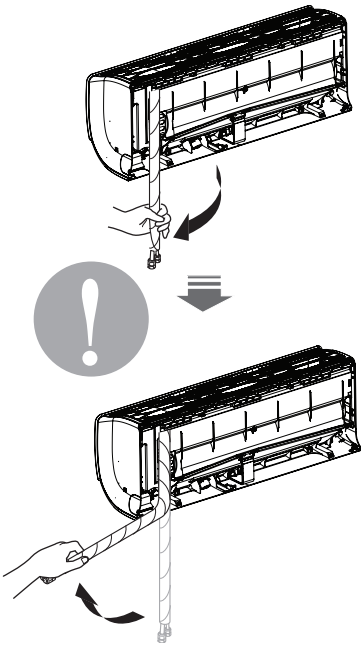


2 Presione los ganchos para montar la tapa del chasis. Empuje la tapa ① → ②.



Buen método

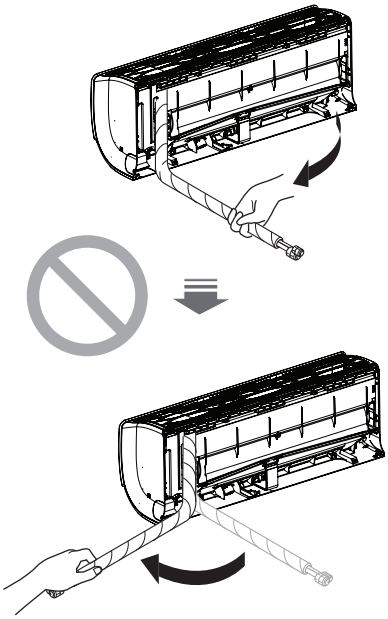
- Empuje la cubierta del conducto y despliéguelo hacia abajo lentamente. Y, a continuación dóblelo lentamente hacia la izquierda.



* La placa puede cambiar dependiendo del tipo de modelo.

Mal método

- Un doblado continuado de izquierda a derecha directamente podría dañar el conducto.



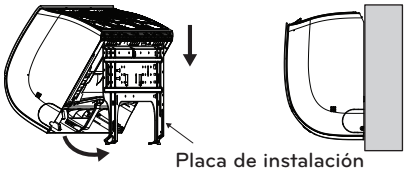
* La placa puede cambiar dependiendo del tipo de modelo.

⚠ PRECAUCIÓN

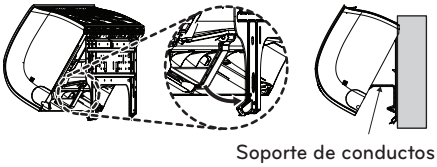
Información de istalación. Para los conductos de la derecha. Siga las instrucciones detalladas a continuación.

Instalación de la unidad de interior

1 Enganche la unidad de interior en la parte superior de la placa de instalación.(Enganche los tres ganchos de la parte superior de la unidad de interior con el borde superior de la placa de instalación). Asegúrese de que los ganchos están bien sujetos moviéndolos a derecha e izquierda.



2 Desbloquee el soporte de conductos del chasis y móntelo entre el chasis y la placa de instalación para separar la parte inferior de la unidad de interior de la pared.

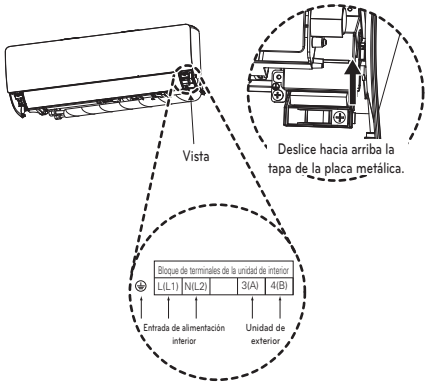


* La placa puede cambiar dependiendo del tipo de modelo.

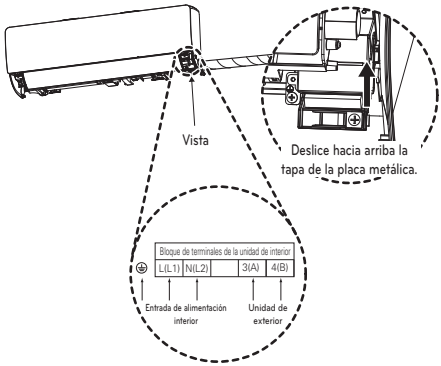
Conductos

1 Inserte el cable de conexión a través de la parte inferior de la unidad de interior y conecte el cable (puede ver una información más detallada en la sección "Conexión de los cables")

<Para los conductos hacia la izquierda.>



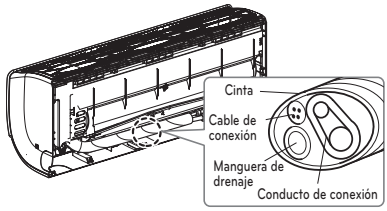
<Para los conductos hacia la derecha.>



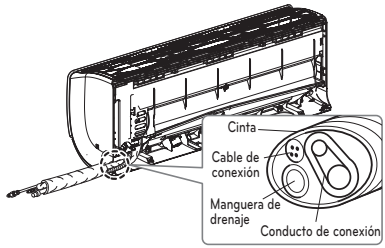
2 Fije el cable en el panel de control con la abrazadera del cable.

3 Encinte los conductos, la manguera de drenaje y el cable de conexión. Asegúrese de que la salida de la manguera de drenaje está situada en la parte inferior del rollo. Si queda en la parte superior podría hacer que el excedente de la bandeja de drenaje entrara en la unidad.

<Para los conductos hacia la izquierda.>



<Para los conductos hacia la derecha.>



* La placa puede cambiar dependiendo del tipo de modelo.

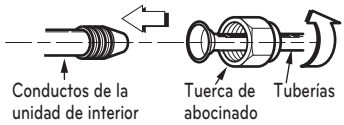
⚠ PRECAUCIÓN

Si la manguera de drenaje discurre por el interior de la habitación, aísle la manguera con un material aislante* para que el goteo del sudado (condensación) no dañe los muebles o el suelo.

* Es recomendable usar polietileno expandido o un material similar.

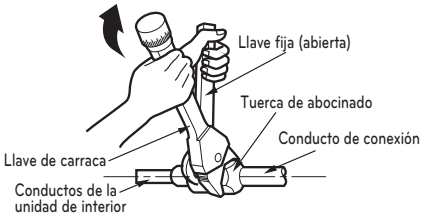
Conexión del conducto de instalación y la manguera de drenaje a la unidad de interior

1 Alinee el centro de las conducciones y apriete suficientemente la tuerca de abocinado con la mano.

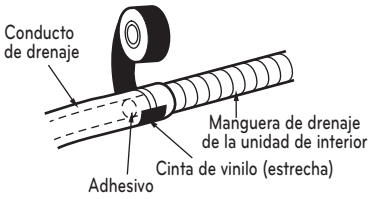


2 Apriete la tuerca de abocinado con una llave.

Diámetro exterior		Torsión
mm	pulg	kgf.m
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.5
Ø15.88	5/8	6.3~8.2
Ø19.05	3/4	9.9~12.1

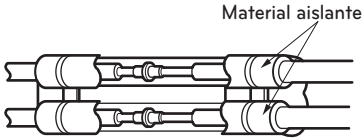


3 Cuando necesite extender la manguera de drenaje de la unidad de interior, monte la manguera de drenaje como se muestra en el diagrama

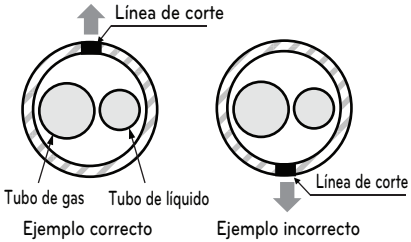


Envuelva el material aislante alrededor de la parte de la conexión

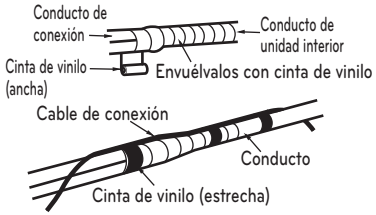
1 Solape el material aislante del conducto de conexión y el material aislante del conducto de la unidad interior. Envuélvalos juntos con cinta de vinilo para que no haya huecos.



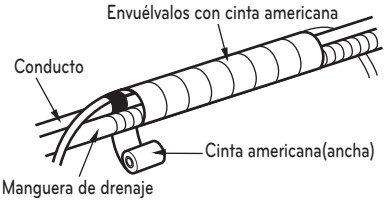
2 Coloque la línea de corte del tubo hacia arriba. Envuelva el área que albergue la sección de conducto trasera con cinta de vinilo.



* La línea de corte del tubo debe estar hacia arriba.



3 Agrupe los conductos y la manguera de drenaje envolviéndolos con cinta americana hasta un grosor suficiente para cubrir la sección de la carcasa de conductos posterior.



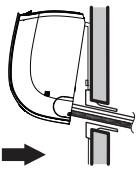
Finalización de la instalación de la unidad de interior

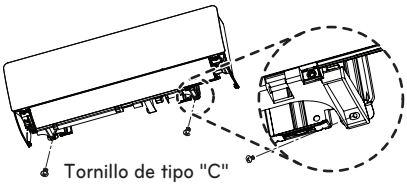
1 Monte el soporte de conductos en la posición original.

2 Asegúrese de que los ganchos están bien asentados en la placa de instalación moviendo la unidad a la derecha e izquierda.

3 Empuje la unidad desde la parte inferior a derecha e izquierda sobre la placa de instalación hasta que los ganchos entren en sus ranuras (escuchará un "clic").

4 Finalice el montaje atornillando la unidad a la placa de instalación usando dos tornillos de tipo "C".
Y monte la cubierta del chasis.



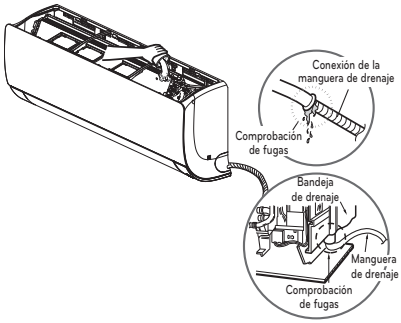


Comprobación del drenaje

Para comprobar el drenaje

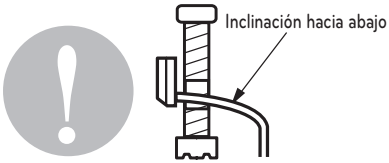
1 Vierta un vaso de agua en el evaporador.

2 Asegúrese de que el agua fluye por la manguera de drenaje de la unidad de interior sin fugas y vaya directamente a la salida de drenaje.

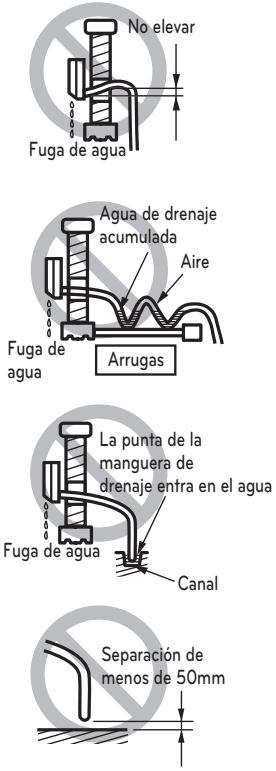


Tubería de drenaje

1 La manguera de drenaje debe quedar hacia abajo para facilitar el flujo de drenaje.



2 No coloque el conducto de drenaje de la forma siguiente.



* La placa puede cambiar dependiendo del tipo de modelo.

Manual de la tapa decorativa, montaje y desmontaje del filtro de aire

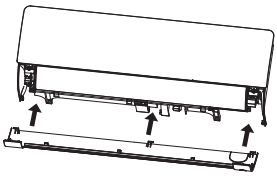
Desmonte la tapa decorativa

1 Apague el suministro eléctrico y desconecte el cable de alimentación.
2 Tire de la tapa decorativa desde la parte inferior de la unidad interior

3 Retire la tapa decorativa de la unidad interior.

Monte la tapa

1 Apague el suministro eléctrico y desconecte el cable de alimentación.
2 Inserte 3 o 4 ganchos de la tapa decorativa en el espacio de la unidad interior.



3 Presione los ganchos para montar la tapa decorativa.

NOTA

El filtro de aire puede romperse si se dobla.

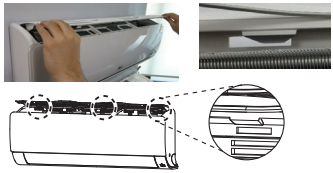
Desmonte el filtro del aire.

1 Apague el suministro eléctrico y desconecte el cable de alimentación.
2 Sujete la pestaña del filtro de aire, levántela ligeramente.

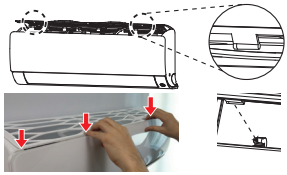
3 Sujete la pestaña del filtro de aire, levántela ligeramente y retírela de la unidad.

Monte el filtro del aire.

1 Apague el suministro eléctrico y desconecte el cable de alimentación.
2 Inserte los ganchos del filtro de aire en la rejilla frontal.



3 Presione los ganchos hacia abajo para montar el filtro de aire.



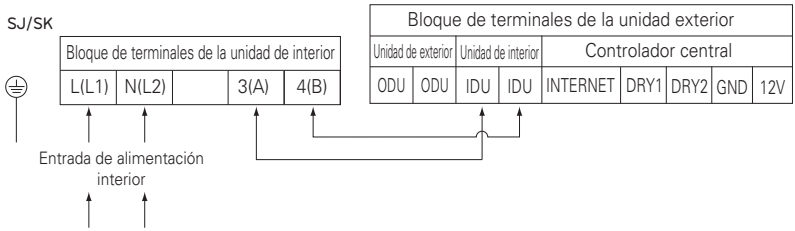
4 Compruebe el correcto montaje del filtro de aire en el lado de la rejilla frontal.

NOTA

Si el filtro de aire no se monta correctamente, puede entrar polvo u otras sustancias en la unidad interior. Si se sitúa en una posición más alta que la unidad interior, podrá montar el filtro de aire fácilmente.

Conexiones eléctricas

- Conecte individualmente los cables a los terminales de la placa de control, según las conexiones de la unidad de exterior.
- Asegúrese de que el color de los cables de la unidad de exterior y el n.º de terminal. coincidan con los de la unidad de interior.

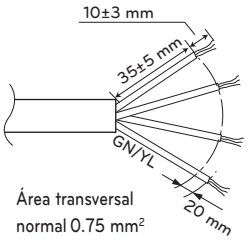


※ Medición de resistencia para evitar conexión de cableado incorrecta.

⚠ PRECAUCIÓN

El cable de conexión conectado a la unidad interior y exterior debe cumplir con las especificaciones siguientes (Este equipo incluirá un juego de cables que cumplen con las regulaciones nacionales)

Si el cable de alimentación está dañado, debe cambiarse por un cable o juego especial del fabricante o su servicio técnico.



⚠ ADVERTENCIA

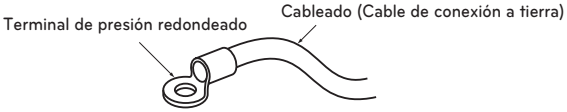
Asegúrese de que los tornillos del terminal no estén sueltos.

⚠ PRECAUCIÓN

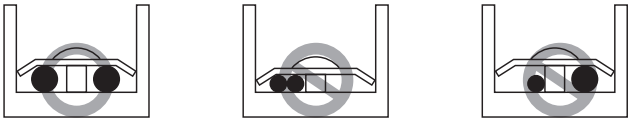
El cable de alimentación conectado a la unidad debería seleccionarse según las siguientes especificaciones.

Precauciones a tener en cuenta durante la disposición del cableado de alimentación y conexión a tierra

Utilice terminales de presión redondos para las conexiones al bloque del terminal de corriente.
Al tender el cableado de conexión a tierra, debe utilizar terminales de presión redondos.

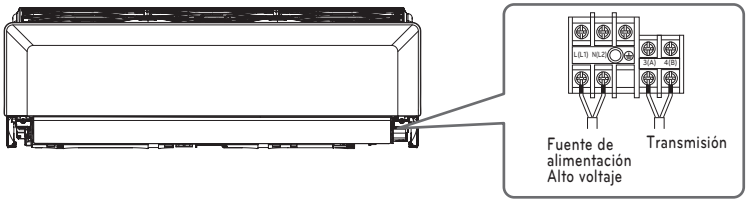


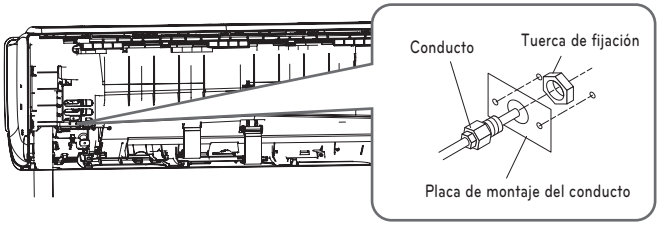
Cuando no haya ninguno disponible, siga estas instrucciones.
- No conecte cables de diferente grosor al bloque de terminales de alimentación. (La holgura en el cableado de alimentación podría causar un calor anormal.)
- Al conectar cables del mismo grosor, siga las instrucciones de la figura siguiente.

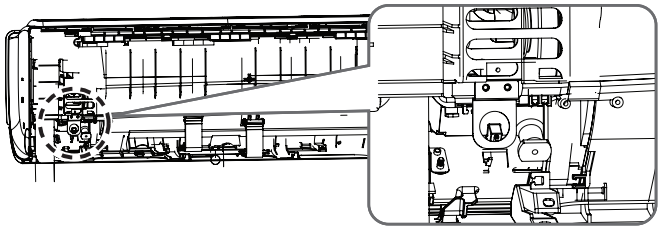


Método de conexión de cable (Ejemplo)

SJ/SK Chasis







⚠ PRECAUCIÓN

Asegúrese de probar la línea de alimentación y la línea de comunicación antes de que se aplique alimentación eléctrica.

1) Si se intercambia la conexión del cableado de alimentación eléctrica y la línea de comunicación, el producto se dañara.
2) Método de prueba de confirmación de cableado correcto:
   : Mida la resistencia a través del terminal de potencia (L, N).
   «Use un medidor de resistencia eléctrica».
   - Valor de resistencia en conexión normal: 1MΩ o más.
   - Resistencia de cableado incorrecta: 500kΩ o menos.

⚠ PRECAUCIÓN

Tras confirmar el estado anterior, prepare las conexiones de la forma siguiente:

1) Disponga siempre un suministro eléctrico específico para el aire acondicionado. Realice las conexiones según el diagrama de circuitos que se incluye en el interior de la cubierta de la caja de control.
2) Instale un interruptor cortacircuitos entre la fuente de alimentación y la unidad exterior.
3) Los tornillos que unen las conexiones situadas en la carcasa de componentes eléctricos puede soltarse a causa de vibraciones de la unidad durante el transporte. Compruébelos y asegúrese de que están firmemente apretados. (Si se sueltan, puede quemar los cables).
4) Confirme las especificaciones de la fuente de alimentación.
5) Confirme que la capacidad eléctrica sea suficiente.
6) Asegúrese de que se mantiene la tensión inicial a más de un 90% de la tensión nominal marcada en la placa de identificación.
7) Confirme que el grosor del cable es tal y como se indica en las especificaciones de fuente de alimentación. (Observe en particular la relación entre la longitud del cable y el grosor).
8) No instale el cortocircuito de pérdida en un lugar húmedo o mojado.
   El agua o la humedad pueden producir un cortocircuito.
9) Una caída de voltaje puede producir los siguientes problemas.
   - Vibración de un interruptor magnético, daños en el punto de contacto, alteración del funcionamiento normal de un dispositivo de protección de sobrecarga..
   - Energía inadecuada suministrada al compresor.
10) Antes de alimentar eléctricamente la unidad interior, asegúrese de verificar el cableado correcto de las líneas de alimentación y comunicación.

Configuración de interruptor DIP

Unidad Interior

	Función	Descripción	Desactivación	Activación	Predeterminado
SW1	Comunicación	N/D (Por defecto)	-	-	DESACT
SW2	Ciclo	N/D (Por defecto)	-	-	DESACT
SW3	Control de grupo	Selección de maestro o esclavo	Maestro	Slave	DESACT
SW4	Modo de contacto seco	Selección de modo de contacto seco	Control remoto con cable/inalámbrico Selección de modo de funcionamiento manual o automático	Auto (Automático)	DESACT
SW5	Instalación	Funcionamiento continuo del ventilador	Funcionamiento continuo Retirada	-	DESACT
SW6	Conexión de calefactor	N/A	-	-	DESACT
SW7	Conexión de ventilador	Selección de conexión del ventilador	Conexiones Retirada	En funcionamiento	DESACT
	Selección de aletas (Consola)	Selección arriba/debajo de la aleta lateral	Aleta lado arriba + lado abajo	Sólo aleta lado arriba	
	Selección de región	Selección de región tropical	Modelo general	Tropical model	
SW8	Etc.	Repuesto	-	-	DESACT

* La aplicación o no de la función del interruptor DIP de la PCB puede variar en función del modelo.

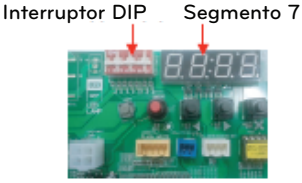
⚠ PRECAUCIÓN

Para modelos Multi V, los interruptores 1, 2, 6, 8 deben estar desactivados.

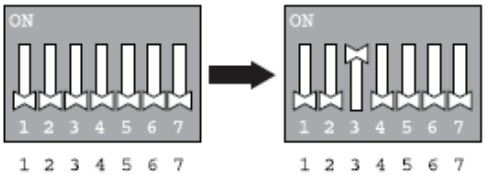
Unidad exterior

Si los productos cumplen condiciones específicas, la función "Direccionamiento automático" puede iniciarse automáticamente con la velocidad mejorada girando el interruptor DIP nº3 de la unidad exterior y volviendo a conectar la alimentación eléctrica.

* Condiciones específicas:
- Todos los nombres de las unidades interiores son ARNU****4.
- El número de serie de Multi V super IV (unidades exteriores) es posterior a octubre de 2013.



PCB de unidad exterior

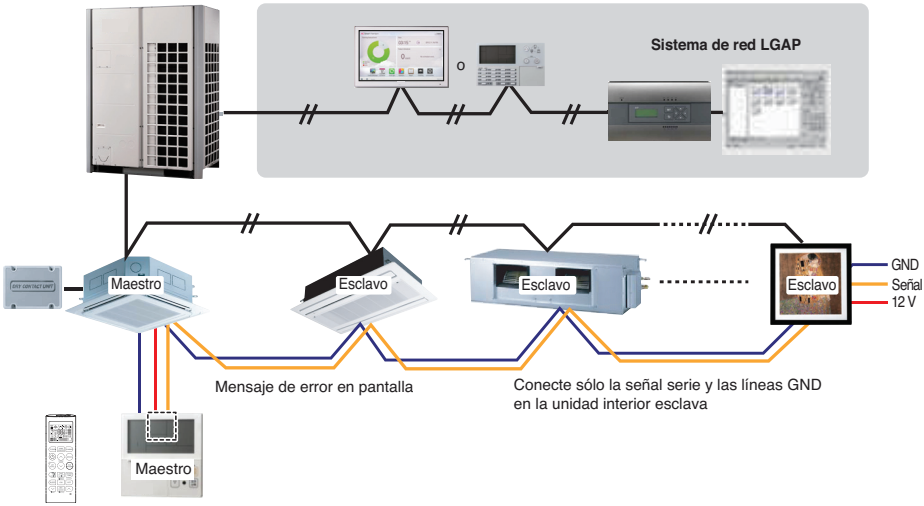


Interruptor de DIP de unidad exterior

Ajuste de control de grupo

Control de grupo 1

■ Control remoto por cable 1 + unidades interiores estándar



■ Interruptor DIP en PCB (unidades interiores de tipo cassette y conducto)

① Ajuste maestro
- No. 3 Off

② Ajuste esclavo
- No. 3 On

Interruptor DIP unidad interior

Algunos productos no tienen interruptor DIP en el PCB. Es posible poner unidades interiores como maestras o esclavas utilizando el control remoto inalámbrico, en vez del interruptor DIP.

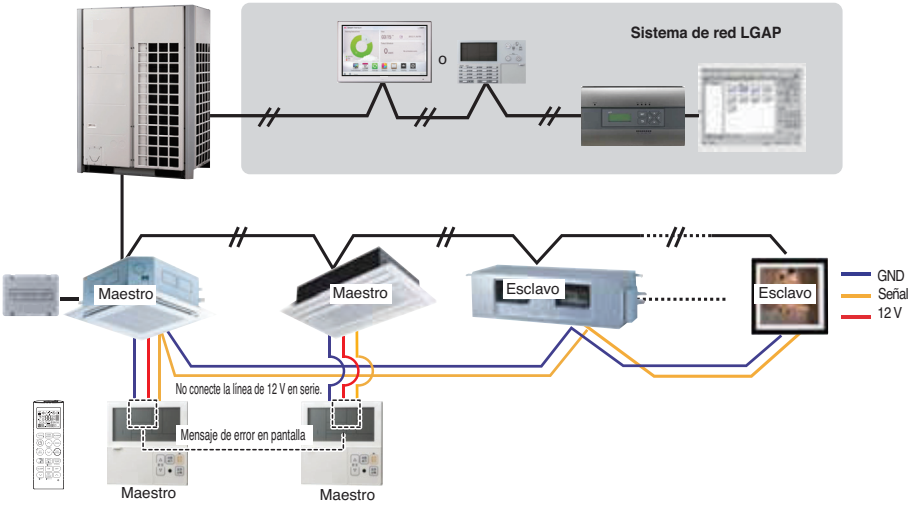
Para más detalles sobre este ajuste, consulte el manual del control remoto inalámbrico.

1. Es posible controlar un máximo de 16 unidades interiores con un control remoto con cable. Ponga una unidad interior como maestra, las otras como esclavas.
2. Se puede conectar cualquier tipo de unidad interior.
3. Se puede una un mando a distancia al mismo tiempo.
4. Se puede conectar con contacto seco y control central al mismo tiempo.
   - La unidad interior maestra se puede reconocer sólo con contacto seco y control central.
5. Si se produce algún error en la unidad interior, se mostrará el error en el control remoto con cable. Se pueden controlar las otras unidades interiores, excepto las unidades con errores.

* Se pueden conectar unidades interiores desde febrero de 2009.
* La falta de un ajuste de maestro y esclavo puede ser la causa de fallos de funcionamiento.
* En el caso de control de grupo, se pueden usar las funciones siguientes.
  - Selección de funcionamiento, parada o modo
  - Ajuste de temperatura y comprobación de la temperatura de la habitación
  - Cambio de hora actual
  - Control de caudal de aire (Alto/Medio/Bajo)
  - Ajustes de reserva
  - No se pueden usar algunas funciones.

Control de grupo 2

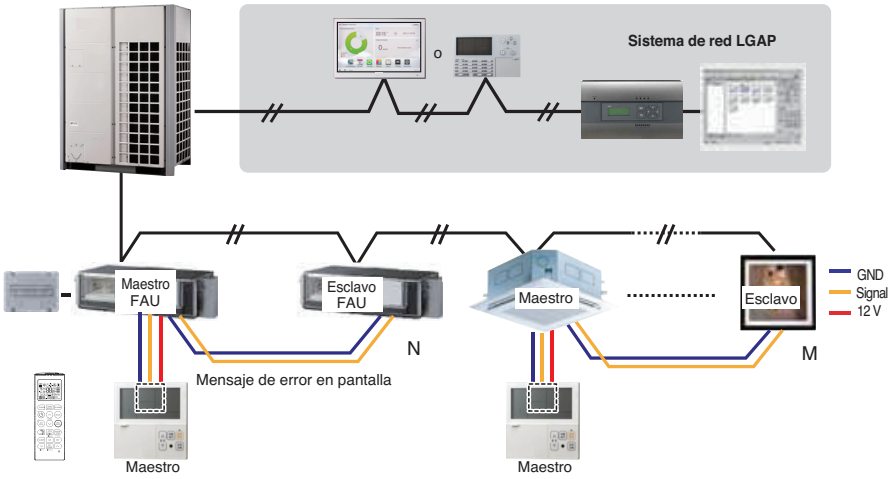
■ Controles remotos por cable + unidades interiores estándar



* Se pueden controlar 16 unidades interiores (máx.) con el control remoto maestro con cable.
* Aparte de esto, es el mismo procedimiento aplicado al Control de Grupo 1.

Control de grupo 3

■ Conexión mixta con unidades interiores y unidad de entrada de aire exterior



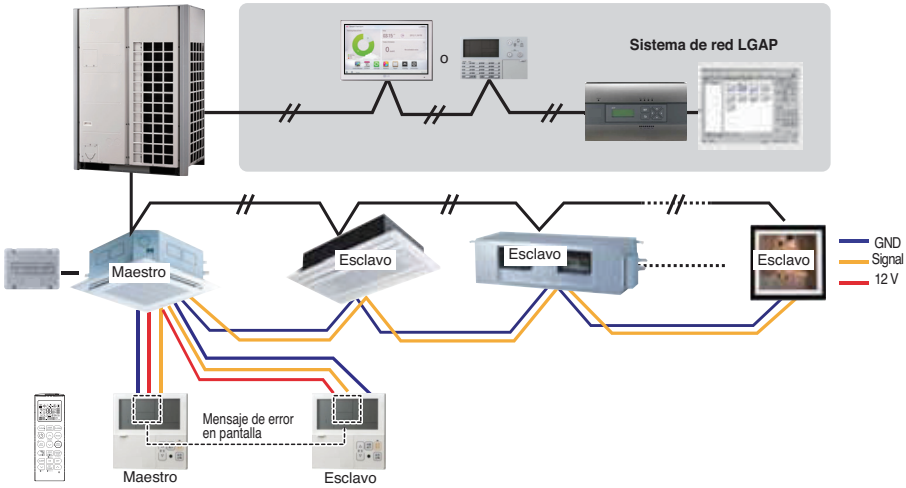
* Si se realiza la conexión con unidad interior estándar y unidad de entrada de aire fresco, separe la unidad de aire fresco con unidades estándar. (N, M ≤ 16) (Porque las temperaturas de configuración son diferentes.)

* Además de esto, es todo como con el Grupo de control 1.

* FAU : Unidad de entrada de aire exterior
Estándar: Unidad interior estándar

2 Control remoto

■ Control remoto por cable 2 + Unidad interior 1

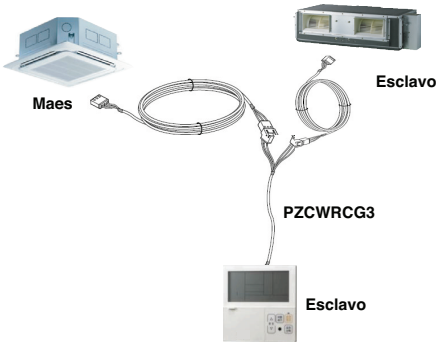


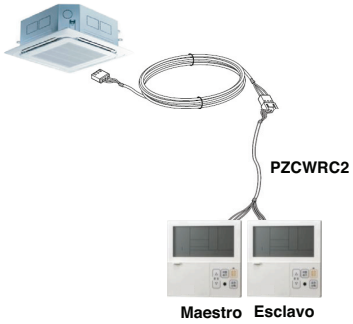
1. Se pueden conectar dos controles remotos (máx.) con una unidad interior.
   Ponga solo una unidad interior como maestra, las otras como esclavas.
   Ponga sólo un control remoto con cable como maestro, y los restantes como esclavos.
2. Se puede conectar cada tipo de unidad interior con dos controles remotos.
3. Se puede una un mando a distancia al mismo tiempo.
4. Se puede conectar con contacto seco y control central al mismo tiempo.
5. Si se produce algún fallo en la unidad interior, se mostrará en el control remoto con cable.
6. No hay límites de funcionamiento de las unidades interiores.

Accesorios para el ajuste de control de grupos

Se puede ajustar el control de grupos con las utilización de los accesorios siguientes.

2 unidades interiores + control remoto por cable	1 unidades interiores + 2 controles remotos por cable
* Cable PZCWRCG3 utilizado para la conexión	* Cable PZCWRC2 utilizado para la conexión

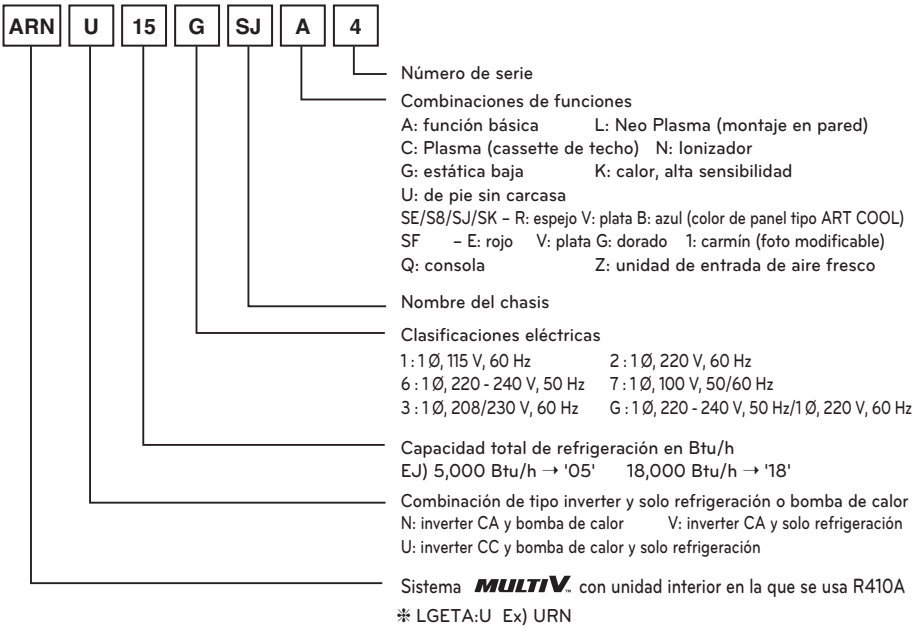




⚠ PRECAUCIÓN

Utilice conductos incombustibles totalmente cerrados si la normativa de construcción local requiere el uso de cable con plenum.

Designación del modelo



Emisiones de ruido aéreo

La presión sonora de ponderación A emitida por este producto está por debajo de los 70 dB.

** El nivel de ruido puede variar en función del lugar. Las cifras mencionadas corresponden al nivel de emisión, y no son necesariamente niveles de trabajo seguros. A pesar de que existe correlación entre los niveles de emisión y de exposición, esta información no puede utilizarse de modo fiable para determinar si se necesitan o no medidas de precaución adicionales. Entre los factores que tienen influencia sobre el nivel real de exposición del personal se incluyen las características de la sala de trabajo y el resto de fuentes de ruido, como son el número de equipos y procesos adyacentes y el periodo de tiempo durante el que un operador se ha visto expuesto al ruido. Del mismo modo, el nivel de exposición permitido puede variar de un país a otro. Esta información, sin embargo, permitirá al usuario del equipo realizar una mejor evaluación de los peligros y los riesgos.

Concentración limitante

La concentración limitante es el límite de concentración de gas freón en el que pueden tomarse medidas inmediatas sin que se produzcan lesiones en el cuerpo humano cuando se producen fugas de refrigerante en el aire. La concentración limitante se debe describir en la unidad kg/m^3 (peso del gas freón por volumen de aire de la unidad) a efectos de facilitar el cálculo

Concentración limitante: 0.44 kg/m^3 (0.027 lbs/ft^3)

■ Calcular concentración de refrigerante

$$\text{Concentración de refrigerante} = \frac{\text{Cantidad total de refrigerante cargado en el depósito de refrigerante [kg(lbs)]}}{\text{Capacidad de la sala más pequeña en la que se instala la unidad interior [}m^3(ft^3)\text{]}}$$

US	Please call the installing contractor of your product, as warranty service will be provided by them.
CANADA	Service call Number # : (888) LG Canada, (888) 542-2623 Numéro pour les appels de service : LG Canada, 1-888-542-2623

pettitpettit
CONSULTING ENGINEERS, INC

REVIEW OFLS

Project: Arkansas Tech University – Jones Hall
Location: Russellville, Arkansas
Date of Receipt: Wednesday, March 1, 2023
Date of Review: Wednesday, March 8, 2023
Reviewed by: Adam Kelly
Email: akelly@pettitinc.com

P&P Job No. 21-108

Signed: Adam Kelly

Checking is for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication processes or to techniques of construction; and for coordination of the work of all trades.

Item	Approval Status		Comments
Section 23 82 30 – VRF HVAC Systems (CU-1 thru CU-13)	Approved as Corrected	o	- Several MCA and MOP values do no match as scheduled. Coordinate all required electrical changes with electrical contractor. Note: **CU-1, 3, 6, 10 & 13.** - Vertical Cabinet Unit **FC 8-1-1** & **FC 9-1-1** do not match as scheduled air flow. Contractor to adjust airflow to each air device associated with units accordingly. Record all adjustments on "as built". - Contractor to verify all sizes, quantities, and tagged appropriately. Note: • **FC 11-1-1** appears to be missing from Models Tagged box and riser diagram. • **FC 1-2-1** appear to be missing from Models Tagged box. • Page 122 – Under the Models Tagged note, it lists **FC 6-1-1 thru 7** & **FC 6-1-9 thru 11**. All units are located on the third floor therefore should be listed as **FC 6-3-1 thru 7** & **FC 6-3-9 thru 11.** • Contractor to coordinate with equipment provider to provide the appropriate branch selector boxes. Reference page 132 of the attached submittals, two port boxes are no longer required per changes made to the construction documents in RFP 04. • Contractor to coordinate with equipment provider for the appropriate equipment tags. All fan coil and branch selector boxes should be in sequential order for each floor. Reference page 46 of the attached submittal, see branch selector box tagged as **BS 6-3-7** and revise to read **BS 6-3-2.** For reference: equipment tags are: **Condensing Unit** – **Building Floor** – **Unit Number**. - Coordinate location of all electrical disconnects with unit placements to maintain required NEC clearances.

			- Contractor to provided unit equipment rails that fasten to existing roof and flashed. Coordinate unit size and location with roofing contractor for all roof mounted equipment. - Contractor to carefully follow size and routing of refrigerant piping with manufacturer's instructions. Contractor to receive engineer's and manufacturer's approval for any changes to size / routing of piping, number / size of units associated with branch selector boxes, and mounting that deviates from typical installations. Coordinate routing of piping with all trades. - Contractor to refer to refrigerant piping diagrams provide by manufacture for additional refrigerant required. Maximum refrigerant charge for each system not to exceed 42 lbs. - Contractor to coordinate all control devices with controls contractor. - Contractor to coordinate at all areas where condensate pumps are required. The primary design intent for all units is to slope the piping and utilize gravity for all condensate drains. Condensate pumps to be utilized where gravity drains cannot be installed. Contractor to coordinate with all manufacturer's instructions for installation of both gravity drains and condensate pumps.

  o 

Note:

RE-SUBMITTAL DATA

EQUIPMENT: LG VRF Heat Recovery

TAGS: CU-1 thru CU-13

PROJECT: ATU Jones Hall Renovation

LOCATION: Russellville, AR

ENGINEER:

CONTRACTOR:

DATE: 2/10/2023

SUBMITTED BY: Forrest Moseley
forrest@airetechcorp.com
(501) 425-6112

FIELD REQUIREMENTS

DISCLAIMER: These are some of the installation recommendations as suggested per LG Commercial Air Conditioning for proper installation of the Multi V VRF system. Proper installation is ultimately the contractor's responsibility.

- ✓ **DO NOT** use traps.
- ✓ **DO NOT** use solid core cable. Use stranded cable for data communication
- ✓ **DO NOT** use shipping caps. Braze off caps.
- ✓ **DO NOT** use field supplied cable for remote controllers. Use 30' cable provided.
- ✓ **DO NOT** splice control wiring.
- ✓ **DO NOT** open Outdoor Unit (ODU) service valves. Valves **are not** to be opened until LG commissioner is onsite.
- ✓ **DO NOT** energize ODUs, IDUs, or HR boxes during piping. Doing so will cause valves to close and prevent proper nitrogen flow.
- ✓ **DO NOT** install driers, sight glasses, solenoid valves, or any other components in the piping network. Full port ball valves are the only exception.
- ✓ **DO NOT** place ODUs where discharge air from one unit can be drawn in by another unit.
- ✓ Record all model and serial numbers
- ✓ Contractor to provide finalized near actual lengths **prior** to piping install. It is required that IDU/ODU locations and pipe routs be finalized prior to pie work to determine near actual lengths.
- ✓ Track all actual lengths and long radius 90s as you go. You will be required to product this document at commissioning time, for proper charge calculation and warranty activation.
- ✓ **ALL** Multi V IDUs and HR boxes require **208/230/1AC Power**
- ✓ Nitorgen purge only during brazing.
- ✓ Fresh air to LG IDUs should be conditioned.
- ✓ Use only vacuum rated hoses or copper tubing for refrigerant pipe.
- ✓ It is strongly recommended that field supplied refrigerant ball valves with Schrader ports be used on both lines to **all** IDUs. Valve should be located right after Y-branch to IDU w/service port pointing towards IDU. If there are HR boxes, put valve at HR box between box and IDU.
- ✓ Allow two feet (2') for every long radius 90.
- ✓ Maintain 20" minimum of straight pipe into Y-branch from 90.
- ✓ Condensate pumps are only intended to pump condensate to a **max height of 27.5"** above the bottom of the unit up into a gravity drain. If more is required, use a third-party condensate pump. Need additional float switch for third party pump.
- ✓ If bending flex drain hose in a 90 degree upward angle, do so gradually.
- ✓ **ALL** ODUs are to be properly fastened through the provided base mounting holes. This is a condition required for warranty.
- ✓ Service valve at ODU to main line is suggested for pressure and vacuum testing.
- ✓ **Always** remove inner and outer burrs before flaring tubing.
- ✓ Ream all pipe to the full inside diameter of pipe.

Model Selection - Summary

Date: 02/10/2023

1. Outdoor Units

No.	Model Name	Quantity	Description
1	ARUM096BTE5	8	MULTI V 5/50,60Hz/R410A/Heat Recovery/MULTI V 5/N.America
2	ARUM121BTE5	5	MULTI V 5/50,60Hz/R410A/Heat Recovery/MULTI V 5/N.America
Total		13	

2. Indoor Units

No.	Model Name	Quantity	Description
1	ARNU073SJA4	13	WALL MOUNTED
2	ARNU093SJA4	102	WALL MOUNTED
3	ARNU123SJA4	9	WALL MOUNTED
4	ARNU123CEA4	6	FLOOR STANDING - WITH CASE(12MBH)
5	ARNU243CFA4	2	FLOOR STANDING - WITH CASE(24MBH)
6	ARNU483NKA4	2	VERTICAL AHU
Total		134	

3. Branch/Header

No.	Model Name	Quantity
1	ARBLB03321	11
2	ARBLN01621	9
3	PRHR043A	5
4	PRHR063A	19

4. Pipes

No.	Diameter(Liq:Gas,inch)	Length(ft)
1	1/4 : 1/2	2914.8
2	3/8 : 5/8	160.7
3	3/8 : 1/2 : 5/8	264.1
4	3/8 : 5/8 : 3/4	100.3
5	3/8 : 3/4 : 7/8	182.1
6	1/2 : 3/4 : 1-1/8	70.0

5. Accessories

Model Name	Quantity	Description
PREMTC00U	134	Simple Remote Controller

Model Selection - Summary

Date: 02/10/2023

5. Accessories

Model Name	Quantity	Description
ZHGDKA52A	3	Hail Guard kit (1 required per 8 to 20 ton frame)

System Model Selection - ODU

System Name: CU-1

Date: 02/10/2023

System No : 1/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM121BTE5	12 / 20	93 / 130	0.0 / 0.0	23.20	15.62

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
119.7/115.8	135.0/135.0	7.7/7.2	9.2/13.2

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
16.2	10.2	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	30.9	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	249.3
3/8 : 5/8 : 3/4	31.9
1/2 : 3/4 : 1-1/8	30.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
ARBLN01621	4
PRHR043A	2

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-1

Date: 02/10/2023

System No : 1/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123CEA4	12.3/12.4	8.9/9.0	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123CEA4	12.3/12.4	8.9/9.0	13.6/13.6	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-1

Date: 02/10/2023

System No : 1/13

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 1-2-1	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 1-2-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 1-1-1	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 1-1-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 1-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 1-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 1-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 1-1-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 1-2-5	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 1-1-5	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 1-2-6	ARNU123CEA4	FLOOR STANDING	58.8	102.9	370.8	NA
FC 1-1-6	ARNU123CEA4	FLOOR STANDING	58.8	102.9	370.8	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-1

Date: 02/10/2023

System No : 1/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 1-2-1	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-2-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-1-1	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-1-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-1-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-2-5	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-1-5	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 1-2-6	ARNU123CEA4	59.5 lbs	42x25x8 inch	208~230	1	60	1.00	0.76
FC 1-1-6	ARNU123CEA4	59.5 lbs	42x25x8 inch	208~230	1	60	1.00	0.76

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-1

Date: 02/10/2023

System No : 1/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	311.2 ft
Longest equivalent pipe length	574.1 ft	107.1 ft : ARNU123CEA4[FC 1-2-6]
Longest pipe length after 1st branch	131.2 ft	61.0 ft : ARNU123CEA4[FC 1-2-6]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	31.5 ft : ARNU123CEA4[FC 1-1-6]
Height difference [IDU to IDU]	131.2 ft	18.5 ft : ARNU093SJA4[FC 1-2-4]-ARNU123CEA4[FC 1-1-6]
Longest actual pipe length	492.1 ft	91.0 ft : ARNU123CEA4[FC 1-2-6]
Height difference [HRU to HRU]	98.4 ft	9.5 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	9.0 ft

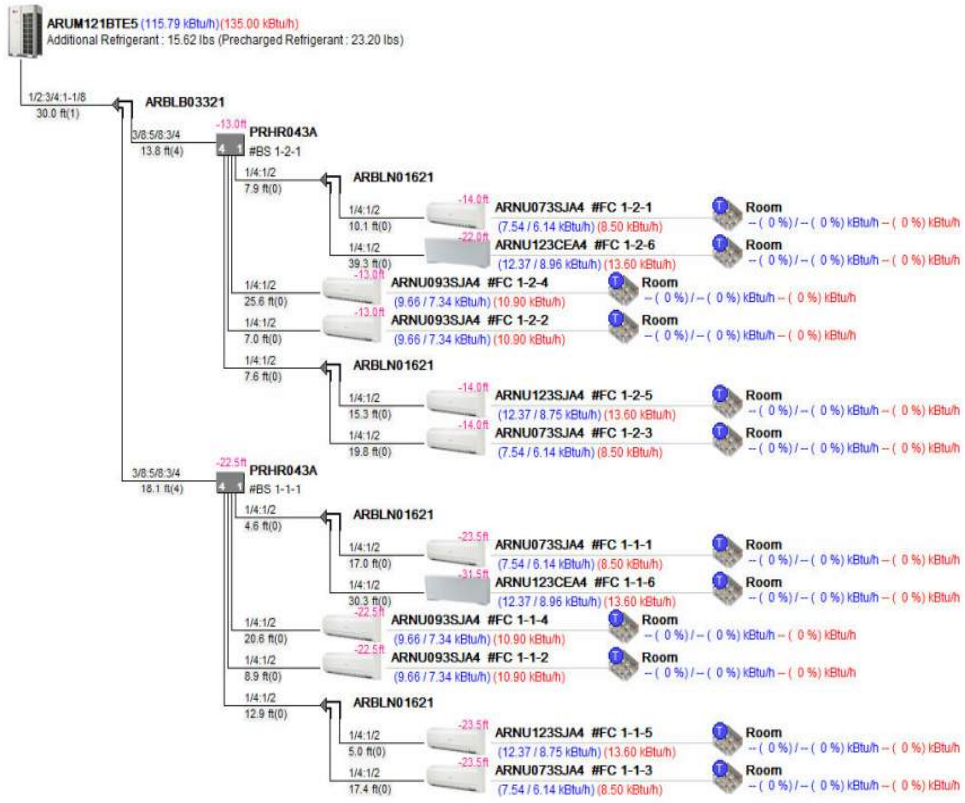
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-1

Date: 02/10/2023

System No : 1/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

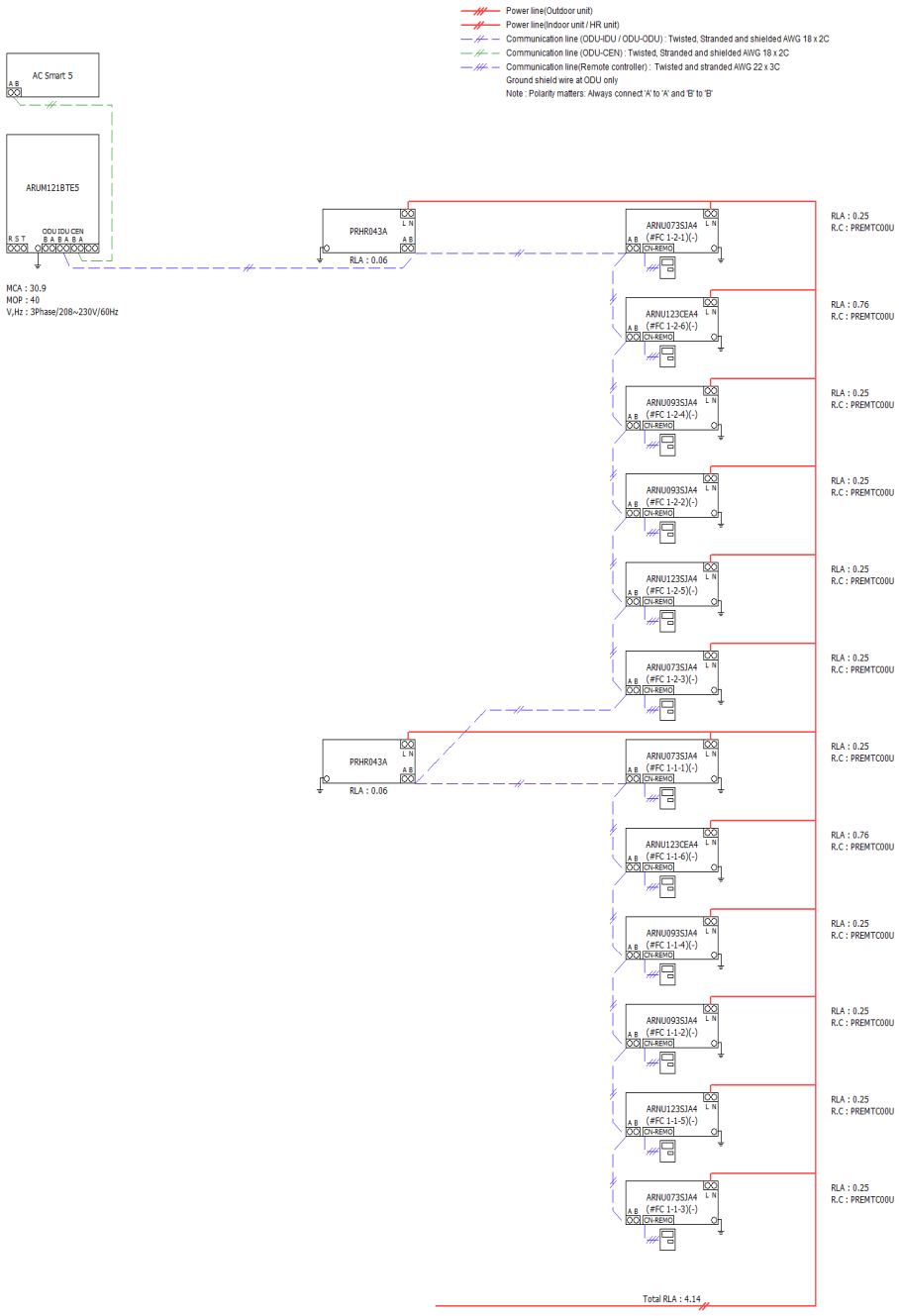
Indoor Units	**: 12 of 20**
Combination Ratio	**: 112.0 of 120.0 (93%)**
Total Pipe	**: 311.2 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 15.62 lbs**
Total refrigerant	**: 38.82 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1492.97 ft³**

System Schematic Diagram

System Name: CU-1

Date: 02/10/2023

System No : 1/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-2

Date: 02/10/2023

System No : 2/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	12 / 16	113 / 130	0.0 / 0.0	23.20	17.21

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/97.8	108.0/120.2	5.3/5.7	6.7/10.5

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.2	11.4	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	248.0
3/8 : 1/2 : 5/8	48.8
3/8 : 3/4 : 7/8	19.2

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-2

Date: 02/10/2023

System No : 2/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-2

System No : 2/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 2-2-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-2-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-2-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-2-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-1-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-1-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-1-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-1-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 2-1-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-2

Date: 02/10/2023

System No : 2/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 2-2-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-2-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-2-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-2-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-1-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-1-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-1-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-1-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 2-1-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-2

Date: 02/10/2023

System No : 2/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	316.0 ft
Longest equivalent pipe length	574.1 ft	97.8 ft : ARNU093SJA4[FC 2-2-5]
Longest pipe length after 1st branch	131.2 ft	65.5 ft : ARNU093SJA4[FC 2-2-5]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	23.5 ft : ARNU093SJA4[FC 2-1-6]
Height difference [IDU to IDU]	131.2 ft	10.5 ft : ARNU093SJA4[FC 2-2-1]-ARNU093SJA4[FC 2-1-6]
Longest actual pipe length	492.1 ft	84.7 ft : ARNU093SJA4[FC 2-2-5]
Height difference [HRU to HRU]	98.4 ft	9.5 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	1.0 ft

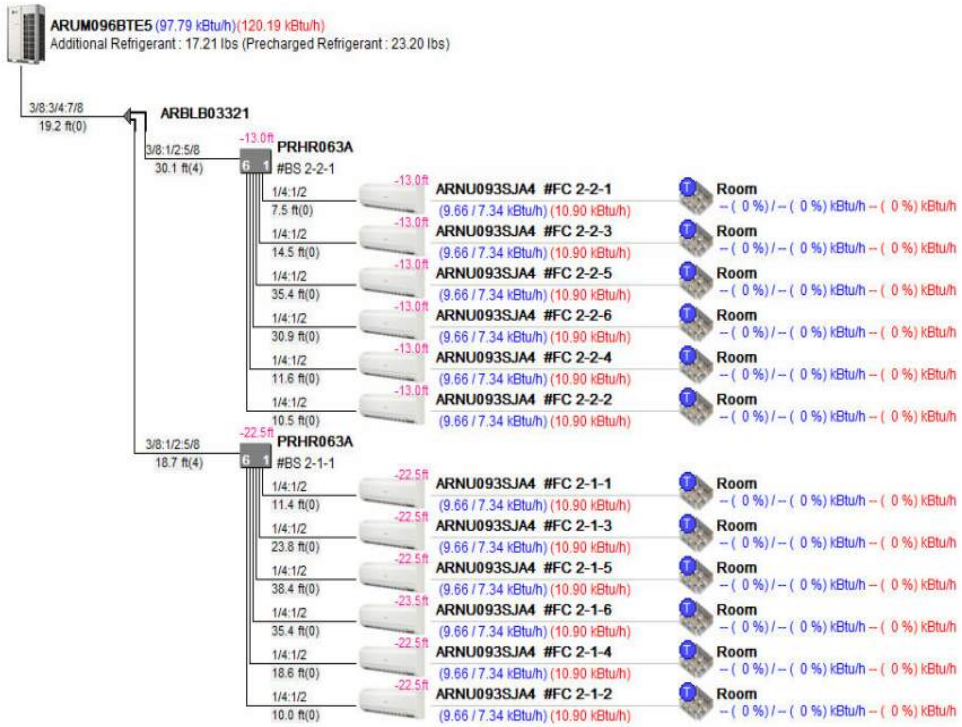
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-2

Date: 02/10/2023

System No : 2/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

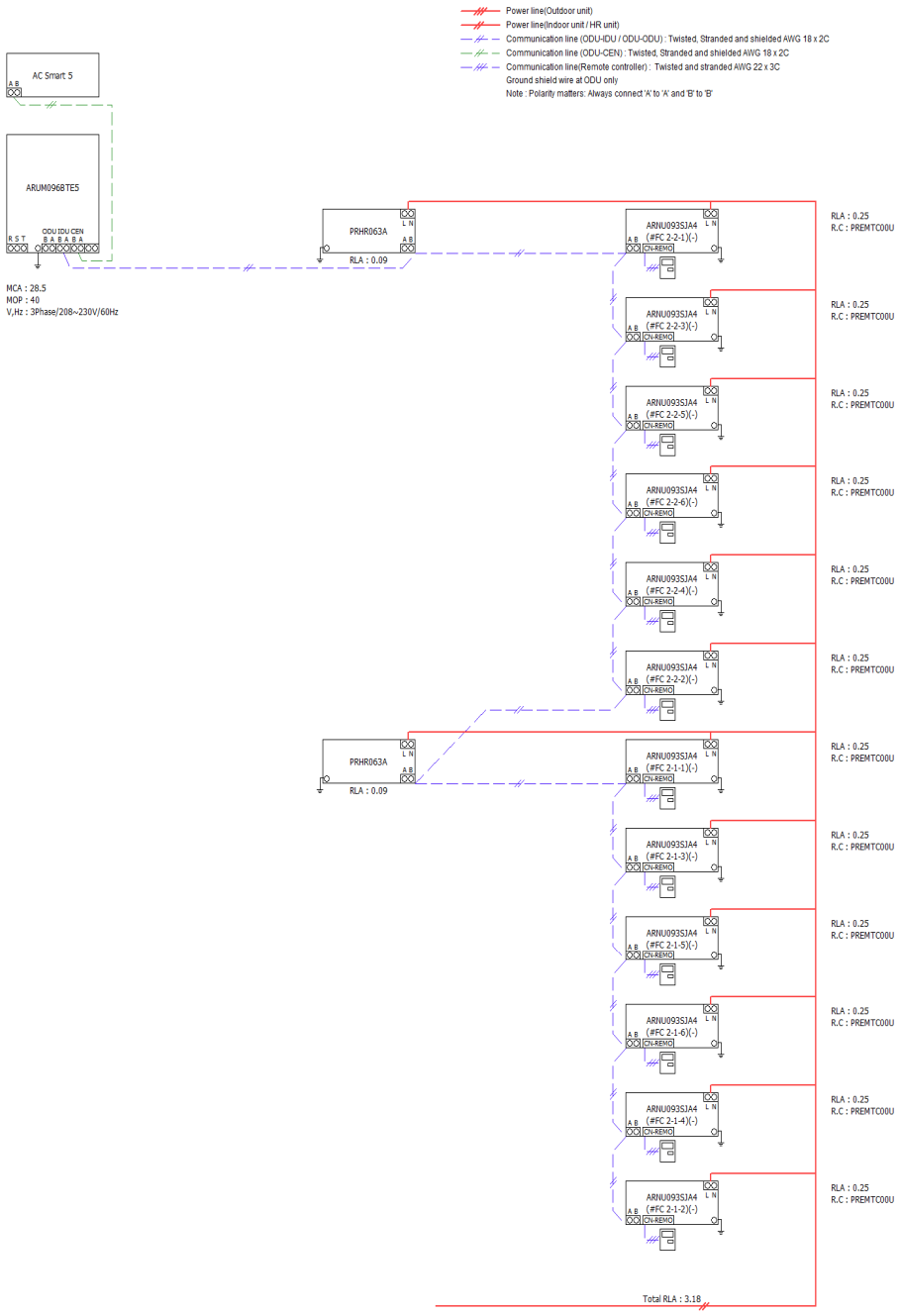
Indoor Units	**: 12 of 16**
Combination Ratio	**: 108.0 of 96.0 (113%)**
Total Pipe	**: 316.0 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 17.21 lbs**
Total refrigerant	**: 40.41 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1554.31 ft³**

System Schematic Diagram

System Name: CU-2

Date: 02/10/2023

System No : 2/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-3

Date: 02/10/2023

System No : 3/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM121BTE5	12 / 20	92 / 130	0.0 / 0.0	23.20	15.73

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
119.7/116.2	135.0/135.0	7.7/7.0	9.2/13.0

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
16.6	10.4	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	30.9	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	274.8
3/8 : 1/2 : 5/8	4.0
3/8 : 5/8 : 3/4	33.4
1/2 : 3/4 : 1-1/8	8.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
ARBLN01621	2
PRHR043A	1
PRHR063A	1

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-3

Date: 02/10/2023

System No : 3/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123CEA4	12.3/12.4	8.9/9.0	13.6/13.6	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-3

Date: 02/10/2023

System No : 3/13

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 3-3-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 3-3-1	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 3-3-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-7	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-9	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-11	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-12	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-10	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-8	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 3-3-5	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 3-3-6	ARNU123CEA4	FLOOR STANDING	58.8	102.9	370.8	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-3

Date: 02/10/2023

System No : 3/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 3-3-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-1	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-7	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-9	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-11	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-12	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-10	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-8	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-5	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 3-3-6	ARNU123CEA4	59.5 lbs	42x25x8 inch	208~230	1	60	1.00	0.76

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-3

Date: 02/10/2023

System No : 3/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	320.2 ft
Longest equivalent pipe length	574.1 ft	95.2 ft : ARNU073SJA4[FC 3-3-3]
Longest pipe length after 1st branch	131.2 ft	72.1 ft : ARNU073SJA4[FC 3-3-3]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	12.0 ft : ARNU123CEA4[FC 3-3-6]
Height difference [IDU to IDU]	131.2 ft	8.0 ft : ARNU093SJA4[FC 3-3-4]-ARNU123CEA4[FC 3-3-6]
Longest actual pipe length	492.1 ft	80.1 ft : ARNU073SJA4[FC 3-3-3]
Height difference [HRU to HRU]	98.4 ft	0.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	8.0 ft

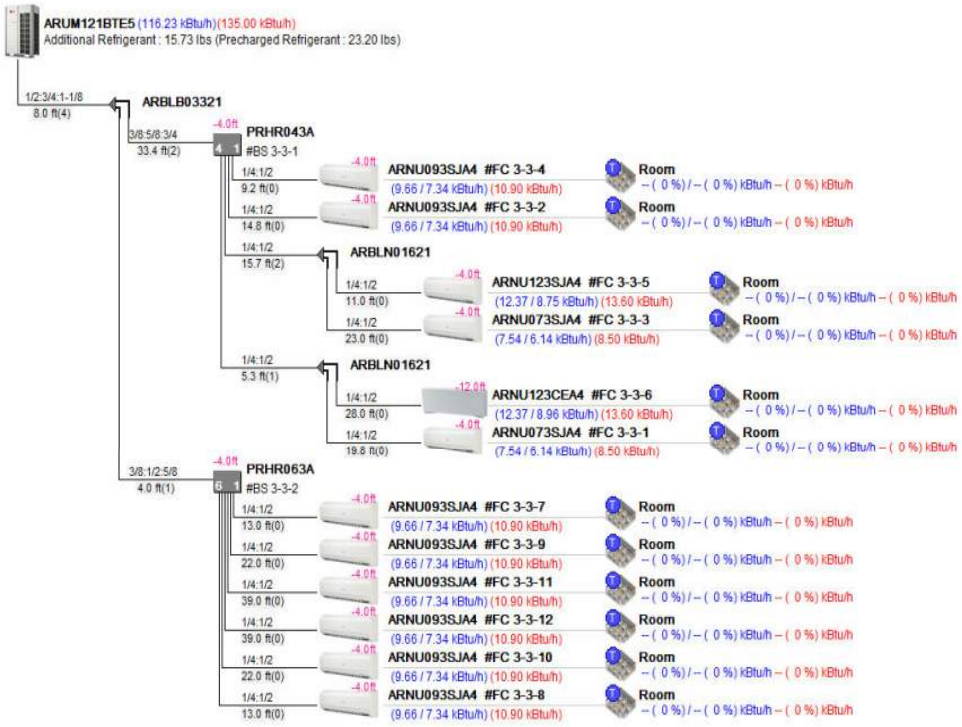
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-3

Date: 02/10/2023

System No : 3/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

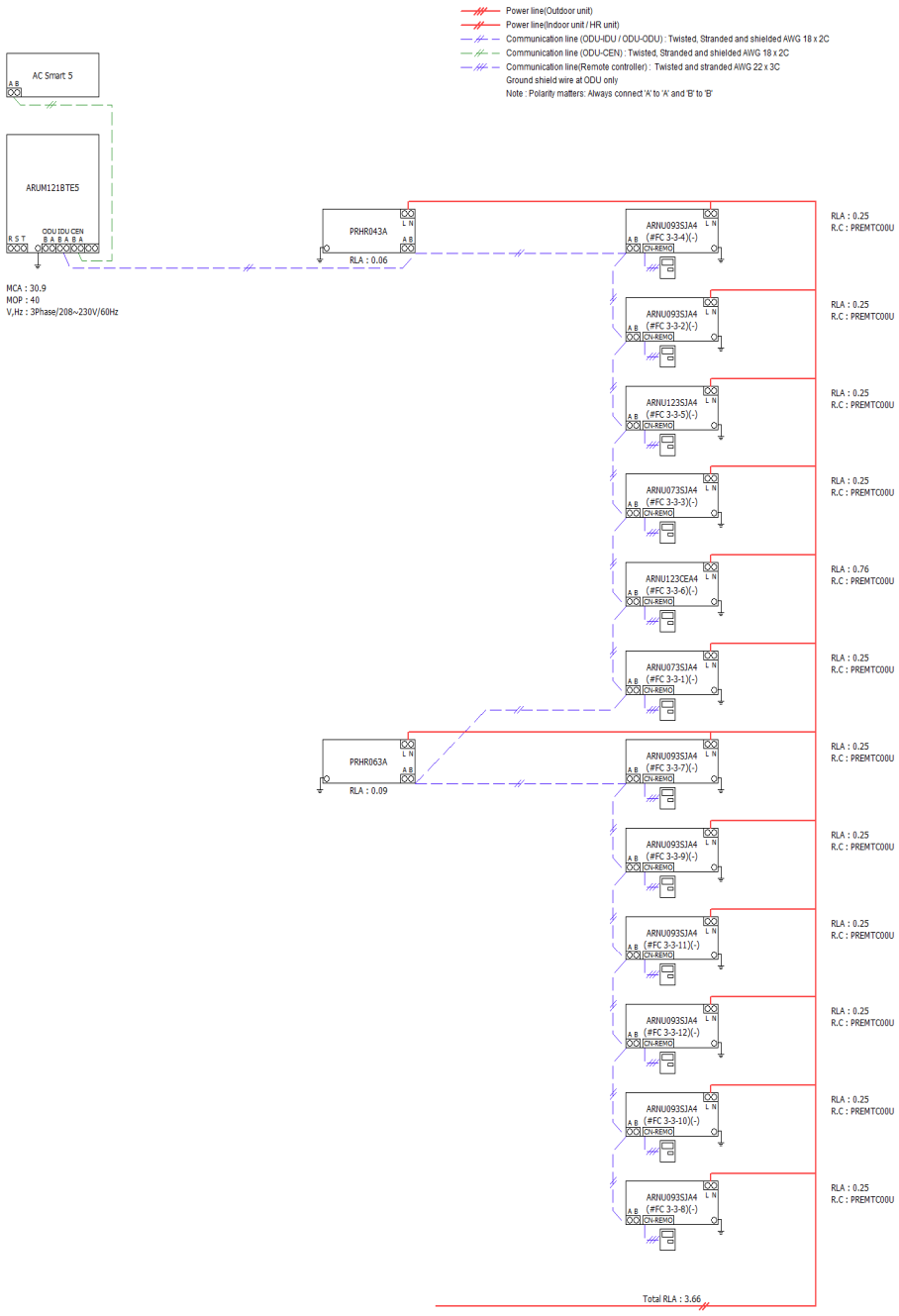
Indoor Units	**: 12 of 20**
Combination Ratio	**: 110.0 of 120.0 (92%)**
Total Pipe	**: 320.2 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 15.73 lbs**
Total refrigerant	**: 38.93 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1497.38 ft³**

System Schematic Diagram

System Name: CU-3

Date: 02/10/2023

System No : 3/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-4

Date: 02/10/2023

System No : 4/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	12 / 16	113 / 130	0.0 / 0.0	23.20	17.11

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/97.7	108.0/120.2	5.3/5.7	6.7/10.5

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.2	11.4	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	259.0
3/8 : 1/2 : 5/8	38.6
3/8 : 3/4 : 7/8	23.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-4

Date: 02/10/2023

System No : 4/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-4

System No : 4/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 4-2-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-2-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-2-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-2-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-1-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-1-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-1-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-1-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 4-1-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-4

System No : 4/13

Date: 02/10/2023

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 4-2-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-2-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-2-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-2-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-1-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-1-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-1-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-1-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 4-1-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-4

Date: 02/10/2023

System No : 4/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	320.6 ft
Longest equivalent pipe length	574.1 ft	99.3 ft : ARNU093SJA4[FC 4-2-6]
Longest pipe length after 1st branch	131.2 ft	63.2 ft : ARNU093SJA4[FC 4-2-6]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	23.5 ft : ARNU093SJA4[FC 4-1-6]
Height difference [IDU to IDU]	131.2 ft	10.5 ft : ARNU093SJA4[FC 4-2-1]-ARNU093SJA4[FC 4-1-6]
Longest actual pipe length	492.1 ft	86.2 ft : ARNU093SJA4[FC 4-2-6]
Height difference [HRU to HRU]	98.4 ft	9.5 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	1.0 ft

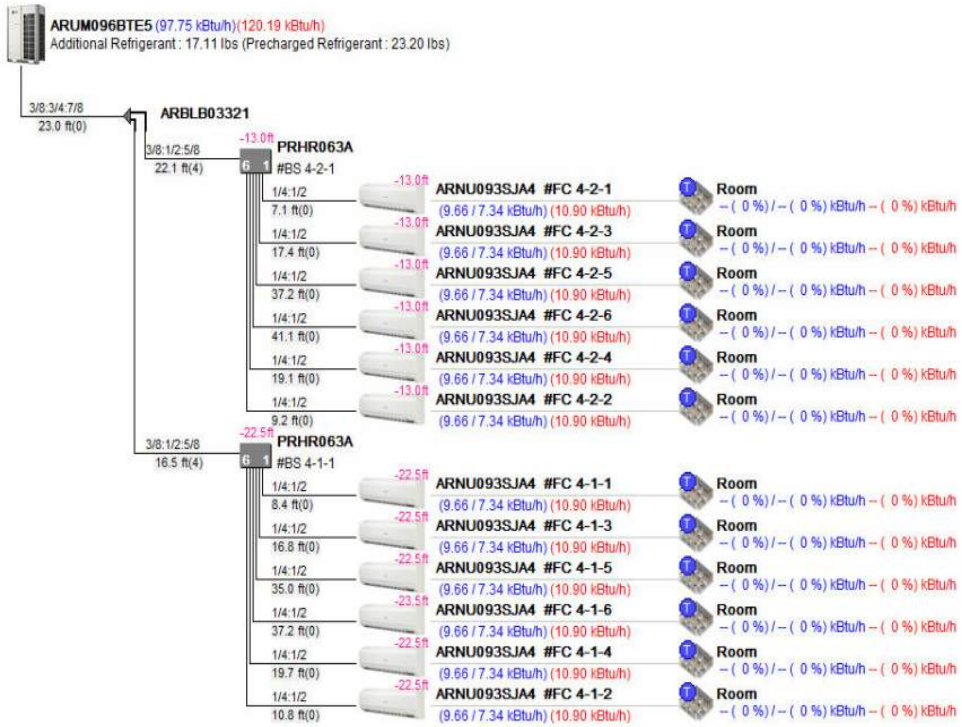
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-4

Date: 02/10/2023

System No : 4/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

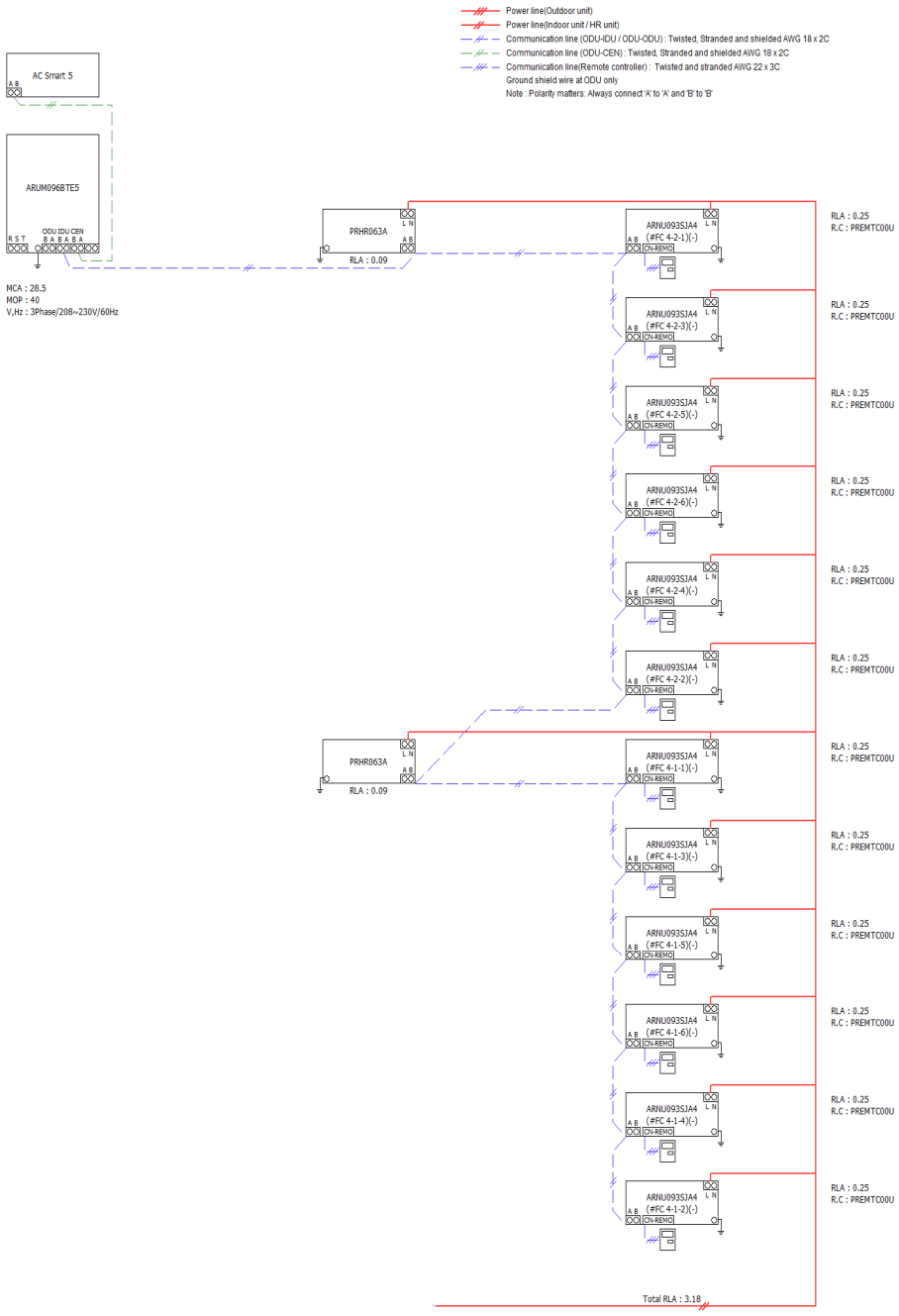
Indoor Units	**: 12 of 16**
Combination Ratio	**: 108.0 of 96.0 (113%)**
Total Pipe	**: 320.6 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 17.11 lbs**
Total refrigerant	**: 40.31 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1550.48 ft³**

System Schematic Diagram

System Name: CU-4

Date: 02/10/2023

System No : 4/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-5

Date: 02/10/2023

System No : 5/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	10 / 16	100 / 130	0.0 / 0.0	23.20	16.45

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/93.1	108.0/108.0	5.3/5.3	6.7/10.3

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.5	10.5	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	262.1
3/8 : 1/2 : 5/8	50.2
3/8 : 3/4 : 7/8	19.9

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-5

Date: 02/10/2023

System No : 5/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-5

Date: 02/10/2023

System No : 5/13

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 5-2-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-2-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-2-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-1-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-1-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-1-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 5-2-2	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 5-1-2	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-5

Date: 02/10/2023

System No : 5/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 5-2-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-2-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-2-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-1-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-1-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-1-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-2-2	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 5-1-2	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-5

Date: 02/10/2023

System No : 5/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	332.2 ft
Longest equivalent pipe length	574.1 ft	100.6 ft : ARNU093SJA4[FC 5-2-1]
Longest pipe length after 1st branch	131.2 ft	67.6 ft : ARNU093SJA4[FC 5-2-1]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	23.5 ft : ARNU093SJA4[FC 5-1-5]
Height difference [IDU to IDU]	131.2 ft	10.5 ft : ARNU123SJA4[FC 5-2-2]-ARNU093SJA4[FC 5-1-5]
Longest actual pipe length	492.1 ft	87.5 ft : ARNU093SJA4[FC 5-2-1]
Height difference [HRU to HRU]	98.4 ft	9.5 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	1.0 ft

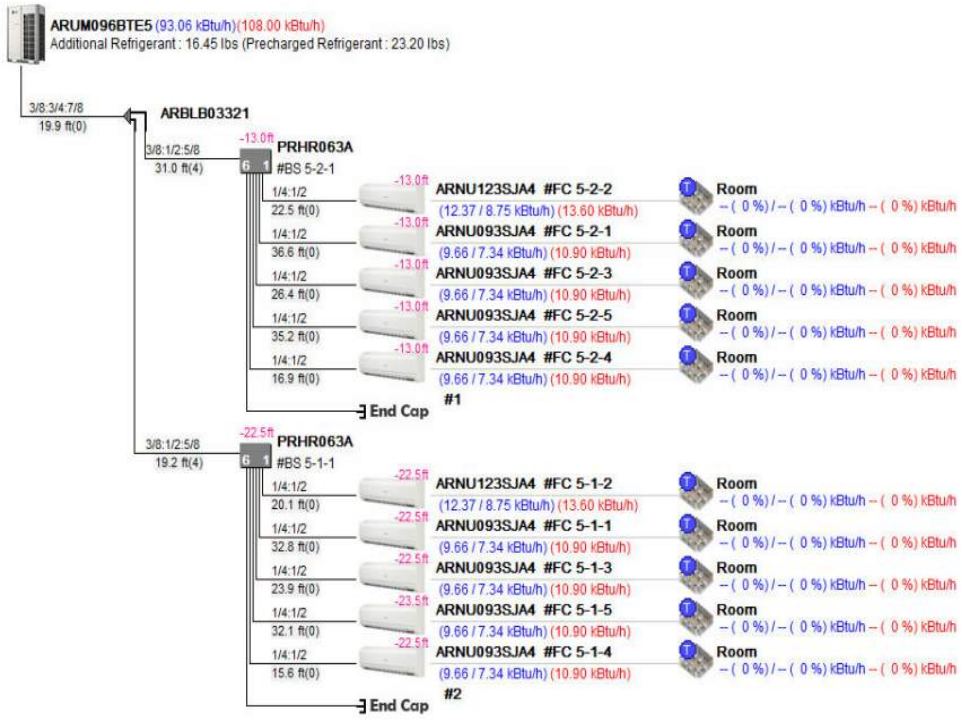
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-5

Date: 02/10/2023

System No : 5/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

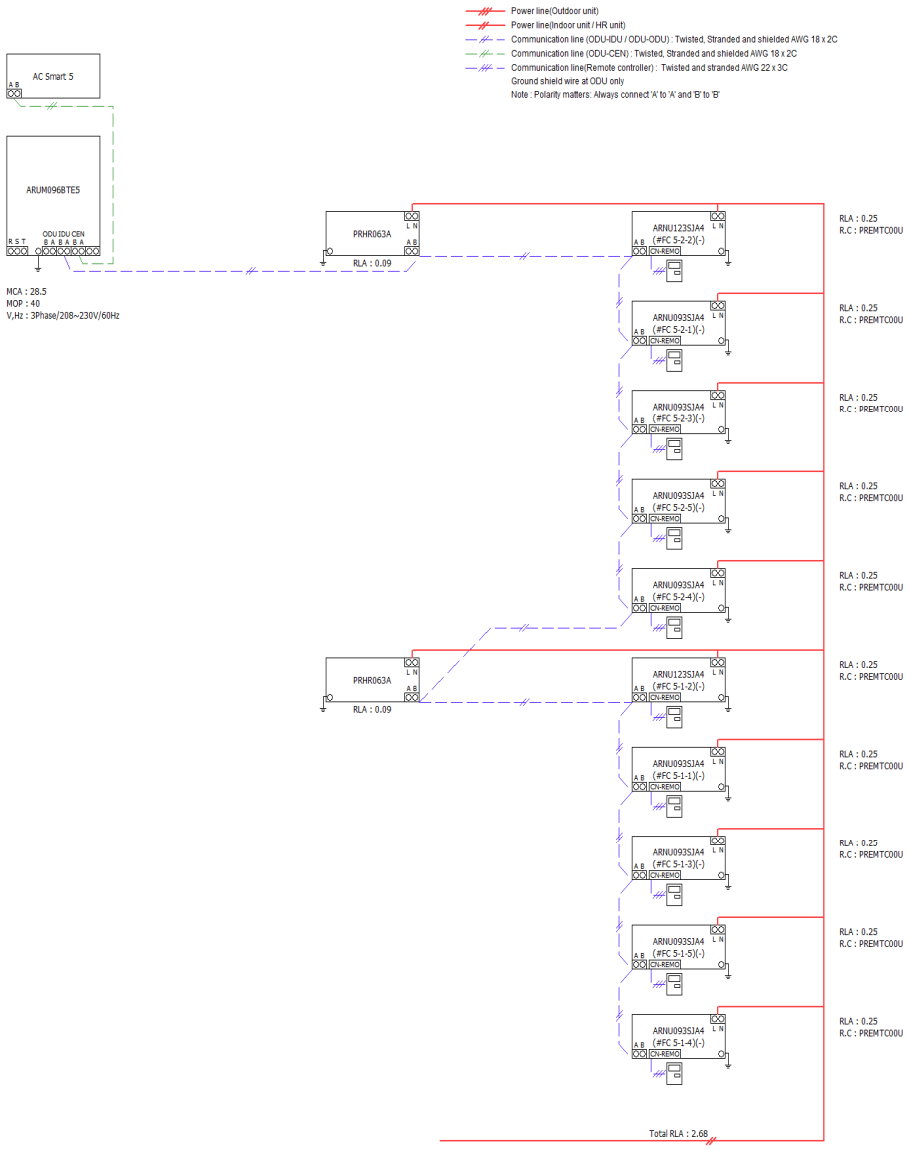
Indoor Units	**: 10 of 16**
Combination Ratio	**: 96.0 of 96.0 (100%)**
Total Pipe	**: 332.2 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 16.45 lbs**
Total refrigerant	**: 39.65 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1524.94 ft³**

System Schematic Diagram

System Name: CU-5

Date: 02/10/2023

System No : 5/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-6

Date: 02/10/2023

System No : 6/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM121BTE5	11 / 20	85 / 130	0.0 / 0.0	23.20	15.25

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
119.7/117.3	135.0/135.0	7.7/6.2	9.2/11.9

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
18.9	11.4	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	30.9	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	264.3
3/8 : 1/2 : 5/8	11.6
1/2 : 3/4 : 1-1/8	8.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-6

Date: 02/10/2023

System No : 6/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-6

Date: 02/10/2023

System No : 6/13

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 6-3-10	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-11	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-9	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-7	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 6-3-8	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-6

Date: 02/10/2023

System No : 6/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 6-3-10	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-11	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-9	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-7	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 6-3-8	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-6

Date: 02/10/2023

System No : 6/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	283.9 ft
Longest equivalent pipe length	574.1 ft	66.0 ft : ARNU093SJA4[FC 6-3-11]
Longest pipe length after 1st branch	131.2 ft	45.7 ft : ARNU093SJA4[FC 6-3-11]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	4.0 ft : ARNU093SJA4[FC 6-3-2]
Height difference [IDU to IDU]	131.2 ft	0.0 ft : ARNU123SJA4[FC 6-3-8]-ARNU123SJA4[FC 6-3-8]
Longest actual pipe length	492.1 ft	53.7 ft : ARNU093SJA4[FC 6-3-11]
Height difference [HRU to HRU]	98.4 ft	0.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	0.0 ft

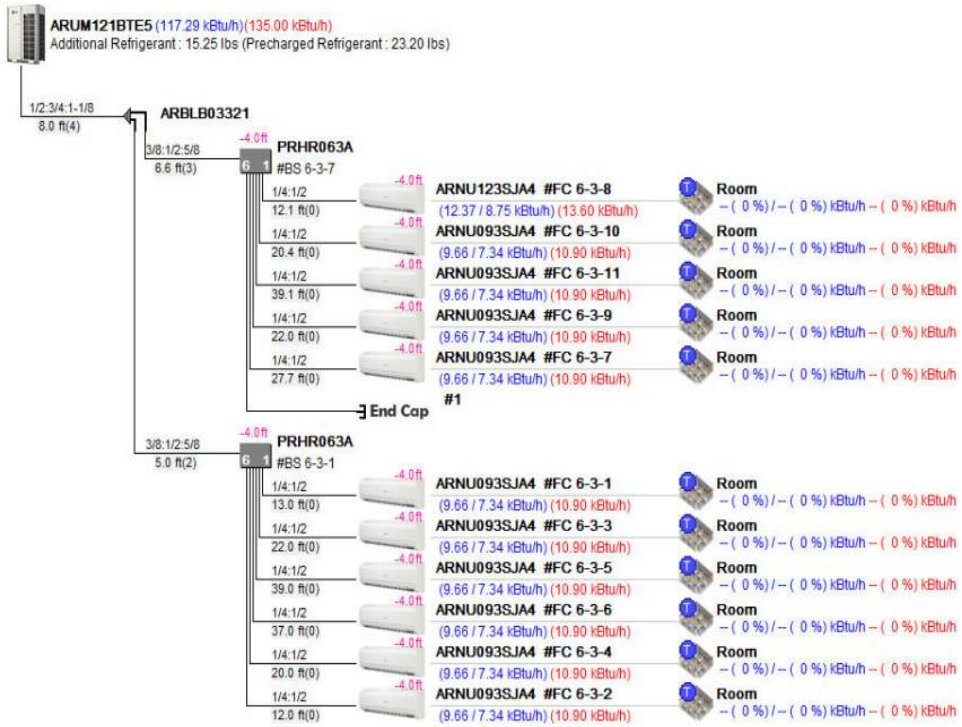
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-6

Date: 02/10/2023

System No : 6/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

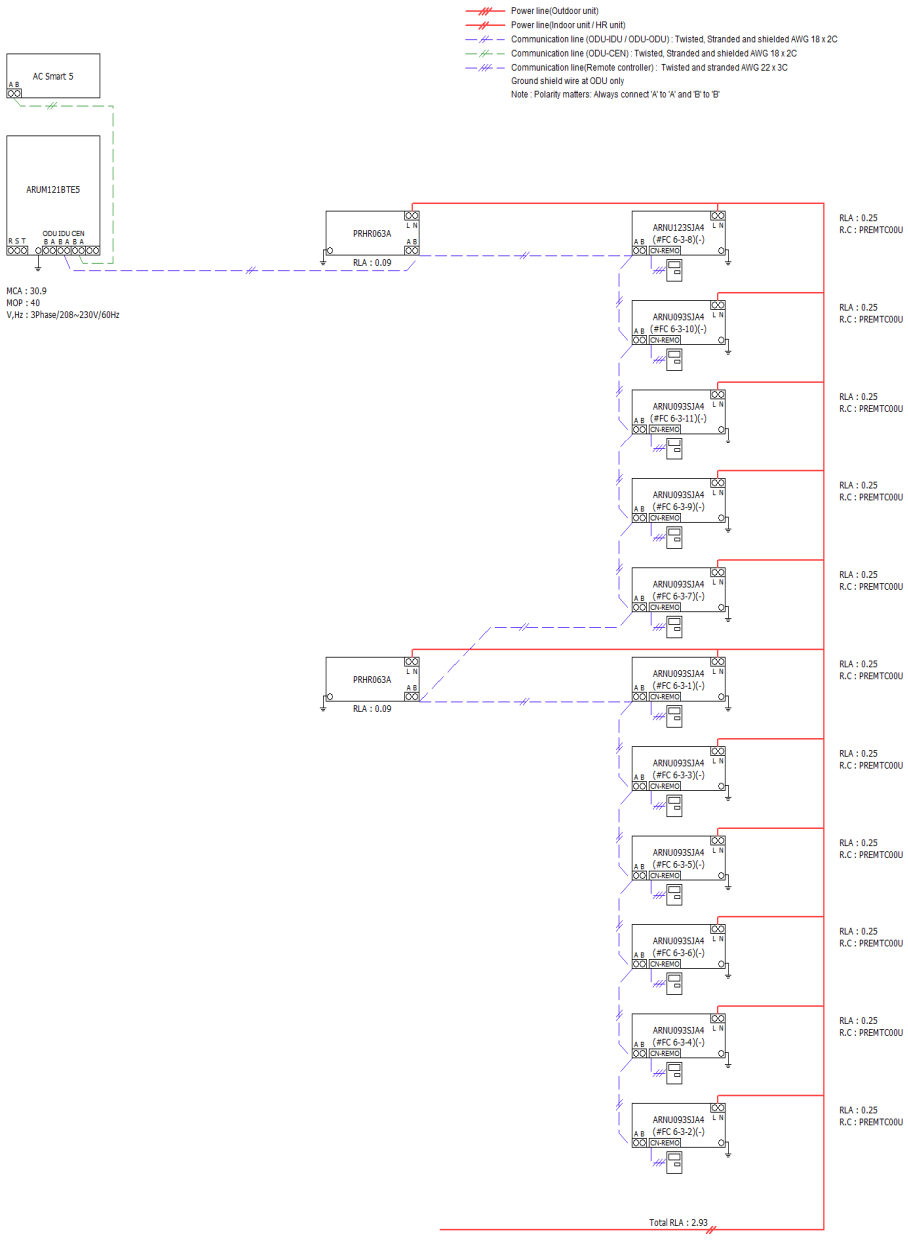
Indoor Units	**: 11 of 20**
Combination Ratio	**: 102.0 of 120.0 (85%)**
Total Pipe	**: 283.9 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 15.25 lbs**
Total refrigerant	**: 38.45 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1478.71 ft³**

System Schematic Diagram

System Name: CU-6

Date: 02/10/2023

System No : 6/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-7

Date: 02/10/2023

System No : 7/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	10 / 16	94 / 130	0.0 / 0.0	23.20	14.31

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/93.6	108.0/108.0	5.3/5.0	6.7/9.7

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
18.9	11.1	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	191.1
3/8 : 1/2 : 5/8	35.6
3/8 : 3/4 : 7/8	8.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-7

Date: 02/10/2023

System No : 7/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-7

System No : 7/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 7-2-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-2-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-2-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-3-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-3-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-3-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-3-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 7-3-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-7

Date: 02/10/2023

System No : 7/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 7-2-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-2-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-2-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-3-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-3-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-3-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-3-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 7-3-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-7

Date: 02/10/2023

System No : 7/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	234.7 ft
Longest equivalent pipe length	574.1 ft	83.3 ft : ARNU093SJA4[FC 7-2-5]
Longest pipe length after 1st branch	131.2 ft	60.9 ft : ARNU093SJA4[FC 7-2-5]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	13.0 ft : ARNU093SJA4[FC 7-2-2]
Height difference [IDU to IDU]	131.2 ft	9.0 ft : ARNU093SJA4[FC 7-3-2]-ARNU093SJA4[FC 7-2-1]
Longest actual pipe length	492.1 ft	68.9 ft : ARNU093SJA4[FC 7-2-5]
Height difference [HRU to HRU]	98.4 ft	9.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	0.0 ft

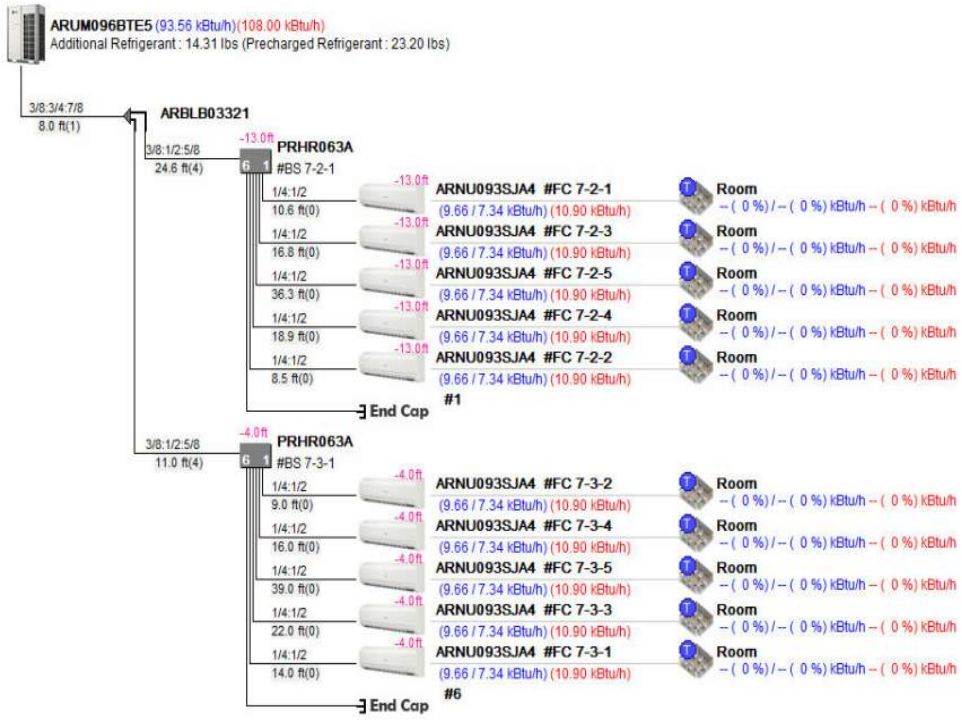
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-7

Date: 02/10/2023

System No : 7/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

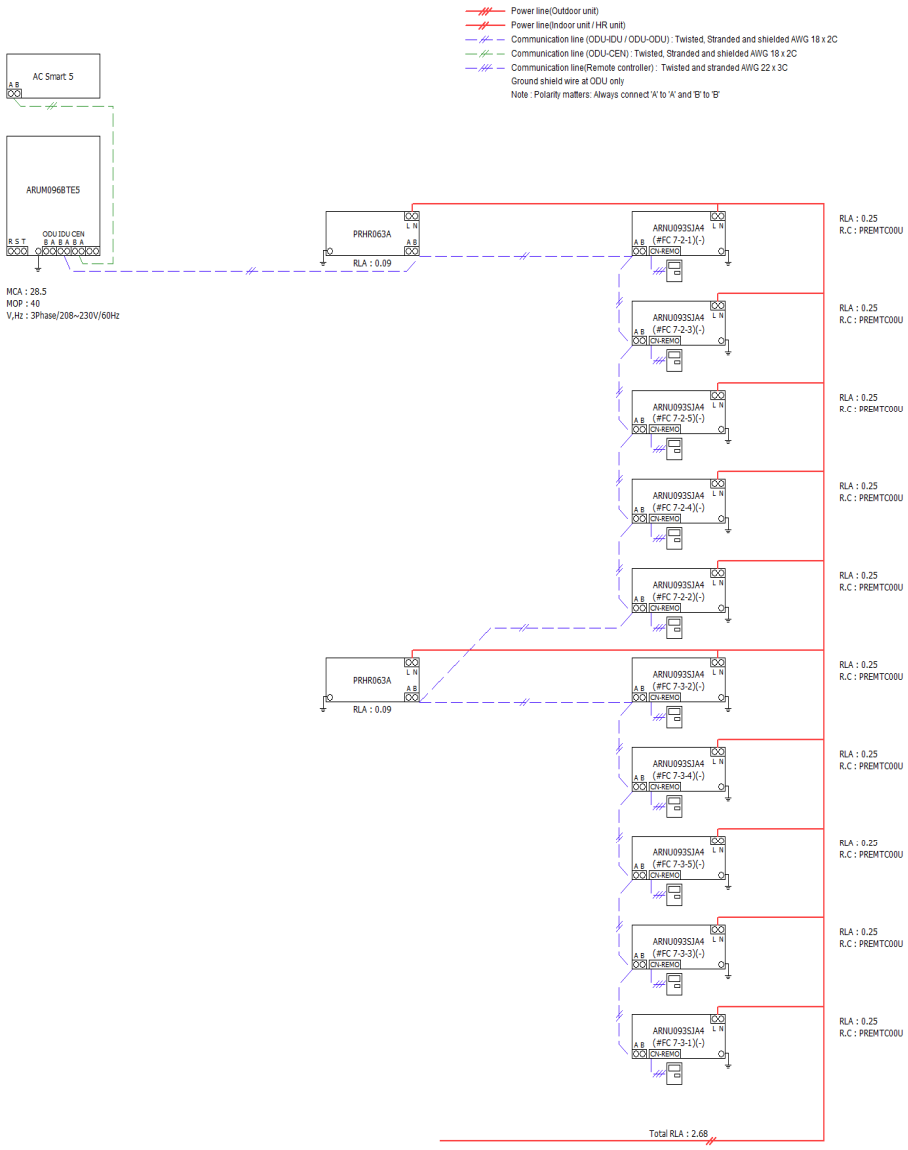
Indoor Units	**: 10 of 16**
Combination Ratio	**: 90.0 of 96.0 (94%)**
Total Pipe	**: 234.7 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 14.31 lbs**
Total refrigerant	**: 37.51 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1442.79 ft³**

System Schematic Diagram

System Name: CU-7

Date: 02/10/2023

System No : 7/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-8

Date: 02/10/2023

System No : 8/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	5 / 16	101 / 130	0.0 / 0.0	23.20	12.89

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/93.6	108.0/109.0	5.3/5.4	6.7/10.3

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.5	10.6	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	96.6
3/8 : 5/8	79.3
3/8 : 3/4 : 7/8	39.0

4. Branch/Header

Model Name	Quantity
PRHR063A	1
-	-
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-8

Date: 02/10/2023

System No : 8/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU243CFA4	24.2/24.3	17.2/17.3	27.3/27.3	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU483NKA4	48.0/48.3	33.1/33.4	54.0/54.0	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-8

Date: 02/10/2023

System No : 8/13

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 8-1-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 8-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 8-1-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 8-1-1	ARNU243CFA4	FLOOR STANDING	56.1	108.5	635.7	NA
FC 8-1-2	ARNU483NKA4	VERTICAL AHU	59.1	104.5	1402.1	Setting Value: 90 / E.S.P: 0.3854 inchAq

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-8

Date: 02/10/2023

System No : 8/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 8-1-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 8-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 8-1-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 8-1-1	ARNU243CFA4	75 lbs	52-15/16x25x8 inch	208~230	1	60	1.20	0.97
FC 8-1-2	ARNU483NKA4	165 lbs	25x21-1/4x55-3/16 inch	208~230	1	60	2.25	1.8

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-8

Date: 02/10/2023

System No : 8/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	214.9 ft
Longest equivalent pipe length	574.1 ft	97.3 ft : ARNU093SJA4[FC 8-1-4]
Longest pipe length after 1st branch	131.2 ft	43.5 ft : ARNU093SJA4[FC 8-1-4]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	31.5 ft : ARNU243CFA4[FC 8-1-1]
Height difference [IDU to IDU]	131.2 ft	9.0 ft : ARNU093SJA4[FC 8-1-4]-ARNU243CFA4[FC 8-1-1]
Longest actual pipe length	492.1 ft	82.5 ft : ARNU093SJA4[FC 8-1-4]
Height difference [HRU to HRU]	98.4 ft	0.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	9.0 ft

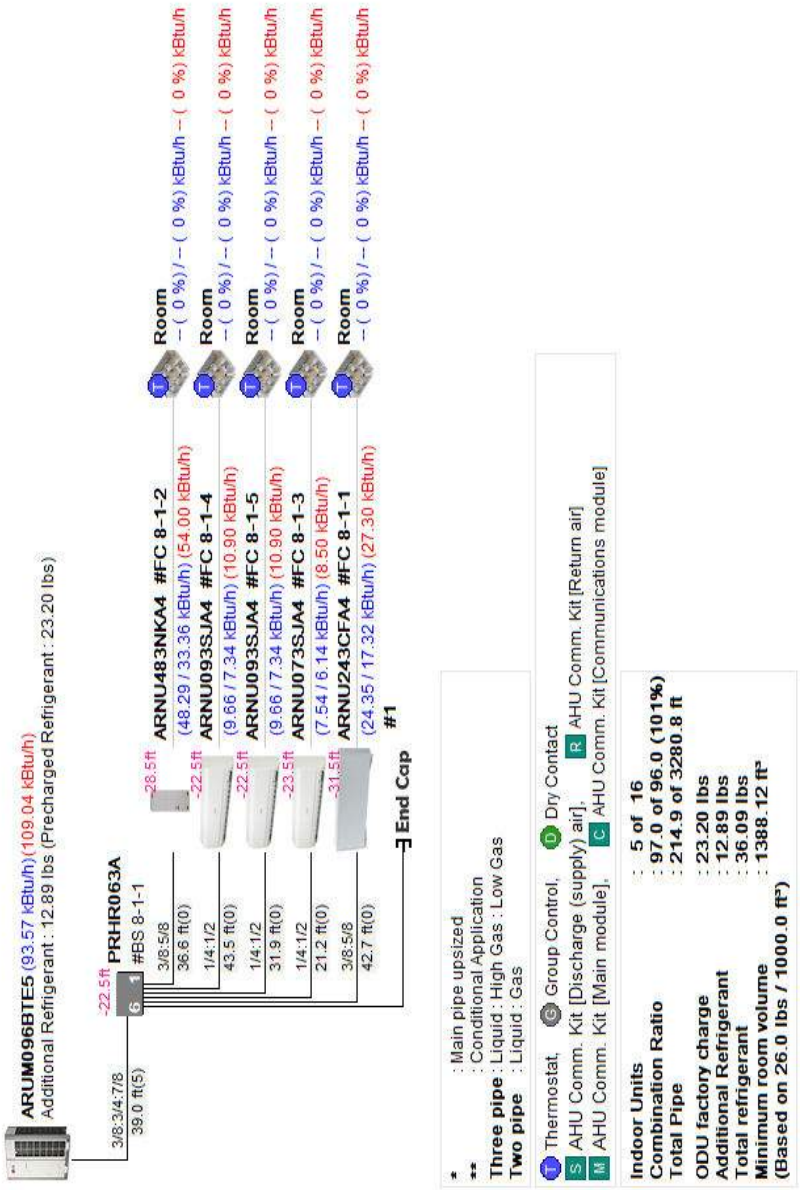
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-8

Date: 02/10/2023

System No : 8/13

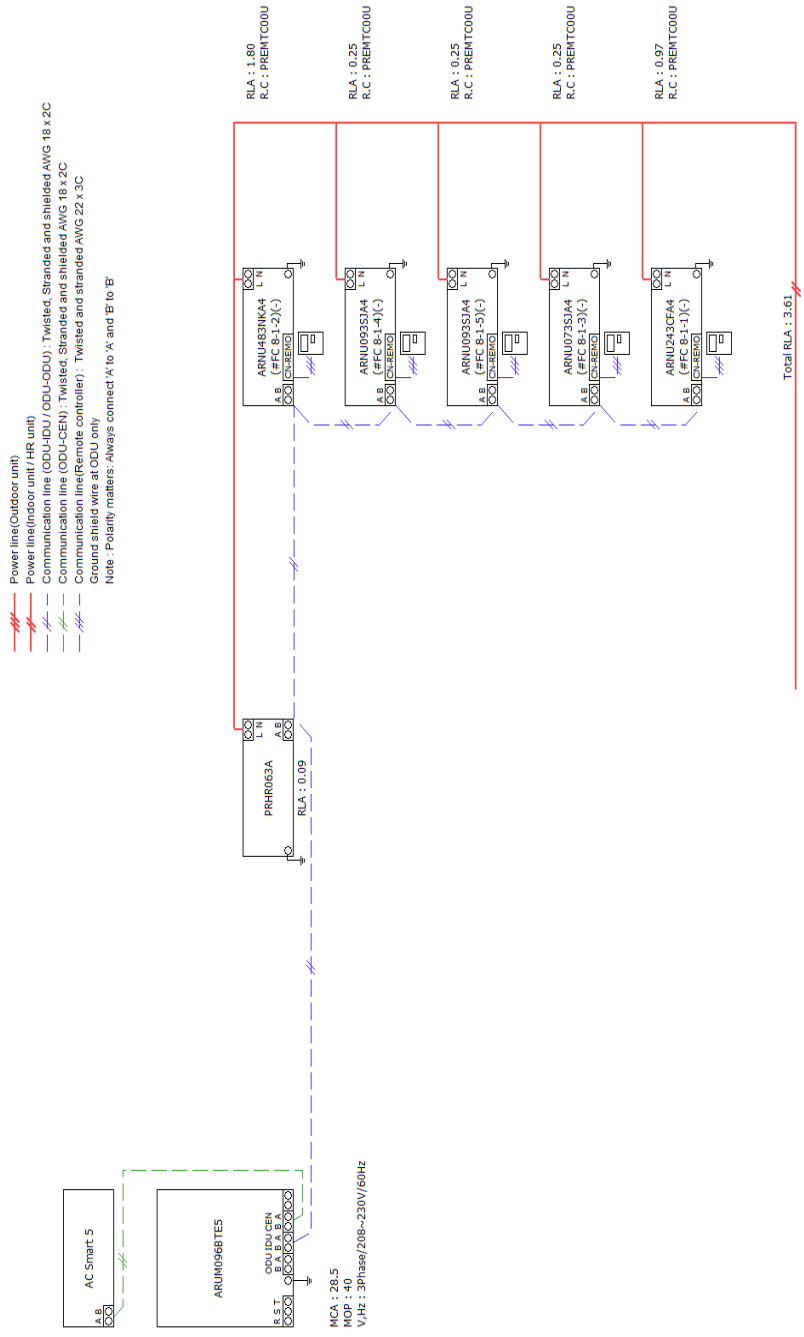


System Schematic Diagram

System Name: CU-8

Date: 02/10/2023

System No : 8/13



System Model Selection - ODU

System Name: CU-9

Date: 02/10/2023

System No : 9/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	5 / 16	106 / 130	0.0 / 0.0	23.20	12.68

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/95.0	108.0/114.3	5.3/5.5	6.7/10.4

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.2	11.0	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	87.6
3/8 : 5/8	81.4
3/8 : 3/4 : 7/8	35.0

4. Branch/Header

Model Name	Quantity
PRHR063A	1
-	-
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-9

Date: 02/10/2023

System No : 9/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU243CFA4	24.2/24.3	17.2/17.3	27.3/27.3	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU483NKA4	48.0/48.3	33.1/33.4	54.0/54.0	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-9

Date: 02/10/2023

System No : 9/13

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 9-1-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 9-1-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 9-1-5	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 9-1-4	ARNU243CFA4	FLOOR STANDING	56.1	108.5	635.7	NA
FC 9-1-1	ARNU483NKA4	VERTICAL AHU	59.1	104.5	1402.1	Setting Value: 90 / E.S.P: 0.3854 inchAq

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-9

Date: 02/10/2023

System No : 9/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 9-1-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 9-1-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 9-1-5	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 9-1-4	ARNU243CFA4	75 lbs	52-15/16x25x8 inch	208~230	1	60	1.20	0.97
FC 9-1-1	ARNU483NKA4	165 lbs	25x21-1/4x55-3/16 inch	208~230	1	60	2.25	1.8

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-9

Date: 02/10/2023

System No : 9/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	204.0 ft
Longest equivalent pipe length	574.1 ft	117.8 ft : ARNU243CFA4[FC 9-1-4]
Longest pipe length after 1st branch	131.2 ft	68.0 ft : ARNU243CFA4[FC 9-1-4]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	31.5 ft : ARNU243CFA4[FC 9-1-4]
Height difference [IDU to IDU]	131.2 ft	9.0 ft : ARNU093SJA4[FC 9-1-2]-ARNU243CFA4[FC 9-1-4]
Longest actual pipe length	492.1 ft	103.0 ft : ARNU243CFA4[FC 9-1-4]
Height difference [HRU to HRU]	98.4 ft	0.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	9.0 ft

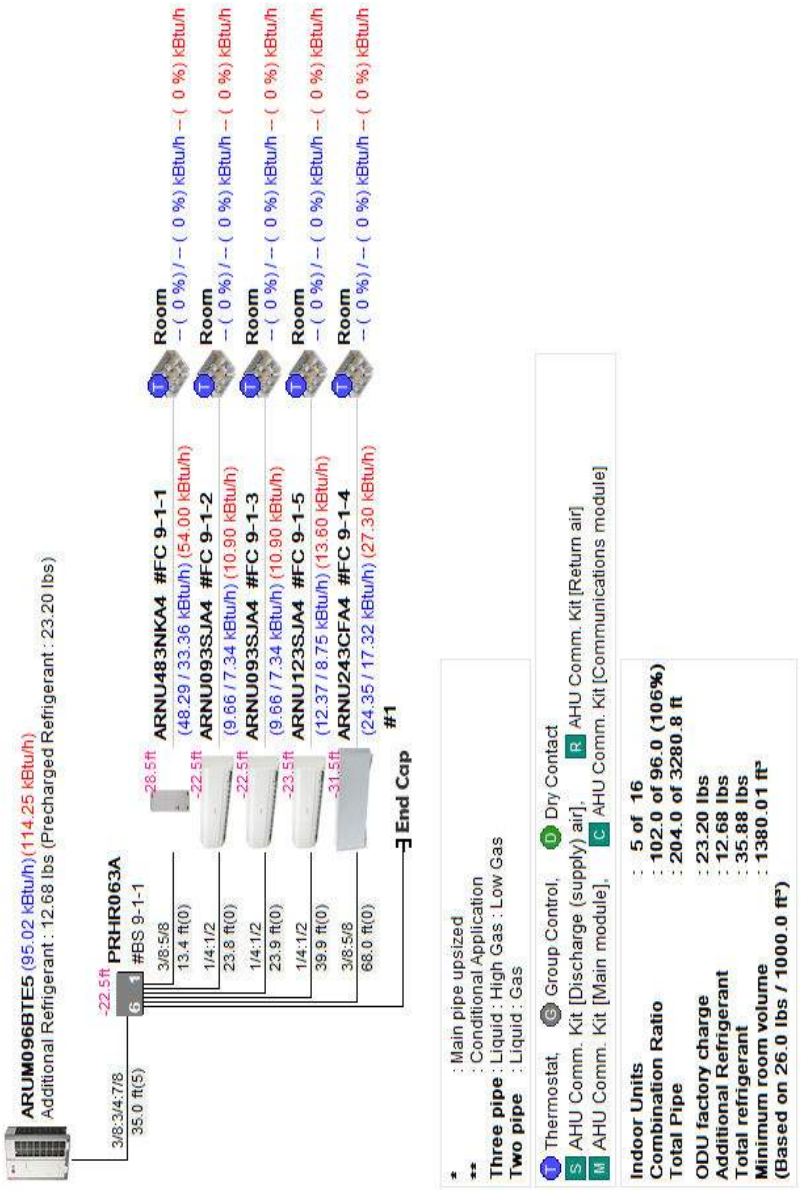
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-9

Date: 02/10/2023

System No : 9/13

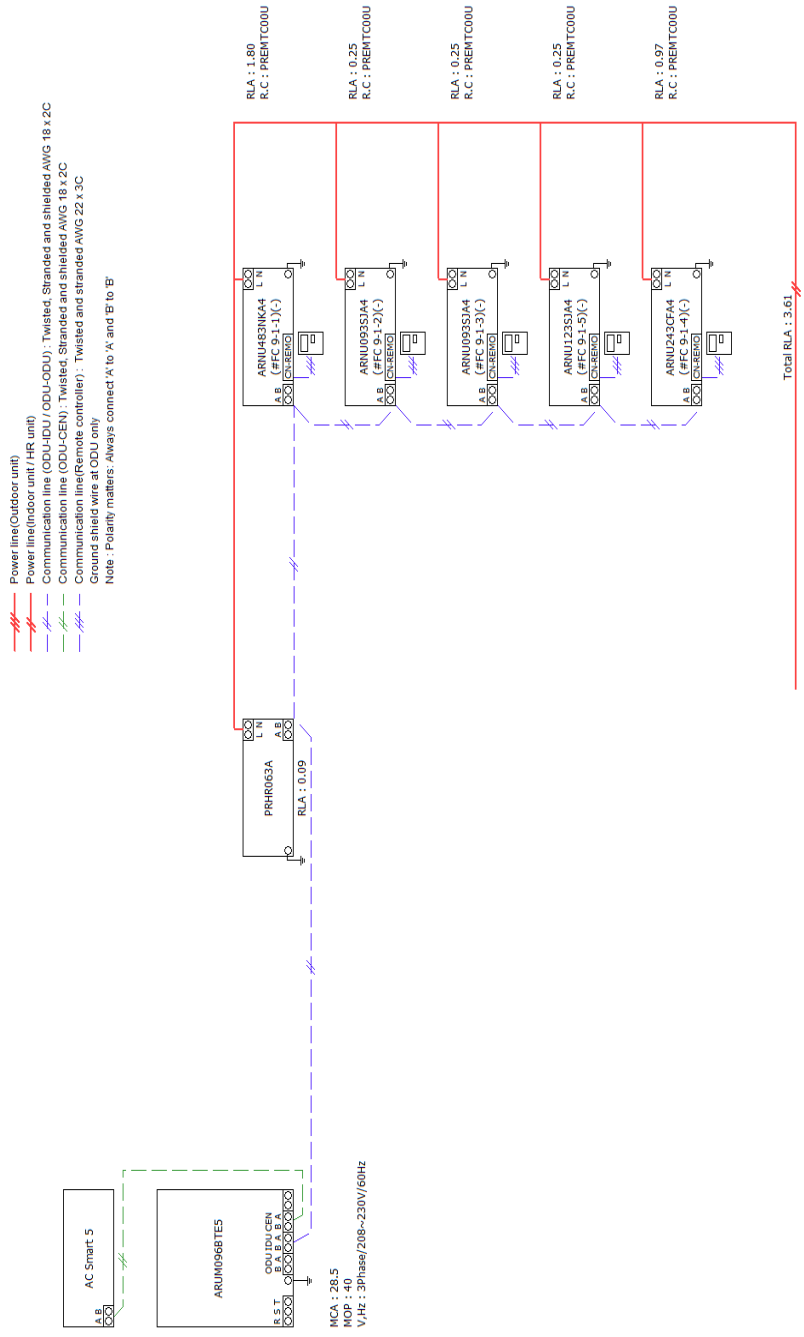


System Schematic Diagram

System Name: CU-9

Date: 02/10/2023

System No : 9/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-10

Date: 02/10/2023

System No : 10/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM121BTE5	12 / 20	90 / 130	0.0 / 0.0	23.20	16.43

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
119.7/116.9	135.0/135.0	7.7/6.9	9.2/12.8

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.0	10.6	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	30.9	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	267.6
3/8 : 1/2 : 5/8	26.3
1/2 : 3/4 : 1-1/8	8.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-10

Date: 02/10/2023

System No : 10/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-10

System No : 10/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 10-2-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-2-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-2-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-2-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-3-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-3-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-3-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-3-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-3-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 10-3-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-10

Date: 02/10/2023

System No : 10/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 10-2-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-2-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-2-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-2-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-3-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-3-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-3-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-3-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-3-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 10-3-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-10

Date: 02/10/2023

System No : 10/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	301.9 ft
Longest equivalent pipe length	574.1 ft	77.5 ft : ARNU093SJA4[FC 10-2-5]
Longest pipe length after 1st branch	131.2 ft	57.2 ft : ARNU093SJA4[FC 10-2-5]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	13.0 ft : ARNU093SJA4[FC 10-2-2]
Height difference [IDU to IDU]	131.2 ft	9.0 ft : ARNU093SJA4[FC 10-3-1]-ARNU093SJA4[FC 10-2-1]
Longest actual pipe length	492.1 ft	65.2 ft : ARNU093SJA4[FC 10-2-5]
Height difference [HRU to HRU]	98.4 ft	9.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	0.0 ft

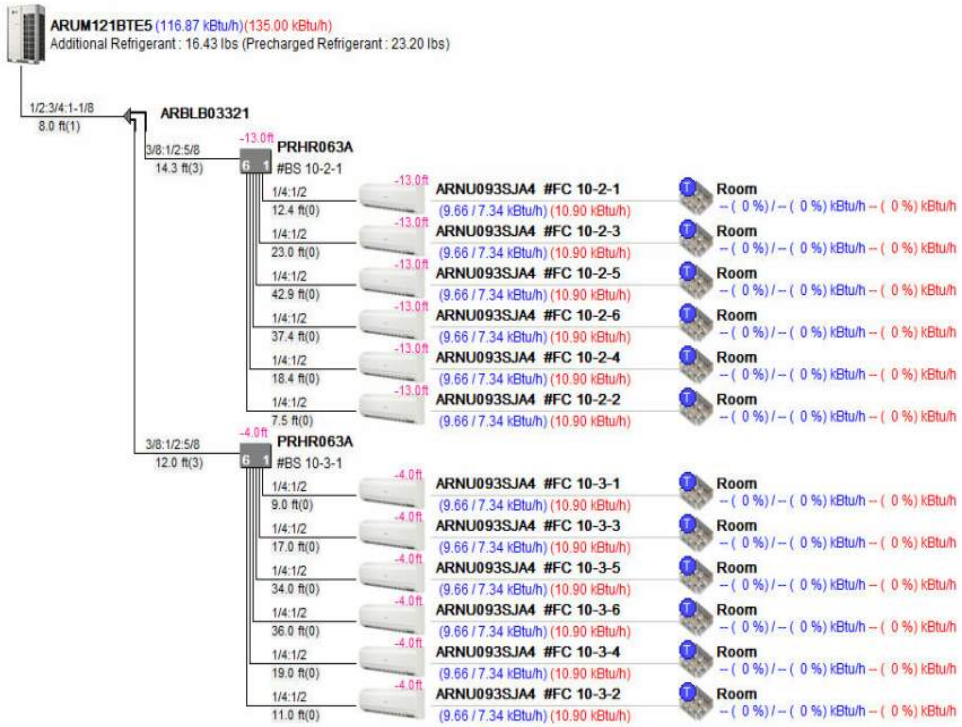
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-10

Date: 02/10/2023

System No : 10/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

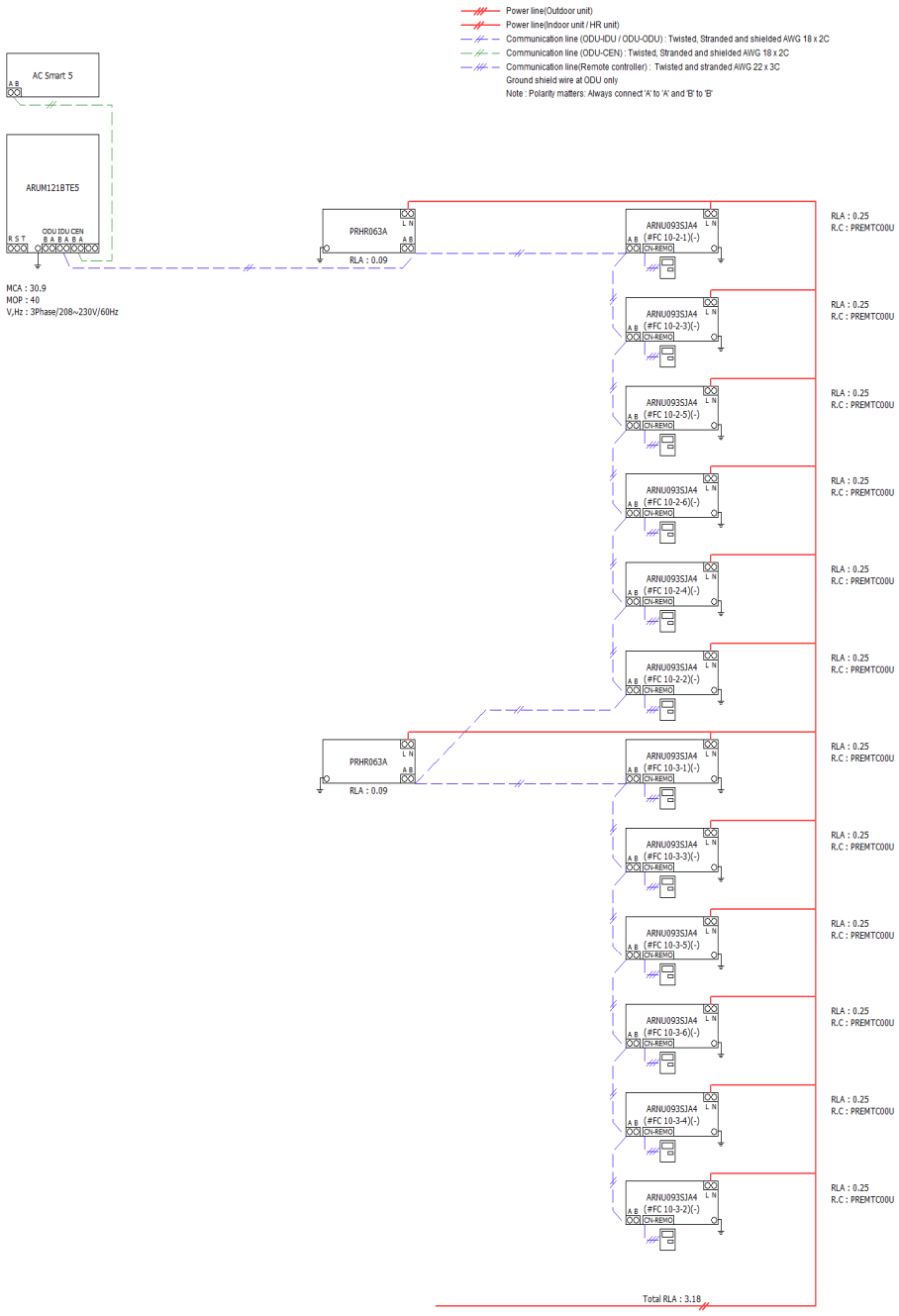
Indoor Units	**: 12 of 20**
Combination Ratio	**: 108.0 of 120.0 (90%)**
Total Pipe	**: 301.9 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 16.43 lbs**
Total refrigerant	**: 39.63 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1524.11 ft³**

System Schematic Diagram

System Name: CU-10

Date: 02/10/2023

System No : 10/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-11

Date: 02/10/2023

System No : 11/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	11 / 16	101 / 130	0.0 / 0.0	23.20	15.28

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/94.0	108.0/109.0	5.3/5.4	6.7/10.3

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
17.5	10.6	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	238.9
3/8 : 1/2 : 5/8	22.0
3/8 : 3/4 : 7/8	15.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
PRHR063A	2
-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-11

Date: 02/10/2023

System No : 11/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-11

System No : 11/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 11-1-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 11-2-1	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-2-3	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-2-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-2-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-1-5	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC-11-1-6	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 11-1-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-11

Date: 02/10/2023

System No : 11/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 11-1-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-2-1	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-2-3	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-2-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-2-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-1-5	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC-11-1-6	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 11-1-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-11

Date: 02/10/2023

System No : 11/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	275.9 ft
Longest equivalent pipe length	574.1 ft	83.7 ft : ARNU093SJA4[FC-11-1-6]
Longest pipe length after 1st branch	131.2 ft	55.9 ft : ARNU093SJA4[FC-11-1-6]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	23.5 ft : ARNU093SJA4[FC 11-1-2]
Height difference [IDU to IDU]	131.2 ft	10.5 ft : ARNU093SJA4[FC 11-2-1]-ARNU073SJA4[FC 11-1-3]
Longest actual pipe length	492.1 ft	70.9 ft : ARNU093SJA4[FC-11-1-6]
Height difference [HRU to HRU]	98.4 ft	10.5 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	0.0 ft

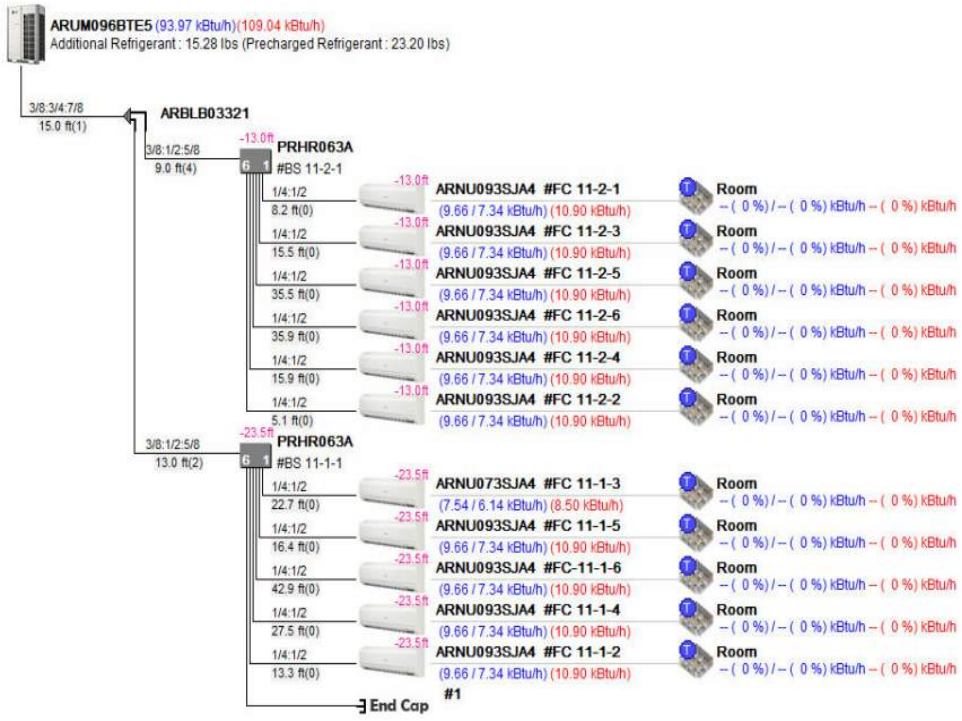
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-11

Date: 02/10/2023

System No : 11/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

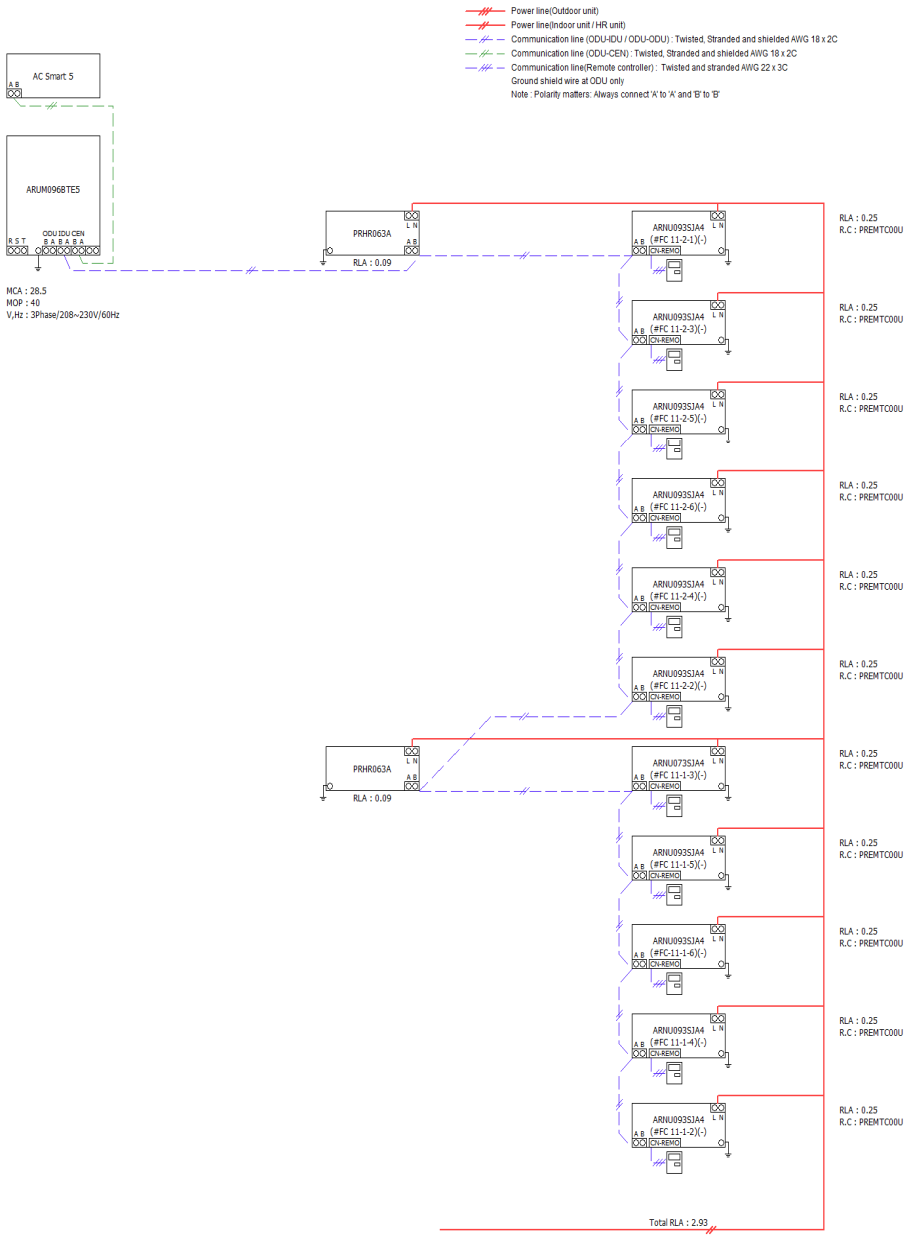
Indoor Units	**: 11 of 16**
Combination Ratio	**: 97.0 of 96.0 (101%)**
Total Pipe	**: 275.9 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 15.28 lbs**
Total refrigerant	**: 38.48 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1479.92 ft³**

System Schematic Diagram

System Name: CU-11

Date: 02/10/2023

System No : 11/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-12

Date: 02/10/2023

System No : 12/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM096BTE5	10 / 16	97 / 130	0.0 / 0.0	23.20	13.64

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
96.0/93.3	108.0/108.0	5.3/5.1	6.7/10.0

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
18.1	10.8	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	28.5	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	207.0
3/8 : 1/2 : 5/8	20.0
3/8 : 5/8 : 3/4	13.0
3/8 : 3/4 : 7/8	23.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
ARBLN01621	1
PRHR043A	1
PRHR063A	1

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-12

Date: 02/10/2023

System No : 12/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123CEA4	12.3/12.4	8.9/9.0	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123CEA4	12.3/12.4	8.9/9.0	13.6/13.6	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-12

System No : 12/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 12-2-1	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 12-2-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 12-1-1	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 12-2-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 12-2-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 12-1-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 12-1-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 12-2-5	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 12-2-6	ARNU123CEA4	FLOOR STANDING	58.8	102.9	370.8	NA
FC-12-1-3	ARNU123CEA4	FLOOR STANDING	58.8	102.9	370.8	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-12

Date: 02/10/2023

System No : 12/13

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 12-2-1	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-2-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-1-1	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-2-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-2-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-1-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-1-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-2-5	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 12-2-6	ARNU123CEA4	59.5 lbs	42x25x8 inch	208~230	1	60	1.00	0.76
FC-12-1-3	ARNU123CEA4	59.5 lbs	42x25x8 inch	208~230	1	60	1.00	0.76

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-12

Date: 02/10/2023

System No : 12/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	263.0 ft
Longest equivalent pipe length	574.1 ft	92.7 ft : ARNU123CEA4[FC 12-2-6]
Longest pipe length after 1st branch	131.2 ft	54.0 ft : ARNU123CEA4[FC 12-2-6]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	31.5 ft : ARNU123CEA4[FC-12-1-3]
Height difference [IDU to IDU]	131.2 ft	18.5 ft : ARNU073SJA4[FC 12-2-1]-ARNU123CEA4[FC-12-1-3]
Longest actual pipe length	492.1 ft	77.0 ft : ARNU123CEA4[FC 12-2-6]
Height difference [HRU to HRU]	98.4 ft	10.5 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	8.5 ft

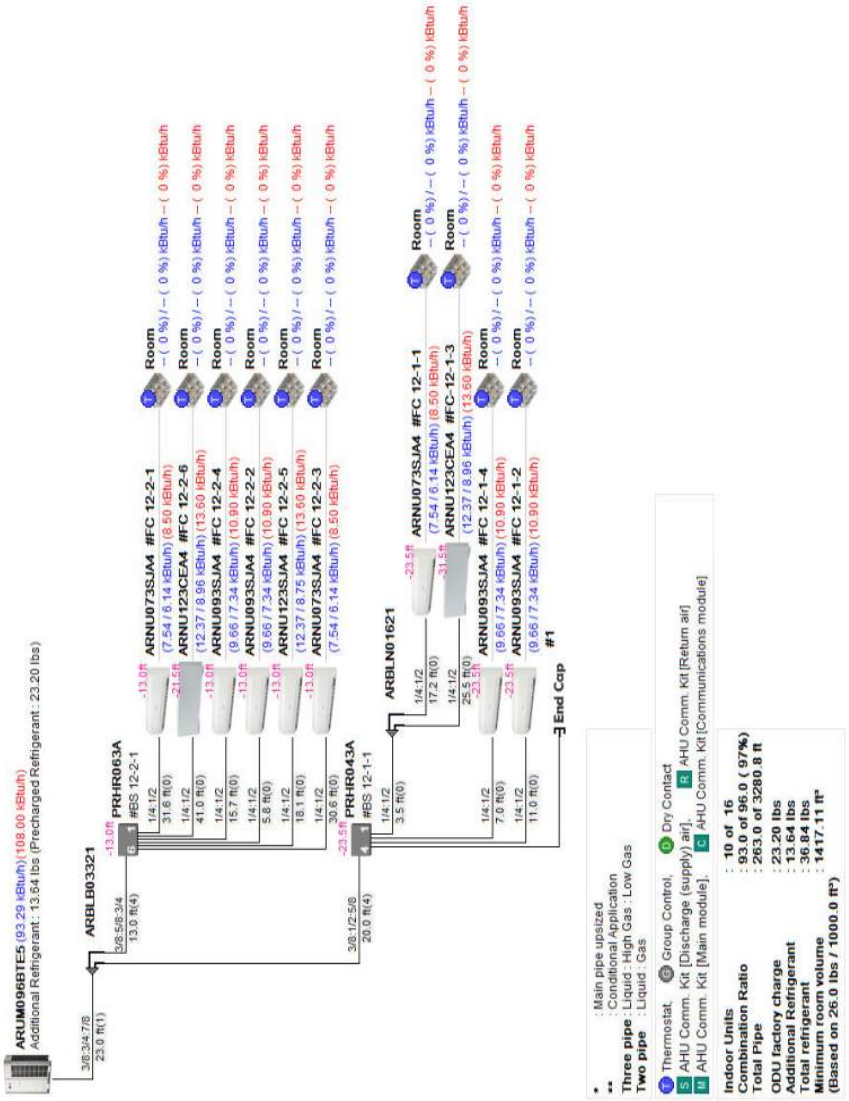
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-12

Date: 02/10/2023

System No : 12/13

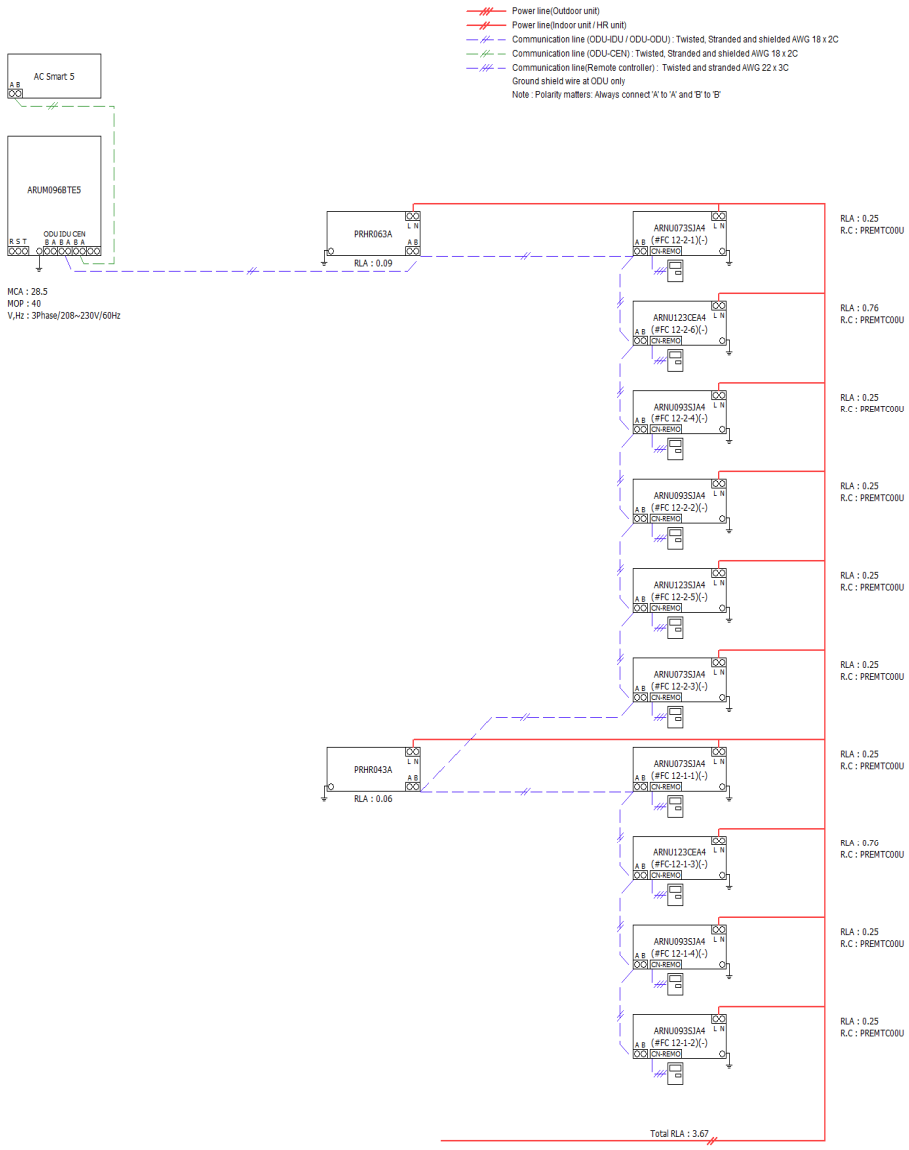


System Schematic Diagram

System Name: CU-12

Date: 02/10/2023

System No : 12/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

System Model Selection - ODU

System Name: CU-13

Date: 02/10/2023

System No : 13/13

1. Design conditions - Outdoor

	Cooling			Heating		
	DBT(°F)	WBT(°F)	RH(%)	DBT(°F)	WBT(°F)	RH(%)
OAT	95.0	75.0	40.0	16.0	15.2	87.3
IAT	80.0	67.0	51.3	70.0	60.0	56.2

2. Outdoor Units

Model Name	No. of IDUs (Current / Max.) (EA)	Combination Ratio (Current / Max.) (%)	Corrected Capacity / Block Load (Cooling / Heating) (%)	Pre-charged Ref. amount (lbs)	Additional Ref. Amount (lbs)
ARUM121BTE5	12 / 20	92 / 130	0.0 / 0.0	23.20	15.93

Nominal/Corrected Capa. (kBtu/h)		Nominal/Corrected PI (kW)	
Cooling	Heating	Cooling	Heating
119.7/116.2	135.0/135.0	7.7/7.0	9.2/13.0

Efficiency(Btu/h/W)		Weight(lbs)	Dimension (WxHxD) (inch)	Electrical Characteristics				
Cooling	Heating			Volt	Phase	Hz	MCA (A)	MOP (A)
16.6	10.4	507x1	48-13/16x66-17/32x29-29/32	208~230	3	60	30.9	40

3. Pipes

Diameter(Liq:Gas,inch)	Length(ft)
1/4 : 1/2	268.5
3/8 : 1/2 : 5/8	7.0
3/8 : 5/8 : 3/4	22.0
1/2 : 3/4 : 1-1/8	16.0

4. Branch/Header

Model Name	Quantity
ARBLB03321	1
ARBLN01621	2
PRHR043A	1
PRHR063A	1

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.
Pipe lengths are estimations only.
Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

System Model Section - IDU

System Name: CU-13 **Date: 02/10/2023**

System No : 13/13

5. Indoor Units(1)

Room	Room Load(kBtu/h)			Room Design Temp.(Return Air Temp.)(°F)				Model Name	Rated TC/Corrected TC(kBtu/h)			Corrected Capa/Room Load(%)		
	TC	SC	HC	Cooling		Heating			TC	SC	HC	TC	SC	HC
				DBT	WBT	DBT	WBT							
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU073SJA4	7.5/7.5	6.7/6.1	8.5/8.5	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU093SJA4	9.6/9.7	7.8/7.3	10.9/10.9	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123SJA4	12.3/12.4	9.4/8.7	13.6/13.6	-	-	-
Room	-	-	-	80.0	67.0	70.0	60.0	ARNU123CEA4	12.3/12.4	8.9/9.0	13.6/13.6	-	-	-

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-13

System No : 13/13

Date: 02/10/2023

6. Indoor Units(2)

Tag	Model Name	Type	Est. Discharge Temp.(°F)		Air flow rate (CFM)	Remark
			Cooling	Heating		
FC 13-3-3	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 13-3-1	ARNU073SJA4	WALL MOUNTED	58.9	100.0	254.3	NA
FC 13-3-2	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-4	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-8	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-10	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-12	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-11	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-9	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-7	ARNU093SJA4	WALL MOUNTED	56.7	105.5	275.5	NA
FC 13-3-5	ARNU123SJA4	WALL MOUNTED	54.4	110.6	300.2	NA
FC 13-3-6	ARNU123CEA4	FLOOR STANDING	58.8	102.9	370.8	NA

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Model Section - IDU

System Name: CU-13

System No : 13/13

Date: 02/10/2023

7. Indoor Units(3)

Tag	Model Name	Weight	Dimension (WxHxD)	Electrical Characteristics				
				Volt	Phase	Hz	MCA (A)	RLA (A)
FC 13-3-3	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-1	ARNU073SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-2	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-4	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-8	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-10	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-12	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-11	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-9	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-7	ARNU093SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-5	ARNU123SJA4	18.48 lbs	32-3/16x12-7/16x7-7/16 inch	208~230	1	60	0.31	0.25
FC 13-3-6	ARNU123CEA4	59.5 lbs	42x25x8 inch	208~230	1	60	1.00	0.76

#Notes: Correction factor is corrected by such as, but not limited to, indoor unit combination, temperature, and pipe length.

The result can be slightly different from Product Data Book due to simulation.

Pipe lengths are estimations only.

Contractor is responsible for piping take-off and verification of actual pipe routing and pipe lengths.

EWT=Entering Water Temperature / LWT=Leaving Water Temperature.

System Validation Check

System Name: CU-13

Date: 02/10/2023

System No : 13/13

8. System Validation Check - General Condition

Contents	Limit	Current(Max value : connected unit)
Total pipe length	3280.8 ft	313.5 ft
Longest equivalent pipe length	574.1 ft	97.0 ft : ARNU073SJA4[FC 13-3-3]
Longest pipe length after 1st branch	131.2 ft	64.9 ft : ARNU073SJA4[FC 13-3-3]
Height difference [Above: IDU, Below: ODU]	360.9 ft	0.0 ft
Height difference [Above: ODU, Below: IDU]	360.9 ft	12.0 ft : ARNU123CEA4[FC 13-3-6]
Height difference [IDU to IDU]	131.2 ft	8.0 ft : ARNU093SJA4[FC 13-3-2]-ARNU123CEA4[FC 13-3-6]
Longest actual pipe length	492.1 ft	80.9 ft : ARNU073SJA4[FC 13-3-3]
Height difference [HRU to HRU]	98.4 ft	0.0 ft
Height difference [HRU to HRU connected in series (same branch)]	16.4 ft	0.0 ft
Height difference [HRU to IDU]	49.2 ft	8.0 ft

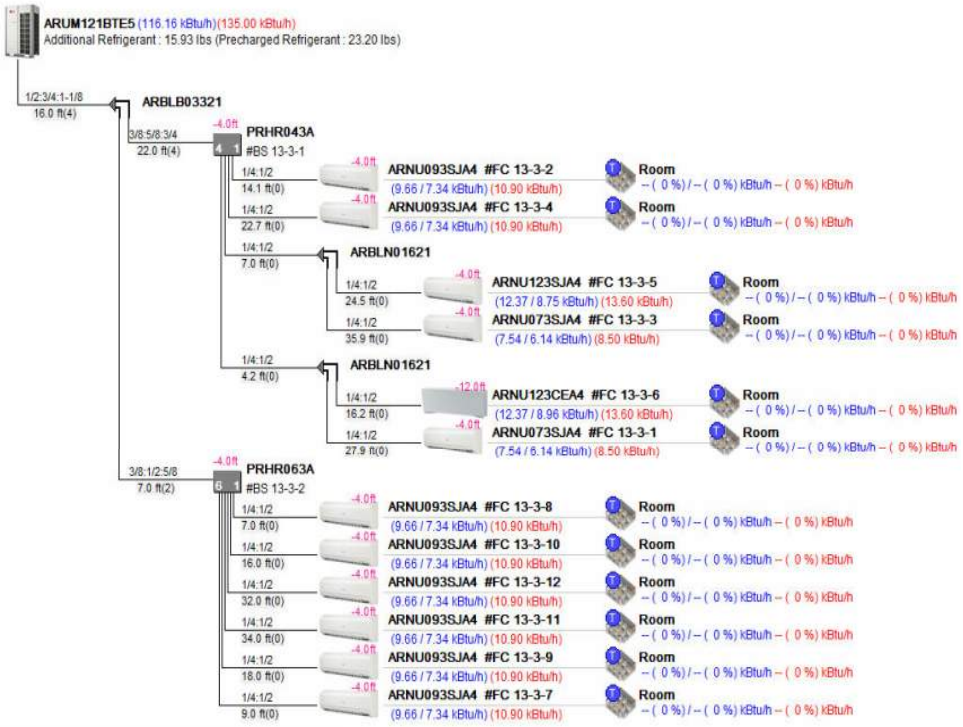
Note 1 : Except "Longest equivalent pipe length", the other pipe length limitations are actual length.

System Tree Diagram

System Name: CU-13

Date: 02/10/2023

System No : 13/13



* : Main pipe upsized
** : Conditional Application
Three pipe : Liquid : High Gas : Low Gas
Two pipe : Liquid : Gas

T Thermostat, G Group Control, D Dry Contact
S AHU Comm. Kit [Discharge (supply) air], R AHU Comm. Kit [Return air]
M AHU Comm. Kit [Main module], C AHU Comm. Kit [Communications module]

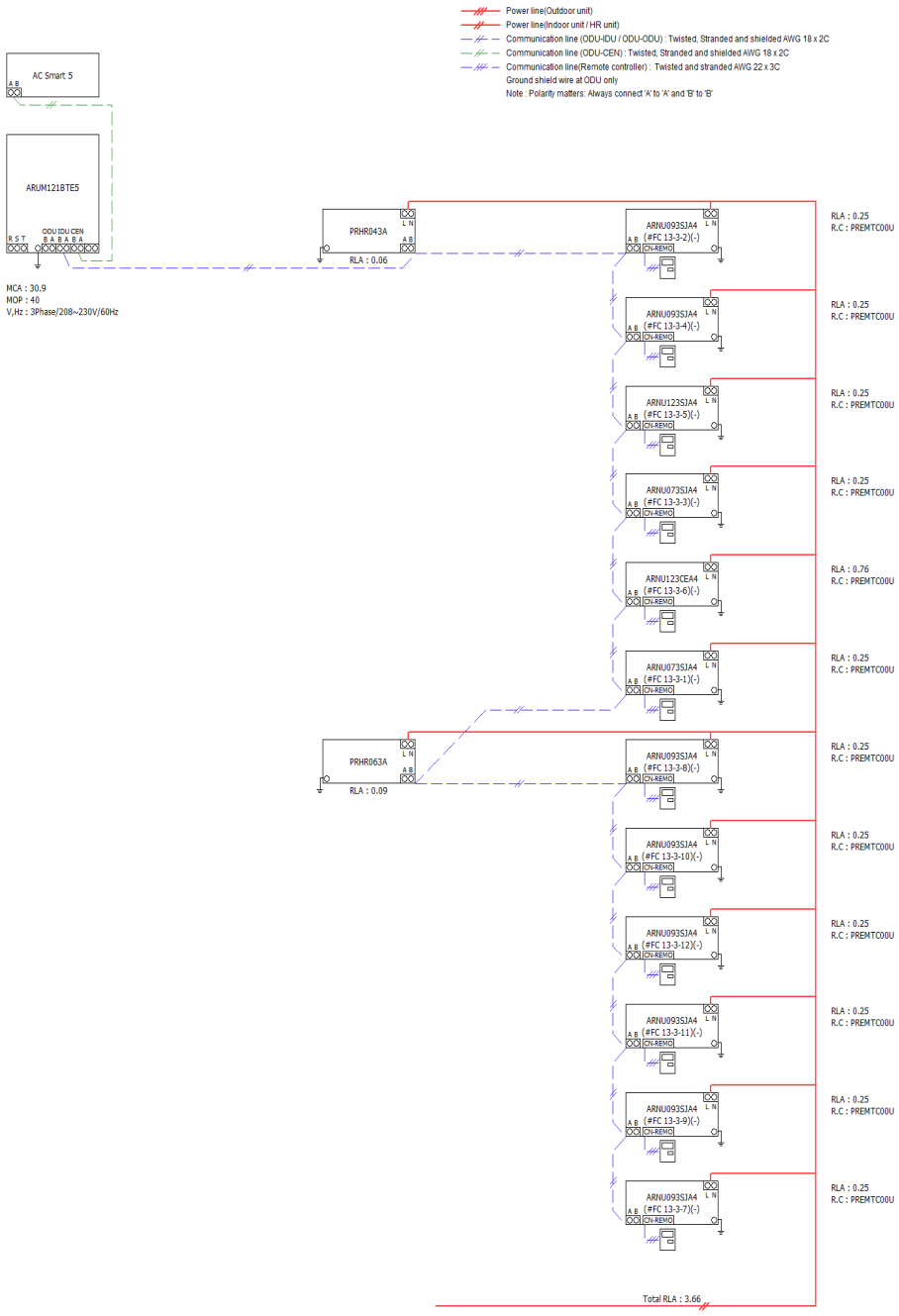
Indoor Units	**: 12 of 20**
Combination Ratio	**: 110.0 of 120.0 (92%)**
Total Pipe	**: 313.5 of 3280.8 ft**
ODU factory charge	**: 23.20 lbs**
Additional Refrigerant	**: 15.93 lbs**
Total refrigerant	**: 39.13 lbs**
Minimum room volume (Based on 26.0 lbs / 1000.0 ft³)	**: 1504.95 ft³**

System Schematic Diagram

System Name: CU-13

Date: 02/10/2023

System No : 13/13



Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.

Model Selection - Summary

Date: 02/10/2023

1. Controllers

Model Name	Quantity	Description
PACS5A000	2	AC Smart 5
Total	2	

2. Accessories selected from system

Model Name	Quantity	Description

System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

1. Controllers

Model Name	Quantity	Description
PACS5A000	2	AC Smart 5
Total	2	

* PI 485 is mandatory when designing for control system. Please check the quantity of PI 485.

* Accessories selected from system: these are central control related accessories selected from Multi V, Multi, Single, and ERV system.

* ACS, ACU I/O module selected from Control System is listed on controllers table. ACS, ACU I/O module selected from Multi V, Multi, Single, ERV system is listed on accessories table.

* Watt, gas meters are not provided by LG electronics. Please buy it separately.

System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

2. Control Address

Controllers	Group Name	System Name	IDU Model	Tag	Floor/Room Name	Control Address
Control System1	Group 1	CU-1	ARNU073SJA4	FC 1-1-1	-/-	-
Control System1	Group 1	CU-1	ARNU093SJA4	FC 1-1-2	-/-	-
Control System1	Group 1	CU-1	ARNU073SJA4	FC 1-1-3	-/-	-
Control System1	Group 1	CU-1	ARNU093SJA4	FC 1-1-4	-/-	-
Control System1	Group 1	CU-1	ARNU123SJA4	FC 1-1-5	-/-	-
Control System1	Group 1	CU-1	ARNU123CEA4	FC 1-1-6	-/-	-
Control System1	Group 1	CU-1	ARNU073SJA4	FC 1-2-1	-/-	-
Control System1	Group 1	CU-1	ARNU093SJA4	FC 1-2-2	-/-	-
Control System1	Group 1	CU-1	ARNU073SJA4	FC 1-2-3	-/-	-
Control System1	Group 1	CU-1	ARNU093SJA4	FC 1-2-4	-/-	-
Control System1	Group 1	CU-1	ARNU123SJA4	FC 1-2-5	-/-	-
Control System1	Group 1	CU-1	ARNU123CEA4	FC 1-2-6	-/-	-
Control System1	Group 1	CU-12	ARNU073SJA4	FC 12-1-1	-/-	-
Control System1	Group 1	CU-12	ARNU093SJA4	FC 12-1-2	-/-	-
Control System1	Group 1	CU-12	ARNU093SJA4	FC 12-1-4	-/-	-
Control System1	Group 1	CU-12	ARNU073SJA4	FC 12-2-1	-/-	-
Control System1	Group 1	CU-12	ARNU093SJA4	FC 12-2-2	-/-	-
Control System1	Group 1	CU-12	ARNU073SJA4	FC 12-2-3	-/-	-
Control System1	Group 1	CU-12	ARNU093SJA4	FC 12-2-4	-/-	-
Control System1	Group 1	CU-12	ARNU123SJA4	FC 12-2-5	-/-	-
Control System1	Group 1	CU-12	ARNU123CEA4	FC 12-2-6	-/-	-
Control System1	Group 1	CU-12	ARNU123CEA4	FC-12-1-3	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-1-1	-/-	-

* PI 485 is mandatory when designing for control system. Please check the quantity of PI 485.

* Accessories selected from system: these are central control related accessories selected from Multi V, Multi, Single, and ERV system.

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* Watt, gas meters are not provided by LG electronics. Please buy it separately.

System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

2. Control Address

Controllers	Group Name	System Name	IDU Model	Tag	Floor/Room Name	Control Address
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-1-2	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-1-3	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-1-4	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-1-5	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-1-6	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-2-1	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-2-2	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-2-3	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-2-4	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-2-5	-/-	-
Control System1	Group 1	CU-2	ARNU093SJA4	FC 2-2-6	-/-	-
Control System1	Group 1	CU-3	ARNU073SJA4	FC 3-3-1	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-10	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-11	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-12	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-2	-/-	-
Control System1	Group 1	CU-3	ARNU073SJA4	FC 3-3-3	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-4	-/-	-
Control System1	Group 1	CU-3	ARNU123SJA4	FC 3-3-5	-/-	-
Control System1	Group 1	CU-3	ARNU123CEA4	FC 3-3-6	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-7	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-8	-/-	-
Control System1	Group 1	CU-3	ARNU093SJA4	FC 3-3-9	-/-	-

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System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

2. Control Address

Controllers	Group Name	System Name	IDU Model	Tag	Floor/Room Name	Control Address
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-1-1	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-1-2	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-1-3	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-1-4	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-1-5	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-1-6	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-2-1	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-2-2	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-2-3	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-2-4	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-2-5	-/-	-
Control System1	Group 1	CU-4	ARNU093SJA4	FC 4-2-6	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-1-1	-/-	-
Control System1	Group 1	CU-5	ARNU123SJA4	FC 5-1-2	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-1-3	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-1-4	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-1-5	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-2-1	-/-	-
Control System1	Group 1	CU-5	ARNU123SJA4	FC 5-2-2	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-2-3	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-2-4	-/-	-
Control System1	Group 1	CU-5	ARNU093SJA4	FC 5-2-5	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-1	-/-	-

* PI 485 is mandatory when designing for control system. Please check the quantity of PI 485.

* Accessories selected from system: these are central control related accessories selected from Multi V, Multi, Single, and ERV system.

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System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

2. Control Address

Controllers	Group Name	System Name	IDU Model	Tag	Floor/Room Name	Control Address
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-10	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-11	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-2	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-3	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-4	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-5	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-6	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-7	-/-	-
Control System1	Group 1	CU-6	ARNU123SJA4	FC 6-3-8	-/-	-
Control System1	Group 1	CU-6	ARNU093SJA4	FC 6-3-9	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-2-1	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-2-2	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-2-3	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-2-4	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-2-5	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-2-6	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-3-1	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-3-2	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-3-3	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-3-4	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-3-5	-/-	-
Control System1	Group 2	CU-10	ARNU093SJA4	FC 10-3-6	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-1-2	-/-	-

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System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

2. Control Address

Controllers	Group Name	System Name	IDU Model	Tag	Floor/Room Name	Control Address
Control System1	Group 2	CU-11	ARNU073SJA4	FC 11-1-3	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-1-4	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-1-5	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-2-1	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-2-2	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-2-3	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-2-4	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-2-5	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC 11-2-6	-/-	-
Control System1	Group 2	CU-11	ARNU093SJA4	FC-11-1-6	-/-	-
Control System1	Group 2	CU-13	ARNU073SJA4	FC 13-3-1	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-10	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-11	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-12	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-2	-/-	-
Control System1	Group 2	CU-13	ARNU073SJA4	FC 13-3-3	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-4	-/-	-
Control System1	Group 2	CU-13	ARNU123SJA4	FC 13-3-5	-/-	-
Control System1	Group 2	CU-13	ARNU123CEA4	FC 13-3-6	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-7	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-8	-/-	-
Control System1	Group 2	CU-13	ARNU093SJA4	FC 13-3-9	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-2-1	-/-	-

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System Model Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1

2. Control Address

Controllers	Group Name	System Name	IDU Model	Tag	Floor/Room Name	Control Address
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-2-2	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-2-3	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-2-4	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-2-5	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-3-1	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-3-2	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-3-3	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-3-4	-/-	-
Control System1	Group 2	CU-7	ARNU093SJA4	FC 7-3-5	-/-	-
Control System1	Group 2	CU-8	ARNU243CFA4	FC 8-1-1	-/-	-
Control System1	Group 2	CU-8	ARNU483NKA4	FC 8-1-2	-/-	-
Control System1	Group 2	CU-8	ARNU073SJA4	FC 8-1-3	-/-	-
Control System1	Group 2	CU-8	ARNU093SJA4	FC 8-1-4	-/-	-
Control System1	Group 2	CU-8	ARNU093SJA4	FC 8-1-5	-/-	-
Control System1	Group 2	CU-9	ARNU483NKA4	FC 9-1-1	-/-	-
Control System1	Group 2	CU-9	ARNU093SJA4	FC 9-1-2	-/-	-
Control System1	Group 2	CU-9	ARNU093SJA4	FC 9-1-3	-/-	-
Control System1	Group 2	CU-9	ARNU243CFA4	FC 9-1-4	-/-	-
Control System1	Group 2	CU-9	ARNU123SJA4	FC 9-1-5	-/-	-

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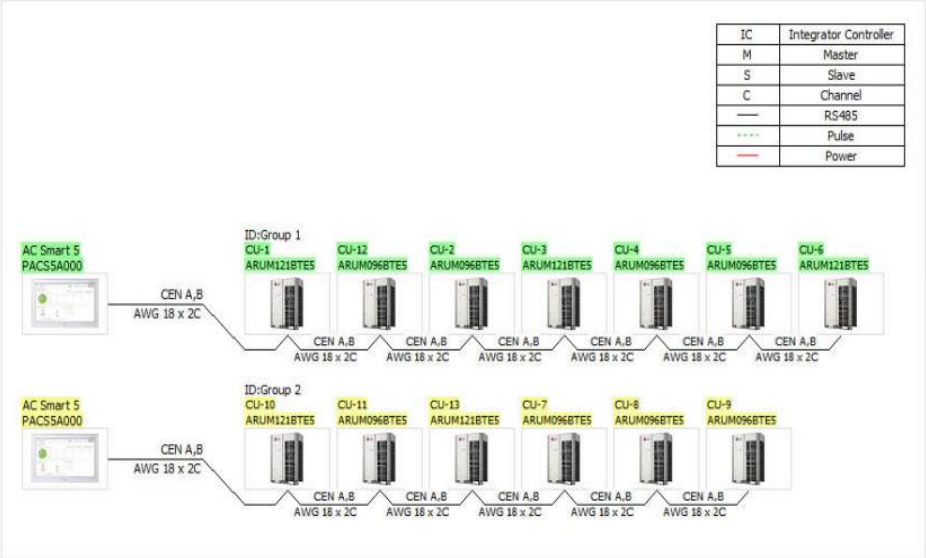
Control System Selection

System Name: Control System1 **Date: 02/10/2023**

System No : 1/1



* Maximum total length for communication line is 1km(3281 ft).

Pipe Summary

Date: 02/10/2023

1. Refrigerant Pipe

System Name		Length(ft)														
Diameter(inch)	Type	1/4	3/8	1/2	5/8	3/4	7/8	1	1+1/8	1+1/4	1+3/8	1+1/2	1+5/8	1+3/4	2	2+1/8
CU-1	Liquid	249.3	31.9	30.0	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	249.3	-	31.9	-	-	-	-	-	-	-	-	-	-
	High Gas	-	-	-	31.9	30.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	249.3	31.9	279.3	31.9	61.9	-	-	-	-	-	-	-	-	-	-
CU-2	Liquid	248.0	68.0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	248.0	48.8	-	19.2	-	-	-	-	-	-	-	-	-
	High Gas	-	-	48.8	-	19.2	-	-	-	-	-	-	-	-	-	-
	SubTotal	248.0	68.0	296.8	48.8	19.2	19.2	-	-	-	-	-	-	-	-	-
CU-3	Liquid	274.8	37.4	8.0	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	274.8	4.0	33.4	-	-	-	-	-	-	-	-	-	-
	High Gas	-	-	4.0	33.4	8.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	274.8	37.4	286.8	37.4	41.4	-	-	-	-	-	-	-	-	-	-
CU-4	Liquid	259.0	61.6	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	259.0	38.6	-	23.0	-	-	-	-	-	-	-	-	-
	High Gas	-	-	38.6	-	23.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	259.0	61.6	297.6	38.6	23.0	23.0	-	-	-	-	-	-	-	-	-
CU-5	Liquid	262.1	70.1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	262.1	50.2	-	19.9	-	-	-	-	-	-	-	-	-
	High Gas	-	-	50.2	-	19.9	-	-	-	-	-	-	-	-	-	-
	SubTotal	262.1	70.1	312.3	50.2	19.9	19.9	-	-	-	-	-	-	-	-	-
CU-6	Liquid	264.3	11.6	8.0	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	264.3	11.6	-	-	-	-	-	-	-	-	-	-	-
	High Gas	-	-	11.6	-	8.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	264.3	11.6	283.9	11.6	8.0	-	-	-	-	-	-	-	-	-	-
CU-7	Liquid	191.1	43.6	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	191.1	35.6	-	8.0	-	-	-	-	-	-	-	-	-
	High Gas	-	-	35.6	-	8.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	191.1	43.6	226.7	35.6	8.0	8.0	-	-	-	-	-	-	-	-	-
CU-8	Liquid	96.6	118.3	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	96.6	79.3	-	39.0	-	-	-	-	-	-	-	-	-
	High Gas	-	-	-	-	39.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	96.6	118.3	96.6	79.3	39.0	39.0	-	-	-	-	-	-	-	-	-

Pipe Summary

Date: 02/10/2023

1. Refrigerant Pipe

System Name		Length(ft)														
Diameter(inch)	Type	1/4	3/8	1/2	5/8	3/4	7/8	1	1+1/8	1+1/4	1+3/8	1+1/2	1+5/8	1+3/4	2	2+1/8
CU-9	Liquid	87.6	116.4	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	87.6	81.4	-	35.0	-	-	-	-	-	-	-	-	-
	High Gas	-	-	-	-	35.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	87.6	116.4	87.6	81.4	35.0	35.0	-	-	-	-	-	-	-	-	-
CU-10	Liquid	267.6	26.3	8.0	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	267.6	26.3	-	-	-	-	-	-	-	-	-	-	-
	High Gas	-	-	26.3	-	8.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	267.6	26.3	301.9	26.3	8.0	-	-	-	-	-	-	-	-	-	-
CU-11	Liquid	238.9	37.0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	238.9	22.0	-	15.0	-	-	-	-	-	-	-	-	-
	High Gas	-	-	22.0	-	15.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	238.9	37.0	260.9	22.0	15.0	15.0	-	-	-	-	-	-	-	-	-
CU-12	Liquid	207.0	56.0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	207.0	20.0	13.0	23.0	-	-	-	-	-	-	-	-	-
	High Gas	-	-	20.0	13.0	23.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	207.0	56.0	227.0	33.0	36.0	23.0	-	-	-	-	-	-	-	-	-
CU-13	Liquid	268.5	29.0	16.0	-	-	-	-	-	-	-	-	-	-	-	-
	Low Gas	-	-	268.5	7.0	22.0	-	-	-	-	-	-	-	-	-	-
	High Gas	-	-	7.0	22.0	16.0	-	-	-	-	-	-	-	-	-	-
	SubTotal	268.5	29.0	291.5	29.0	38.0	-	-	-	-	-	-	-	-	-	-
Total		**2914.8**	**707.2**	**3248.9**	**525.1**	**352.4**	**182.1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Job Name/Location: ATU JONES HALL **Tag No.:** CU-1, 3, 6, 10, & 13

Date: 9/8/2022

For: ☐ File ☐ Resubmit ☐ Approval ☐ Other _____

PO No.:

Architect: **GC:** AIRETECH CORPORATION

Engr: PETTIT & PETTIT **Mech:**

Rep: Airetech Corporation (Company) Tracy Parker (Project Manager)

ARUM121BTE5

Multi V™ 5 with LGRED° 208-230V ODU

10 Ton Single Frame Heat Pump and Heat Recovery

LG Life's Good

Performance:

Cooling Mode:

Nominal Capacity (Btu/h)	119,700
Power Input (kW)	7.72

Heating Mode:

Nominal Capacity (Btu/h)	135,000
Power Input (kW)	9.20

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Frame	ARUM121BTE5
Power Supply (V/Hz/Ø)[1]	208-230/60/3
MOP (A)	40
MCA (A)	30.9
Rated Amps (A)	26.3
Compressor A (A)	18.3
Compressor B (B)	-
Fan (A)	8.0

Piping:[2]

Frame	ARUM121BTE5
Refrigerant Charge (lbs.)	23.2
Liquid (in., O.D.)	1/2 Braze
High Pressure Vapor (Heat Recov only; in, O.D.)	3/4 Braze
Low Pressure Vapor (in., O.D.)	1-1/8 Braze

Standard Features:

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (High Pressure Oil Return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Heat Path Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller
- Advanced Comfort Cooling

Optional Accessories:

- ☐ Air Guide - ZAGDKA52A
- ☐ Hail Guard Kit - ZHGDKA52A
- ☐ Low Ambient Baffle Kit - ZLABKA52A, Control Kit - PRVC2 (1 per system)
- ☐ Base Pan Heater - ZPLT1A52A

**Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

Operating Range:

Cooling (°F DB)**	5 - 122
Heating (°F WB)	-22 - 61
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 61

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units[3]	20
Sound Pressure[4] dB(A)	59.0
Weight	
Frame	ARUM121BTE5
Net (lbs.)	507
Shipping (lbs.)	534
Communication Cable (No x AWG)[5]	2 x 18
Heat Exchanger Coating	Black Coated Fin™

Compressor:

Type	HSS DC Scroll
Quantity	1
Oil / Type	PVE / FVC68D

Fan:

Type	Propeller
Quantity	2
Motor Drive	Brushless Digitally Controlled Direct
Air Flow Rate (rated/max, CFM)	8,400 / 11,300

Notes:

1. Power wiring cable size must comply with the applicable local and national codes. Cables terminate at each frame.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. The combination ratio must be between 50-130%.
4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745 for the combination of outdoor units.
5. Communication cable between ODU and IDUs must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Main ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Acceptable operating voltage: 187V - 253V
7. Fan ESP (in wg) selectable range is 0.16 to 0.32.

LGRED° Powerful Heat Technology

Inverter

AHRI CERTIFIED™ www.ahridirectory.org Variable Refrigerant Flow (VRF) Multi-Split AC and HP AHRI Standard 1230

Job Name/Location: ATU JONES HALL

ARUM121BTE5

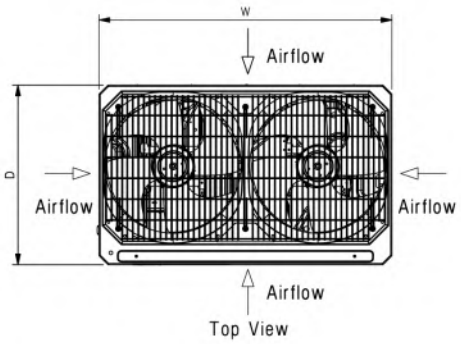
Multi V™ 5 with LGRED° 208-230V ODU

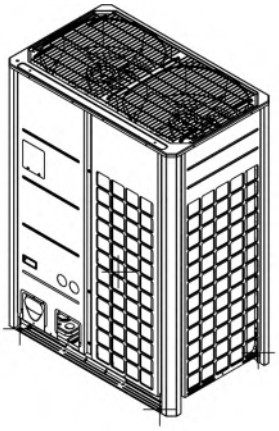
10 Ton Single Frame Heat Pump and Heat Recovery

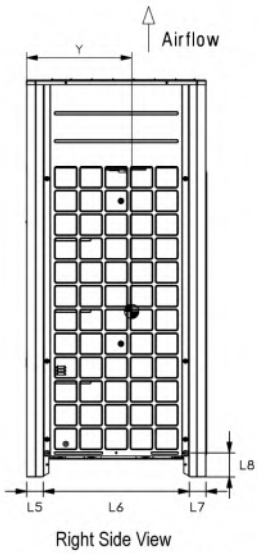
Tag No.: CU-1, 3, 6, 10, & 13

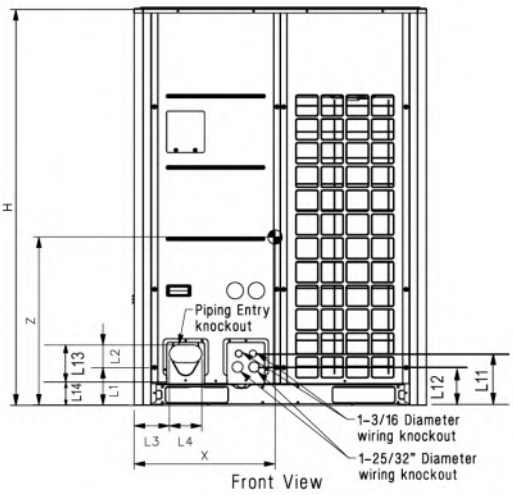
Date: 9/8/2022

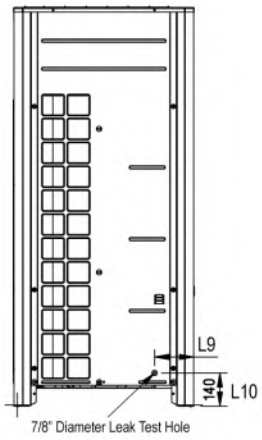
PO No.:

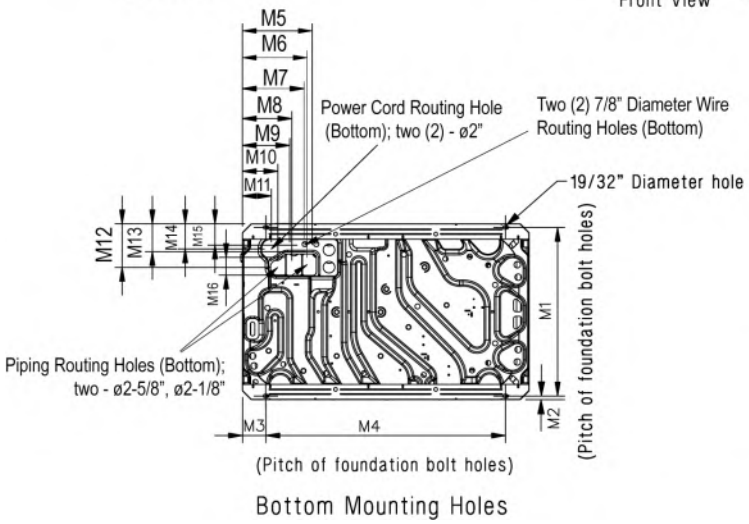












M1	28-25/32"
M2	5/8"
M3	3-15/16"
M4	40-15/16"
M5	11 – 15/16"
M6	11 – 1/16"
M7	10 – 1/2"
M8	8 – 7/16"
M9	8 – 1/8"
M10	6 – 1/16"
M11	4 – 15/16"
M12	7 – 1/2"
M13	4 – 13/16"
M14	4 – 5/16"
M15	3 – 5/8"
M16	3"

W	48-13/16"
H	66-17/32"
D	29-29/32"
L1	6-5/16"
L2	3-3/4"
L3	5-29/32"
L4	5-13/32"
L5	2-25/32"
L6	24-9/32"
L7	2-25/32"
L8	4-1/32"
L9	6 – 1/2"
L10	5 – 9/16"
L11	8 – 5/8"
L12	6 – 7/16"
L13	9 – 15/16"
L14	3 – 5/8"

Center of Gravity

X	23-7/32"
Y	15-5/8"
Z	25-9/16"

All dimensions have a tolerance of ±0.25 in.
[Unit: inch]

= Center of Gravity

Job Name/Location: ATU JONES HALL

ARUM121BTE5

Multi V™ 5 with LGRED° 208-230V ODU

10 Ton Single Frame Heat Pump and Heat Recovery

Tag No.: CU-1, 3, 6, 10, & 13

Date: 9/8/2022

PO No.:

AHRI Data:

Reference Number	Indoor Type	Cooling Capacity (95°F)	EER (95°F)	IEER	SCHE	High Heating Capacity (47°F)	High COP (47°F)	Low Heating Capacity (17°F)	Low COP (17°F)
205281462	Ducted Indoor Units	114,000	12.50	24.60	26.40	129,000	3.46	84,000	2.53
202516176	Non-Ducted Indoor Units	114,000	13.10	29.60	31.00	129,000	3.97	84,000	2.74

Job Name/Location: ATU JONES HALL **Tag No.:** CU-2, 4, 5, 7, 8, 9, 11, & 12

Date: 9/8/2022

For: ☐ File ☐ Resubmit ☐ Approval ☐ Other _____

PO No.:

Architect: **GC:** AIRETECH CORPORATION

Engr: PETTIT & PETTIT **Mech:**

Rep: Airetech Corporation (Company) Tracy Parker (Project Manager)

ARUM096BTE5

Multi V™ 5 with LGRED° 208-230V ODU

8 Ton Single Frame Heat Pump and Heat Recovery

LG Life's Good

Performance:

Cooling Mode:

Nominal Capacity (Btu/h)	96,000
Power Input (kW)	5.33

Heating Mode:

Nominal Capacity (Btu/h)	108,000
Power Input (kW)	6.74

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Frame	ARUM096BTE5
Power Supply (V/Hz/Ø)[1]	208-230/60/3
MOP (A)	40
MCA (A)	28.5
Rated Amps (A)	24.4
Compressor A (A)	16.4
Compressor B (B)	-
Fan (A)	8.0

Piping:[2]

Frame	ARUM096BTE5
Refrigerant Charge (lbs.)	23.2
Liquid (in., O.D.)	3/8 Braze
High Pressure Vapor (Heat Recov only; in, O.D.)	3/4 Braze
Low Pressure Vapor (in., O.D.)	7/8 Braze

Standard Features:

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (High Pressure Oil Return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Heat Path Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller
- Advanced Comfort Cooling

Optional Accessories:

- ☐ Air Guide - ZAGDKA52A
- ☐ Hail Guard Kit - ZHGDKA52A
- ☐ Low Ambient Baffle Kit - ZLABKA52A, Control Kit - PRVC2 (1 per system)
- ☐ Base Pan Heater - ZPLT1A52A

**Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

Operating Range:

Cooling (°F DB)**	5 - 122
Heating (°F WB)	-22 - 61
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 61

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units[3]	16
Sound Pressure[4] dB(A)	58.0
Weight	
Frame	ARUM096BTE5
Net (lbs.)	507
Shipping (lbs.)	534
Communication Cable (No x AWG)[5]	2 x 18
Heat Exchanger Coating	Black Coated Fin™

Compressor:

Type	HSS DC Scroll
Quantity	1
Oil / Type	PVE / FVC68D

Fan:

Type	Propeller
Quantity	2
Motor Drive	Brushless Digitally Controlled Direct
Air Flow Rate (rated/max, CFM)	7,400 / 11,300

Notes:

1. Power wiring cable size must comply with the applicable local and national codes. Cables terminate at each frame.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. The combination ratio must be between 50-130%.
4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745 for the combination of outdoor units.
5. Communication cable between ODU and IDUs must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Main ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Acceptable operating voltage: 187V - 253V
7. Fan ESP (in wg) selectable range is 0.16 to 0.32.

LGRED° Powerful Heat Technology

c SA us Inverter

AHRI CERTIFIED™ www.ahridirectory.org Variable Refrigerant Flow (VRF) Multi-Split AC and HP AHRI Standard 1230

Job Name/Location: ATU JONES HALL

ARUM096BTE5

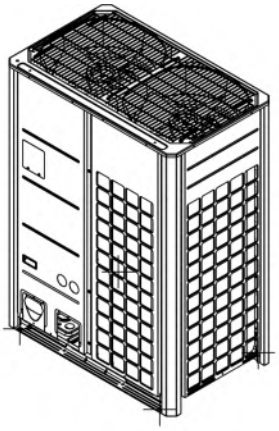
Multi V™ 5 with LGRED° 208-230V ODU

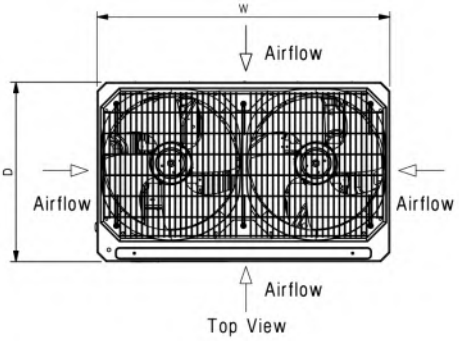
8 Ton Single Frame Heat Pump and Heat Recovery

Tag No.: CU-2, 4, 5, 7, 8, 9, 11, & 12

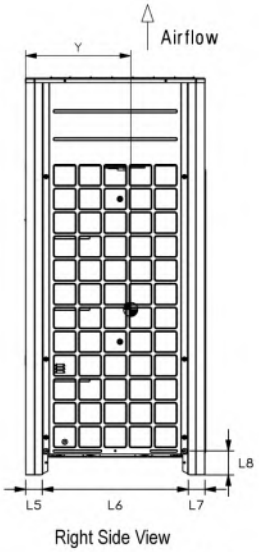
Date: 9/8/2022

PO No.:

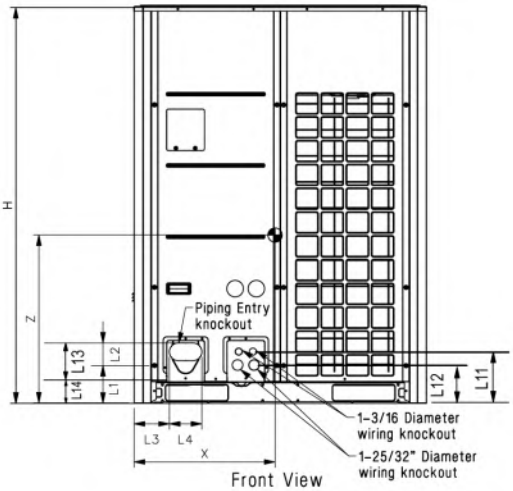




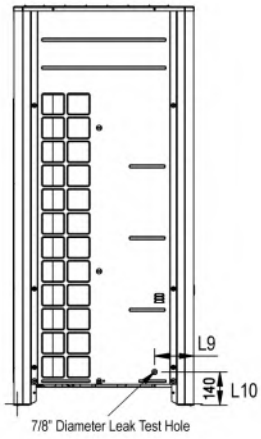
Top View



Right Side View



Front View

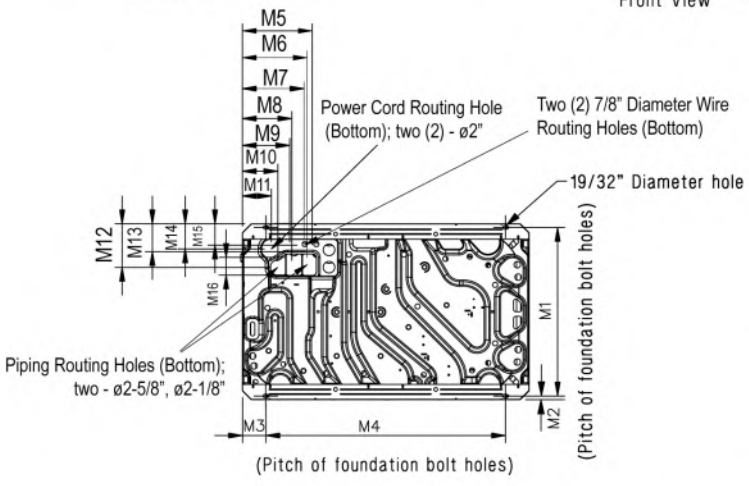


Left Side View

W	48-13/16"
H	66-17/32"
D	29-29/32"
L1	6-5/16"
L2	3-3/4"
L3	5-29/32"
L4	5-13/32"
L5	2-25/32"
L6	24-9/32"
L7	2-25/32"
L8	4-1/32"
L9	6 - 1/2"
L10	5 - 9/16"
L11	8 - 5/8"
L12	6 - 7/16"
L13	9 - 15/16"
L14	3 - 5/8"

Center of Gravity

X	23-7/32"
Y	15-5/8"
Z	25-9/16"



Bottom Mounting Holes

M1	28-25/32"
M2	5/8"
M3	3-15/16"
M4	40-15/16"
M5	11 - 15/16"
M6	11 - 1/16"
M7	10 - 1/2"
M8	8 - 7/16"
M9	8 - 1/8"
M10	6 - 1/16"
M11	4 - 15/16"
M12	7 - 1/2"
M13	4 - 13/16"
M14	4 - 5/16"
M15	3 - 5/8"
M16	3"

All dimensions have a tolerance of ±0.25 in.
[Unit: inch]

= Center of Gravity

Job Name/Location: ATU JONES HALL

ARUM096BTE5

Multi V™ 5 with LGRED° 208-230V ODU

8 Ton Single Frame Heat Pump and Heat Recovery

Tag No.: CU-2, 4, 5, 7, 8, 9, 11, & 12

Date: 9/8/2022

PO No.:

AHRI Data:

Reference Number	Indoor Type	Cooling Capacity (95°F)	EER (95°F)	IEER	SCHE	High Heating Capacity (47°F)	High COP (47°F)	Low Heating Capacity (17°F)	Low COP (17°F)
205281459	Ducted Indoor Units	92,000	13.50	25.10	27.00	103,000	3.66	67,000	2.73
202516171	Non-Ducted Indoor Units	92,000	14.40	33.00	32.00	103,000	4.33	67,000	2.85

Job Name/Location: ATU JONES HALL **Tag #:** FC 8-1-2, FC 9-1-1

Date: 9/8/2022

PO No.:

For: ☐ File ☐ Resubmit ☐ Approval ☐ Other

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

ARNU483NKA4
Multi V™ Vertical /Horizontal Air Handling Unit
48,000 Btu/h Indoor Unit

Performance:

Total Cooling Capacity (Btu/h)	48,000
Heating Capacity (Btu/h)	54,000
Max Power Input[1] (W)	366
L/M/H Power Input at Factory Default (W)	186 / 264 / 330

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical: [2]

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	1.80

Piping:

Refrigerant:

Liquid Line (in, OD)	3/8 braze
Vapor Line (in, OD)	5/8 braze

Condensate:

Condensate Line (in, ID)	1 (3/4 FPT)
Factory Installed Pump	No

Controls Features:

- Auto Operation
- Auto Changeover (Heat Recovery Only)
- Auto Restart
- Auto Fan
- Child Lock
- Dual Thermistor Control
- E.S.P. Control
- Group Control
- Hot Start
- Self Diagnostics
- Weekly Schedule
- Dual Setpoint Control
- Filter Life Display
- External on/off control
- Timer (On/Off)
- Fan Speed Control
- Leak Detection
- Wi-Fi Compatible

Optional Accessories:

- ☐ Wireless Remote Controller[3] - PQWRHQ0FDB
- ☐ Premium Controller - PREMTA000
- ☐ MultiSITE CRC1 Controller - PREMTBVC0
- ☐ MultiSITE CRC1+ Controller - PREMTBVC1
- ☐ Simple Controller - PREMTC00U
- ☐ Wi-Fi Module - PWFMDD200
- ☐ Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- ☐ Dry Contact for Economizer - PDRYCB400
- ☐ Dry Contact for Third Party Thermostat - PDRYCB320
- ☐ Electric Heat Kits - ANEHXX3B1/B2 Series
- ☐ Aux Heater Relay Kit - PRARH1
- ☐ Remote Temperature Button Sensor - ZRTBS01

Entering Mixed Air:

Cooling Max[4] (°F WB)	76
Heating Min (°F DB)	59

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure[5] dB(A) (H/M/L)	49 / 47 / 41
Net Unit Weight (lbs)	165
Shipping Weight (lbs)	181

Fan:

Type	Sirocco
Fan Quantity:	1
Motor/Drive:	Brushless Digitally Controlled/Direct
Motor Quantity:	1
High Mode Airflow Rate H/M/L (CFM):	1,400/1,260/1,000
High Mode External Static Pressure (ESP)[6] (in wg):	0.5
Standard Mode Airflow Rate H/M/L (CFM):	1,400/1,260/1,000
Standard Mode External Static Pressure (ESP)[6] (in wg):	0.3
Minimum ESP[7]:	0.1
Maximum ESP[7]:	1.0

Standard Features:

- Access Panel for Field Supplied Air Filter
  - 20 x 24 x 1

Notes:

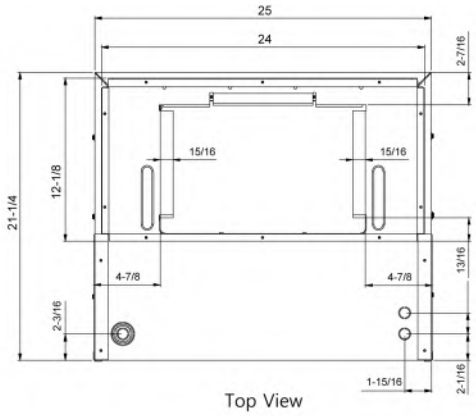
1. Maximum power input is rated at maximum setting value.
2. Electrical data listed is without an electric heat kit accessory option. The addition of an electric heat kit accessory option will change the electrical data.
3. Requires an LG wall controller because ducted units don't have an infrared receiver.
4. See Engineering Manual for sensible and latent capacities.
5. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.
6. At factory fan speed setting.
7. Maximum static pressure may result in reduced airflow (CFM).
8. All Communication cable between Master outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Master outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
9. Power wiring cable size must comply with the applicable local and national code.
10. This unit comes with a dry nitrogen charge.
11. All capacities are net with a combination ratio between 95 – 105%.
12. Adjust fan speed to correct for static pressure increases when using field supplied air filter or heat kit.
13. Must follow installation instructions in the applicable LG installation manual.

ARNU483NKA4
Multi V™ Vertical /Horizontal Air Handling Unit
48,000 Btu/h Indoor Unit

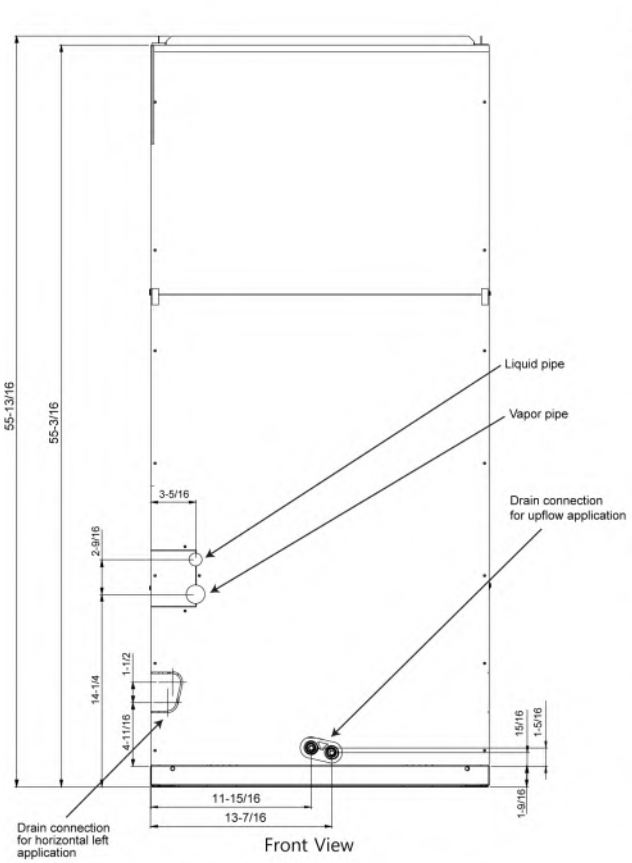
Tag #: FC 8-1-2, FC 9-1-1

Date: 9/8/2022

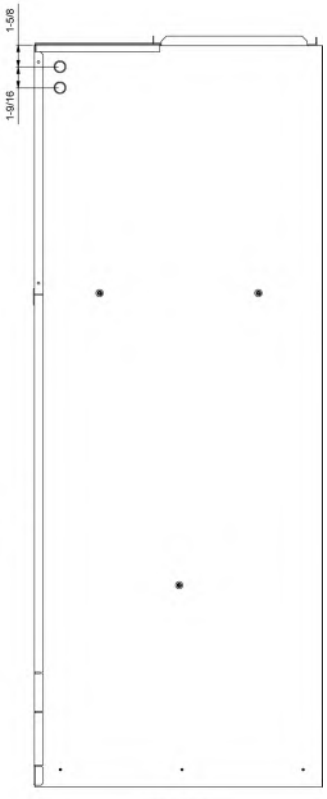
PO No.:



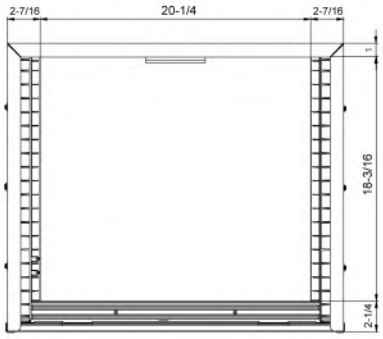
Top View



Front View



Side View



Bottom View

Unit: inch

Job Name/Location: ATU JONES HALL

Tag No.: FC 8-1-2, FC 9-1-4

Date: 9/8/2022

For: ☐File ☐Resubmit ☐Approval ☐Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

ARNU243CFA4

Multi V™ Floor Standing - Cased

24,200 Btu/h Indoor Unit

LG Life's Good

Performance:

Total Cooling Capacity (Btu/h)[1]	24,200
Heating Capacity (Btu/h)[1]	27,300
Maximum Power Input[2]	115
L/M/H Power Input at Factory Default (W)	41 / 54 / 84

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.97

Piping:

Refrigerant	
Liquid Line (in., O.D.)	3/8 Flare
Vapor Line (in., O.D.)	5/8 Flare
Condensate	
Condensate Line (in., I.D.)	1
Factory Installed Pump	No

Controls Features:

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Child lock
- Dual thermistor control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Weekly schedule
- Fan speed control
- Dual setpoint control
- Multiple auxiliary heater applications
- Filter life display
- Wi-Fi compatible
- Leak detection
- Auto fan
- External on/off control

Optional Accessories:

☐ Wireless Remote Controller - PQWRHQ0FDB[3]
☐ MultiSITE™ CRC1 Controller - PREMTBVC0
☐ MultiSITE™ CRC1+ Controller - PREMTBVC1
☐ Simple Remote Controller - PREMTC00U
☐ Premium Remote Controller - PREMTA000
☐ Remote Temperature Button Sensor - ZRTBS01
☐ Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
☐ Dry Contact for Third Party Thermostat - PDRYCB320
☐ Dry Contact for Economizer - PDRYCB400
☐ Auxiliary Heater Kit - PRARH1
☐ Wi-Fi Module - PWFMDD200

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure dB(A) (H/M/L)[4]	43 / 40 / 37
Filter Type	Washable
Filter Quantity	3
Filter Dimensions	13-3/8" x 7-1/4" x 3/4"
Unit Net Weight (lbs.)	75.0
Unit Shipping Weight (lbs.)	86.0

Fan:

Fan Type	Sirocco
Fan Quantity	4
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	2
Air Flow Rate H/M/L (CFM)	635 / 565 / 494

Notes:

1. See Engineering Manual for sensible and latent capacities.
2. Maximum power input is rated at maximum setting value.
3. Requires an LG wired controller because floor standing units do not have an IR receiver.
4. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
5. Communication cable between (main) outdoor unit to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the (main) outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Power wiring is field provided, and must comply with the applicable local and national codes.
7. This unit comes with a dry nitrogen charge.
8. All capacities are net with a combination ratio between 95 – 105%.
9. Must follow installation instructions in the applicable LG installation manual.

C US

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.

Job Name/Location: ATU JONES HALL

ARNU243CFA4

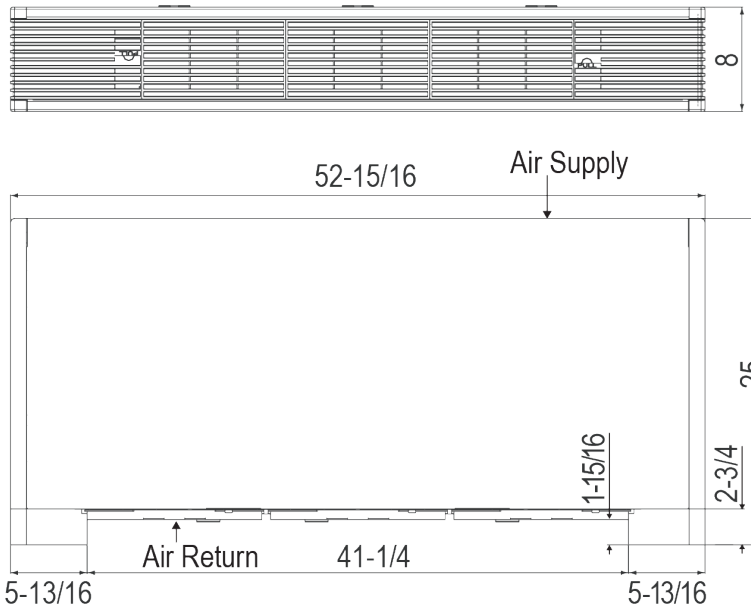
Multi V™ Floor Standing - Cased

24.200 Btu/h Indoor Unit

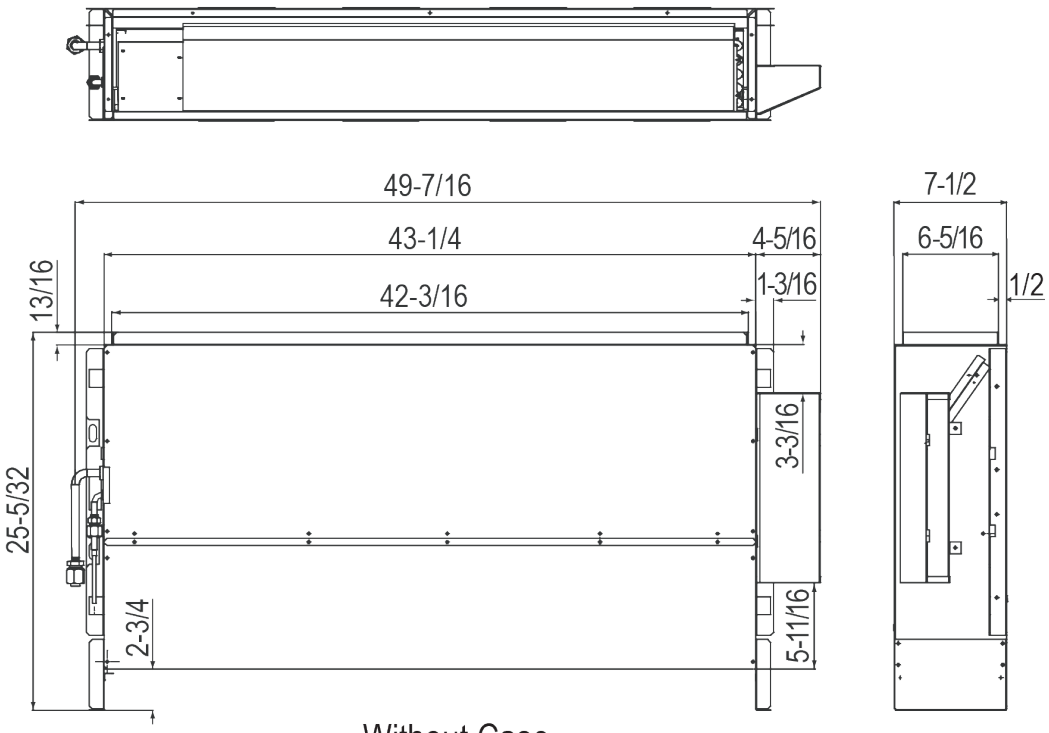
Tag No.: FC 8-1-2, FC 9-1-4

Date: 9/8/2022

PO No.:



With Case



Without Case

Unit: inches

Note: All measurements have a tolerance of ±1/4 in.

Model	W	H	D
ARNU183CFA4 ARNU243CFA4	52-15/16	25	8
ARNU183CFU4 ARNU243CFU4	49-7/16	25-3/16	7-1/2

Job Name/Location: ATU JONES HALL

Tag #:

Date: 9/8/2022

For: ☐ File ☐ Resubmit ☐ Approval Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

ARNU123SJA4

Multi V™ Standard Wall Mounted Unit

12,300 Btu/h Indoor Unit

LG Life's Good

Performance:

Total Cooling Capacity (Btu/h)[1]	12,300
Heating Capacity (Btu/h)[1]	13,600
Max Power Input (W)[2]	30
L / M / H Power Input at Factory Default (W)	11 / 13 / 15

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.25

Piping:

Refrigerant	
Liquid Line (in., O.D.)	1/4 Flare
Vapor Line (in., O.D.)	1/2 Flare
Condensate	
Condensate Line (in., I.D.)	5/8
Factory Installed Pump	No

Controls Features:

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Dual setpoint control
- Multiple auxillary heater applications
- Timer (on/off)
- Weekly schedule
- Auto direction/ swing (up/down)
- Fan speed control
- Jet cool (fast cooling)
- Filter life display
- Child lock
- Group control
- Hot start
- Self diagnostics
- External on/off control
- Wi-Fi compatible
- Auto Fan
- Leak Detection

Optional Accessories:

☐ Wireless Remote Controller - PQWRHQ0FDB
☐ MultiSITE™ CRC1 Controller - PREMTBVC0
☐ MultiSITE™ CRC1+ Controller - PREMTBVC1
☐ Simple Remote Controller - PREMTC00U
☐ Premium Remote Controller - PREMTA000
☐ Remote Temperature Button Sensor - ZRTBS01
☐ Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
☐ Dry Contact for Third Party Thermostat - PDRYCB320
☐ Dry Contact for Economizer - PDRYCB400
☐ Auxillary Heater Kit - PRARS1

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure dB(A) (H/M/L)[3]	37 / 34 / 30
Primary Filter Type	Washable
Unit Net Weight (lbs.)	18.5
Unit Shipping Weight (lbs.)	24.9

Fan:

Type	Cross Flow
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Air Flow Rate H/M/L (CFM)	300 / 254 /240

Notes:

1. See Engineering Manual for sensible and latent capacities.
2. Max. power input is rated at maximum setting value.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All communication cable to be minimum 18 AWG, 2-conductor, twisted, stranded, shielded and must comply with applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
5. Power wiring is field provided and must comply with the applicable local and national codes.
6. This unit comes with a dry nitrogen charge.
7. All capacities are net with a combination ratio between 95 – 105%.
8. Must follow installation instructions in the applicable LG installation manual.

C SA US

Models Tagged:

FC 1-1-5
FC 1-2-5
FC 3-3-5
FC 5-1-2
FC 5-2-2
FC 6-3-8
FC 9-1-5
FC 12-2-5
FC 13-3-5

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.

Job Name/Location: ATU JONES HALL

ARNU123SJA4

Multi V™ Standard Wall Mounted Unit

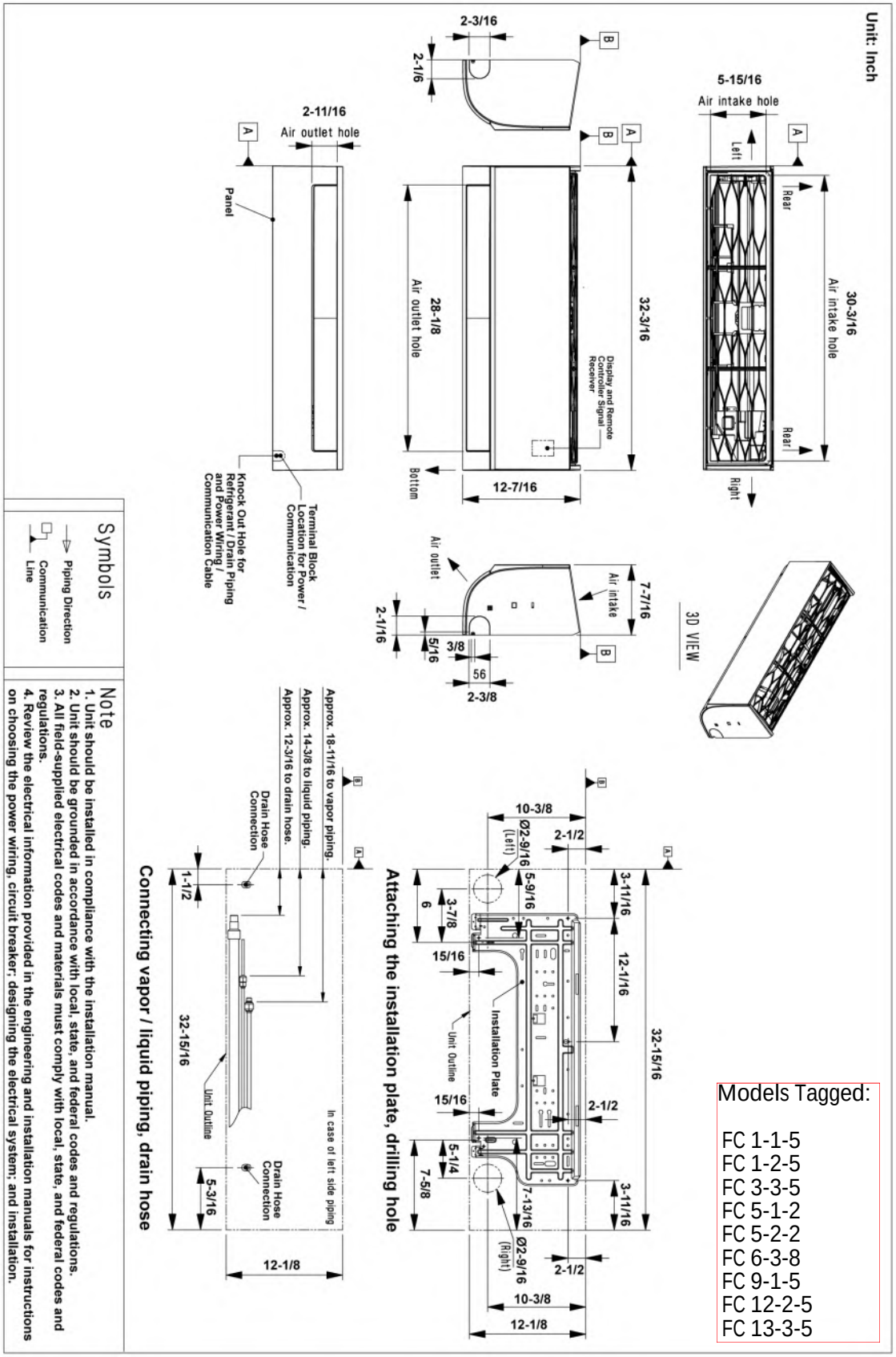
12,300 Btu/h Indoor Unit

LG Life's Good

Tag No.:

Date: 9/8/2022

PO No.:



Models Tagged:

FC 1-1-5
FC 1-2-5
FC 3-3-5
FC 5-1-2
FC 5-2-2
FC 6-3-8
FC 9-1-5
FC 12-2-5
FC 13-3-5

Job Name/Location: ATU JONES HALL

Tag No.:

Date: 9/8/2022

For: ☐File ☐Resubmit ☐Approval ☐Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

ARNU123CEA4

Multi V™ Floor Standing - Cased

12,300 Btu/h Indoor Unit

LG Life's Good

Performance:

Total Cooling Capacity (Btu/h)[1]	12,300
Heating Capacity (Btu/h)[1]	13,600
Maximum Power Input[2]	85
L/M/H Power Input at Factory Default (W)	24 / 30 / 36

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.76

Piping:

Refrigerant	
Liquid Line (in., O.D.)	1/4 Flare
Vapor Line (in., O.D.)	1/2 Flare
Condensate	
Condensate Line (in., I.D.)	1
Factory Installed Pump	No

Controls Features:

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Child lock
- Dual thermistor control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Weekly schedule
- Fan speed control
- Dual setpoint control
- Multiple auxiliary heater applications
- Filter life display
- Wi-Fi compatible
- Leak detection
- Auto fan
- External on/off control

Optional Accessories:

☐ Wireless Remote Controller - PQWRHQ0FDB[3]
☐ MultiSITE™ CRC1 Controller - PREMTBVC0
☐ MultiSITE™ CRC1+ Controller - PREMTBVC1
☐ Simple Remote Controller - PREMTC00U
☐ Premium Remote Controller - PREMTA000
☐ Remote Temperature Button Sensor - ZRTBS01
☐ Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
☐ Dry Contact for Third Party Thermostat - PDRYCB320
☐ Dry Contact for Economizer - PDRYCB400
☐ Auxiliary Heater Kit - PRARH1
☐ Wi-Fi Module - PWFMDD200

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure dB(A) (H/M/L)[4]	37 / 35 / 33
Filter Type	Washable
Filter Quantity	2
Filter Dimensions	13-3/8" x 7-1/4" x 3/4"
Unit Net Weight (lbs.)	59.5
Unit Shipping Weight (lbs.)	68.3

Fan:

Fan Type	Sirocco
Fan Quantity	3
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	2
Air Flow Rate H/M/L (CFM)	371 / 335 / 300

Notes:

1. See Engineering Manual for sensible and latent capacities.
2. Maximum power input is rated at maximum setting value.
3. Requires an LG wired controller because floor standing units do not have an IR receiver.
4. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
5. Communication cable between (main) outdoor unit to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the (main) outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Power wiring is field provided, and must comply with the applicable local and national codes.
7. This unit comes with a dry nitrogen charge.
8. All capacities are net with a combination ratio between 95 – 105%.
9. Must follow installation instructions in the applicable LG installation manual.

Models Tagged:

FC 1-1-6
FC 1-2-6
FC 3-3-6
FC 12-1-3
FC 12-2-6
FC 13-3-6

C US

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.

Job Name/Location: ATU JONES HALL

ARNU123CEA4

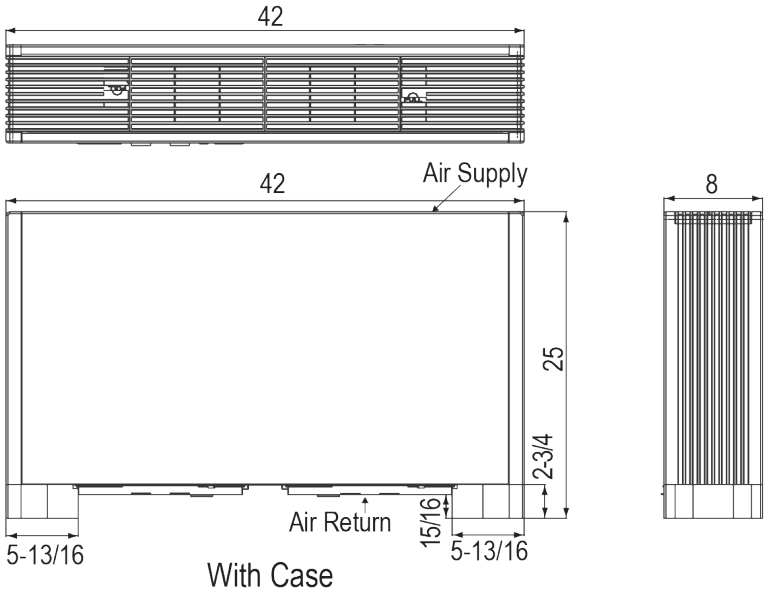
Multi V™ Floor Standing - Cased

12,300 Btu/h Indoor Unit

Tag No.:

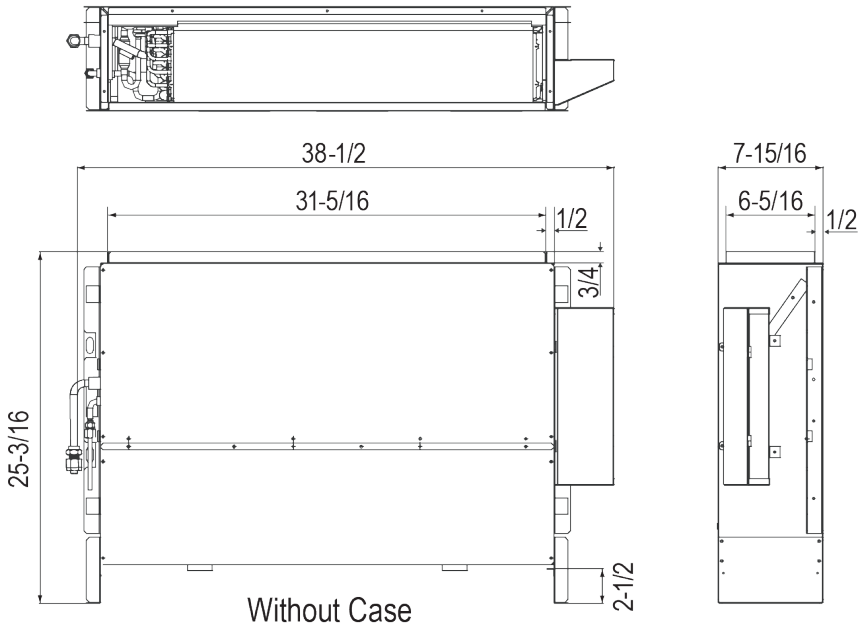
Date: 9/8/2022

PO No.:



Models Tagged:

FC 1-1-6
FC 1-2-6
FC 3-3-6
FC 12-1-3
FC 12-2-6
FC 13-3-6



Unit: inches

Note: All measurements have a tolerance of ±1/4 in.

Model	W	H	D
ARNU073CEA4 ARNU093CEA4 ARNU123CEA4 ARNU153CEA4	42	25	8
ARNU073CEU4 ARNU093CEU4 ARNU123CEU4 ARNU153CEU4	38-1/2	25-3/16	7-15/16

Job Name/Location: ATU JONES HALL

Tag #:

Date: 9/8/2022

For: ☐ File ☐ Resubmit ☐ Approval Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

ARNU093SJA4

Multi V™ Standard Wall Mounted Unit

9,600 Btu/h Indoor Unit

LG Life's Good

Performance:

Total Cooling Capacity (Btu/h)[1]	9,600
Heating Capacity (Btu/h)[1]	10,900
Max Power Input (W)[2]	30
L / M / H Power Input at Factory Default (W)	9 / 12 / 13

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.25

Piping:

Refrigerant	
Liquid Line (in., O.D.)	1/4 Flare
Vapor Line (in., O.D.)	1/2 Flare
Condensate	
Condensate Line (in., I.D.)	5/8
Factory Installed Pump	No

Controls Features:

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Dual setpoint control
- Multiple auxillary heater applications
- Timer (on/off)
- Weekly schedule
- Auto direction/ swing (up/down)
- Fan speed control
- Jet cool (fast cooling)
- Filter life display
- Child lock
- Group control
- Hot start
- Self diagnostics
- External on/off control
- Wi-Fi compatible
- Auto Fan
- Leak Detection

Optional Accessories:

- ☐ Wireless Remote Controller - PQWRHQ0FDB
- ☐ MultiSITE™ CRC1 Controller - PREMTBVC0
- ☐ MultiSITE™ CRC1+ Controller - PREMTBVC1
- ☐ Simple Remote Controller - PREMTC00U
- ☐ Premium Remote Controller - PREMTA000
- ☐ Remote Temperature Button Sensor - ZRTBS01
- ☐ Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- ☐ Dry Contact for Third Party Thermostat - PDRYCB320
- ☐ Dry Contact for Economizer - PDRYCB400
- ☐ Auxillary Heater Kit - PRARS1

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure dB(A) (H/M/L)[3]	34 / 32 / 28
Primary Filter Type	Washable
Unit Net Weight (lbs.)	18.5
Unit Shipping Weight (lbs.)	24.9

Fan:

Type	Cross Flow
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Air Flow Rate H/M/L (CFM)	275 / 254 / 208

Notes:

1. See Engineering Manual for sensible and latent capacities.
2. Max. power input is rated at maximum setting value.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All communication cable to be minimum 18 AWG, 2-conductor, twisted, stranded, shielded and must comply with applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
5. Power wiring is field provided and must comply with the applicable local and national codes.
6. This unit comes with a dry nitrogen charge.
7. All capacities are net with a combination ratio between 95 – 105%.
8. Must follow installation instructions in the applicable LG installation manual.

C SA US

Models Tagged:

FC 1-1-2	FC 4-1-1 thru 6	FC 7-3-1 thru 5	FC 11-2-1 thru 6
FC 1-1-4	FC 4-2-1 thru 6	FC 8-1-4	FC 12-1-2
FC 1-2-2	FC 5-1-1	FC 8-1-5	FC 12-1-4
FC 1-2-4	FC 5-1-3 thru 5	FC 9-1-2	FC 12-2-2
FC 2-1-1 thru 6	FC 5-2-1	FC 9-1-3	FC 12-2-4
FC 2-2-1 thru 6	FC 5-2-3 thru 5	FC 10-2-1 thru 6	FC 13-3-2
FC 3-3-2	FC 6-1-1 thru 7	FC 10-3-1 thru 6	FC 13-3-4
FC 3-3-4	FC 6-1-9 thru 11	FC 11-1-2	FC 13-3-7 thru 12
FC 3-3-7 thru 12	FC 7-2-1 thru 5	FC 11-1-4 thru 6	

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.

Job Name/Location: ATU JONES HALL

ARNU093SJA4

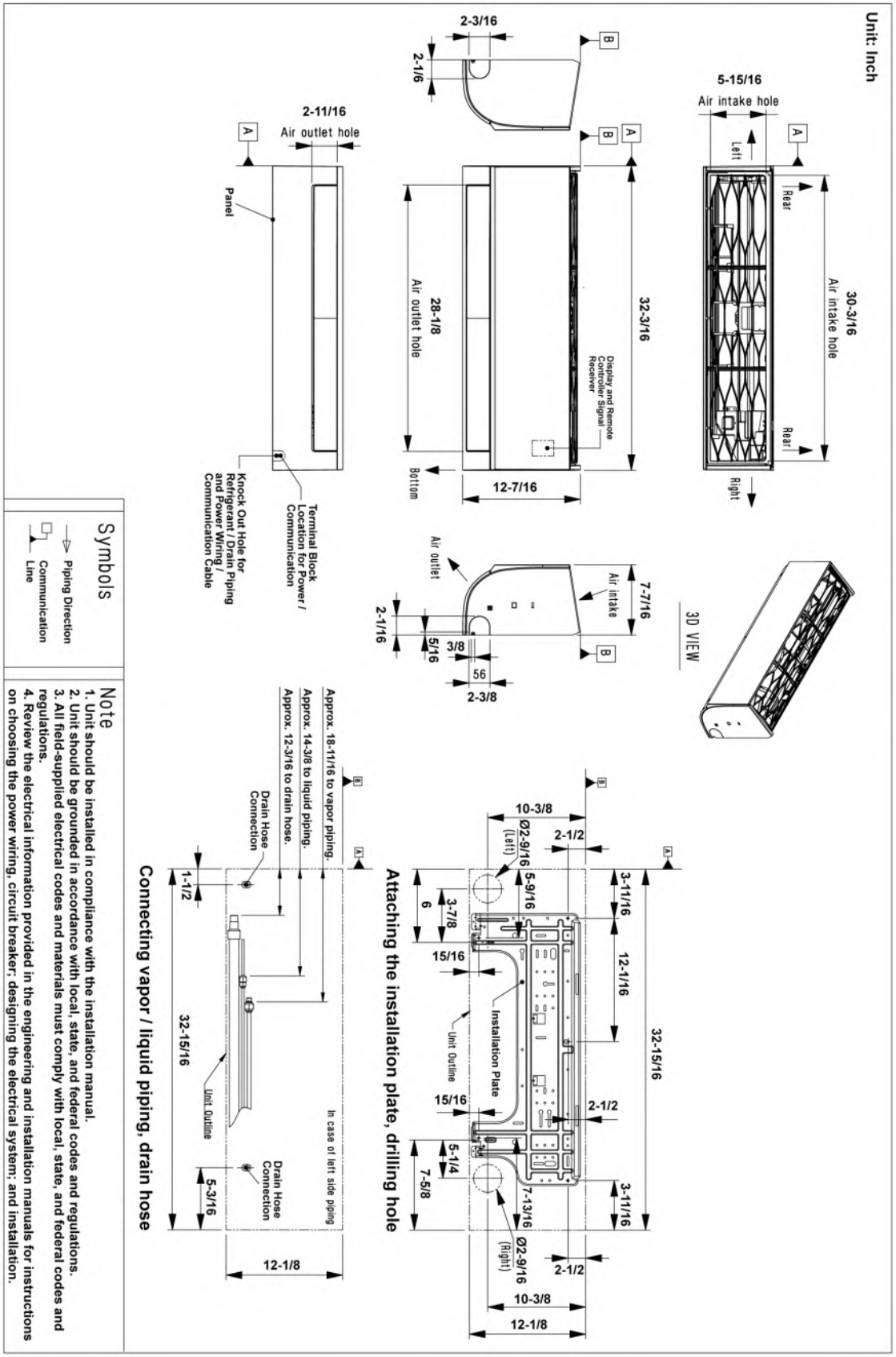
Multi V™ Standard Wall Mounted Unit

9,600 Btu/h Indoor Unit

Tag No.: See Previous Sheet

Date: 9/8/2022

PO No.:



Job Name/Location: ATU JONES HALL

Tag #:

Date: 9/8/2022

For: ☐ File ☐ Resubmit ☐ Approval Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

ARNU073SJA4

Multi V™ Standard Wall Mounted Unit

7,500 Btu/h Indoor Unit

LG Life's Good

Performance:

Total Cooling Capacity (Btu/h)[1]	7,500
Heating Capacity (Btu/h)[1]	8,500
Max Power Input (W)[2]	30
L / M / H Power Input at Factory Default (W)	9 / 11 / 12

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.25

Piping:

Refrigerant	
Liquid Line (in., O.D.)	1/4 Flare
Vapor Line (in., O.D.)	1/2 Flare
Condensate	
Condensate Line (in., I.D.)	5/8
Factory Installed Pump	No

Controls Features:

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Dual setpoint control
- Multiple auxillary heater applications
- Timer (on/off)
- Weekly schedule
- Auto direction/ swing (up/down)
- Fan speed control
- Jet cool (fast cooling)
- Filter life display
- Child lock
- Group control
- Hot start
- Self diagnostics
- External on/off control
- Wi-Fi compatible
- Auto Fan
- Leak Detection

Optional Accessories:

☐ Wireless Remote Controller - PQWRHQ0FDB
☐ MultiSITE™ CRC1 Controller - PREMTBVC0
☐ MultiSITE™ CRC1+ Controller - PREMTBVC1
☐ Simple Remote Controller - PREMTC00U
☐ Premium Remote Controller - PREMTA000
☐ Remote Temperature Button Sensor - ZRTBS01
☐ Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
☐ Dry Contact for Third Party Thermostat - PDRYCB320
☐ Dry Contact for Economizer - PDRYCB400
☐ Auxillary Heater Kit - PRARS1

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure dB(A) (H/M/L)[3]	32 / 30 / 28
Primary Filter Type	Washable
Unit Net Weight (lbs.)	18.5
Unit Shipping Weight (lbs.)	24.9

Fan:

Type	Cross Flow
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Air Flow Rate H/M/L (CFM)	254 / 240 / 208

Notes:

1. See Engineering Manual for sensible and latent capacities.
2. Max. power input is rated at maximum setting value.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All communication cable to be minimum 18 AWG, 2-conductor, twisted, stranded, shielded and must comply with applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
5. Power wiring is field provided and must comply with the applicable local and national codes.
6. This unit comes with a dry nitrogen charge.
7. All capacities are net with a combination ratio between 95 – 105%.
8. Must follow installation instructions in the applicable LG installation manual.

C SA US

Models Tagged:

FC 1-1-1	FC 11-1-3
FC 1-1-3	FC 12-1-1
FC 1-2-3	FC 12-2-1
FC 3-3-1	FC 12-2-3
FC 3-3-3	FC 13-3-1
FC 8-1-3	FC 13-3-3

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.

Job Name/Location: ATU JONES HALL

ARNU073SJA4

Multi V™ Standard Wall Mounted Unit

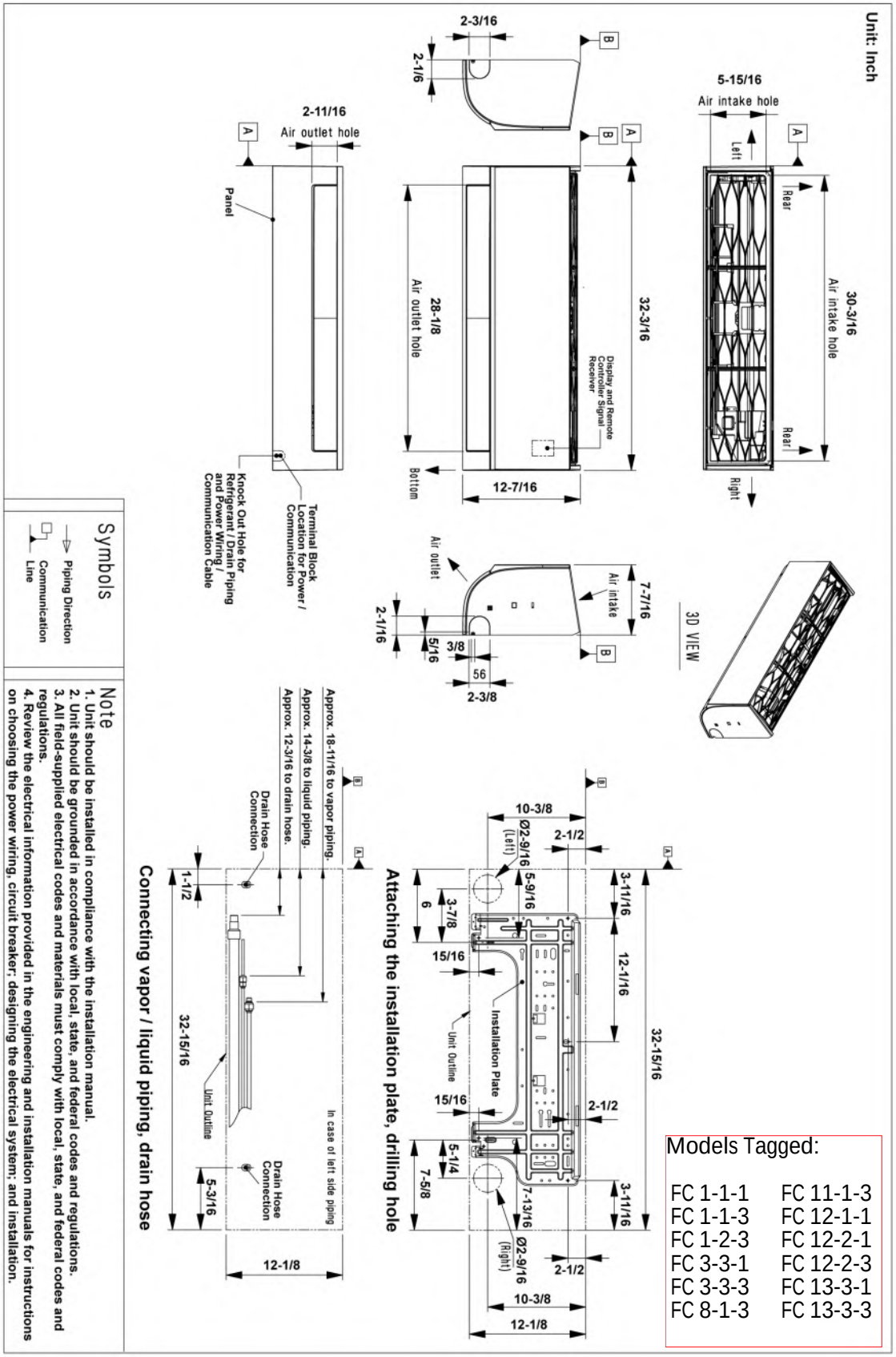
7,500 Btu/h Indoor Unit

LG Life's Good

Tag No.:

Date: 9/8/2022

PO No.:



Models Tagged:

FC 1-1-1	FC 11-1-3
FC 1-1-3	FC 12-1-1
FC 1-2-3	FC 12-2-1
FC 3-3-1	FC 12-2-3
FC 3-3-3	FC 13-3-1
FC 8-1-3	FC 13-3-3

Job Name/Location: ATU JONES HALL **Tag #:**

Date: 9/8/2022

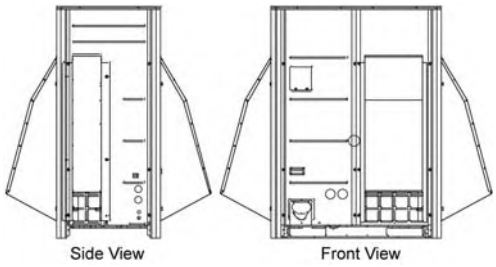
For: ☐ File ☐ Resubmit ☐ Approval ☐ Other

PO No.:

Architect: GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT Mech:

Rep: Airetech Corporation (Company) Tracy Parker (Project Manager)



ZHGDKA52A

Hail Guard Kit for Multi V 5 8-20 Ton Outdoor Unit

LG Life's Good

Compatible Outdoor Units:

ARUM096BTE5/ARUM096DTE5	ARUM168BTE5/ARUM168DTE
ARUM121BTE5/ARUM121DTE5	ARUM192BTE5/ARUM192DTE
ARUM144BTE5/ARUM144DTE5	ARUM216BTE5/ARUM216DTE
	ARUM241BTE5/ARUM241DTE

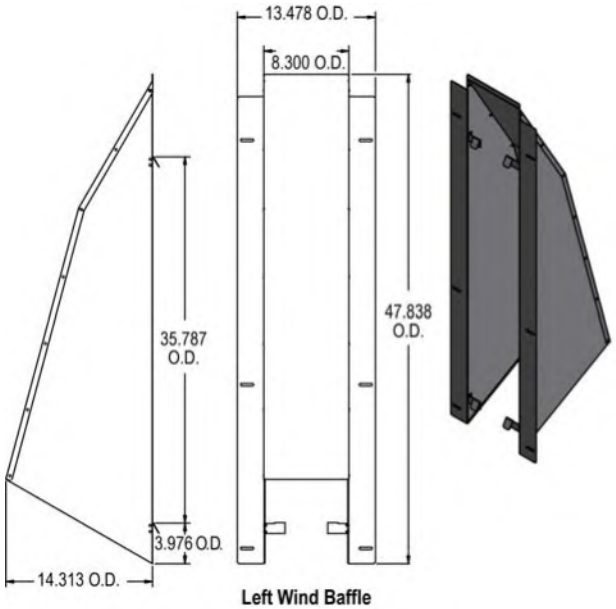
Each kit comes with:

- Front wind baffle
- Right wind baffle
- Left wind baffle
- Rear wind baffle
- (50) #10 x 1/2" self drilling hex head screws

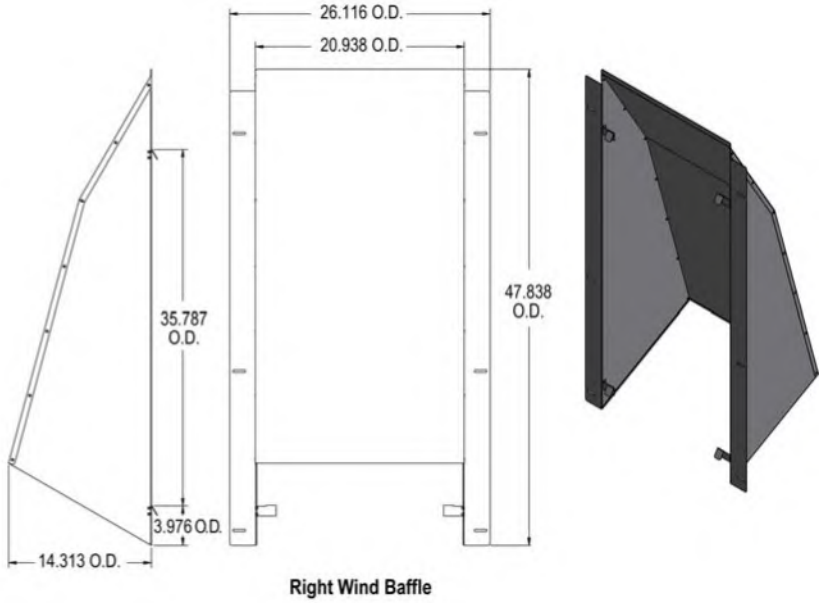
Fitting Properties:

Color	Dark Gray
Material	20 GA Sheet Metal

Outdoor Unit	Required Accessory Quantities
	ZHGDKA52A
ARUM096BTE5 / ARUM096DTE5	1
ARUM121BTE5 / ARUM121DTE5	1
ARUM144BTE5 / ARUM144DTE5	1
ARUM168BTE5 / ARUM168DTE5	1
ARUM192BTE5 / ARUM192DTE5	1
ARUM216BTE5 / ARUM216DTE5	1
ARUM241BTE5 / ARUM241DTE5	1
ARUM264BTE5 / ARUM264DTE5	2
ARUM288BTE5 / ARUM288DTE5	2
ARUM312BTE5 / ARUM312DTE5	2
ARUM336BTE5 / ARUM336DTE5	2
ARUM360BTE5 / ARUM360DTE5	2
ARUM384BTE5 / ARUM384DTE5	2
ARUM408BTE5 / ARUM408DTE5	2
ARUM432BTE5 / ARUM432DTE5	3
ARUM456BTE5 / ARUM456DTE5	3
ARUM480BTE5 / ARUM480DTE5	3
ARUM504BTE5 / ARUM504DTE5	3



Left Wind Baffle



Right Wind Baffle

Job Name/Location: ATU JONES HALL

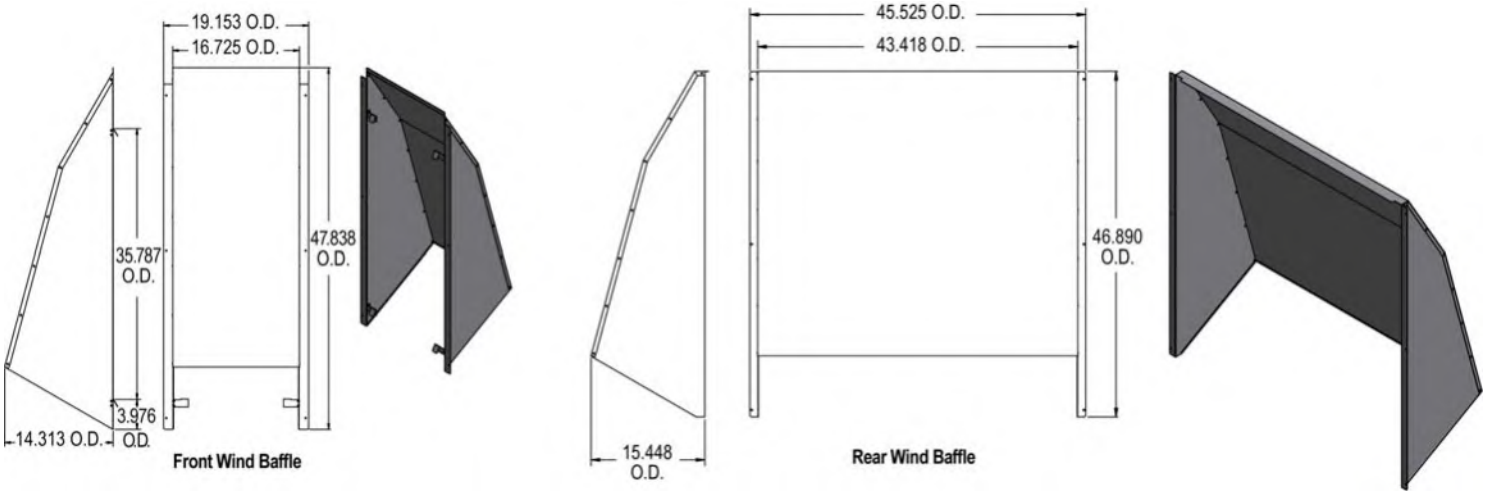
ZHGDKA52A

Hail Guard Kit for Multi V 5 8-20 Ton Outdoor Unit

Tag #:

Date: 9/8/2022

PO No.:



Job Name/Location: ATU JONES HALL

Tag No.:

Date: 9/8/2022

For: ☐File ☐Resubmit ☐Approval ☐Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

PRHR063A
Multi V™ Heat Recovery Unit
Six (6) Port

LG Life's Good

Performance:

Maximum Port Capacity Btu/h (each port)[1,2]	60,000
Maximum Unit Capacity Btu/h (sum of ports)	230,000
Number of Indoor Unit Ports	6
Max. Connectible Number of Indoor Units	48
Max. Connectible Number of Indoor Units per Branch	8
Power Input[3]	
Cooling	75.9
Heating	72.1

Refrigerant Piping:[4]

Port Liquid Line (in., O.D.)	3/8
Port Vapor Line (in., O.D.)	5/8
System Liquid Line (in., O.D.)	5/8
System Vapor Line High (in., O.D.)	7/8
System Vapor Line Low (in., O.D.)	1-1/8

Electrical:[3]

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.09

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure	
Cooling Mode dB(A)	31
Heating Mode dB(A)	31
Simultaneous dB(A)	38
Changeover Cooling to Heating	33
Changeover Heating to Cooling	38
Unit Net Weight (lbs.)	60
Unit Shipping Weight (lbs.)	75

Features:
- Allows connected indoor units to be in cooling or heating mode simultaneously.
- Internal components are insulated.
  - External casing insulation is not needed.[4]
  - Condensate drain not needed.
- Series or parallel connection with additional heat recovery units.
- Flexible placement for service access or pipe routing.
- Access panels:
  - Top panel for EEV heads.
  - Rear panel for control access.
  - Bottom panel for refrigerant circuit.

Models Tagged:

BS 2-1-1 BS 7-2-1
BS 2-2-1 BS 8-1-1
BS 4-1-1 BS 9-1-1
BS 4-2-1 BS 10-2-1
BS 5-1-1 BS 11-1-1
BS 5-2-1 BS 11-2-1
BS 6-3-7 BS 12-2-1

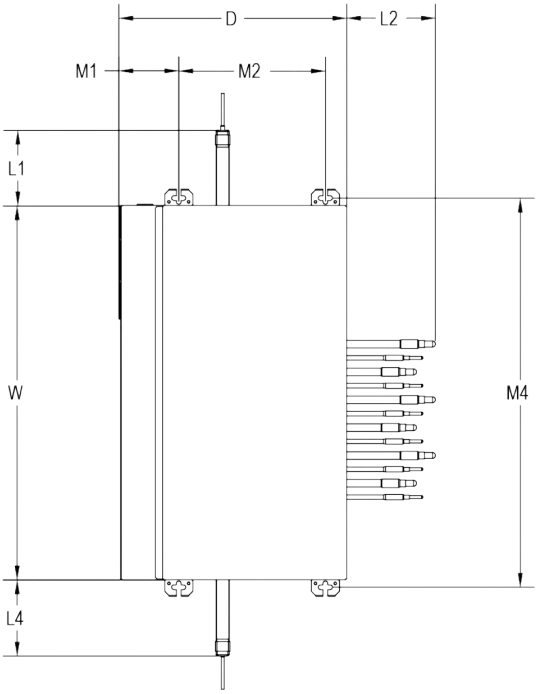
Notes:
1. Each port can allow up to 8 indoor units with a maximum capacity of 60 MBh per port.
2. Multiple units installed on the same heat recovery port must operate in the same mode. Auto-changeover or Mode override is not possible.
3. Power wiring is field provided, and must comply with the applicable local and national codes.
4. All refrigerant piping requires insulation.
5. Communication cable between Master outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Master outdoor unit chassis only. ⃠Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Kit components must be kept dry and free of debris before installation.
7. This unit comes with a dry nitrogen charge.
8. Must follow installation instructions in the applicable LG installation manual.

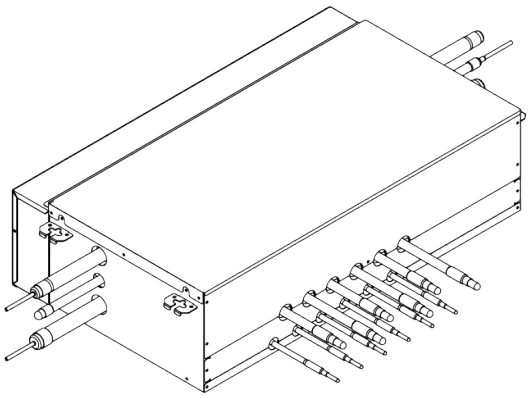
C SA US

Job Name/Location: ATU JONES HALL

PRHR063A
Multi V™ Heat Recovery Unit
Six (6) Port

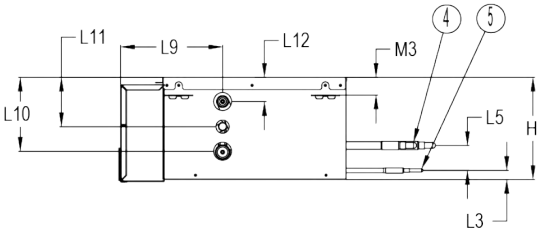
Tag No.:
Date: 9/8/2022
PO No.:

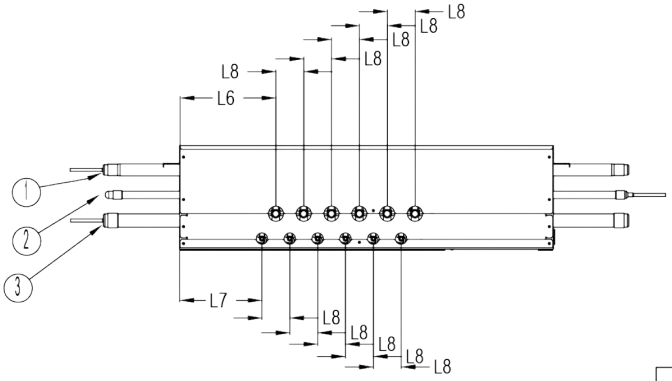




W	31-1/4″
H	8-5/8″
D	18-15/16″
L1	6-5/16″
L2	6-15/16″
L3	3/4″
L4	6-5/16″
L5	2-3/16″
L6	8-1/16″
L7	6-7/8″
L8	2-5/16″
L9	8-9/16″
L10	6-3/16″
L11	3-9/16″
L12	2″
M1	4-15/16″
M2	12-1/4″
M3	1-1/2″
M4	32-1/2″

[Unit: inch]





Note:

1. Unit should be installed in compliance with the appropriate LG installation manual.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials supplied from the site must comply with the local regulations or national codes.

Models Tagged:

BS 2-1-1 BS 7-2-1
BS 2-2-1 BS 8-1-1
BS 4-1-1 BS 9-1-1
BS 4-2-1 BS 10-2-1
BS 5-1-1 BS 11-1-1
BS 5-2-1 BS 11-2-1
BS 6-3-7 BS 12-2-1

No.	Part Name
6	Control box
5	Liquid pipe to Indoor unit
4	Gas pipe to Indoor unit
3	Low pressure gas pipe
2	Liquid pipe to Outdoor unit
1	High pressure gas pipe

Job Name/Location: ATU JONES HALL

Tag No.:

Date: 9/8/2022

For: ☐File ☐Resubmit ☐Approval ☐Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

PRHR043A
Multi V™ Heat Recovery Unit
Four (4) Port

LG Life's Good

Performance:

Maximum Port Capacity Btu/h (each port)[1,2]	60,000
Maximum Unit Capacity Btu/h (sum of ports)	230,000
Number of Indoor Unit Ports	4
Max. Connectible Number of Indoor Units	32
Max. Connectible Number of Indoor Units per Branch	8
Power Input[3]	
Cooling	39.8
Heating	37.2

Refrigerant Piping:[4]

Port Liquid Line (in., O.D.)	3/8
Port Vapor Line (in., O.D.)	5/8
System Liquid Line (in., O.D.)	5/8
System Vapor Line High (in., O.D.)	7/8
System Vapor Line Low (in., O.D.)	1-1/8

Electrical:[3]

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.06

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure	
Cooling Mode dB(A)	31
Heating Mode dB(A)	31
Simultaneous dB(A)	38
Changeover Cooling to Heating	33
Changeover Heating to Cooling	38
Unit Net Weight (lbs.)	40
Unit Shipping Weight (lbs.)	53

Features:
- Allows connected indoor units to be in cooling or heating mode simultaneously.
- Internal components are insulated.
  - External casing insulation is not needed.[4]
  - Condensate drain not needed.
- Series or parallel connection with additional heat recovery units.
- Flexible placement for service access or pipe routing.
- Access panels:
  - Top panel for EEV heads.
  - Rear panel for control access.
  - Bottom panel for refrigerant circuit.

Models Tagged:

BS 1-1-1
BS 1-2-1
BS 3-3-1
BS 12-1-1
BS 13-3-1

Notes:
1. Each port can allow up to 8 indoor units with a maximum capacity of 60 MBh per port.
2. Multiple units installed on the same heat recovery port must operate in the same mode. Auto-changeover or Mode override is not possible.
3. Power wiring is field provided, and must comply with the applicable local and national codes.
4. All refrigerant piping requires insulation.
5. Communication cable between Master outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Master outdoor unit chassis only. ⃠Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Kit components must be kept dry and free of debris before installation.
7. This unit comes with a dry nitrogen charge.
8. Must follow installation instructions in the applicable LG installation manual.

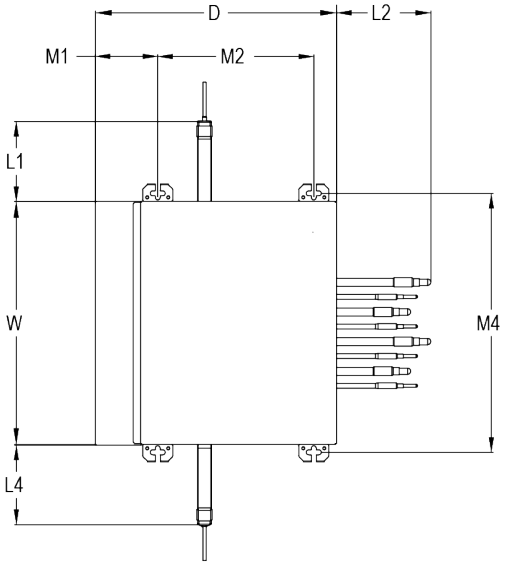
C SA US

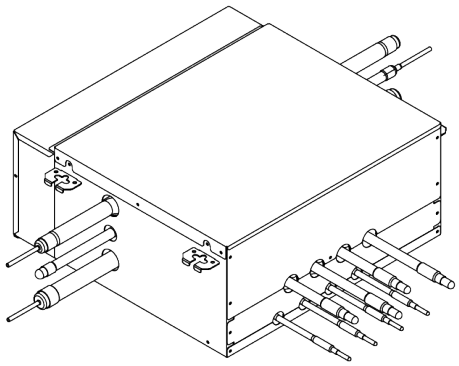
Job Name/Location: ATU JONES HALL

PRHR043A
Multi V™ Heat Recovery Unit
Four (4) Port

LG Life's Good

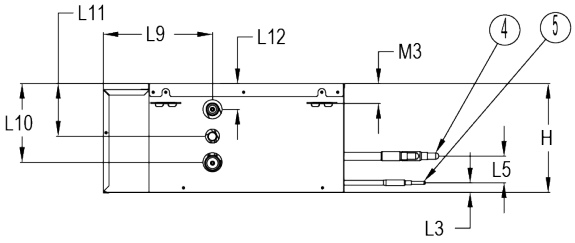
Tag No.:
Date: 9/8/2022
PO No.:

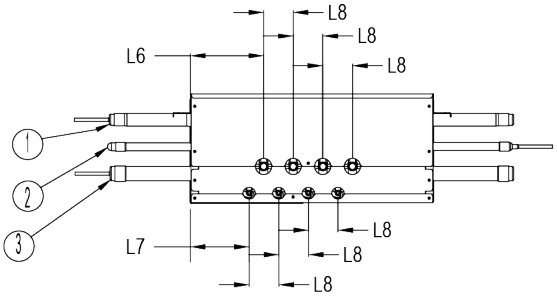




W	19-1/8″
H	8-5/8″
D	18-15/16″
L1	5-15/16″
L2	6-15/16″
L3	3/4″
L4	5-15/16″
L5	2-3/16″
L6	5-3/4″
L7	4-9/16″
L8	2-5/16″
L9	8-9/16″
L10	6-3/16″
L11	3-9/16″
L12	2″
M1	4-15/16″
M2	12-1/4″
M3	1-1/2″
M4	20-3/8″

[Unit: inch]





Note:

1. Unit should be installed in compliance with the appropriate LG installation manual.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials supplied from the site must comply with the local regulations or national codes.

Models Tagged:

BS 1-1-1
BS 1-2-1
BS 3-3-1
BS 12-1-1
BS 13-3-1

No.	Part Name
6	Control box
5	Liquid pipe to Indoor unit
4	Gas pipe to Indoor unit
3	Low pressure gas pipe
2	Liquid pipe to Outdoor unit
1	High pressure gas pipe

Job Name/Location: ATU JONES HALL

Tag No.:

Date: 9/8/2022

For: ☐File ☐Resubmit ☐Approval ☐Other_____

PO No.:

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

PRHR023A
Multi V™ Heat Recovery Unit
Two (2) Port

LG Life's Good

Performance:

Maximum Port Capacity Btu/h (each port)[1,2]	60,000
Maximum Unit Capacity Btu/h (sum of ports)	120,000
Number of Indoor Unit Ports	2
Max. Connectible Number of Indoor Units	16
Max. Connectible Number of Indoor Units per Branch	8
Power Input[3]	
Cooling	39.8
Heating	37.2

Electrical:[3]

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.06

Refrigerant Piping:[4]

Port Liquid Line (in., O.D.)	3/8
Port Vapor Line (in., O.D.)	5/8
System Liquid Line (in., O.D.)	3/8
System Vapor Line High (in., O.D.)	3/4
System Vapor Line Low (in., O.D.)	7/8

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure	
Cooling Mode dB(A)	31
Heating Mode dB(A)	31
Simultaneous dB(A)	38
Changeover Cooling to Heating	33
Changeover Heating to Cooling	38
Unit Net Weight (lbs.)	33
Unit Shipping Weight (lbs.)	46

Features:
- Allows connected indoor units to be in cooling or heating mode simultaneously.
- Internal components are insulated.
  - External casing insulation is not needed.[4]
  - Condensate drain not needed.
- Series or parallel connection with additional heat recovery units.
- Flexible placement for service access or pipe routing.
- Access panels:
  - Top panel for EEV heads.
  - Rear panel for control access.
  - Bottom panel for refrigerant circuit.

Models Tagged:

BS 3-3-2 thru 7
BS 6-3-1 thru 6
BS 7-3-1 thru 5
BS 10-3-1 thru 6
BS 13-3-2 thru 7

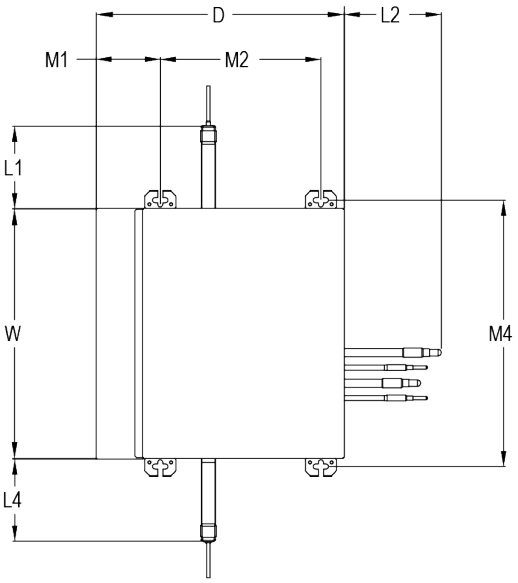
Notes:
1. Each port can allow up to 8 indoor units with a maximum capacity of 60 MBh per port.
2. Multiple units installed on the same heat recovery port must operate in the same mode. Auto-changeover or Mode override is not possible.
3. Power wiring is field provided, and must comply with the applicable local and national codes.
4. All refrigerant piping requires insulation.
5. Communication cable between Master outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Master outdoor unit chassis only. ⃠Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Kit components must be kept dry and free of debris before installation.
7. This unit comes with a dry nitrogen charge.
8. Must follow installation instructions in the applicable LG installation manual.

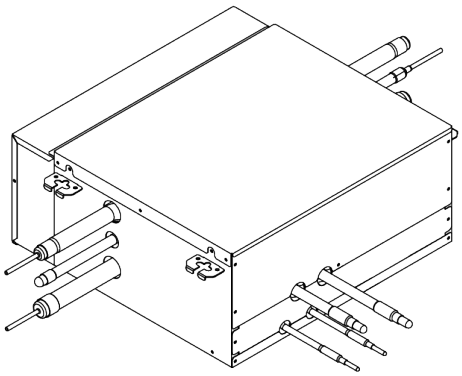
C SA US

Job Name/Location: ATU JONES HALL

PRHR023A
Multi V™ Heat Recovery Unit
Two (2) Port

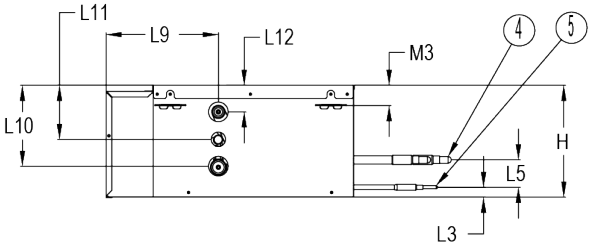
Tag No.:
Date: 9/8/2022
PO No.:

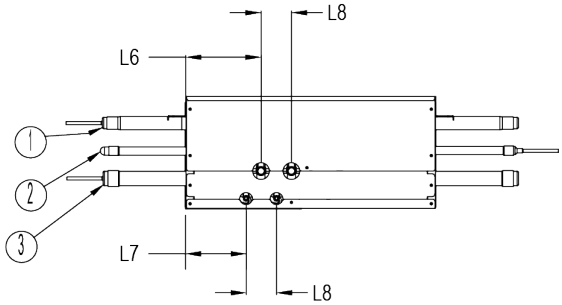




W	19-1/8″
H	8-5/8″
D	18-15/16″
L1	5-15/16″
L2	6-15/16″
L3	3/4″
L4	5-15/16″
L5	2-3/16″
L6	5-3/4″
L7	4-9/16″
L8	2-5/16″
L9	8-9/16″
L10	6-3/16″
L11	3-9/16″
L12	2″
M1	4-15/16″
M2	12-1/4″
M3	1-1/2″
M4	20-3/8″

[Unit: inch]





Note:

1. Unit should be installed in compliance with the appropriate LG installation manual.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials supplied from the site must comply with the local regulations or national codes.

Models Tagged:

BS 3-3-2 thru 7
BS 6-3-1 thru 6
BS 7-3-1 thru 5
BS 10-3-1 thru 6
BS 13-3-2 thru 7

No.	Part Name
6	Control box
5	Liquid pipe to Indoor unit
4	Gas pipe to Indoor unit
3	Low pressure gas pipe
2	Liquid pipe to Outdoor unit
1	High pressure gas pipe

Job Name/Location: ATU JONES HALL **Tag #:**

Date: 9/8/2022

PO No.:

For: File Resubmit Approval Other

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

Indoor Y-Branch Kits

Multi V™ 3 Pipe

Insulation[1] Properties:

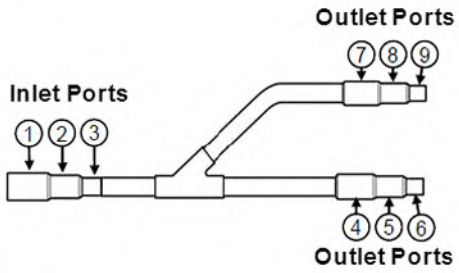
Material	Polyolefin Foam
UL94 Flame Classification	HF-1

Fitting Properties:

Material	Copper
Design Pressure	551 PSIG

Y-Branch Connection Diameters (in, ID)

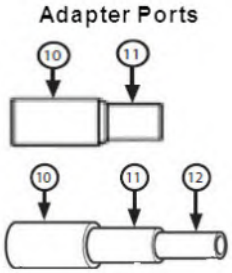
Model	Y-Branch Type	Port Identifier								
		1	2	3	4	5	6	7	8	9
ARBLB01621	Liquid	-	1/4	3/8	3/8	1/4	-	3/8	1/4	-
	Vapor Line Low	-	5/8	1/2	1/2	5/8	-	1/2	5/8	-
	Vapor Line High	3/8	5/8	1/2	1/2	5/8	3/8	1/2	5/8	3/8
ARBLB03321	Liquid	1/2	3/8	-	3/8	1/2	1/4	3/8	1/2	1/4
	Vapor Line Low	1	7/8	3/4	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor Line High	3/4	1	7/8	7/8	3/4	5/8	7/8	3/4	5/8
ARBLB07121	Liquid	1/2	3/4	5/8	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor Line Low	1-1/4	1-1/8	-	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor Line High	1-1/8	1	-	7/8	1	3/4	7/8	1	¾
ARBLB14521	Liquid	5/8	7/8	3/4	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor Line Low	1-3/8	1-1/2	1-5/8	1-1/2	1-3/8	1-1/8	1-3/8	1-1/8	7/8
	Vapor Line High	1-1/8	1-3/8	1-1/4	1-1/8	1-1/4	1	1-1/8	1-1/4	1



Not to scale

Reducer Diameters (in)

Model	Qty/Kit	Reducer Type	10	11	12	Length
ARBLB01621	2	Liquid	1/2 ID	3/8 OD	-	2-3/4
		Vapor Line Low	3/4 ID	5/8 OD	-	2-3/4
		Vapor Line High	-	-	-	-
ARBLB03321	5	Liquid	-	-	-	-
		Vapor Line Low	7/8 ID	3/4 OD	-	2-3/4
			1 ID	7/8 ID	3/4 OD	4-11/32
			1-1/8 ID	1 OD	-	3-5/32
		Vapor Line High	5/8 OD	1/2 ID	-	2-3/4
			5/8 OD	1/2 ID	3/8 ID	4-11/32
ARBLB07121	8	Liquid	1/2 OD	3/8 ID	-	2-3/4
			1/2 OD	3/8 ID	1/4 ID	4-11/32
		Vapor Line Low	1-1/8 ID	7/8 ID	3/4 OD	4-23/32
			1-1/4 ID	1-1/8 ID	7/8 OD	4-23/32
			1-3/8 ID	1-1/4 OD	-	3-17/32
		Vapor Line High	1/2 OD	3/8 ID	-	2-3/4
			3/4 OD	5/8 ID	-	2-3/4
			3/4 OD	5/8 ID	1/2 ID	4-11/32
ARBLB14521	12	Liquid	1/2 OD	3/8 ID	1/4 ID	4-11/32
			5/8 OD	1/2 ID	3/8 ID	4-11/32
			7/8 ID	3/4 OD	-	3-5/32
		Vapor Line Low	5/8 OD	1/2 ID	-	2-3/4
			7/8 OD	3/4 ID	5/8 ID	4-23/32
			1-1/8 OD	7/8 ID	3/4 ID	4-23/32
			1-5/8 ID	1-1/2 ID	1-3/8 OD	5-1/8
			1-5/8 ID	1-1/2 OD	-	3-17/32
		Vapor Line High	3/4 OD	5/8 ID	1/2 ID	4-11/32
			1/2 OD	3/8 ID	-	2-3/4
			1 OD	7/8 ID	-	3-5/32
			1 OD	7/8 ID	3/4 ID	4-23/32



Job Name/Location: ATU JONES HALL

Indoor Y-Branch Kits

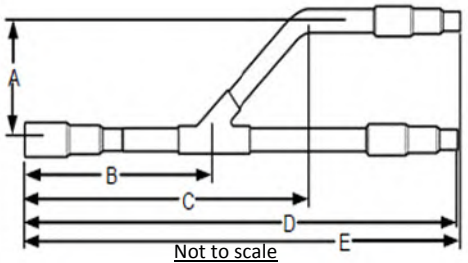
Multi V™ 3 Pipe

Tag #:

Date: 9/8/2022

PO No.:

Y-Branch Dimensions[2] (in)						
Model	**Y-Branch Type**	**A**	**B**	**C**	**D**	**E**
ARBLB01621	Liquid	2-29/32	6-9/16	8-1/32	11-1/16	11-1/2
	Vapor Line Low	2-29/32	4-1/2	7-31/32	11-1/16	11-1/2
	Vapor Line High	2-29/32	6-3/32	9-7/16	13-13/16	14-21/32
ARBLB03321	Liquid	2-29/32	4-1/2	8-1/32	12-5/8	13-1/16
	Vapor Line Low	3-9/32	6-29/32	10-7/8	15-11/32	16-1/4
	Vapor Line High	3-25/32	7-3/32	11-3/8	16-9/16	17-15/32
ARBLB07121	Liquid	3-9/32	6-1/8	10-1/32	14-9/32	15-1/2
	Vapor Line Low	3-25/32	5-1/2	10	14-13/16	15-29/32
	Vapor Line High	3-25/32	5-1/2	10-3/32	15	16-3/32
ARBLB14521	Liquid	3-25/32	7-3/32	11-11/16	16-3/8	17-15/32
	Vapor Line Low	4-29/32	7-7/8	13-23/32	18-17/32	20-11/32
	Vapor Line High	4-3/8	7-7/16	12-3/4	17-27/32	19-11/32



Not to scale

Notes:

1.Each Y-Branch kit comes with insulation for the following piping components - liquid, vapor line low and vapor line high.
2.LG branch fittings must be used. Field supplied branch fittings are not permitted.
3.Kit components must be kept dry and free of debris before installation.
4.Must follow installation instructions in the applicable LG installation manual.

Job Name/Location: ATU JONES HALL **Tag #:**

Date: 9/8/2022

PO No.:

For: File Resubmit Approval Other _____

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

Indoor Y-Branch Kits

Multi V™ 3 Pipe

Insulation[1] Properties:

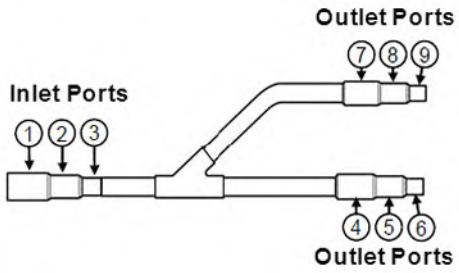
Material	Polyolefin Foam
UL94 Flame Classification	HF-1

Fitting Properties:

Material	Copper
Design Pressure	551 PSIG

Y-Branch Connection Diameters (in, ID)

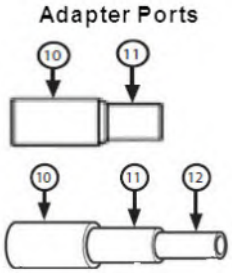
Model	Y-Branch Type	Port Identifier								
		1	2	3	4	5	6	7	8	9
ARBLB01621	Liquid	-	1/4	3/8	3/8	1/4	-	3/8	1/4	-
	Vapor Line Low	-	5/8	1/2	1/2	5/8	-	1/2	5/8	-
	Vapor Line High	3/8	5/8	1/2	1/2	5/8	3/8	1/2	5/8	3/8
ARBLB03321	Liquid	1/2	3/8	-	3/8	1/2	1/4	3/8	1/2	1/4
	Vapor Line Low	1	7/8	3/4	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor Line High	3/4	1	7/8	7/8	3/4	5/8	7/8	3/4	5/8
ARBLB07121	Liquid	1/2	3/4	5/8	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor Line Low	1-1/4	1-1/8	-	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor Line High	1-1/8	1	-	7/8	1	3/4	7/8	1	¾
ARBLB14521	Liquid	5/8	7/8	3/4	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor Line Low	1-3/8	1-1/2	1-5/8	1-1/2	1-3/8	1-1/8	1-3/8	1-1/8	7/8
	Vapor Line High	1-1/8	1-3/8	1-1/4	1-1/8	1-1/4	1	1-1/8	1-1/4	1



Not to scale

Reducer Diameters (in)

Model	Qty/Kit	Reducer Type	10	11	12	Length
ARBLB01621	2	Liquid	1/2 ID	3/8 OD	-	2-3/4
		Vapor Line Low	3/4 ID	5/8 OD	-	2-3/4
		Vapor Line High	-	-	-	-
ARBLB03321	5	Liquid	-	-	-	-
		Vapor Line Low	7/8 ID	3/4 OD	-	2-3/4
			1 ID	7/8 ID	3/4 OD	4-11/32
			1-1/8 ID	1 OD	-	3-5/32
		Vapor Line High	5/8 OD	1/2 ID	-	2-3/4
			5/8 OD	1/2 ID	3/8 ID	4-11/32
ARBLB07121	8	Liquid	1/2 OD	3/8 ID	-	2-3/4
			1/2 OD	3/8 ID	1/4 ID	4-11/32
		Vapor Line Low	1-1/8 ID	7/8 ID	3/4 OD	4-23/32
			1-1/4 ID	1-1/8 ID	7/8 OD	4-23/32
			1-3/8 ID	1-1/4 OD	-	3-17/32
		Vapor Line High	1/2 OD	3/8 ID	-	2-3/4
			3/4 OD	5/8 ID	-	2-3/4
			3/4 OD	5/8 ID	1/2 ID	4-11/32
ARBLB14521	12	Liquid	1/2 OD	3/8 ID	1/4 ID	4-11/32
			5/8 OD	1/2 ID	3/8 ID	4-11/32
			7/8 ID	3/4 OD	-	3-5/32
		Vapor Line Low	5/8 OD	1/2 ID	-	2-3/4
			7/8 OD	3/4 ID	5/8 ID	4-23/32
			1-1/8 OD	7/8 ID	3/4 ID	4-23/32
			1-5/8 ID	1-1/2 ID	1-3/8 OD	5-1/8
			1-5/8 ID	1-1/2 OD	-	3-17/32
		Vapor Line High	3/4 OD	5/8 ID	1/2 ID	4-11/32
			1/2 OD	3/8 ID	-	2-3/4
			1 OD	7/8 ID	-	3-5/32
			1 OD	7/8 ID	3/4 ID	4-23/32



Job Name/Location: ATU JONES HALL

Indoor Y-Branch Kits

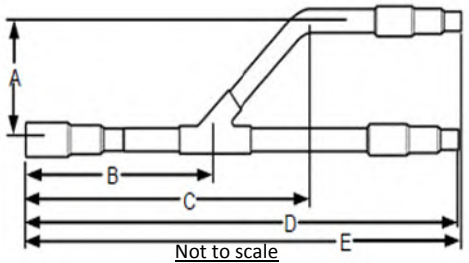
Multi V™ 3 Pipe

Tag #:

Date: 9/8/2022

PO No.:

Y-Branch Dimensions[2] (in)						
Model	**Y-Branch Type**	**A**	**B**	**C**	**D**	**E**
ARBLB01621	Liquid	2-29/32	6-9/16	8-1/32	11-1/16	11-1/2
	Vapor Line Low	2-29/32	4-1/2	7-31/32	11-1/16	11-1/2
	Vapor Line High	2-29/32	6-3/32	9-7/16	13-13/16	14-21/32
ARBLB03321	Liquid	2-29/32	4-1/2	8-1/32	12-5/8	13-1/16
	Vapor Line Low	3-9/32	6-29/32	10-7/8	15-11/32	16-1/4
	Vapor Line High	3-25/32	7-3/32	11-3/8	16-9/16	17-15/32
ARBLB07121	Liquid	3-9/32	6-1/8	10-1/32	14-9/32	15-1/2
	Vapor Line Low	3-25/32	5-1/2	10	14-13/16	15-29/32
	Vapor Line High	3-25/32	5-1/2	10-3/32	15	16-3/32
ARBLB14521	Liquid	3-25/32	7-3/32	11-11/16	16-3/8	17-15/32
	Vapor Line Low	4-29/32	7-7/8	13-23/32	18-17/32	20-11/32
	Vapor Line High	4-3/8	7-7/16	12-3/4	17-27/32	19-11/32



Not to scale

Notes:

1.Each Y-Branch kit comes with insulation for the following piping components - liquid, vapor line low and vapor line high.
2.LG branch fittings must be used. Field supplied branch fittings are not permitted.
3.Kit components must be kept dry and free of debris before installation.
4.Must follow installation instructions in the applicable LG installation manual.

Job Name/Location: ATU JONES HALL **Tag #:**

Date: 9/8/2022

PO No.:

For: File Resubmit Approval Other _____

Architect:

GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT

Mech:

Rep: Airetech Corporation (Company)

Tracy Parker (Project Manager)

Indoor Y-Branch Kits

Multi V™ 2 Pipe

Insulation[1] Properties:

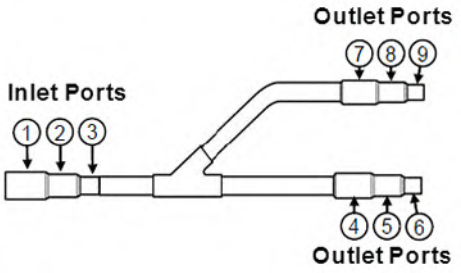
Material	Polyolefin Foam
UL94 Flame Classification	HF-1

Fitting Properties:

Material	Copper
Design Pressure	551 PSIG

Y-Branch Connection Diameters (in, ID)

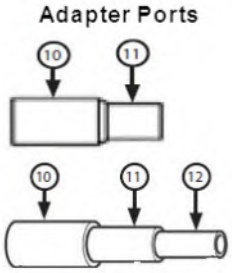
Model	Y-Branch Type	Port Identifier								
		1	2	3	4	5	6	7	8	9
ARBLN01621	Liquid	-	1/4	3/8	3/8	1/4	-	3/8	1/4	-
	Vapor	-	5/8	1/2	1/2	5/8	-	1/2	5/8	-
ARBLN03321	Liquid	-	1/2	3/8	3/8	1/2	1/4	3/8	1/2	1/4
	Vapor	1	7/8	3/4	5/8	3/4	1/2	5/8	3/4	1/2
ARBLN07121	Liquid	1/2	3/4	5/8	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor	-	1-1/4	1-1/8	7/8	3/4	5/8	3/4	5/8	1/2
ARBLN14521	Liquid	5/8	7/8	3/4	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor	1-3/8	1-1/2	1-5/8	1-1/2	1-3/8	1-1/8	1-3/8	1-1/8	7/8



Not to scale

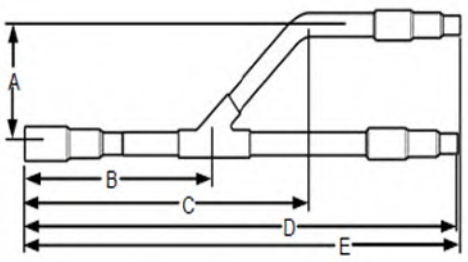
Reducer Diameters (in)

Model	Qty/Kit	Reducer Type	10	11	12	Length
ARBLN01621	2	Liquid	1/2 ID	3/8 OD	-	2-3/4
		Vapor	3/4 ID	5/8 OD	-	2-3/4
ARBLN03321	3	Liquid	-	-	-	-
		Vapor	1-1/8 ID	1 OD	-	3-5/32
			7/8 ID	3/4 OD	-	2-3/4
			1 ID	7/8 ID	3/4 OD	4-11/32
ARBLN07121	5	Liquid	1/2 OD	3/8 ID	1/4 ID	4-11/32
			1/2 OD	3/8 ID	-	2-3/4
		Vapor	1-3/8 ID	1-1/4 OD	-	3-17/32
			1-1/4 ID	1-1/8 ID	7/8 OD	4-23/32
			1-1/8 ID	7/8 ID	3/4 OD	4-23/32
ARBLN14521	8	Liquid	7/8 ID	3/4 OD	-	3-5/32
			5/8 OD	1/2 ID	3/8 ID	4-11/32
			1/2 OD	3/8 ID	1/4 ID	4-11/32
		Vapor	7/8 OD	3/4 ID	5/8 ID	4-23/32
			1-5/8 ID	1-1/2 OD	-	3-17/32
			1-5/8 ID	1-1/2 ID	1-3/8 OD	5-1/8
			5/8 OD	1/2 ID	-	2-3/4
			1-1/8 OD	7/8 ID	3/4 ID	4-23/32



Y-Branch Dimensions[2] (in)

Model	Y-Branch Type	A	B	C	D	E
ARBLN01621	Liquid	2-29/32	6-9/16	8	11-1/16	11-1/2
	Vapor	2-29/32	4-1/2	8	11-1/16	11-1/2
ARBLN03321	Liquid	2-29/32	4-1/2	8	12-5/8	13-1/16
	Vapor	3-9/32	6-29/32	10-29/32	15-11/32	16-1/4
ARBLN07121	Liquid	3-9/32	6-1/8	10	14-5/8	15-1/2
	Vapor	3-25/32	5-1/2	10	14-13/16	15-29/32
ARBLN14521	Liquid	3-25/32	7-3/32	11-7/8	16-3/8	17-15/32
	Vapor	4-15/16	7-29/32	13-7/8	18-17/32	20-11/32



Notes:

1.Each Y-Branch kit comes with insulation for the following piping components – liquid and vapor.
2.LG branch fittings must be used. Field supplied branch fittings are not permitted.
3.Kit components must be kept dry and free of debris before installation.
4.Must follow installation instructions in the applicable LG installation manual.

Job Name/Location: ATU JONES HALL **Tag #:**

Date: 9/8/2022

For: ☐ File ☐ Resubmit ☐ Approval Other_____

PO No.:

Architect: GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT Mech:

Rep: Airetech Corporation (Company) Tracy Parker (Project Manager)

PACS5A000
AC Smart 5 Controller
Central Control/Integration Solutions

LG Life's Good

Electrical:

Power Consumption	22 VA
Power Supply	24 VAC 60 Hz

40 VA transformer recommended.

Surrounding Conditions:

Operating Temperature	32 to 104°F
Storage Temperature	-4 to 140°F
Humidity	0-98% (non-condensing)

Unit Data:

Dimensions	10"W x 6-5/8"H x 1-3/16"D
Maximum Number of Devices	128
Maximum Number of ODUs	16 per V-net
Maximum Number of Controllers	2 per V-net

Standard Features:
- Configurable Home Screen
- HTML5 supported Graphical User Interface
- Removable micro-SD card with 8GB flash total storage for data backup
- Exportable Trending Logs for Temperature, Event and Operation
- 10 inch class (1024 x 600) TFT LCD Touch Screen
- Indoor Unit Control/Monitoring by Groups/Indoor Units
- Two Digital Input and two Digital Outputs for Device Interlocking

Basic Unit Function:
- Multiple Language Selections
- Operation – On/Off
- Mode – Auto/Cool/Dry/Heat/Fan Only
- Setpoint
- Fan Speed – Auto/Low/Med/High
- Louver Swing

Advanced Unit Function:
- Two Setpoint Auto-changeover
- Two Setpoint Setback
- 200 Programmable Schedule Events with control of Setpoint, On/Off, Mode, Fan Speed, Controller Lock, and Louver Swing
- Temperature Setpoint Range Limit
- Remote Controller Lock (All, Setpoint, Mode, Fan Speed)
- Run Time Limit (Unoccupied Override)
- Software Device Interlocking
- Manual Control and Scheduling of IO Module
- Peak/Demand Control
- Visual Floor plan Navigation
- Error E-mail Notification
- Power Distribution Indicator (PDI) (optional)
- Energy Reporting with appropriate accessories

Supported Network Protocols:

BACnet TCP/IP
Modus TCP

Connectivity:

LG Communications	2 Channel/RS-485 V-Net*
Ethernet	10/100 BASE-T

*Channel 1 is configurable for RS-485 or V-Net.
Channel 2 is for V-Net communication only.

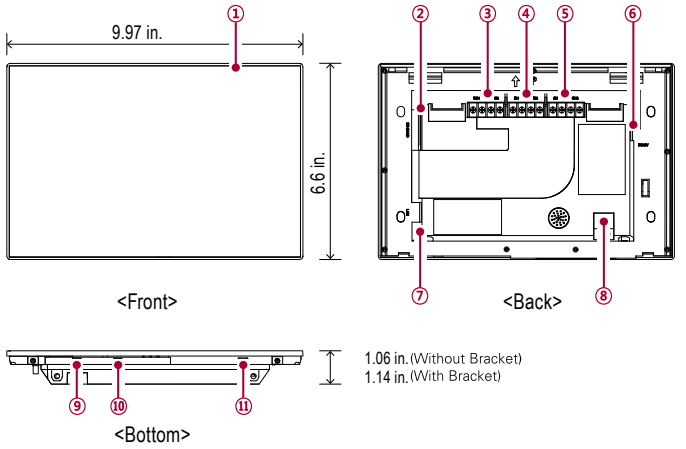
Communications Cabling Specifications (V-Net):

Type	2-conductor, stranded, twisted, shielded copper cable/PVC or vinyl jacket
Size	AWG 18 x 2
Maximum Length	3,280 ft (end to end)

AWG - American Wire Gauge

Optional Accessories:
☐ PI-485 V-Net Interface Adapter for DFS - PMNFP14A0
☐ PI-485 V-Net Interface Adapter for ERV - PSNFP14A0
☐ I/O Module - PEXPMB000
☐ Power Distribution Indicator (PDI) - PQNUD1S41

Dimensions:



1. Touch Screen
2. SD Card Slot
3. Digital Outputs
4. Digital Inputs
5. V-Net Ports
6. 12 VDC Input
7. Ethernet Port
8. 24 VAC Input
9. Micro USB Port
10. Mini USB Port
11. Power Button

Notes:
Must follow installation instructions in the applicable LG installation manual.
Available functions/features may differ based on the connected system.

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.

ASHRAE BACnet®
BACnet® is a registered trademark of ASHRAE.

Job Name/Location: ATU JONES HALL **Tag #:**

Date: 9/8/2022

For: ☐File ☐Resubmit ☐Approval ☐Other_____

PO No.:

Architect: GC: AIRETECH CORPORATION

Engr: PETTIT & PETTIT Mech:

Rep: Airetech Corporation (Company) Tracy Parker (Project Manager)

PREMTC00U
Simple Remote Controller

Unit Data:

Maximum No. of Indoor Units (Group Control)	16
Temperature Value*	Farenheit (1° Increments) / Celsius
Dimensions	4-3/4" L x 2-3/4" W x 5/8" H
Weight	0.18 lbs.

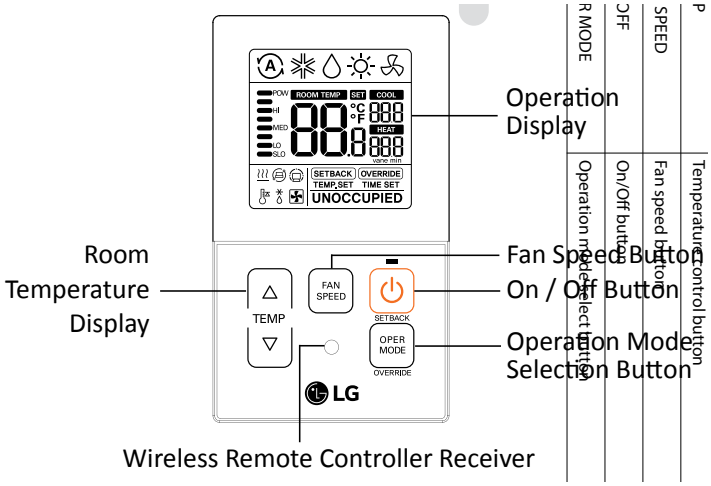
*Temperature Value depends on equipment.

Operating Range:

Cooling (°F DB)	64 ~ 86
Heating (°F WB)	60 ~ 86

Communications Cabling Specifications (V-Net):

Type	Field Supplied
Length**	164 feet
Size	22-3 AWG, twisted, stranded, unshielded



**Communication cable can be extended to a maximum of 164 feet between controller and indoor unit by using field supplied cable or the Wired Remote Group Control Cable Assembly (PZCWRCG3) or Wired Remote Extension Cable (PZWRC1), maximum of 4.

Standard Features:

- Auto Operation (Dual Setpoint)
- Unit Operation – On / Off
- Mode Selection – Cool / Heat / Dry / Fan / Auto
- Fan Speed Selection
- Air Flow Direction (available with indoor units equipped for this feature)
- Static Pressure Setting
- Child Lock
- LED Indicator for unit operating status
- Master / Slave Setting for Multiple Controller Installation
- Room Temperature Sensing Location (Zone Controller, Indoor Unit, Two-Thermistor)
- Discharge Vanes – Auto Swing / Fixed (available with indoor units equipped for this feature)
- Manual Central Control Addressing

Optional Accessories:

☐ 33-foot Extension Cable Assembly (PZCWRC1)
☐ Group Control Cable Kit (PZCWRCG3)

Notes:

1. Must follow installation instructions in the applicable LG installation manual.
2. Available functions / features may differ based on the connected system.

RECTORSEAL
A CSW Industrials Company

ASPEN PUMPS **SUBMITTAL DATA SHEET**

Mini Aqua Univolt

Mini-Split Condensate Pump Kit 100–250v
83809 (ASP-MA-UNI)

Project Information:

Job Name:

Location:

Engineer:

Submitted to:

For: ☐ **Reference** ☐ **Approval** ☐ **Construction**

Submitted by:

Reference:

Submittal Information:

Approval:

Date:

Construction:

Unit #:

Drawing #:

(Sec. I) Product Specifications:

Pump Length	6.5"
Pump Width	1.125"
Pump Height	1.125"
Capacity	2.9-3.2 GPH @ 0' Head / 1.2-1.6 GPH @ 33' Head
Max BTUs	49,500
Max Head in Feet	33
Max Temperature	104° F
Max Suction Lift	5'
Sound Level	21dB(A)
Dry Contact Rating	3A NC
Voltage	100–250v
Amperes	.2 MAX
Watts	16
Remote Reservoir	Y
Plenum Rated	N
Cable Length	6'

Sound level and pump performance varies with voltage frequency.

Pump Selector & Wiring Diagrams Available at
http://www.rectorseal.com/aspenpump.html

(Sec. II) Ordering Information:

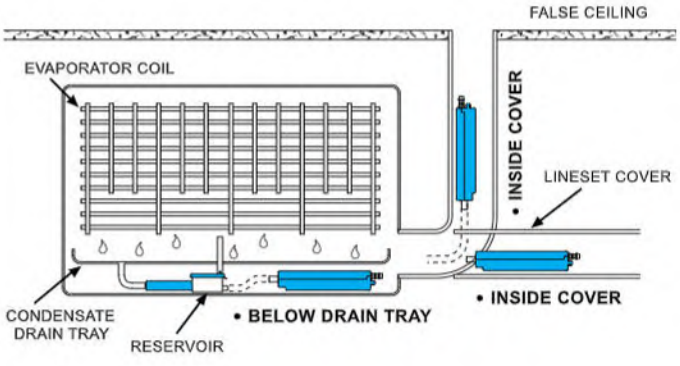
Product Code	83809
Model	ASPMAUNI
Carton Qty	1
Carton Weight	1.5

(Sec. III) Carton Contents:

Pump Assembly
Inline Reservoir
8"x5/8" i.d. Inlet Tube
5'x1/4" i.d. Vinyl Discharge Tube
Installation Manual
6"x1/4" i.d. Vinyl Breather Tube
Drain Hose Adaptor
Inline Fuse
Cable Ties (6)
Self Adhesive Velcro Strips (2)
Anti-siphon (1)
90° Elbow

(Fig. I) Product Image:

(Fig. II) Typical Pump Locations:



RECTORSEAL

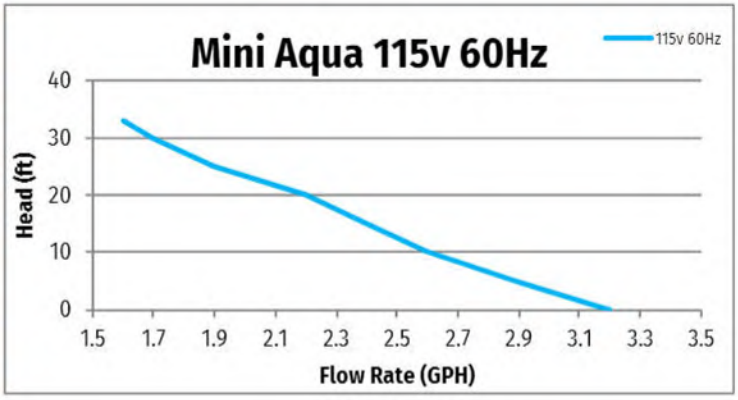
A CSW Industrials Company

Mini Aqua Univolt

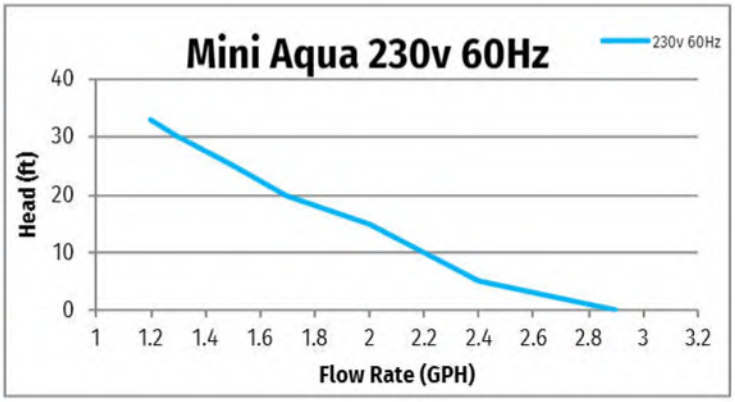
Mini-Split Condensate Pump Kit 100–250v
83809 (ASP-MA-UNI)

Aspen Pump BTU Calculator

Mini Aqua 115v 60Hz		
Head	GPH	BTU
0	3.2	54600
5	2.9	49500
10	2.6	44350
15	2.4	42000
20	2.2	37500
25	1.9	33250
30	1.7	29250
33	1.6	27500



Mini Aqua 230v 60Hz		
Head	GPH	BTU
0	2.9	49500
5	2.4	42000
10	2.2	37500
15	2	34000
20	1.7	29250
25	1.5	25800
30	1.3	22400
33	1.2	20600



RectorSeal® 2601 Spenwick Drive - Houston, TX 77055 800-231-3345 rectorseal.com

VRF Series Ball Valves

Improved Unibody Design Minimizes Leaks.

Flare and ODS Connection Ball Valves for use with VRF Systems

- Offered in both flare connections and ODS copper tube connections
- Superior Uni-body design eliminates leak points
- Full port design
- Design pressure/Maximum abnormal pressure (DP/MAP): 800 PSIG
- Offered with optional fully assembled insulation wrap
- Each ball valve is factory tested under pressure
- Equipped with access fitting for refrigerant service
- Forged brass body and seal cap
- Uses polytetrafluroethylene (PTFE) seals and gaskets
- Seal cap design permits valve operation without removal of seal cap
- Sizes available: 1/4”, 3/8”, 1/2", 5/8”
- Continuous operating temperature (COT): -40°F to 325°F (-40°C to 1
- Contact factory or visit website for compatibility with CFC, HCFC, HF
  HFO refrigerants and oils
- CRN 0C8195.5

A History of Quality and Innovation
For nearly a century, Superior has been the world’s leading provider of HVACR valves and accessories.

Manufacturing Quality, Safety and Reliability
Superior HVACR products are designed to meet the highest standards, and only quality materials are used. Careful assembly and detailed inspection of every part ensures top performance and durability. Superior is fully certified to the stringent requirements of ISO 9001, which increase manufacturing efficiency and reliability.

Your Valve Partner
Our engineering team includes experts in product design and development as well as experts in the quality and compliance testing requirements needed to create custom valves to meet your unique applications. We know valves are a system-critical piece of your business and we’re proud to provide you with American-made products and service you can trust.

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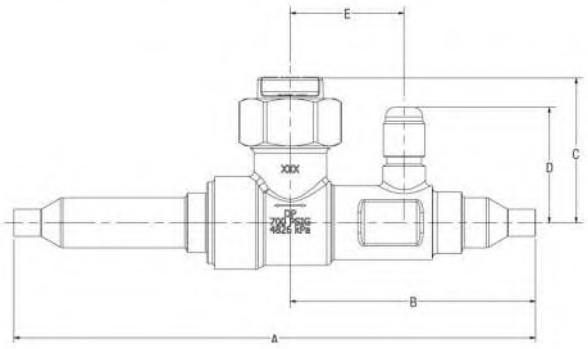
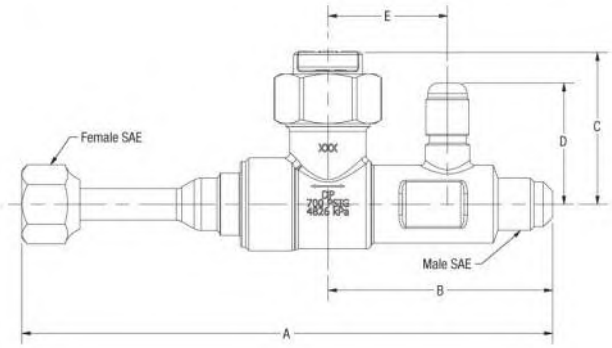
VRF Series Ball Valves

ODS x ODS Connection Valve



Flare x Flare Connection Valve



Part Number	Size (Inches)	Dimensions (Inches)					UPC	Weight (lbs.)
		A	B	C	D	E		
Flare x Flare Connection								
586WBS-8FL	1/2 M SAE x 1/2 F SAE	6.56	2.67	1.8	1.33	1.42	685768412892	1.00
586WBS-6FL	3/8 M SAE x 3/8 F SAE	6.38	2.67	1.8	1.33	1.42	685768412854	0.97
586WBS-4FL	1/4 M SAE x 1/4 F SAE	6.26	2.67	1.8	1.33	1.42	685768412809	0.93
586WBS-10FL	5/8 M SAE x 5/8 F SAE	6.72	2.67	1.8	1.33	1.42	685768412762	1.04
Flare x Flare Connection, Factory Wrapped in Foam Insulation								
586WBS-4FLSP	1/4 M SAE x 1/4 F SAE						685768412816	0.94
586WBS-10FLSP	5/8 M SAE x 5/8 F SAE						685768412779	1.04
586WBS-8FLSP	1/2 M SAE x 1/2 F SAE						685768412908	1.00
586WBS-6FLSP	3/8 M SAE x 3/8 F SAE						685768412861	0.95
ODS x ODS Connection								
586WBS-6SW	3/8 ODS x 3/8 ODS	6.50	3.06	1.8	1.33	1.42	685768412878	0.82
586WBS-4SW	1/4 ODS x 1/4 ODS	6.50	3.06	1.8	1.33	1.42	685768412823	0.88
586WBS-10SW	5/8 ODS x 5/8 ODS	6.50	3.06	1.8	1.33	1.42	685768412786	0.89
586WBS-8SW	1/2 ODS x 1/2 ODS	6.50	3.06	1.8	1.33	1.42	685768412915	0.88
ODS x ODS Connection, Factory Wrapped Foam Insulation								
586WBS-10SWSP	5/8 ODS x 5/8 ODS						685768412793	1.00
586WBS-8SWSP	1/2 ODS x 1/2 ODS						685768412922	0.85
586WBS-6SWSP	3/8 ODS x 3/8 ODS						685768412885	0.88
586WBS-4SWSP	1/4 ODS x 1/4 ODS						685768412830	0.86

PROJECT REF:	STAND RANGE
UNIT REF:	N/A
FOOT PRESSURE:	N/A
UDL:	N/A

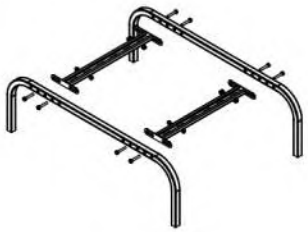
Material grade: BS EN 10219-1:2006 (S235JR). Welding standard: BS EN ISO 15614-1. Galvanizing standard: BS EN ISO 1461:2009
Reference specification document "Custom Fabrication Specification" (BF-SPEC-050411) for further information

			Mini Split Stand Range							VRF/VRV Stand Range					
Part Number			B5550	B5551	B5552	B5553	B5554	B5555	B5562	B5556	B5557	B5558	B5559	B5560	B5561
Description			Mini Split Low	Mini Split High	Mini Split Tower	MS Low Extension	MS High Extension	MS Riser Kit 4 Pack	MS Riser Kit 2 Pack	VRF/VRV 990	VRF/VRV 1290	VRF/VRV 1450	VRF/VRV 990 Extension	VRF/VRV 1290 Extension	VRF/VRV 1450 Extension
Number of Feet			4	4	4	2	2	-	-	4	4	4	2	2	2
A	Overall Length	mm	700	700	700	1060	1060	n/a	n/a	1230	1530	1690	1030	1330	1490
		inches	27 9/16	27 9/16	27 9/16	41 3/4	41 3/4	n/a	n/a	48 7/2	60 1/4	66 1/2	40 1/2	52 3/8	58 5/8
B	Overall Width	mm	1125	1125	1125	1125	1125	n/a	n/a	1360	1360	1360	1360	1360	1360
		inches	44 1/4	44 1/4	44 1/4	44 1/4	44 1/4	n/a	n/a	53 1/2	53 1/2	53 1/2	53 1/2	53 1/2	53 1/2
C	Distance Between Feet	mm	300	300	300	775	775	n/a	n/a	830	1130	1290	830	1130	1290
		inches	11 13/16	11 13/16	11 13/16	30 1/2	30 1/2	n/a	n/a	32 5/8	44 1/2	50 3/4	32 5/8	44 1/2	50 3/4
D	Crossbar Length	mm	475	475	475	950	950	n/a	n/a	990	1290	1450	990	1290	1450
		inches	18 11/16	18 11/16	18 11/16	37 2/5	37 2/5	n/a	n/a	32 5/8	44 1/2	50 3/4	32 5/8	44 1/2	50 3/4
Height		mm	305	450	305/1000	305	450	152	152	305	305	305	305	305	305
		inches	12	17 11/16	12/39 3/8	12	17 11/16	6	6	12	12	12	12	12	12
Frame Weight		kg	20	22	35	18	19	1.5	0.75	35	38	41	25	28	31
		lbs	44	49	77	40	42	3	2	77	84	90	55	62	68
Design Load		kg	175	175	300	175	175	-	-	600	500	400	600	500	400
		lbs	385	385	661	385	385	-	-	1323	1102	882	1323	1102	882

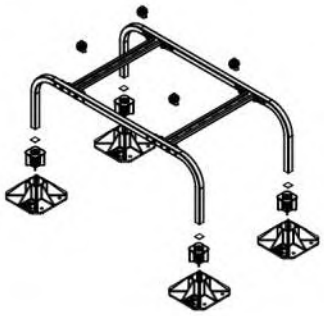
Design load based on maximum allowable deflection on cross members. Allowable foot pressure will be subject to roof build-up, typically detailed by a structural engineer. Cross bar spacings are adjustable to accomodate various unit sizes. Wind protected environments only.

Working conditions: Suitable for internal or external applications in temperatures between -40˚C to +80˚C

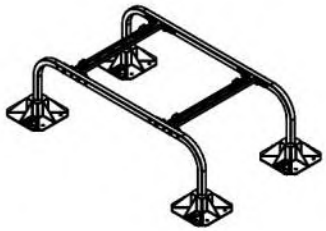
1

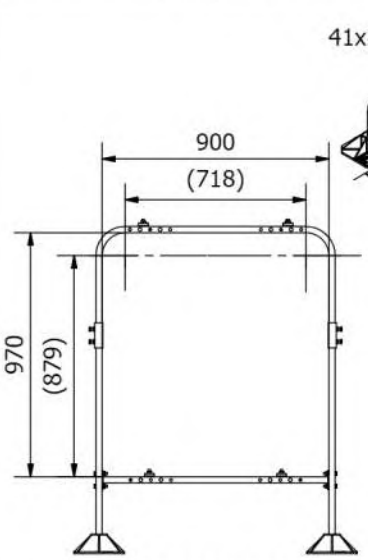


2

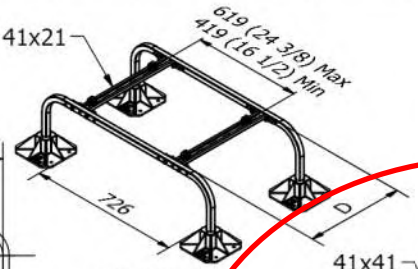


3

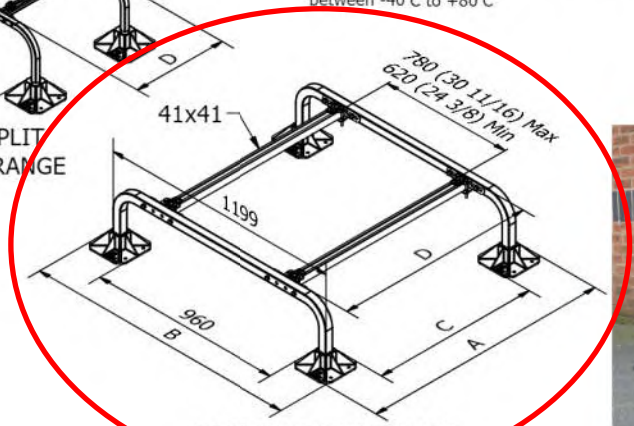




MINI SPLIT TOWER



MINI SPLIT STAND RANGE



VRF/VRV STAND RANGE

13 (x2) & 17mm
30Nm on frame bolts
10Nm on unit mounting bolts

Installation and application considerations should include health, safety and enviromental needs, regulations and standards, codes of practice, climate conditions, installation location, product orientation, evaluation of the roof structure, composition, surface and condition, ancillary and complimentary products and materials. Big Foot Systems recommend that all rooftop products are handled and installed by suitably qualified persons. All scheme designs are based on the use of Big Foot Systems' products and materials only. Terms and conditions available on request

REV	C	
DATE:	19/10/2016	
DRAWN:	A SIMMANS	
CHECKED:	S BIRCH	
SCALE:	1 : 15	
DIMENSIONS IN mm U.O.S		
TOLERANCES: 0.0 ± 0.5mm U.O.S		
SHEET 1 OF 1		

A3

TITLE: Stand Range Product Information Sheet

DWG No. BFP-SR.dwg

BIG FOOT® SYSTEMS