

HIGH EFFICIENCY SERIES
MINI-SPLIT
FIVE PORT MULTI ZONE
INSTALLATION MANUAL



SMZ42H46ZOGX
SHE9H4ZIGX
SHE12H4ZIGX
SHE18H4ZIGX
SHE9H4ZIGB
SHE12H4ZIGB
SHE18H4ZIGB
SHE24H4ZIGB

Condenser
Evaporator
Evaporator
Evaporator
Evaporator
Evaporator
Evaporator
Evaporator

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Do not dispose this product as unsorted municipal waste. Collection of such waste for special treatment is necessary.

Installation Steps:

- **Select the location for the indoor and outdoor unit. (page 7)**
 - **Mount the indoor wall brackets. (page 8)**
 - **Drill wall penetration holes. (page 8)**
 - **Hang the indoor units. (page 9)**
 - **Locate and mount the outdoor unit. (page 10)**
 - **Connect and route line set. (page 11 – 13)**
 - **Connect the wiring from the indoor unit to the outdoor unit. (Page 14 – 17)**
 - **Evacuate line set. (page 18)**
 - **Test system. (page 20)**
- Operational Test**

NOTES TO INSTALLER

This manual is to aid the qualified HVAC contractor in the installation of this Mini Split system.

Report all shipping damage to the carrier IMMEDIATELY. Check units and box exterior for damage.

Please read and understand these instructions prior to installing the unit, failure to comply with these instructions may result in improper installation, operation and maintenance, possibly resulting in fire, electrical shock, property damage, personal injury or death.

CAUTION! Do not use old refrigerant lines with new installation:

For connecting pipes use new and clean piping materials with high pressure fittings made for R410A only. This air conditioner adopts the new HFC refrigerant (R410A) which does not destroy ozone layer. R410A refrigerant operates at approximately 1.6 times the pressure of refrigerant R22. Accompanied with the adoption of the new refrigerant, the refrigeration lubricating oil has also been changed. During installation be sure that water, dust or foreign material does not enter into the new system. The system must not be left open to the atmosphere for any reason for any period of time as the systems oil quickly absorbs moisture and will contaminate and damage the system. To prevent mixing of refrigerant or refrigeration lubricating oil, the sizes of connecting sections of charging port on main unit and installation tools are different from those used for the conventional refrigerant units. Accordingly, special tools are required for the new refrigerant (R410A) units. The best and recommended solution is - do not use the existing line sets because there may be some problems with pressure fittings and possible impurities in the existing piping.

When installing this unit, an electrical surge suppressor is recommended.

Installers please pass this manual and warranty registration to end user. If technical assistance is required during installation or start up, please call 704-504-8590 (M-F 8:00 am to 4:30 pm ET) to speak to a Technical Service Engineer. Before calling please have the Model and Serial numbers available.

Safety Instructions:

1. Carefully read all instructions prior to installation.
2. Check Rating Plate for correct system voltage before installing the unit. Installing and operating a unit with the incorrect voltage may result in malfunction or other issues and will void the warranty.
3. Units must be connected to a correctly grounded electrical supply.
4. Do not use the units if they have been dropped or otherwise damaged or installed incorrectly.

The manufacturer of the unit will not be liable for any damages caused by failure to comply with the installation and operating instructions in this manual.

The unit rating plate contains pertinent information for unit operation; please refer to it as required.

Inspect all parts for damage prior to installation and start up. Units must be installed by a qualified HVAC contractor.

PARTS INCLUDED WITH UNIT

Wall-mounted Indoor unit	Outdoor Unit
● Wall Bracket	● Drain Fitting
● Remote Control	● Installation Manual
● Batteries for Remote Control (2 AAA)	● Terminal Label
● Remote Control Holder	
<ul style="list-style-type: none"> ● Adapter: ● 1/2"F to 3/8"M (9510198) with 9K indoor and/or 12K unit. ● 3/8"F to 1/2"M (9510197) with 18K and/or 12K indoor unit(s). 	<ul style="list-style-type: none"> ● Adapter: 1/4"F to 3/8"M (951-0251) – 2 pcs, 1/2"F to 3/8"M (951-0252) – 2 pcs, 1/2"F to 5/8"M (951-0253) – 2 pcs 3/8"F to 1/4"M (951-0254), 5/8"F to 3/8"M (951-0255), 3/8"F to 1/2"M (951-0256), 5/8"F to 1/2"M (951-0257)
● Operation Manual	
● Drain Tubing 6 ft.	

Note: The outdoor unit can be connected to different types of indoor unit as followings:

Console: 9K - SMZC9H4ZIGX; 12K - SMZC12H4ZIGX, 18K - SMZC18H4ZIGX.

Cassette: 12K - SMZCA12H4ZIGX, 18K - SMZCA18H4ZIGX, 24K – SMZCA24H4ZIGX

Floor / Ceiling: 9K - SMZFC9H4ZIGX; 12K - SMZFC12H4ZIGX, 18K - SMZFC18H4ZIGX,
24K – SMZFC24H4ZIGX.

Ducted: 9K - SMZD9H4ZIGX; 12K - SMZD12H4ZIGX, 18K - SMZD18H4ZIG, 21K – SMZD21H4ZIG,
24K – SMZD24H4ZIG.

For the detail information about the included parts and connecting for above indoor units, please refer to the manual to be included with each indoor unit.

INSTALLER SUPPLIED PARTS

The following additional Items are required for proper installation.

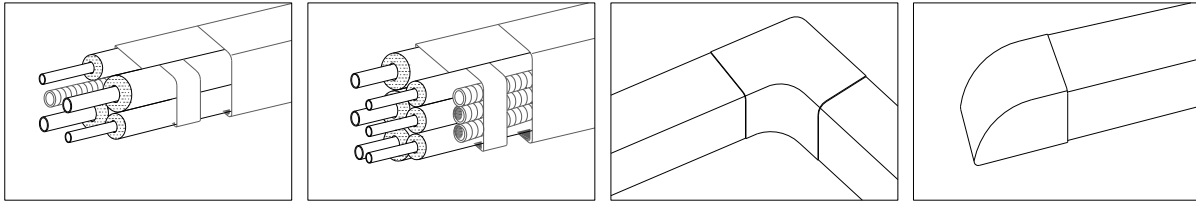
- Refrigerant line set: Insulated copper tubing:
 - 9K Indoor – 1/4" (liquid line) and 3/8" (suction line).
 - 12K Indoor – 1/4" (liquid line) and 1/2" (suction line) for SHE12H4ZIGX;
1/4" (liquid line) and 3/8" (suction line) for SHE12H4ZIGB
 - 18K Indoor – 1/4" (liquid line) and 1/2" (suction line).
 - 24K Indoor – 1/4" (liquid line) and 5/8" (suction line).
- Flare nuts 2 ea. required per line, see above (line set) for size.
- Vinyl UV resistant tape.
- Supply Power:
 - 50 amp circuit breaker
- Interconnect wire cable:
 - 4C 14 AWG stranded (Recommended)/ 4C 16 AWG stranded (minimum) per indoor unit.
- Refrigerant - R410A required for additional line set charge.
- Sealing putty.
- 1/4" to 5/16" access fitting adaptor (PN: QC-S5)
- Mounting hardware - Wall anchors, condenser pad etc.
- Surge protector (highly recommended)

VERY IMPORTANT: Condensate pump P/N 4100130 **can not** be powered from the indoor unit. Power connections must be made at outdoor unit supply power.

Main system breaker or disconnect sized per unit requirements should be mounted adjacent to outdoor unit.

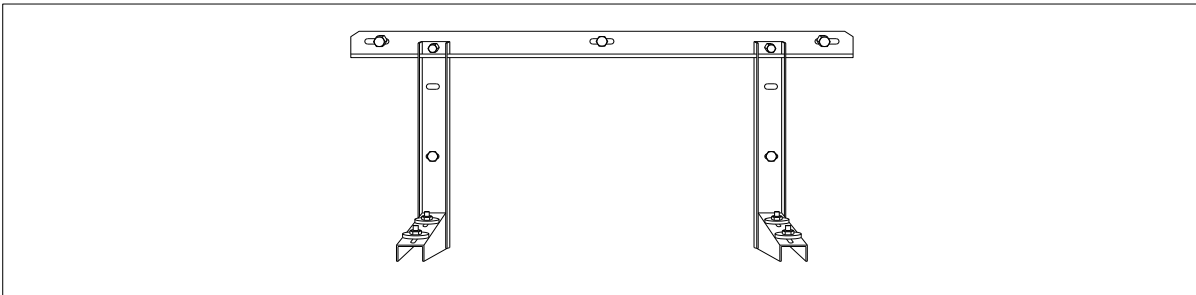
Decorative Channel

Route the bundled piping and wiring to the outdoor unit and connect per the OUTDOOR UNIT installation instructions. Our **Plastic-Duct** piping and wiring duct work provides a convenient and professional looking system to route and protect the pipes and wires. Please see the illustrations below:



Wall Bracket

The outdoor unit may be mounted using a wall bracket (optional) (Our Catalog # BR-440L for up to 440 lbs), or located in a freestanding position on the floor or pad (preferably slightly elevated).



INSTALLATION CONSIDERATIONS

General Information

Application

Check the application of the unit prior to installation. Certain applications require additional components or installation parameters.

Computer or Data Server Rooms

These require approximately 12,000 BTU/H capacities per 250 ft² of room size (Based on 8' ceiling height). Unit has low ambient controller.

Offices and Commercial Spaces, Churches etc.

These require approximately 12,000 BTU/H capacity per 400 ft² of room size (Based on 8' ceiling height).

Residential, Bedrooms, Family Rooms etc.

These require approximately 12,000 BTU/H capacity per 600 ft² of room size (Based on 8' ceiling height).

Note: This system does not contain a back-up heat source and is NOT recommended as a primary source of heat.







System Configuration Options

SMZ42H46ZOGX (2 to 5 indoor units)

Note: 1. Do not mismatch or connect to an outdoor unit other than the designed matched system.
2. This system **must** be used with a minimum of **two indoor units** (evaporators).

2 INDOOR UNITS	3 INDOOR UNITS	4 INDOOR UNITS	5 INDOOR UNITS
9K + 9K 9K + 12K 9K + 18K 12K + 12K 12K + 18K 18K + 18K 12K + 21K 12K + 24K 18K + 21K 18K + 24K 21K + 21K 21K + 24K	9K + 9K + 9K 9K + 9K + 12K 9K + 9K + 18K 9K + 12K + 12K 9K + 12K + 18K 9K + 18K + 18K 12K + 12K + 12K 12K + 12K + 18K 12K + 18K + 18K 9K + 9K + 21K 9K + 9K + 24K 9K + 18K + 21K 9K + 12K + 21K 9K + 12K + 24K 12K + 12K + 21K	9K + 9K + 9K + 9K 9K + 9K + 9K + 12K 9K + 9K + 9K + 18K 9K + 9K + 12K + 12K 9K + 9K + 12K + 18K 9K + 12K + 12K + 12K	9K + 9K + 9K + 9K + 9K
The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.			
24K + 24K	18K + 18K + 18K 9K + 18K + 24K 9K + 21K + 21K 9K + 21K + 24K 12K + 18K + 21K 12K + 18K + 24K 12K + 21K + 21K 12K + 12K + 24K	9K + 9K + 18K + 18K 9K + 12K + 12K + 18K 9K + 12K + 12K + 21K 12K + 12K + 12K + 18K 9K + 9K + 9K + 24K 9K + 9K + 12K + 21K 9K + 9K + 12K + 24K 12K + 12K + 12K + 12K 9K + 9K + 9K + 21K	9K + 9K + 9K + 9K + 18K 9K + 9K + 9K + 12K + 12K 9K + 9K + 12K + 12K + 12K 9K + 9K + 9K + 9K + 12K

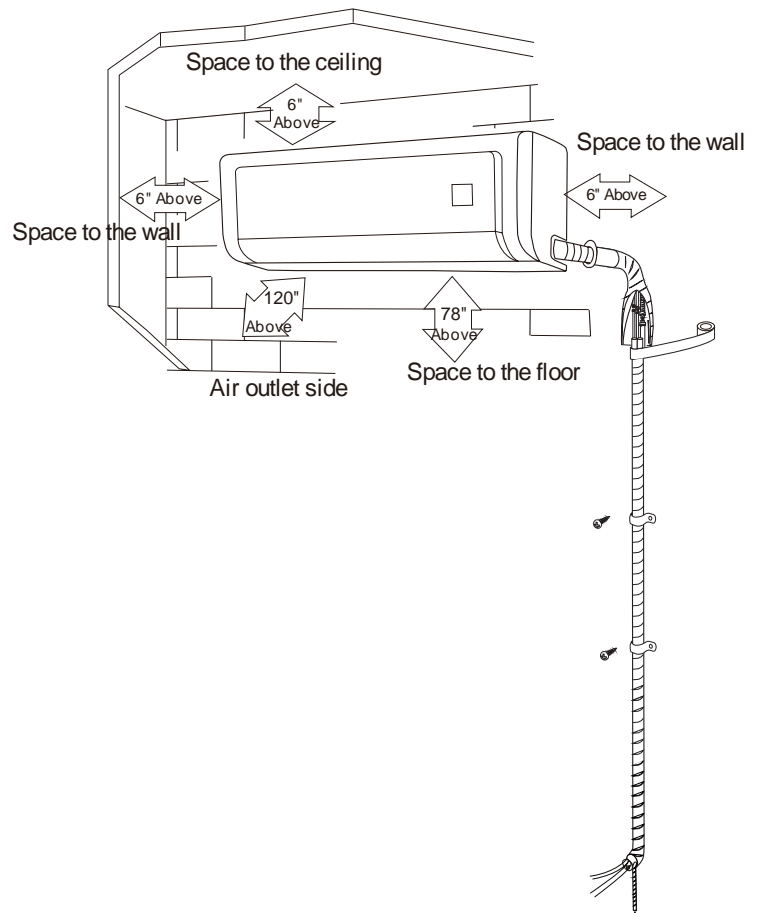
Indoor Models Available:

Indoor Unit Type	Catalog Number	Outline	Remark
Wall-mounted Indoor Unit A	SHE9H4ZIGX SHE12H4ZIGX SHE18H4ZIGX		
Wall-mounted Indoor Unit B	SHE9H4ZIGB SHE12H4ZIGB SHE18H4ZIGB SHE24H4ZIGB		
Console Indoor Unit	SMZC9H4ZIGX SMZC12H4ZIGX SMZC18H4ZIGX		For the detail information about connecting, please refer to the specific manual included with each indoor unit.
Cassette Indoor Unit	SMZCA12H4ZIGX SMZCA18H4ZIGX SMZCA24H4ZIGX		
Floor / Ceiling Indoor Unit	SMZFC9H4ZIGX SMZFC12H4ZIGX SMZFC18H4ZIGX SMZFC24H4ZIGX		
Ducted Indoor Unit	SMZD9H4ZIGX SMZD12H4ZIGX SMZD18H4ZIGX SMZD21H4ZIGX SMZD24H4ZIGX		

Selecting locations for the Indoor unit (Wall-mounted)

1. Determine the best location for mounting the Indoor unit. Ensure the dimensions requirement indicated by the arrows are followed.
2. Paying close attention to the air circulation in the room, these units throw air approximately 15ft. Ensure that no obstacles impede airflow.
3. Do not mount this unit close to a heat source or a doorway.

Note: For the detail information about other types of indoor units, please refer to the manual to be included with each indoor unit.



Selecting location for Outdoor unit

1. Determine the best location for mounting the outdoor unit. Ensure the dimensions requirement indicated by the arrows are followed.
2. Do not mount this unit close to combustibles or heat sources.
3. Although this unit is fairly quiet when in operation, do not mount where noise issues could be a problem.

Line set length

Locate the Indoor and Outdoor units as close together as possible. Line set height cannot exceed specifications.

Installation Notes:

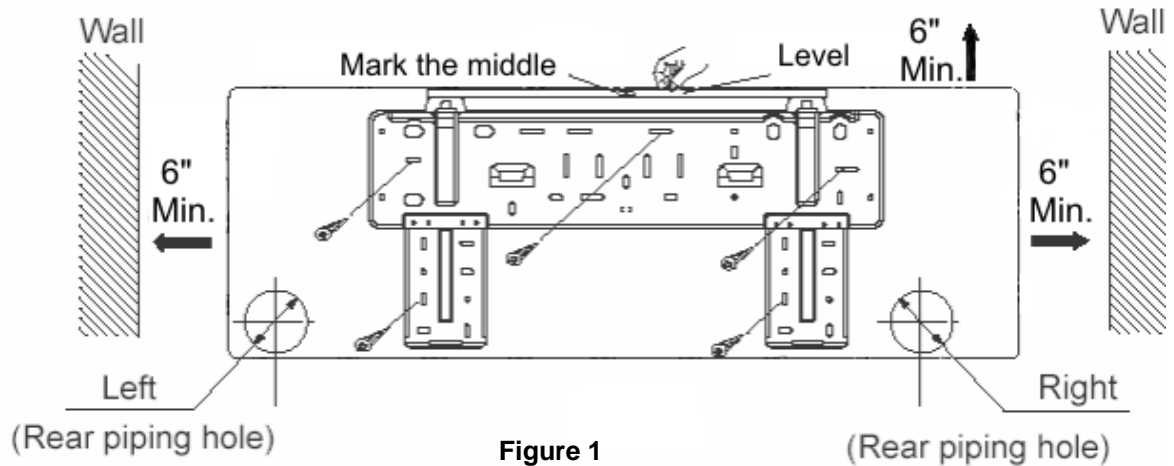
1. The maximum total line set length must not exceed 262.5 feet for all units.
2. SMZ42H46ZOGX is designed to operate two to five indoor units. DO NOT use this system with one indoor unit.
3. This unit max design length is 123 ft. for the each indoor units. The maximum total line set length for all units is 262.5 ft. Refrigerant must be added (0.24 oz/ft.) when line set total length exceeds 123 ft. for all units.

NOTE: An oil trap is recommended if the indoor unit is over 15 feet in height from the outdoor unit.

INDOOR UNIT (EVAPORATOR) INSTALLATION

1. Clearances and Mounting requirements (Wall-mounted Indoor Unit)

Enough space should be left around the unit to facilitate maintenance. Please view Figure. 1 for recommended dimensions:



Minimum clearances as noted above. Mount indoor unit with a minimum 6" to ceiling. Indoor unit should have approximately 16 feet of unobstructed area directly in front for proper air flow for the 9K and 12K indoor units. The 18K should have approximately 25 feet of unobstructed area directly in front. Line set can exit at the right or left rear or ends of the indoor unit.

Be sure that the indoor unit is mounted firmly to the wall, and that the wall structure will support the weight of the unit.

Be sure that the air inlet and outlets are unobstructed.

Be sure that all clearances are as noted in the above Figure 1.

This unit is not designed to be connected to a plug-in outlet.

Do not install this unit near a heat source, direct sunlight, near hazardous chemicals or combustible gases.

2. Mounting the Wall Plate

After determining an acceptable location for the indoor unit, fasten the wall bracket securely to the wall using the proper anchors (installer supplied). Be sure the wall bracket is level and firm to the wall using a minimum of 4 screws or wall anchors. Failure to mount the wall bracket level can result in improper condensation drainage.

3. Wall Penetration

Using the measurements in Figure 1, determine the exit point of the line set. For best results, the right rear is preferred. Left rear exit of the line set requires that the line set be connected to the indoor unit prior to mounting it to the wall plate. If desired the line set may run along the inside wall by removing the cutouts along the back edge of the case. Line sets mounted along the inside wall may be covered with Plastic-Duct line set covering (See page 5).

Cut a 2-5/8" hole slanted downward towards the outside. Hole diameter is based on wall sleeve made from 2-1/2" PVC pipe. Wall penetration should be slanted slightly downward to the outside a minimum of 3/8" to provide proper condensation drainage.

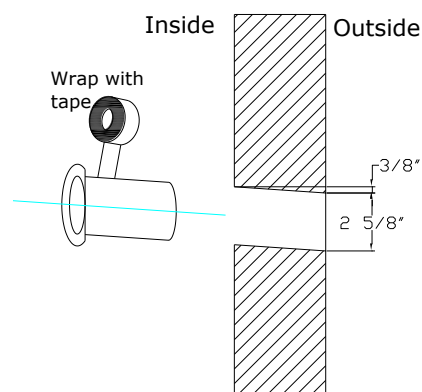


Figure 2

Wall sleeve can now be inserted into the hole. Insert sleeve from the inside to the outside. The sleeve should be approximately 3/16" longer than the wall thickness.

4. Identify Line Sets

Mark the line sets as necessary to prevent crossed connections. Crossed line sets will prevent proper operation.

5. Identify Interconnect cables

Connect interconnect cable and identify cable at both ends. Cable routed to terminal from rear of indoor unit.

6. Mounting the Indoor Unit

If right rear exit of line set is used the indoor unit can now be mounted. Remove retaining clips from back of unit to allow access to the line set stubs. Gently form the line set stubs straight outward. Use caution when forming the line set; being careful not to kink the copper lines. See Figure 3.

7. Connecting Line Set

If installer determines the line set should be connected at this time, see page 13 for torque standards.

8. Hang the Indoor Units

Once lines are straight, carefully slide the ends of line set out through the wall sleeve. Hook the indoor unit onto the top clips of the wall plate. Carefully lower the bottom portion of the indoor unit towards the wall, snapping it into the clips at the bottom of the unit. See Figure 4.

If using the left rear exit run lines from outside to indoor unit. Form line set to mate to indoor unit stubs and connect prior to mounting to indoor unit. If necessary run lines along inside wall and carefully remove the proper cut out from the indoor unit housing. Line sets may be covered with Plastic-Duct for a more professional job (see page 5).

9. Inspect the Installation

Ensure that the hooks at the top and bottom of the inside unit are firmly locked in place.

10. Verify the Indoor Unit is Properly Leveled.

Accurate leveling is critical to prevent water damage during operation.

11. Check the Drain Hose

Observe that the condensate drain pipe does not curve upward and is in the lower part of the pipe bundle. See Figure 5.

12. Seal the Hole

Fill the gap between the wall sleeve and the line set with sealing putty (installer provided) to prevent outside air and moisture from entering room (see Figure 6).

Note: For detailed information about other types of indoor unit, please refer to the manual to be included with each Indoor units.

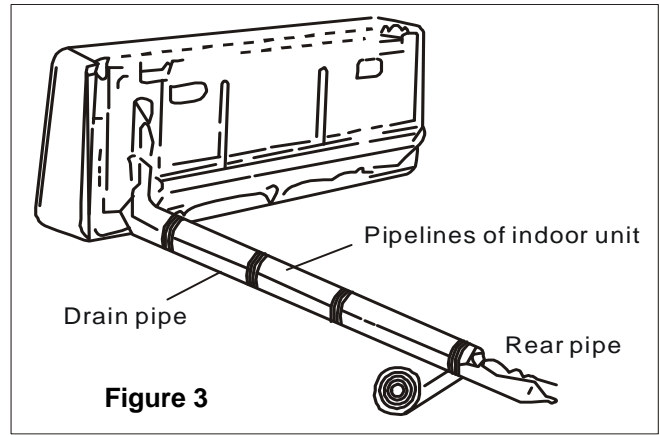


Figure 3

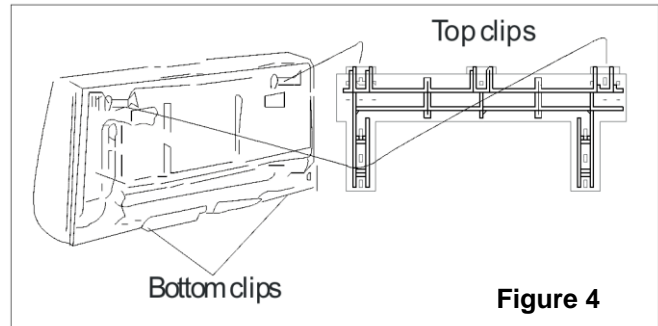


Figure 4

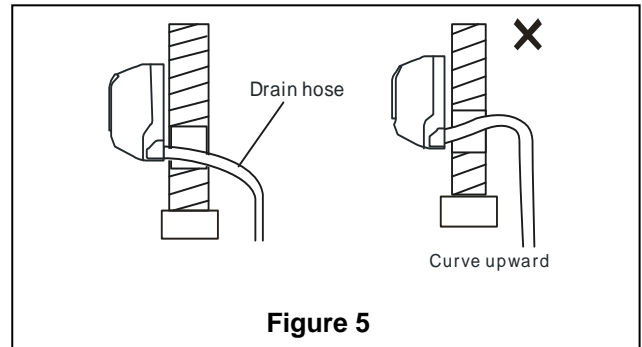


Figure 5

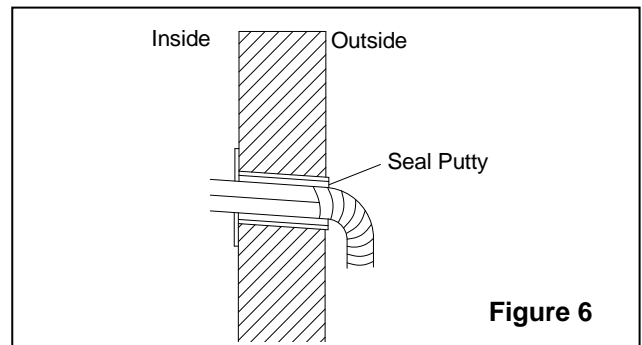


Figure 6

OUTDOOR UNIT (CONDENSER) INSTALLATION

Outdoor unit dimension

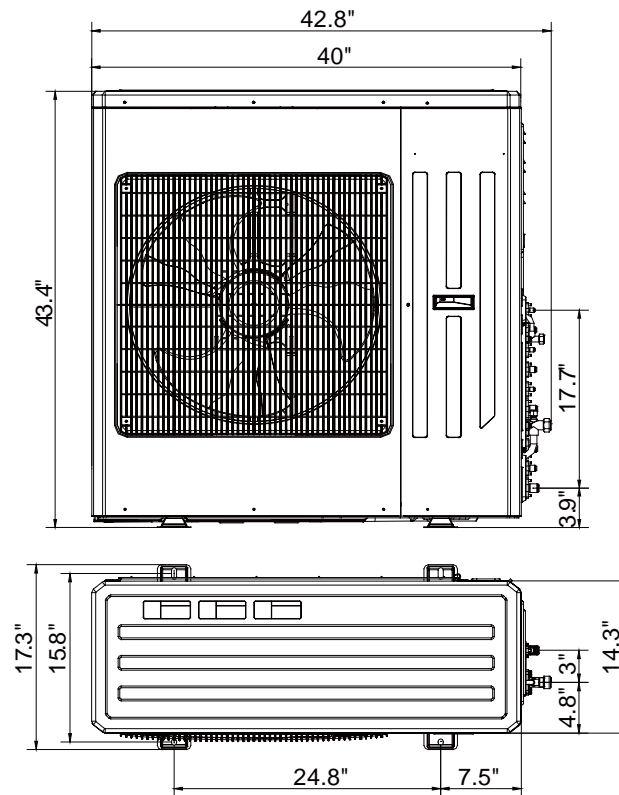


Figure 7

Outdoor unit location

The location must allow easy servicing and provide good air circulation as shown in the illustration below:

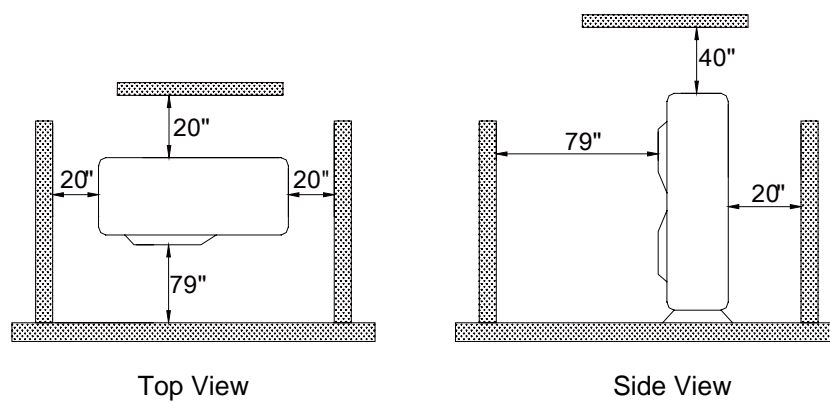


Figure 8

Mounting the Outdoor (condenser) Unit

Follow the clearance guidelines in the diagram above. Clearance distances are minimums. Minimum clearance above unit is 12" to allow for servicing.

Install drain plug as in Figure 9 (included). Drain hose not included.

Do not mount this unit close to combustibles or heat sources.

Although this unit is fairly quiet when in operation, do not mount this unit where noise issues could be a problem.

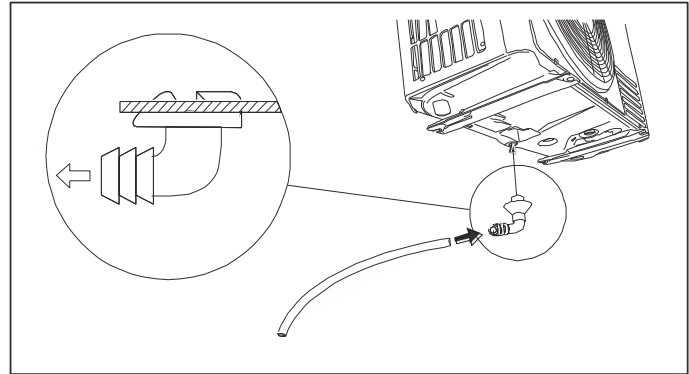


Figure 9

Mount unit on an equipment pad or solid surface, install drain plug and tube as necessary. If wall mounting is necessary a wall mount bracket may be purchased (BR-440L) for this purpose. Follow mounting instructions for bracket to ensure safe installation.

Anchor bolts of the proper size and type (Installer provided) must be used.

For best results mount this unit as close as possible to the evaporators. Check maximum line length below before mounting.

Maximum Line length and height

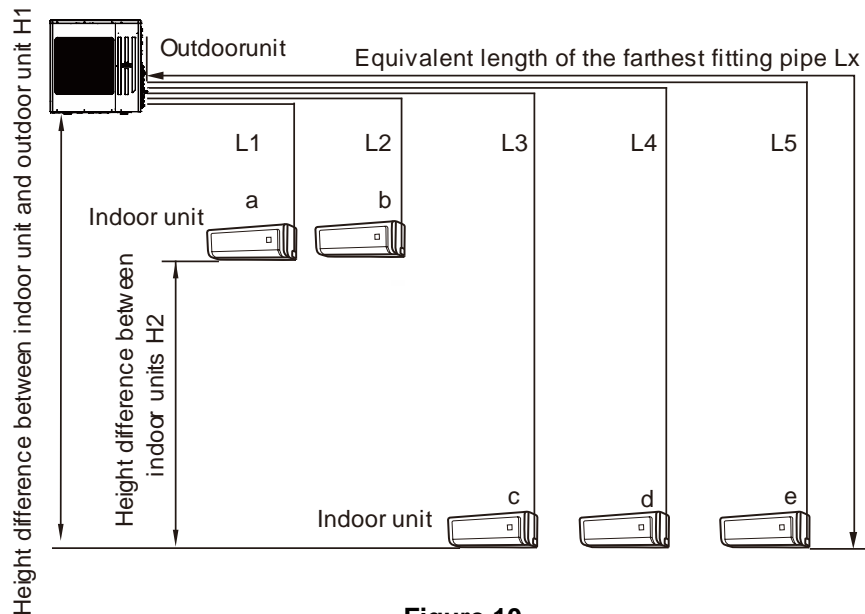


Figure 10

Connection Length	Description	Max. Length
$L1 + L2 + L3 + L4 + L5$	Total Length	262.5 feet.
Lx	Max. Length for any indoor unit	82 feet.
H1	Max. Height between each indoor and the outdoor unit.	49 feet
H2	Max. Height difference between indoor units.	24.6 feet

MAXIMUM LINE LENGTH AND / OR HEIGHT MUST NOT BE EXCEEDED!

CONNECTING LINE SET

CAUTION! IMPROPER CONNECTION OF THE LINE SETS WILL RESULT IN IMPROPER OPERATION OF THE SYSTEM. MARK EACH LINE SET AND WIRING FOR IDENTIFICATION. IDENTIFICATION LABELS ARE INCLUDED WITH EACH OUTDOOR UNIT. ENSURE THAT THE WIRING AND THE LINE SETS ARE ROUTED TO THE PROPER INDOOR ZONE.

Line Set sizes of indoor units

Indoor Unit Type	Capacity	Liquid Line	Suction Line	Adapter
Wall Mounted A	9K	1/4"	3/8"	1/2" F to 3/8" M adapter included
	12K, 18K	1/4"	1/2"	3/8" F to 1/2" M adapter included
Wall Mounted B	9K, 12K	1/4"	3/8"	1/2" F to 3/8" M adapter included
	18K	1/4"	1/2"	3/8" F to 1/2" M adapter included
	24K	1/4"	5/8"	N/A
Console, Cassette Floor / Ceiling, Ducted	9K, 12K	1/4"	3/8"	1/2" F to 3/8" M adapter included
	18K	1/4"	1/2"	3/8" F to 1/2" M adapter included
	21K, 24K	3/8"	5/8"	N/A

Line Set sizes of outdoor connection

SMZ42H46ZOGX	Port A	Port B	Port C	Port D	Port E
Liquid	3/8"	1/4"	1/4"	1/4"	1/4"
Suction	5/8"	1/2"	1/2"	3/8"	3/8"

Note: When the indoor line set requires the different size from the outdoor connection, please follow the line set size of indoor unit. An adaptor is required to connect the line set to outdoor unit.

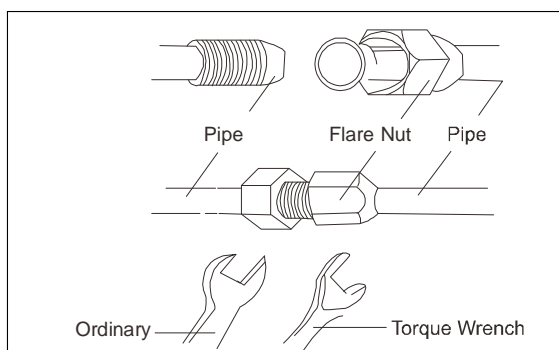


Figure 11a

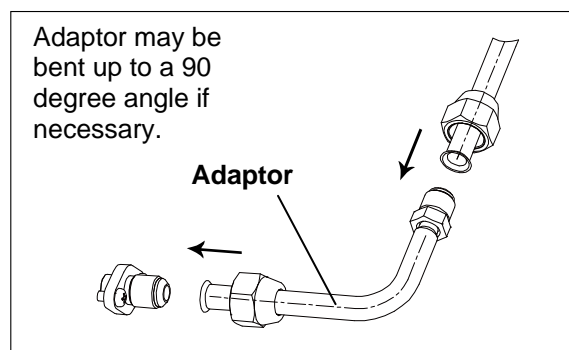


Figure 11b

Refrigerant Tubing

1. After the outside unit is secured to the mounting location (Pad, Wall Brackets, etc.), route the line sets from the Indoor unit to the outdoor unit, and secure with clamps or Plastic-Duct as required.

Installation Notes:

- This unit is designed to run two, three, four or five indoor units. DO NOT use this system with one indoor unit. (See page 7)
- The outdoor unit is supplied with a sufficient refrigerant charge of R410A for a maximum Design Length, no extra refrigerant required. Beyond this length additional refrigerant is required and must be weighted in. (see specifications)

Indoor unit contains a small quantity of nitrogen. DO NOT remove the caps until the tubing is ready to be installed.

NOTE: An oil trap is recommended to be installed if the indoor unit is over 15 feet in height from the outdoor unit. To prevent kinking, bend tubes using a tubing tool.

CAUTION! WHEN REMOVING THE VALVE CAPS, DO NOT STAND IN FRONT OF VALVES, AS THE SYSTEM IS UNDER HIGH PRESSURE.

CAUTION! DO NOT BRAZE TUBING OR USE THREAD SEALANT. USE FLARE CONNECTIONS ONLY.

2. Line set can now be cut (if necessary), to the proper length. Cut the tubing a little longer than measured distance. Completely remove all burrs from the cross cut section of tubing. Do not allow debris to fall into copper tube. It is extremely important to clean the copper tubing prior to connecting to system.

3. Install flare nuts and follow standard flaring procedures. Use proper flaring tools for a leakproof connection. If a flared section is defective, cut it off and follow standard flaring procedures again.
4. After cutting to length, creating the flares and before connecting the line set, clear all foreign materials by blowing nitrogen through copper tubing. Align the center of the tubing flare with its mating connector. Screw on the flare nut by hand and tighten the nut with a spanner and torque wrench. See Figure 12.

Note: Exceeding the tightening torque will damage the flare surface.

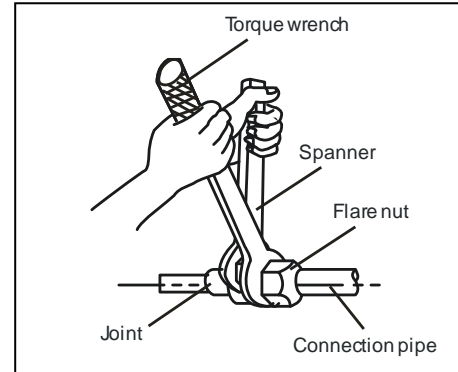


Figure 12

Tightening Torque Table:							
1/4"	11 – 22 lbs ft.	3/8"	23 – 29 Lbs ft.	1/2"	33 – 37 lbs ft.	5/8"	44 – 48 Lbs ft.

5. Verify that the proper line set is being connected to the intended port of the outdoor unit. Connect the line sets to their appropriate fittings on the outside unit, and torque the flare fittings per the table above.

DO NOT CROSS WIRES OR CROSS CONNECT SYSTEMS TO OUTDOOR UNIT.

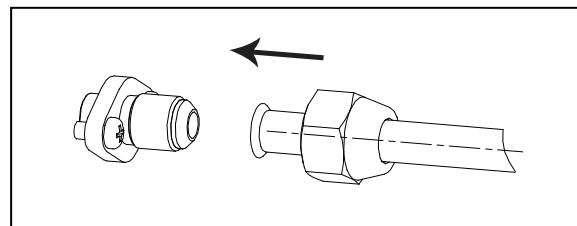


Figure 13

6. Bundle all lines, control cables and condensation drain together. Be sure to leave ample length on control cable to allow for termination. Bundle can be secured together using vinyl tape.

Note: Condensation drain **MUST** be placed at the bottom of the bundle as shown in the Figure 14. Failure to do so may cause evaporator to drain improperly.

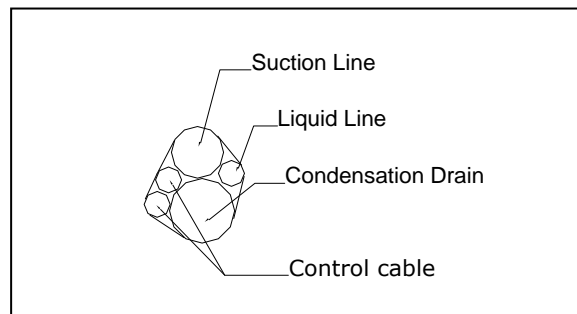


Figure 14

7. Line sets must have each tube insulated separately, including their unions with at least 1/4" thick insulation. Wrap the refrigeration tubing, drain hose, and electrical cables with a UV protected vinyl tape. Overlap insulation at all refrigeration joints per Figure 15.

Note: Completely wrap line set with insulation. Insulation joints may overlap if desired.

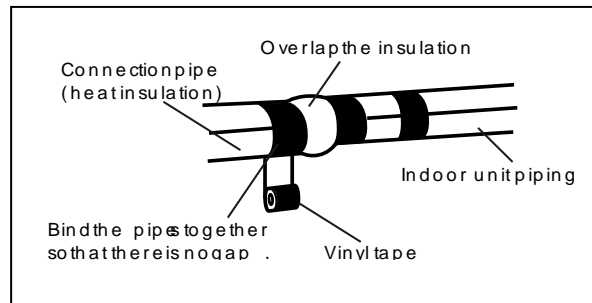


Figure 15

CAUTION! Failure to completely wrap both lines with insulation may result in damage from condensation forming on lines, and dripping onto walls, ceilings, etc.

ELECTRICAL CONNECTION

**WARNING! Improper wiring between the inside units and the outside unit can cause serious damage to the system, and the risk of personal injury or fire. Use caution when connecting the wiring to insure that the wires are connected properly.
DO NOT USE THERMOSTAT WIRE TO CONNECT OUTDOOR TO INDOOR UNIT!**

NOTES:

- Electrical wiring and connections should be made by qualified electricians in accordance with National and Local electrical codes and regulations.
- Proper grounding is a **must**.
- Voltage should not vary beyond +/- 10% of the rated voltage.
- See the specifications page for proper wire sizes and circuit breaker sizes.
- Connect the control cables according to the diagrams on page 15.
- Make power connections per diagram on page 15.
- Remove the handle on the right side of the outdoor unit.
- Remove panel on the right front.
- Remove the cable clamp and connect the power connection cable to the terminal.
- Wiring should be terminal to terminal and to correct indoor unit. Do not cross wires!
- Reattach the cable clamp.
- Reinstall the handle.

Connect the Cable to the Outdoor Unit

For model: SMZ42H46ZOCX.

1. Remove screws to take off front side panel.
2. Feed cable wire through knock-out holes the grummetts on the right side panel. (A water tight cable strain relief or conduit is recommended here.)
3. Connect the wires to the terminals. (See wiring diagram Figure 16).
4. Replace front side panel with the screws.
5. Secure wire cables.

If a condensate pump is needed it should be connected to the *supply power* at the Outdoor Unit

Electrical Wiring Connections

Electrical connection of the outdoor unit

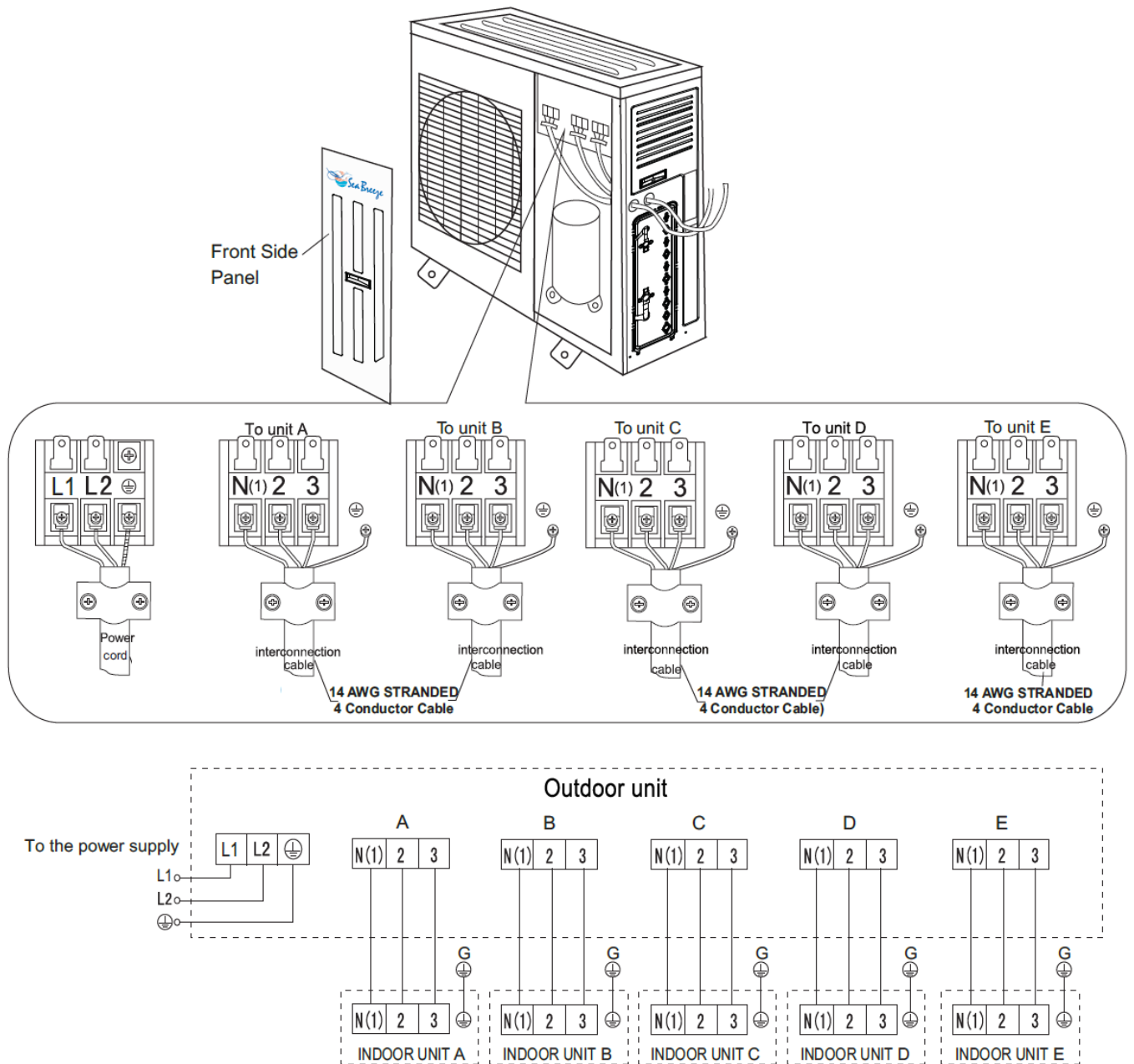


Figure 16

Wiring identification labels are supplied with each outdoor unit.

When connecting lines; connect in the most convenient sequence according to your installation considering line set sizes. Example: If installation consists of (2) 9K indoor units it would be easier to use ports D and E, since no adapter would be required. Another example would be installation of an (2)18K indoor unit and (2) 9K indoor units. The best ports to use here would be B, C for 18K indoor units and D, E for 9K indoor units again no adapter is required.

Electrical connection of the indoor unit (wall mounted).

Open the front cover by pressing inward on the sides of the cover near the bottom to release, then pull bottom of cover outwards.

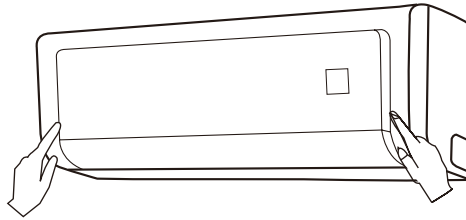
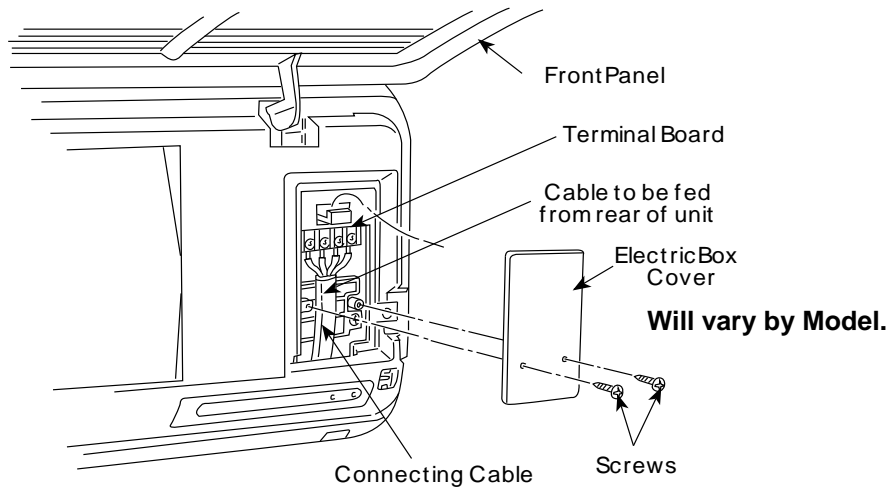


Figure 17

Feed the cable wire in from the rear of unit.

Open the electric box cover; connect the wires to the terminal strip individually according to the wiring diagram above. Ensure that the colors of the wires and terminal No. are the same as the wiring diagram. Tighten terminal screws for safe connections.

DO NOT CROSS WIRES
DO NOT CONNECT CONDENSATE PUMP TO THE INDOOR UNIT



Identify each end of the interconnect cable and each of the conductor using the labels provided. Units A, B, C, D and E.

Figure 18

After wiring, replace the electric box cover, and then close the front panel by pressing the corners inward to latch.

Note: For detailed information about other types of indoor units, please refer to the manual to be placed with each indoor unit.

Typical outdoor installation.

When connecting lines, connect in the most sequence according to your installation sizes. Example: If installation consists of (3) would be easier to use ports C, D, and E, would be required. Another example would be 18K indoor unit and (2) 9K indoor units. The here would be B,

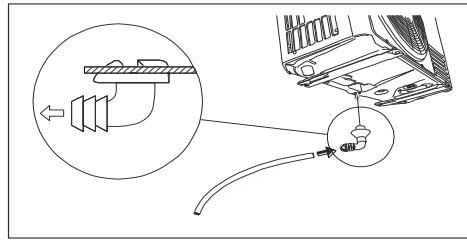


Figure 19a required.

convenient considering line set 9K indoor units it since no adapter installation of an best ports to use C, D, (or E) again no adapter is

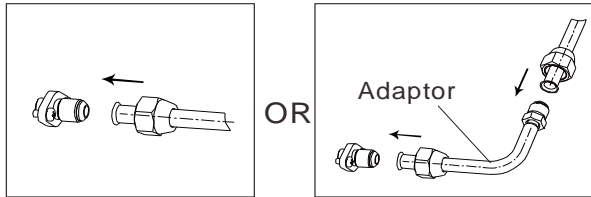


Figure 19b

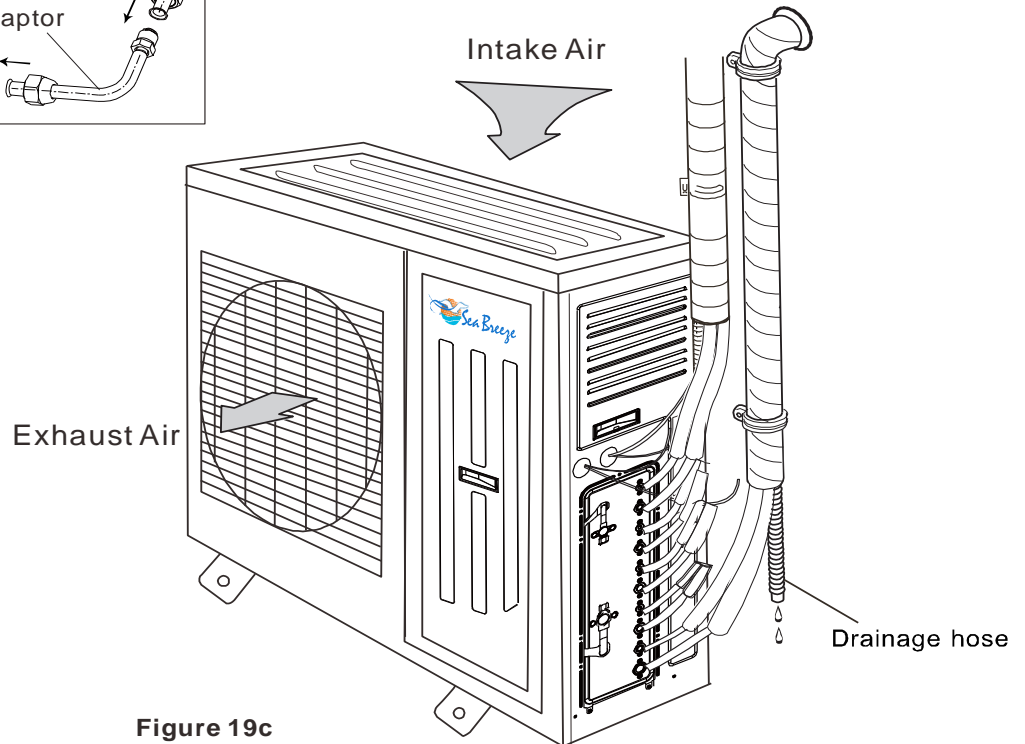


Figure 19c

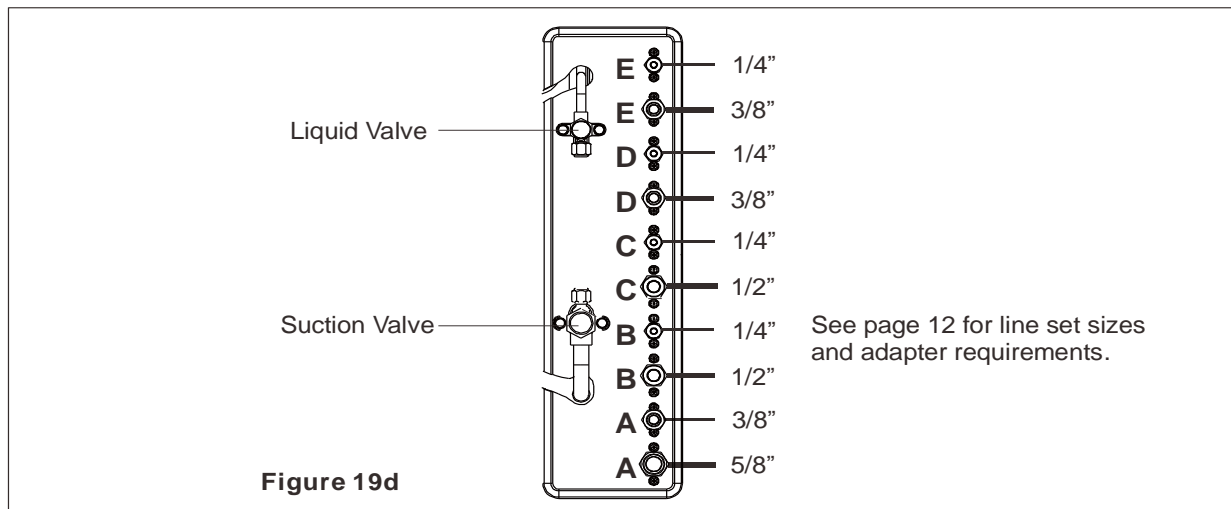


Figure 19d

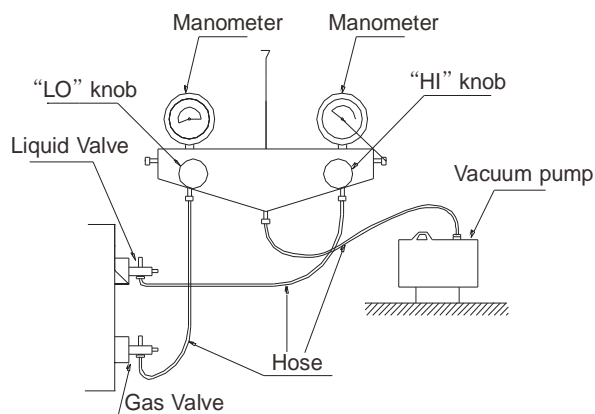
See page 12 for line set sizes and adapter requirements.

EVACUATION OF THE REFRIGERATION TUBES AND INDOOR UNIT

After connecting the indoor and outdoor units, evacuate the air from the line set and the indoor unit as follows:

Leak Testing - Indoor units are nitrogen pre-charged, however they should be pressure tested before installation.

1. Connect the charging hoses to the low side of the manifold and the service port of the Gas valve (See figure 20).
2. Connect the center hose of the manifold valve to a nitrogen source.



NOTE: The nitrogen gas cylinder is used in a vertical standing position.

3. Charge system with nitrogen to 150 PSI and check for leaks, using standard industry leak detection methods.
4. Pay attention to possible evaporator leaks that may have occurred during shipping or installation.
5. Remove the nitrogen by opening the manifold valves.

Vacuum Purge

1. Connect the center hose of the manifold valves to a vacuum pump, and open fully the low and high pressure sides of the manifold valves.

DO NOT OPEN SERVICE PORT VALVES

2. Turn on the vacuum pump. Evacuate system for about 30 minutes and confirm that the vacuum reading is 500 microns.
3. Close all manifold valves and turn off the vacuum pump. After waiting for several minutes, confirm that the vacuum reading of the manifold has not changed. If the vacuum reading has changed, there is a leak that must be found and repaired before continuing.
4. Remove the valve caps from the two valves. Slowly open liquid valve fully using a hexagonal Allen wrench. Use the same procedure on the suction valve. Open both valves to the full back seat position.
5. Securely tighten the caps back onto liquid and suction the valves.
6. Check for gas leaks from all connections. Test with an electronic leak detector, or with soapy water and check for bubbles. Be sure to wipe off the soap with a clean cloth after leakage test.

SUCTION PORT CONNECTIONS

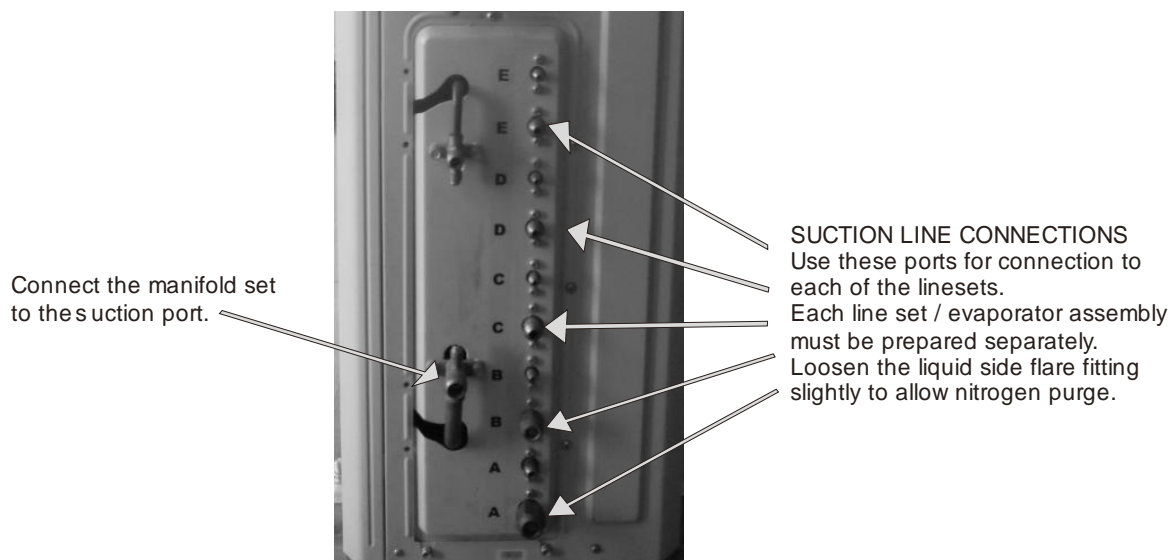


Figure 21a

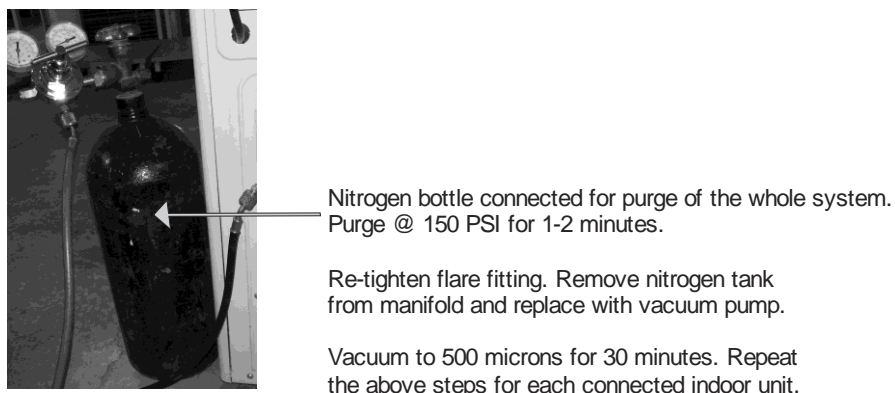


Figure 21b

Once the vacuum operation has been performed on the system, open the valve slowly to allow the flow of refrigerant. Once the refrigerant flow cannot be heard, open both valves completely. These valves must be opened completely in order to prevent leaks. Replace caps on service ports and valves as added protection against leaks.

START UP TESTING

Preparation

1. Double check that all wiring has been properly connected.
2. Check that tubing has been properly connected and ensure the suction and liquid side service valves are fully open.
3. Review remote control functions in the Operators manual.

Note: A wall control is optional MSWCH (243-7002). For the details of installation and operation, please refer to the manual to be placed with the wall control.

Operational Test

Note: The cooling test may be performed if the outdoor temperature is between 14 °F to 118 °F.
The heating test may be performed if the outdoor temperature is between 5 °F to 81 °F.

- 1) With the unit turned on, press the mode button and select “COOL” mode for all indoor units (see **Note** above). Allow 3 minutes for compressor delay timer to expire.
- 2) Press the “-” button until it reads 61 °F on all indoor units.
- 3) Operate indoor units for no less than 15 minutes in the cooling mode.
- 4) Press the “FAN” button to select high fan speed on all units.
- 5) After operating for several minutes, check for cool air flow. Outlet temperature should be 20 to 24 °F lower than ambient temperature. (If outlet temperature is out of range contact technical support).
- 6) If cooling mode is operating properly, check for proper heat operation.
- 7) Press the mode button to select “HEAT” (see **Note** above).
- 8) Press the “+” button until it reads 86 °F.
- 9) Allow approximately 5 minutes for compressor delay timer to expire before unit will operate.
- 10) The indoor fan will turn on and heat should be present.
- 11) If unit(s) does not perform as described, see the troubleshooting section.
- 12) All functions should be tested for operation, see Operation manual. Review remote control functions with owner.
- 13) Emergency operation button – test to confirm proper operation (see Operators manual).

Notes:

1. Indoor fan will not turn off in the cooling mode.
2. Indoor fan will turn off in heating mode shortly after the set point has been satisfied.
3. Unit may require several minutes to confirm the condition of temperature set point and system functions.

To adjust the differential (temperature between ON and OFF):

STEP1: Turn the temperature from °F to °C on the remote by press the "mode" and "-" button with the remote in the OFF position.

STEP2: Within 30 seconds after the indoor unit is on the differential can be changed as below:

Alternately press the "+" then "-" button on the remote three times within 5 seconds while in the heating mode with set point set to 17°C. The indoor unit will reset the temperature and deliver 3°C (5.4°F differential) signal to the outdoor unit. At this time, 3°C will display on the indoor unit, LED of heating and operation would flash for three times.

Alternately press the "+" then "-" button on remote three times within 5 seconds while in the heating mode with set point set to 18°C. The indoor unit will reset the temperature and deliver 2°C (3.6°F differential) signal to the outdoor unit. At this time, 2°C will display on the indoor unit, LED of heating and operation would flash for three times.

Alternately press the "+" then "-" button on remote three times within 5 seconds while in the heating mode with set point set to 19°C. The indoor unit will reset the temperature and deliver 1°C (1.8°F differential) signal to the outdoor unit. At this time, 1°C will display on the indoor unit, LED of heating and operation would flash for three times.

Alternately press the "+" then "-" button on remote three times within 5 seconds while in the heating mode with set point 20°C. The indoor unit will reset the temperature and deliver 0°C (0°F differential) signal to the outdoor unit. At this time, 0°C will display on the indoor unit, LED of heating and operation would flash for three times. This selection is not recommended.

The compressor delay will be activated when the set point temperature is satisfied.

To return the temperature to °F press the "mode" and "-" button simultaneously with the remote in the OFF position.

Note: The above differential set is only available for the WALL MOUNTED indoor units.

We recommend having the differential set by professional personnel and setting the temperature at 1°C.

TECHNICAL SPECIFICATIONS FOR OUTDOOR UNIT



Model Number		SMZ42H46ZOGX
Product Code Number		243-1007-C
Rated Voltage & Frequency and Phase		208-230 / 1PH
Min./ Max. Operating Voltage		187 / 253 VAC
Circuit Breaker Size (A)		50
Working Temperature Range (°F)		Cooling: 14 to 118; Heating: 5 to 81
Refrigerant (R410A), (oz.)		169.3
Min. Circuit Ampacity (A)		29
Low Ambient Cooling Function		Yes
Sound Power Level dB(A) (Max.)		68
Cooling	Rated Capacity (Btu/h)	40,000
	Capacity Invert Range (Btu/h)	8,530 - 46,403
	Rated Power Input (W)	4,400
	Total Input Current (Cooling)	21.6 / 19.5 A
	SEER	16
Heating	Rated Capacity (Btu/h)	44,500
	Capacity Invert Range (Btu/h)	10,662 - 47,768
	Rated Power Input (W)	4,600
	Total Input Current (Heating)	22.5 / 20.5 A
	HSPF	8.2
Fan Motor	Fan Type	Axial Fan
	Output (W)	140
	Capacitor (UFD)	6
	Fan Motor RLA (A)	1.1
	Fan Speed (RPM)	860
Outdoor Fan	Fan Blade Diameter (in)	22.44
	Air Flow Volume of Outdoor Unit (CFM)	3237
Compressor	Model	TNB306FPGMC
	TYPE	Inverter Scroll
	Brand	MITSUBISHI
	RLA	21.5
	Input (W)	3010
	Crankcase Heater Input (W)	40
	Oil Type	PVE
	Overload Protector	CS01F272H01
Condenser	Number of Rows	2
	Fin spacing (in)	0.055
	Fin Type	Aluminum, Louvered
	Tube Outside Dia.(in)	0.313
	Coil Length x Height x Width (in)	40.25 x 41.57 x 1.5
	Number of circuits	5
	Defrosting Method	Automatic Defrosting
Dimensions & Weight	Unit Dimensions (W x H x D) (in)	39.96 x 43.43 x 17.32
	Packing Dimensions (W x H x D) (in)	45.59 x 48.62 x 19.41
	Net / Gross Weight (lb)	224.9 / 246.9
Connection	Flare Liquid line	Four of 1/4" - 9K, 12K, 18K BTU; One of 3/8" - 21K / 24K BTU [*1]
	Flare Suction line	Two of 3/8"-9K BTU; Two of 1/2"-12K / 18K BTU [*2]; One of 5/8"-21K / 24K BTU [*3]
	Service Port Fitting	1/2" - 20 UNF
	High Pressure (psi)	550
	Low Pressure (psi)	240
	Design Length (ft)	24.6 (for each indoor unit) (123' total)
	Max Line Set Vertical Height (between outdoor and indoor unit) (ft)	49
	Max Line Set Vertical Height (between indoor and indoor unit) (ft)	24.6
	Max Line Set Length (ft)	82 (for each indoor unit)
	Max Line Set Length (ft)	262.5 (total)
	Charge over Design Length [*4] (oz. / ft)	0.24 (over 164')
	Wiring (Indoor to Outdoor)	4C- 14 AWG (Recommended)

*1. Using a 3/8" to 1/4" adaptor joint when connect this port to a 9K, 12K,18K or 24K wall mounted indoor unit.

*2. Using a 1/2" to 3/8" adaptor joint when connect this port to a 9K or 12K (SHE12H4ZIGB only) wall mounted indoor unit.

*3. Using a 5/8" to 3/8" adaptor joint when connect this port to a 9K indoor unit. Or, using a 5/8" to 1/2" adaptor joint when connects this port to a 18K / 12K (SHE12H4ZIGX only) wall mounted indoor unit.

NOTE: For other types of indoor unit connection, please refer to the specification for connecting size.

*4. When the total length of liquid line is over 164 ft, the additional refrigerant charge is required.

*5. When the outdoor unit is above the indoor unit, the maximum vertical height should not exceed 49.2 ft.

NOTE: Outdoor unit must connect to a minimum of TWO indoor units.

Technical Specifications for WALL MOUNTED Indoor Units A

Model Number		SHE9H4ZIGX	SHE12H4ZIGX	SHE18H4ZIGX
Product Code		243-2003-E	243-2004-E	243-2005-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH
	Control	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)
	Setting Range	61°F to 86°F	61°F to 86°F	61°F to 86°F
	Cooling Capacity (BTU/H) (Min. ~ Max.)	9000 (3100~9600)	12000 (3100~13000)	18000 (6210~22000)
	Heating Capacity (BTU/H) (Min. ~ Max.)	9800 (2200~11000)	13000 (2400~14000)	19800 (4100~22000)
	Wire Size / No. of Conductors	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)
	Indoor Air Circulation (CFM) (Turbo / H / M / L)	306/ 253 /218 /171	330/ 288/ 258 /206	488/ 441/ 383/ 324
	Dehumidifying Volume(pts/h)	2.54	2.96	4.22
FAN Motor	Fan Motor Speed (RPM)-Cooling Fan Motor Speed (RPM)-Heating (Turbo / H / M / L)	1400/1150/1050/900 1450/1250/1150/1050	1500/1150/1050/900 1450/1250/1150/1050	1500/1150/1050/950 1500/1200/1100/1000
	Output of Fan Motor (W)	10	10	20
	Fan Motor Capacitor (ufd)	1	1	1.5
	Fan Motor RLA (A)	0.17	0.17	0.32
	Fan Type	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Diameter-Length (in)	3.35 – 26.34	3.35 – 26.34	3.86 – 28.86
Evaporator	Evaporator	Aluminum fin - copper tube	Aluminum fin - copper tube	Aluminum fin - copper tube
	Pipe Diameter (in)	0.276	0.276	0.276
	Row-Fin Gap (in)	2-0.06	2-0.06	2-0.06
	Coil length(L) x height(H) x coil width(L) (in)	25.9 x 11.2 x 1	25.9 x 11.2 x 1	29 x 12 x 1
Design Data	Swing Motor Model / Output (W) (for horizontal louver)	MP28VB / 2	MP28VB / 2	MP28VB / 2.5
	Fuse(A)	3.15	3.15	3.15
	High Pressure (PSI)	550	550	550
	Low Pressure (PSI)	240	240	240
	Auto Restart	Yes	Yes	Yes
	Sound Pressure Level dB(A) (Turbo / H / M / L)	46 / 38 / 30 / 28	48 / 38 / 30 / 28	46 / 43 / 40 / 35
	Sound Power Level dB(A) (Turbo / H / M / L)	56 / 48 / 40 / 38	58 / 48 / 40 / 38	56 / 53 / 50 / 45
	Flare Liquid line	1/4 "	1/4 "	1/4 "
	Flare Suction line	3/8"	1/2"	1/2"
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	34.3 / 7 / 11	34.3 / 7 / 11	37.8 / 7.7 / 11.8
	Dimension of Package (W / D / H) (approx in)	36.9 / 14.9 / 10.8	36.9 / 14.9 / 10.8	40.9 / 15.5 / 11.6
	Net / Gross Weight (lb)	24.3 / 33.1	24.3 / 33.1	28.7 / 39.7

Technical Specifications for WALL MOUNTED Indoor Units B

Model Number		SHE9H4ZIGB	SHE12H4ZIGB	SHE18H4ZIGB	SHE24H4ZIGB
Product Code		243-2007-E	243-2008-E	243-2009-E	243-2010-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH
	Min. / Max. Operating Voltage	187 / 253 VAC	187 / 253 VAC	187 / 253 VAC	187 / 253 VAC
	Cooling Capacity (BTU/H) (Min. ~ Max.)	9000 (3500~9600)	12000 (3100~13000)	18000 (5970~22350)	21400 (9600~25000)
	Heating Capacity (BTU/H) (Min. ~ Max.)	9800 (2200~11000)	13000 (2400~14000)	19800 (4100~22000)	23000 (4300~26000)
	Indoor Air Circulation (CFM) (Turbo / H / M / L)	306/ 277 /253 /218	335/ 277/ 253 /218	500/ 459/ 383/ 324	589/ 471/ 412/ 353
	Dehumidifying Volume (pts/h)	1.69	2.96	3.8	5.28
FAN Motor	Model	FN20X-PG	FN20X-PG	FN20W-PG	FN60B-ZL
	Fan Motor Speed (RPM)-Cooling Fan Motor Speed (RPM)-Heating (Turbo / H / M / L)	1260/1100/950/750 1320/1200/1100/950	1330/1100/950/750 1350/1170/1050/950	1500/1200/1050/900 1500/1250/1150/1050	1500/1200/1050/900 1450/1150/1020/950
	Output of Fan Motor (W)	20	20	20	60
	Fan Motor Capacitor (ufd)	1	1	1.5	N / A
	Fan Motor RLA (A)	0.2	0.2	0.32	0.24
	Fan Type	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Diameter-Length (in)	3 5/8 – 25 2/5	3 5/8 – 25 2/5	3 6/7 – 28	3 6/7 – 30 1/8
Evaporator	Evaporator	Aluminum fin - copper tube	Aluminum fin - copper tube	Aluminum fin - copper tube	Aluminum fin - copper tube
	Pipe Diameter (in)	0.276	0.276	0.276	0.276
	Row-Fin Gap (in)	2-0.06	2-0.06	2-0.06	2-0.06
	Coil length(L) x height(H) x coil width(L) (in)	27.2 x 10.5 x 1	27.2 x 10.5 x 1	28.1 x 12 x 1	30 1/8 x 13 1/2 x 1
Design Data	Swing Motor Model / Output (W) (for horizontal louver)	MP24AA / 2	MP24AA / 2	MP28VB / 2.5	MP35XX / 3
	Fuse(A)	3.15	3.15	3.15	3.15
	High Pressure (PSI)	550	550	550	550
	Low Pressure (PSI)	240	240	240	240
	Auto Restart	Yes	Yes	Yes	Yes
	*Remote	Yes	Yes	Yes	Yes
	Wall Control (optional)	Yes	Yes	Yes	Yes
	Sound Pressure Level dB(A) (Turbo / H / M / L)	42 / 38 / 35 / 32	44 / 39 / 36 / 33	49 / 44 / 40 / 35	53 / 45 / 41 / 37
	Sound Power Level dB(A) (Turbo / H / M / L)	52 / 48 / 45 / 42	54 / 49 / 46 / 43	59 / 54 / 50 / 45	63 / 55 / 51 / 47
	Flare Liquid line	1/4"	1/4"	1/4"	1/4"
	Flare Suction line	3/8"	3/8"	1/2"	5/8"
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	33.3 / 7.1 / 10.8	33.3 / 7.1 / 10.8	37 / 7.9 / 11.7	39.6 / 8.6 / 12.4
	Dimension of Package (W / D / H) (approx in)	36.1 / 10.2 / 14.6	36.1 / 10.2 / 14.6	39.9 / 15.6 / 11.3	42.4 / 15.7 / 12.9
	Net / Gross Weight (lb)	22 / 27.6	22 / 27.6	28.7 / 35.3	29.8 / 37.5

Technical Specifications for CONSOLE Indoor Units

Model Number		SMZC9H4ZIGX	SMZC12H4ZIGX	SMZC18H4ZIGX
Product Code		243-6001-E	243-6002-E	243-6003-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH
	Control	Remote	Remote	Remote
	Setting Range	61°F to 86°F	61°F to 86°F	61°F to 86°F
	Cooling Capacity (BTU/H) (Min. ~ Max.)	9000 (3100~9600)	12000 (3100~13000)	18000 (6210~22000)
	Heating Capacity (BTU/H) (Min. ~ Max.)	9500 (2200~11000)	13000 (2400~14000)	19800 (4100~22000)
	Wire Size / No. of Conductors	14 AWG / 4C (Recommended)	14 AWG / 4C (Recommended)	14 AWG / 4C (Recommended)
	Indoor Air Circulation (CFM) (Turbo / H / MH / M / ML / L / Quiet)	383/ 330/ 312/ 282/ 253/ 218/ 188	441/ 383/ 353/ 324/ 294/ 265/ 206	494/ 471/ 424/ 383/ 341/ 312/ 241
	Dehumidifying Volume(pts/h)	1.69	2.96	3.8
FAN Motor	Fan Motor Speed (RPM)-Cooling Fan Motor Speed (RPM)-Heating (Turbo / H / MH / M / ML / L / Quiet)	650/560/530/480/430/370/320 650/560/530/480/430/370/320	750/650/600/550/500/450/350 750/650/600/550/500/450/350	840/800/720/650/580/530/410 900/840/760/690/620/570/450
	Output of Fan Motor (W)	30	30	30
	Fan Motor Capacitor (ufd)	N/A	N/A	N/A
	Fan Motor RLA (A)	0.15	0.15	0.15
	Fan Type	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Diameter-Length (in)	3 1/7 – 14 4/7	3 1/7 – 14 4/7	3 1/7 – 14 4/7
Evaporator	Evaporator	Aluminum fin - copper tube	Aluminum fin - copper tube	Aluminum fin - copper tube
	Pipe Diameter (in)	1/4	1/4	1/4
	Row-Fin Gap (in)	2-0.05	2-0.05	2-0.05
	Coil length(L) x height(H) x coil width(W) (in)	20.1 x 15.6 x 0.9	20.1 x 15.6 x 0.9	20.1 x 15.6 x 0.9
Design Data	Swing Motor Model (for horizontal louver)	MP24EB	MP24EB	MP24EB
	Fuse(A)	3.15	3.15	3.15
	High Pressure (PSI)	550	550	550
	Low Pressure (PSI)	240	240	240
	Auto Restart	Yes	Yes	Yes
	Sound Pressure Level dB(A) (Turbo / H / MH / M / ML / L / Quiet)	40 / 38 / 36 / 33 / 30 / 26 / 25	43 / 40 / 38 / 37 / 35 / 32 / 27	48 / 46 / 44 / 41 / 37 / 35 / 33
	Sound Power Level dB(A) (Turbo / H / MH / M / ML / L / Quiet)	50 / 48 / 46 / 43 / 40 / 36 / 35	53 / 50 / 48 / 47 / 45 / 42 / 37	58 / 56 / 54 / 51 / 47 / 45 / 43
	Flare Liquid line	1/4"	1/4"	1/4"
	Flare Suction line	3/8"	3/8"	1/2"
	Drain Connection	1 1/9	1 1/9	1 1/9
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	27.6 / 8.5 / 23.6	27.6 / 8.5 / 23.6	27.6 / 8.5 / 23.6
	Dimension of Package (W / D / H) (approx in)	31 / 11.1 / 27.4	31 / 11.1 / 27.4	31 / 11.1 / 27.4
	Net / Gross Weight (lb)	33.1 / 39.7	33.1 / 39.7	33.1 / 39.7

Technical Specifications for CASSETTE Indoor Units

Model Of Indoor Unit		SMZCA12H4ZIGX	SMZCA18H4ZIGX	SMZCA24H4ZIGX
Product Code		243-6004-E	243-6005-E	243-6006-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH
	Control	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)
	Setting Range	61°F to 86°F	61°F to 86°F	61°F to 86°F
	Cooling Capacity (BTU/H)	12000	14400	22800
	Heating Capacity (BTU/H)	13000	16000	27400
	Wire Size / No. of Conductors	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)
	Indoor Air Circulation (CFM) (High Fan Speed)	353	353	694
	Dehumidifying Volume(pts/h)	2.96	3.8	5.28
FAN Motor	Fan Motor Speed (RPM) (SH / H / M / L / SL)	845 / 700 / 530 / 600 / 515	845 / 700 / 530 / 600 / 515	620 / 570 / 520 / 280
	Output of Fan Motor (W)	11	11	50
	Fan Motor Capacitor (ufd)	1	1	3
	Fan Motor RLA (A)	0.23	0.23	0.43
	Fan Type	Centrifugal	Centrifugal	Centrifugal
	Diameter-Height (in)	11.14 – 5.83	11.14 – 5.83	17.72 – 4.41
Evaporator	Evaporator	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube
	Pipe Diameter (in)	0.375	0.375	0.28
	Row-Fin Gap (in)	2-0.06	2-0.06	3-0.05
	Coil length(L) x height(H) x coil width(W) (in)	37.64 x 8.0 x 1.5	37.64 x 8.0 x 1.5	80.35 x 6.75 x 1.18
Design Data	Swing Motor Model (for horizontal louver)	MP35EA	MP35EA	MP35EA
	Fuse(A)	3.15	3.15	3.15
	High Pressure (PSI)	550	550	550
	Low Pressure (PSI)	240	240	240
	Auto Restart	Yes	Yes	Yes
	Condensate Pump	Yes	Yes	Yes
	Condensate Pump lift (ft)	2.3	2.3	3.6
	Anti-Mildew Protection	Yes	Yes	Yes
	Sound Pressure Level dB(A) (High Fan Speed)	46	46	39
	Sound Power Level dB(A) (High Fan Speed)	56	56	49
	Flare Liquid line	1/4"	1/4"	3/8"
	Flare Suction line	3/8"	1/2"	5/8"
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	22.4 / 22.4 / 9.1	22.4 / 22.4 / 9.1	33.1 / 33.1 / 9.45
	Dimension of Package (W / D / H) (approx in)	33.5 / 28.8 / 12.8	33.5 / 28.8 / 12.8	37.9 / 37.9 / 12.8
	Net / Gross Weight (lb)	39.7 / 50.7	39.7 / 50.7	61.7 / 77.2
	Dimensions of Panel (W / D / H) (approx in)	25.6 / 25.6 / 2.0	25.6 / 25.6 / 2.0	37.4 / 37.4 / 2.36
	Dimension of Panel Package (W / D / H) (approx in)	28.9 / 26.5 / 4.6	28.9 / 26.5 / 4.6	41.1 / 40.5 / 5.12
	Net / Gross Weight of Panel (lb)	5.5 / 8.1	5.5 / 8.1	14 / 22

Technical Specifications for FLOOR / CEILING Indoor Units

Model Of Indoor Unit		SMZFC9H4ZIGX	SMZFC12H4ZIGX	SMZFC18H4ZIGX	SMZFC24H4ZIGX
Product Code		243-6007-E	243-6008-E	243-6009-E	243-6010-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH
	Control	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)	Remote (standard) or Wall (optional)
	Setting Range	61°F to 86°F	61°F to 86°F	61°F to 86°F	61°F to 86°F
	Cooling Capacity (BTU/H)	8500	11900	17000	22800
	Heating Capacity (BTU/H)	9500	13100	18700	27400
	Wire Size / No. of Conductors	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)
	Indoor Air Circulation (CFM) (H / M / L)	383 / 324 / 265	383 / 324 / 265	559 / 412 / 294	736 / 530 / 412
	Dehumidifying Volume(pts/h)	1.69	2.96	3.8	5.28
FAN Motor	Motor Model	FG10A	FG10A	FG20E	FG50A
	Fan Motor Speed (RPM) (H / M / L)	690 / 610 / 480	690 / 610 / 480	985 / 800 / 680	985 / 800 / 680
	Output of Fan Motor (W)	15	15	20	40
	Fan Motor Capacitor (ufd)	1	1	2.5	2
	Fan Motor RLA (A)	0.28	0.28	0.56	0.63
	Fan Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
	Diameter-Height (in)	5.49 – 4.13	5.49 – 4.13	5.49 – 4.13	5.49 – 4.13
Evaporator	Evaporator	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube
	Pipe Diameter (in)	0.28	0.28	0.28	0.28
	Row-Fin Gap (in)	2-0.06	2-0.06	2-0.06	2-0.06
	Coil length(L) x height(H) x coil width(W) (in)	31.7 x 12.0 x 1.0	31.7 x 12.0 x 1.0	36.2 x 12.0 x 2.0	36.2 x 12.0 x 2.0
Design Data	Swing Motor Model (for horizontal louver)	MP35CG	MP35CG	MP35CG	MP35CG
	Fuse(A)	3.15	3.15	3.15	3.15
	High Pressure (PSI)	550	550	550	550
	Low Pressure (PSI)	240	240	240	240
	Auto Restart	Yes	Yes	Yes	Yes
	Anti-Mildew Protection	Yes	Yes	Yes	Yes
	Sound Pressure Level dB(A) (H / L)	40 / 38 / 36	40 / 38 / 36	45 / 42 / 40	48 / 46 / 44
	Sound Power Level dB(A) (H / L)	50 / 48 / 46	50 / 48 / 46	55 / 52 / 50	58 / 56 / 54
	Flare Liquid line	1/4"	1/4"	1/4"	3/8"
	Flare Suction line	3/8"	3/8"	1/2"	5/8"
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	48.0 / 27.6 / 8.9	48.0 / 27.6 / 8.9	48.0 / 27.6 / 8.9	48.0 / 27.6 / 8.9
	Dimension of Package (W / D / H) (approx in)	52.9 / 32.4 / 12.4	52.9 / 32.4 / 12.4	52.9 / 32.4 / 12.4	52.9 / 32.4 / 12.4
	Net / Gross Weight (lb)	88.2 / 110.2	88.2 / 110.2	88.2 / 110.2	99.2 / 119.1

Technical Specifications for DUCTED Indoor Units (9K, 12K, 18K)

Model Of Indoor Unit		SMZD9H4ZIGX	SMZD12H4ZIGX	SMZD18H4ZIGX
Product Code		243-6011-E	243-6012-E	243-6013-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH	208-230V AC / 1 PH
	Control	Wall (standard) or Remote(optional)	Wall (standard) or Remote(optional)	Wall (standard) or Remote(optional)
	Setting Range	61°F to 86°F	61°F to 86°F	61°F to 86°F
	Cooling Capacity (BTU/H)	8500	11900	15300
	Heating Capacity (BTU/H)	9500	13100	18700
	Wire Size / No. of Conductors	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)
	Indoor Air Circulation (CFM) (High Fan Speed)	265	294	412
	Dehumidifying Volume(pts/h)	1.69	2.96	3.8
FAN Motor	Fan Model	FG30A	FG40A	FG60A
	Fan Motor Speed (SH / H / M / L)	1230 / 970 / 760 / 640	1130 / 960 / 830 / 700	1000 / 920 / 780 / 720
	Output of Fan Motor (W)	40	49	75
	Fan Motor Capacitor (ufd)	1.5	3	3
	Fan Motor RLA (A)	0.35	0.35	0.43
	Fan Type	Centrifugal	Centrifugal	Centrifugal
	Fan Quantity	2	2	3
	Diameter-Length (in)	5.49 – 5.30	5.49 – 5.30	5.49 – 5.30
Evaporator	Evaporator	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube
	Pipe Diameter (in)	0.28	0.28	0.28
	Row-Fin Gap (in)	2-0.06	3-0.06	3-0.06
	Coil length(L) x height(H) x coil width(W) (in)	20.7 x 8.3 x 1.0	20.7 x 8.3 x 1.0	28.5 x 8.3 x 1.5
Design Data	Fuse(A)	3.15	3.15	3.15
	High Pressure (PSI)	550	550	550
	Low Pressure (PSI)	240	240	240
	Auto Restart	Yes	Yes	Yes
	Condensate Pump	Yes	Yes	Yes
	Condensate Pump lift (ft)	3.6	3.6	3.6
	Sound Pressure Level dB(A) (H / L)	37 / 31	39 / 32	41 / 33
	Sound Power Level dB(A) (H / L)	47 / 41	49 / 42	51 / 43
	Flare Liquid line	1/4"	1/4"	1/4"
	Flare Suction line	3/8"	3/8"	1/2"
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	27.6 / 24.2 / 7.9	27.6 / 24.2 / 7.9	35.4 / 24.2 / 7.9
	Dimension of Package (W / D / H) (approx in)	35.2 / 29.3 / 12.0	35.2 / 29.3 / 12.0	44.2 / 29.3 / 12.0
	Net / Gross Weight (lb)	48.51 / 59.54	50.72 / 63.95	59.54 / 79.38

Technical Specifications for DUCTED Indoor Units (21K, 24K)

Model Of Indoor Unit		SMZD21H4ZIGX	SMZD24H4ZIGX
Product Code		243-6014-E	243-6015-E
Performance & Electrical	Rated Voltage	208-230V AC / 1 PH	208-230V AC / 1 PH
	Control	Wall (standard) or Remote(optional)	Wall (standard) or Remote(optional)
	Setting Range	61°F to 86°F	61°F to 86°F
	Cooling Capacity (BTU/H)	20400	23800
	Heating Capacity (BTU/H)	22600	27400
	Wire Size / No. of Conductors	4C- 14 AWG (Recommended)	4C- 14 AWG (Recommended)
	Indoor Air Circulation (CFM) (High Fan Speed)	589	589
	Dehumidifying Volume(pts/h)	4.23	5.28
FAN Motor	Fan Model	FG20E	FG20E
	Fan Motor Speed (SH / H / M / L)	1160 / 985 / 800 / 680	1160 / 985 / 800 / 680
	Output of Fan Motor (W)	22.5	22.5
	Fan Motor Capacitor (ufd)	3	3
	Fan Motor RLA (A)	0.54	0.54
	Fan Type	Centrifugal	Centrifugal
	Fan Quantity	4	4
	Diameter-Length (in)	5.49 – 5.30	5.49 – 5.30
Evaporator	Evaporator	Aluminum fin - Inner Grooved copper tube	Aluminum fin - Inner Grooved copper tube
	Pipe Diameter (in)	0.28	0.28
	Row-Fin Gap (in)	3-0.06	3-0.06
	Coil length(L) x height(H) x coil width(W) (in)	36.4 x 8.3 x 1.5	36.4 x 8.3 x 1.5
Design Data	Fuse(A)	3.15	3.15
	High Pressure (PSI)	550	550
	Low Pressure (PSI)	240	240
	Auto Restart	Yes	Yes
	Condensate Pump	Yes	Yes
	Condensate Pump lift (ft)	3.6	3.6
	Sound Pressure Level dB(A) (H / L)	42 / 34	42 / 34
	Sound Power Level dB(A) (H / L)	52 / 44	52 / 44
	Flare Liquid line	3/8"	3/8 "
	Flare Suction line	5/8"	5/8"
Dimensions & Weight	Dimensions of Unit (W / D / H) (approx in)	43.3 / 24.2 / 7.9	43.3 / 24.2 / 7.9
	Dimension of Package (W / D / H) (approx in)	52.1 / 29.3 / 12.0	52.1 / 29.3 / 12.0
	Net / Gross Weight (lb)	68.36 / 90.41	68.36 / 90.41

TROUBLESHOOTING

**The first step in troubleshooting is to disconnect power for 45 seconds to allow the unit to reset.
If this does not rectify the problem proceed with the troubleshooting chart below.**

Problem	Troubleshooting
The unit does not run.	<ul style="list-style-type: none">• Is the power off?• Is the circuit protection device tripped?• Is voltage too high or low? (Tested by a professional)• Is the Timer on?• A 3 minute delay occurs before each compressor start.
Cooling and or Heating efficiency is not good.	<ul style="list-style-type: none">• Is temperature setting correct?• Are the inlet or outlet vents obstructed?• Is the filter clean?• Are windows and doors closed?• Is fan set to low speed?• Is there a heat source in the room?
Wireless remote control is not working. (See Note 2)	<ul style="list-style-type: none">• Reset unit. Disconnect main power for 30 seconds then reapply.• Is it within receiving range? Is it obstructed?• Replace the batteries.• Is remote control damaged?
Water leaking into room.	<ul style="list-style-type: none">• The air humidity is excessively high. Check to see if all windows and doors are closed.• Call service Tech if not corrected by the above action.
Water leakage in outdoor unit.	<ul style="list-style-type: none">• When the unit is running in Auto Defrosting mode, ice will thaw and drip into pan.• When the unit is running in HEAT mode, the water adhered to the condenser coil drains into pan.
Noise from indoor unit emitted.	<ul style="list-style-type: none">• When defrosting is started or stopped, it will make a sound. This is due to the refrigerant flow reversing directions.• Normal refrigerant flowing in unit.

Notes:

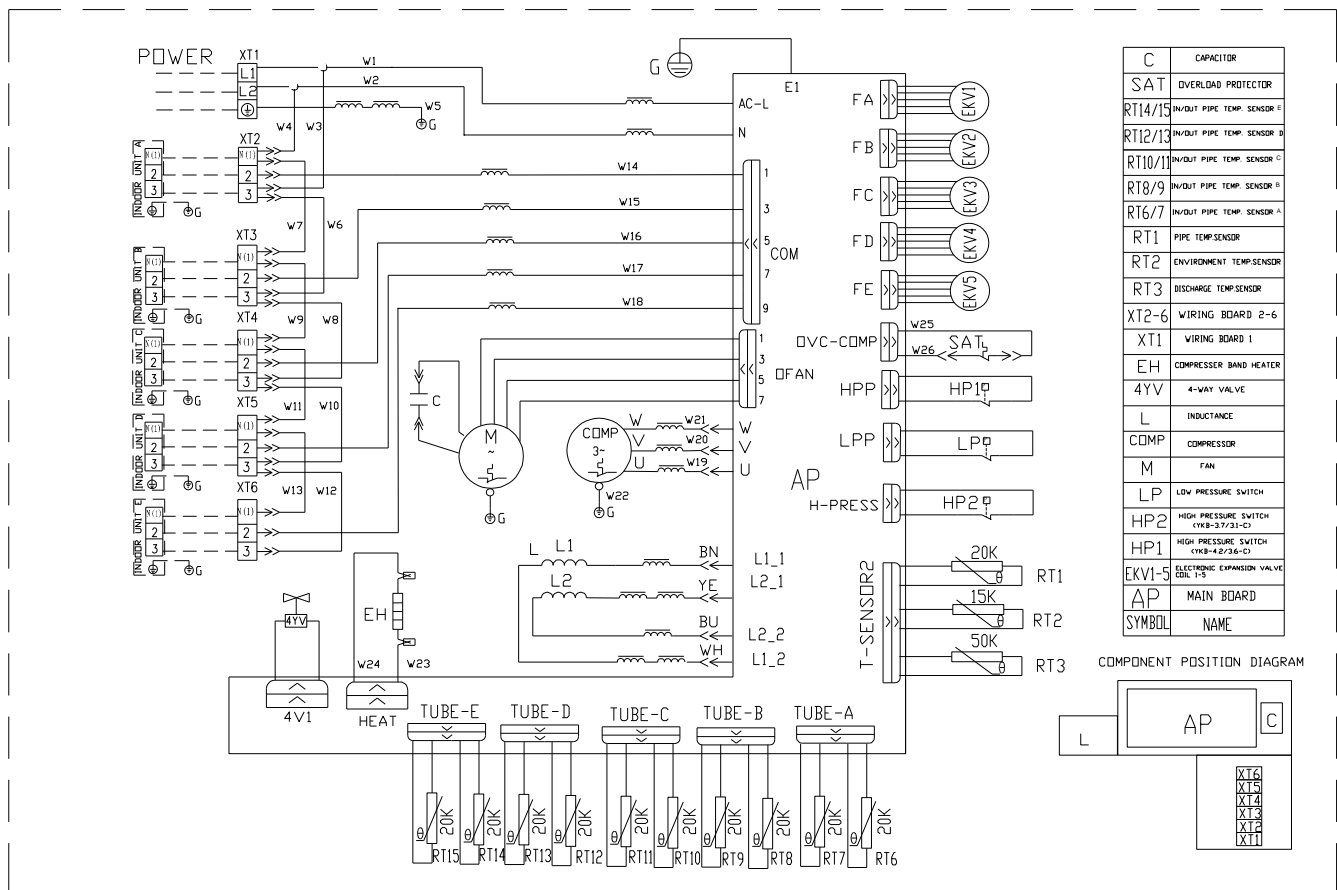
- 1) If E7 error code occurs, see the AUTO mode section in Operators Manual on page 7 (mode conflict).
- 2) An audible beep will be heard, when a button is pressed, if the remote control is communicating with the receiver.
- 3) This air conditioning system has been provided with built in self diagnostic error codes. Please refer to the table for error code definitions on page 31.

OUTDOOR ELECTRICAL SCHEMATICS

Symbol Explanation

Symbol	Color	Symbol	Color	Symbol	Past Name
WH	WHITE	GN	GREEN	SAT	OVERLOAD
YE	YELLOW	BN	BROWN	COMP	COMPRESSOR
RD	RED	BU	BLUE		PROTECTIVE EARTH
YEGN	YELLOW & GREEN	BK	BLACK	/	/
VT	VIOLET	OG	ORANGE	/	/

Wiring Diagram for SMZ42H46ZOGX

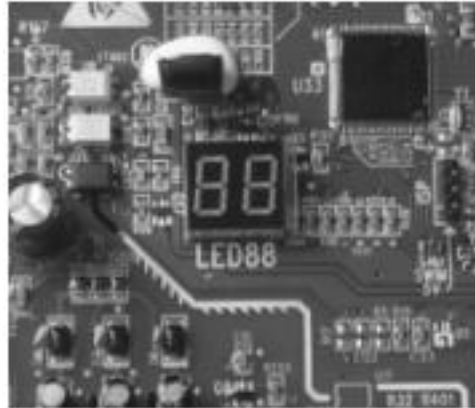


ERROR CODES ON OUTDOOR PC BOARD

There is a LED display for error codes that is located on the outdoor main board.

Remove the top cover of the outdoor unit to gain access to the main board in the control box.

JUMPER - if missing from
the spare part pc board,
remove from factory
installed pc board.



LED Display



Main Board inside the control box.

Error Codes

Malfunction Name of 42K Multi zone	Outdoor Main Board Display	Indoor Display	Running LED	Cooling LED	Heating LED	Wall Control Display
Defrosting Mode 1	08	/	/	/	/	/
Defrosting Mode 2	0A	/	/	/	/	/
Whole Unit Running Normally	ON	/	/	/	/	/
Short/open circuit of the coil inlet temp. sensor for the condenser	A5	oE	3 Flashes	3 Flashes	3 Flashes	A5
Short/open circuit of the coil outlet temp. sensor for the condenser	A7	oE	3 Flashes	3 Flashes	3 Flashes	A7
Short/open circuit of the liquid line temp. sensor	14 (for Unit A) 24 (for Unit B) 34 (for Unit C) 44 (for Unit D) 54 (for Unit E)	b5		19 Flashes		B5
Short/open circuit of the suction line temp. sensor	13 (for Unit A) 23 (for Unit B) 33 (for Unit C) 43 (for Unit D) 53 (for Unit E)	b7		22 Flashes		B7
Jumper failure	C5	C5	15 Flashes			C5
Trial operation	dd	dd	Flashing	Flashing	Flashing	dd
Incorrect connection of communication wire or expansion valve failure	dn	dn	3 Flashes	3 Flashes	3 Flashes	dn
High Pressure Protection	E1	E1	1 Flash			E1
Anti-Freezing Protection	E2	E2	2 Flashes			E2
Low Pressure Protection	E3	E3	3 Flashes			E3
Exhaust Protection (Temperature Overheat)	E4	E4	4 Flashes			E4
Over Current Protection		E5	5 Flashes			
Communication Malfunction	41 (for Unit D) 51 (for Unit E)	E6	6 Flashes			E6
Mode Conflict	46 (for Unit D) 56 (for Unit E)	E7	7 Flashes			E7
Overload Protection	E8	E8	8 Flashes			E8
Condensate Water Full in Indoor Unit	E9	E9		Flashing	Flashing	E9
Indoor Ambient Sensor Failure	15 (for Unit A) 25 (for Unit B) 35 (for Unit C) 45 (for Unit D) 55 (for Unit E)	F1		1 Flash		F1
Indoor Tube Sensor Failure	42 (for Unit D) 52 (for Unit E)	F2		2 Flashes		F2
Outdoor Ambient Sensor Failure	F3	F3		3 Flashes		F3

Outdoor Tube Sensor Failure	F4	F4		4 Flashes		F4
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Malfunction Name of 42K Multi zone	Outdoor Main Board Display	Indoor Display	Running LED	Cooling LED	Heating LED	Wall Control Display
Outdoor Exhaust Sensor Failure	F5	F5		5 Flashes		F5
Oil Return in Cooling Mode	F7	F7		7 Flashes		F7
Refrigerant Recovery Mode	Fo	Fo	Flashing	Flashing		Fo
Defrost or Oil Return Heat Mode	H1	H1			1 Flash	
Forced Defrosting	H1	H1	Flashing			H1
Compressor Overload Protection	H3	H3			3 Flashes	H3
IPM Protection	H5	H5			5 Flashes	H5
Compressor Desynchronizing	H7	H7			7 Flashes	H7
PFC Protection	HC	HC			6 Flashes	HC
High Supply Voltage Protection	L9	L9	20 Flashes			L9
Startup Failure	Lc	Lc			11 Flashes	Lc
Compressor Phase Failure / Reverse Protection	Ld	Ld	3 Flashes	3 Flashes	3 Flashes	Ld
Compressor Stalling	LE	LE	3 Flashes	3 Flashes	3 Flashes	LE
Over-Speed	LF	LF	3 Flashes	3 Flashes	3 Flashes	LF
IPM Reset	P0	P0	3 Flashes	3 Flashes	3 Flashes	P0
Compressor Over-current Protection	P5	P5			15 Flashes	P5
Communication Error between the Drive Board and the Main Board	P6	P6	16 Flashes			P6
Module Temperature Sensor Failure	P7	P7			18 Flashes	P7
Radiator Overheat Protection	P8	P8	19 Flashes			P8
AC Contactor Protection	P9	P9	3 Flashes	3 Flashes	3 Flashes	P9
AC input Current Protection	PA	PA	3 Flashes	3 Flashes	3 Flashes	PA
Current Sensor Error	Pc	Pc	3 Flashes	3 Flashes	3 Flashes	Pc
Transducer Connection Protection	Pd	Pd	3 Flashes	3 Flashes	3 Flashes	Pd
Temperature Drift Protection	PE	PE	3 Flashes	3 Flashes	3 Flashes	PE
Drive Board Ambient Sensor Failure	PF	PF	3 Flashes	3 Flashes	3 Flashes	PF
High Voltage Protection	PH	PH		11 Flashes		PH
Low Voltage Protection	PL	PL			21 Flashes	PL
AC Input Voltage Anomaly	PP	PP	3 Flashes	3 Flashes	3 Flashes	PP
Capacitor Charging Circuit Error	PU	PU			17 Flashes	PU

TUBING CONNECTION

System structure

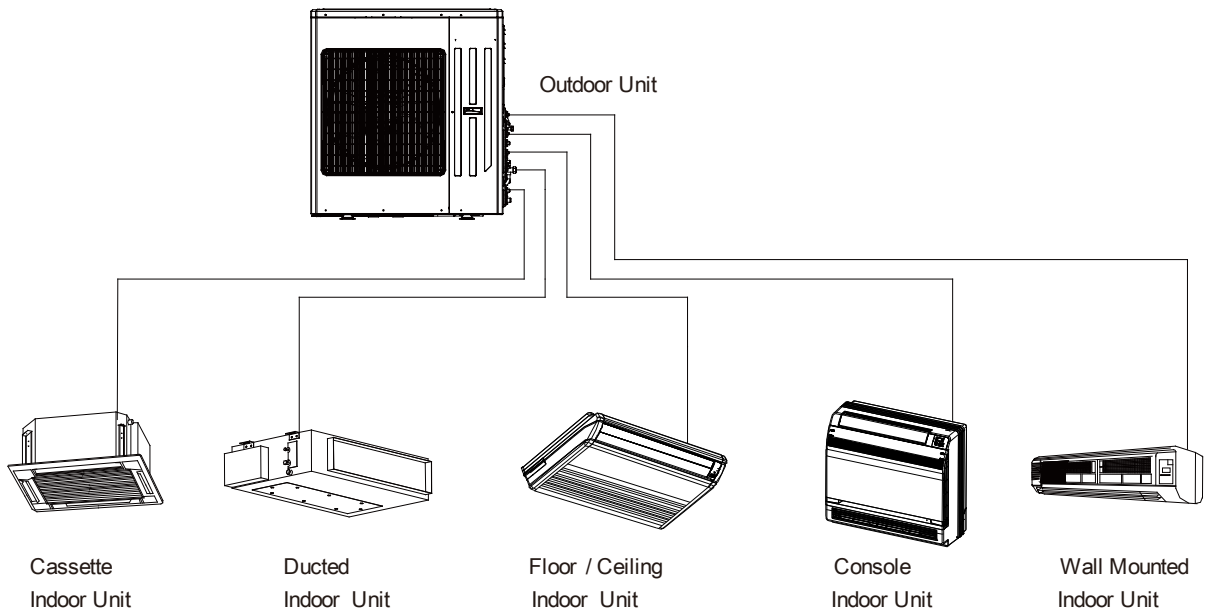


Figure 20

For this multi-zone air conditioning system, the outdoor unit is able to drive up to five indoor units which can be different types as shown above. The console indoor unit can be controlled only by the remote control. The other indoor units can be controlled by either the remote control or the wall control. The outdoor unit will run if any of the indoor units sends a request for heating or cooling. All indoor units will stop once the outdoor unit is turned off.

Tubing Connection Size

INDOOR unit copper tubing		1/4"	3/8"	1/2"	5/8"	Adapter Included	Adapter Size
Wall-Mounted Indoor Unit A	9K	x	x			Yes	1/2" F to 3/8" M
	12K / 18K	x		x		Yes	3/8" F to 1/2" M
Wall-Mounted Indoor Unit B	9K / 12K	x	x			Yes	1/2" F to 3/8" M
	18K	x		x		Yes	3/8" F to 1/2" M
	24K	x			x	No	
Cassette, Floor/ceiling, Console, Ducted Indoor Unit	9K	x	x			Yes	1/2" F to 3/8" M
	12K	x	x			Yes	1/2" F to 3/8" M
	18K	x		x		Yes	3/8" F to 1/2" M
	21K		x		x	No	
	24K		x		x	No	

OUTDOOR unit connection sizes		1/4"	3/8"	1/2"	5/8"	Adapter Included
42K Outdoor Unit	Terminal A		x		x	1/4"F to 3/8"M (9510251)-2 pcs, 1/2"F to 3/8"M (9510252)-2 pcs, 1/2"F to 5/8"M (9510253)-2 pcs, 3/8"F to 1/4"M (9510254),
	Terminal B	x		x		
	Terminal C	x		x		

	Terminal D	x	x			5/8"F to 3/8"M (9510255), 3/8"F to 1/2"M (9510256), 5/8"F to 1/2"M (9510257)
	Terminal E	x	x			

WARRANTY

INTERNATIONAL REFRIGERATION PRODUCTS warrants the accompanying split air conditioner or heat pump system to be free of defects in material and workmanship for the applications specified in the operation manual and installation manual for a period of one (1) year on parts and five (5) years on compressor, valid from the date of original retail purchase in the United States or Canada. **Labor is not covered under warranty.**

If the unit exhibits a defect in normal use and is determined to be within the warranty period, **INTERNATIONAL REFRIGERATION PRODUCTS** will, at its discretion, either repair or replace the unit free of charge within a reasonable time after the unit is returned.

This warranty DOES NOT cover:

- Damage, accidental or otherwise, to the unit while in possession of the consumer that is not a result of a defect in material in workmanship.
- Damage caused by consumer misuse, tampering, or failure to follow all care and maintenance instructions in the manuals.
- Damage to the finish of the case or other parts caused by water.
- Damage caused by repairs or alterations to the unit by anyone other than a qualified technician.
- Filter.
- Freight and Insurance cost for the warranty service.

Warranty Activation Card must be completed and sent in to activate the warranty for the accompanying unit.

TECHNICAL SUPPORT

**If you need technical support please call 215-750-9876 M-F 8:00am to 4:30pm ET.
When calling, please have your unit model numbers and serial numbers available.**

Electronic warranty activation and product information www.irproducts.biz .

**International Refrigeration Products Inc., 1035 Wheeler Way
Langhorne, PA 19047**