



**12,000 and 18,000 BTU
Ceiling Cassette Heat Pump &
Air Handler**

Installation & Owner's Manual

Document Version: 04/2017



User Notice

- For best results, the total BTU of all indoor units should not exceed 150% of the rated BTU of the outdoor unit.
- For best results open the circuit breaker to the unit for 8 hours prior to initial startup.
- It is normal for the system to continue operating for 20 – 70 seconds after powering off. This removes the remaining heat or cooling (condensation) off of the coil before concluding the cycle.
- The entire system can only be operated either in Heat mode or Cool/Dry mode. Remote input from any zone that conflicts with the operating mode of the rest of the system will result in an error warning at the remote.
- Federal and local laws for the disposal of refrigerant materials must be followed when disposing of this equipment.
- All Blueridge ceiling cassettes, 12k, 18k, and 24k BTU's are manufactured for use in a multi zone system. These ceiling cassette air handlers are not manufactured to operate in a single zone system.

1 Table of Contents

1	Table of Contents	3
2	Safety Information	5
3	Installation of the Ceiling Cassette Indoor Air Handler	6
1.	Clearance Requirements	6
2.	Selecting Your Location	6
3.	Important Notice	7
4.	Dimensions of Ceiling Opening & Mounting Bolt Locations.....	7
5.	Mounting the Ceiling Cassette	8
6.	Connecting Refridgerant Lines	9
7.	Connecting Drainage Hose	10
8.	Electrical Connections	14
9.	Installing the Grill Cover	15
4	Ceiling Cassette Component Identification	18
5	Operating Temperature Ranges	19
6	Troubleshooting	19
1.	Problems and Steps to Take	18
2.	Normal Operation -- Not Malfunctions	19
7	Maintenance	22
1.	Cleaning the Filter and Grill	20
2.	Optional Purifying Filters	20

2 Safety Information



Please read and understand this manual prior to use of the Blueridge ductless mini split system components. Always follow these instructions and pay special attention to all Safety Warnings.

- Always use the specified amperage breaker and do not bypass fuses or breakers. Fire or injury could result.
- Main power must be properly grounded and run through the correct size breaker and a non-fused electrical disconnect box.
- If you detect a malfunction – error codes, smoke or ‘hot’ smell, loud or unusual noise during operation, immediately pull the disconnect to interrupt power to the unit.
- Never put fingers, tools or foreign objects into the discharge vent or outlet.
- Make sure the components are securely mounted to solid surfaces.
- Make sure that the electrical, refrigerant and drainage connections are correct and secure.
- Keep flammable sprays and liquids away from the indoor and outdoor components of the system.
- Do not attempt to repair the equipment yourself, repairs should be made by a professional.
- For longest life, the system should be run for at least 5 minutes before powering down.
- Small children should not operate the equipment
- Disconnect power at the breaker or disconnect prior to changing filter or cleaning.
- Disconnect power if the system will be inactive for a long period.

3

Installation of the Ceiling Cassette Indoor Air Handler

1

Clearance Requirements (see Fig. 1)

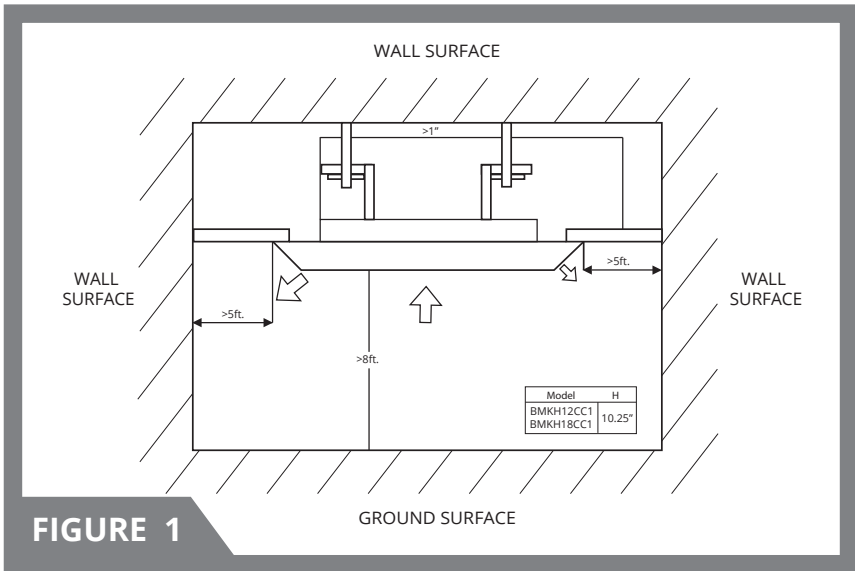


FIGURE 1

2

Selecting Your Location

- Ceiling Cassette should be centrally located, free from obstructions to air flow.
- Check the clearance requirements (see Fig. 1)
- The mounting surface should be solid, vibration-free and rated for at least 4 times the weight of the ceiling cassette.
- The mounting surface must be level.
- Consider condensation drainage and proximity to the outdoor unit.

NOTE

Avoid locations with high levels of dust, smoke or cooking

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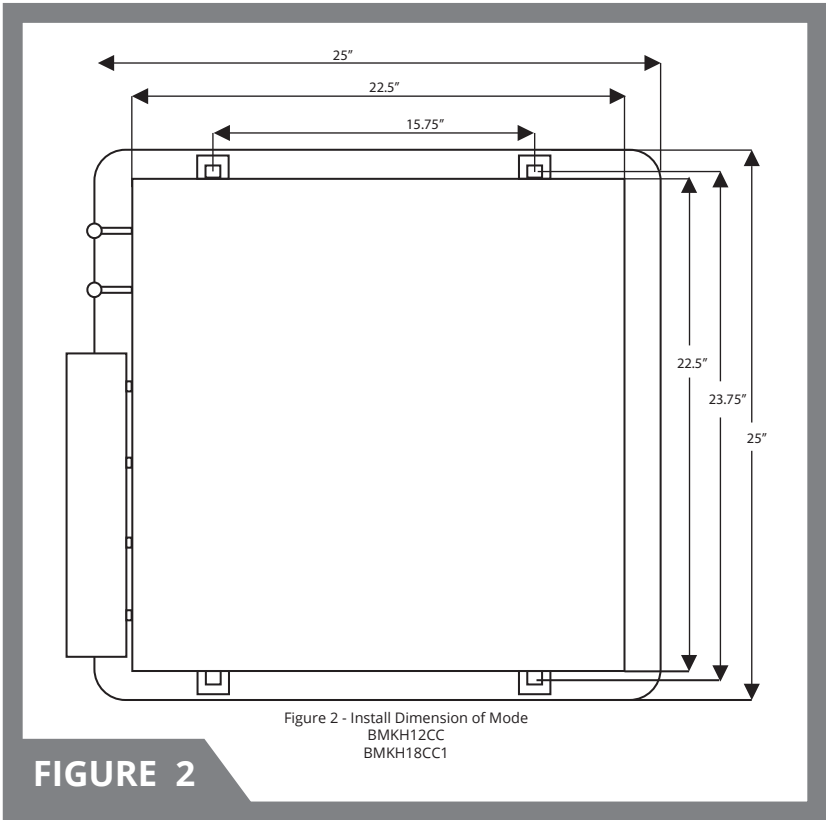
Important Notice

- a. Have the unit professionally installed to validate the warranty
- b. Refer any repairs to your authorized Blueridge dealer

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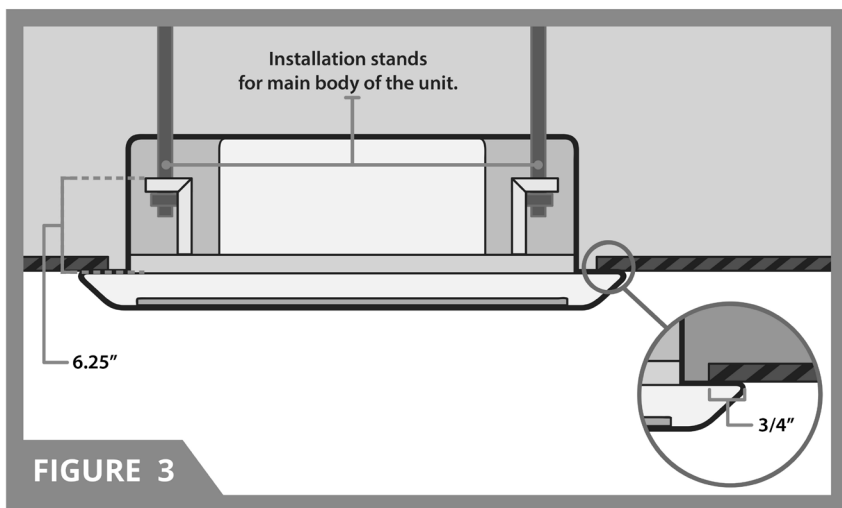
Dimensions of Ceiling Opening and Mounting Bolt Locations

Installation dimensions (see Fig. 2 below):



NOTE

Ceiling opening can be as large as 24". There should be at least $\frac{3}{4}$ " of ceiling wallboard beneath the edges of the ceiling grill on all sides (See Fig. 3 below).

**5**

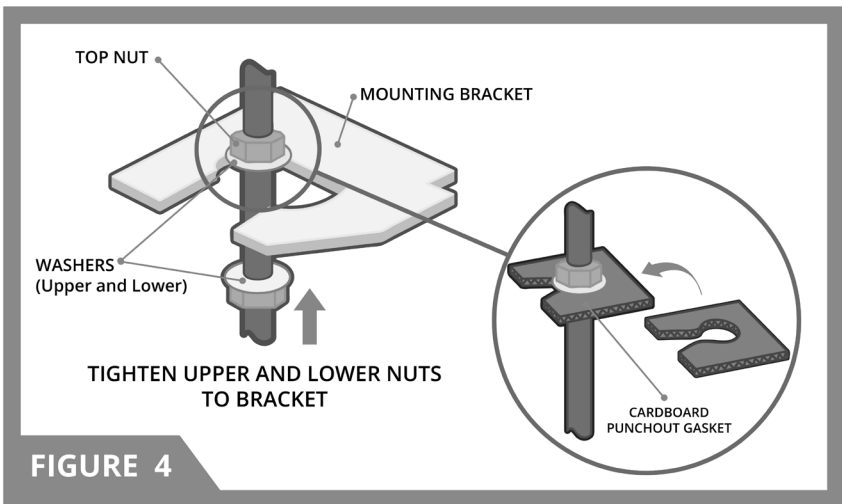
Mounting the Ceiling Cassette

NOTE

Do not use a single nut to hang the unit, secure at least 3 nuts to the threaded rod before removing support.

1. Use the cardboard template provided with the shipping materials to mark location of the threaded rod you will use to hang the unit.
2. Use two nuts with two washers between them on the threaded rod.
3. Use the cardboard punchout gaskets to stop the top washer from slipping down while you hang the unit (See Fig. 4).

4. Orient the unit so that the drain is in the desired location.
5. Hang the unit, placing each threaded rod with lower nut and washer into each of the four brackets on the side of the unit.
6. Tighten the lower nuts to adjust to the desired height.
7. Use a level to ensure the unit is level in all dimensions.
8. Remove the cardboard punchout gaskets and tighten the top nuts to secure the unit.

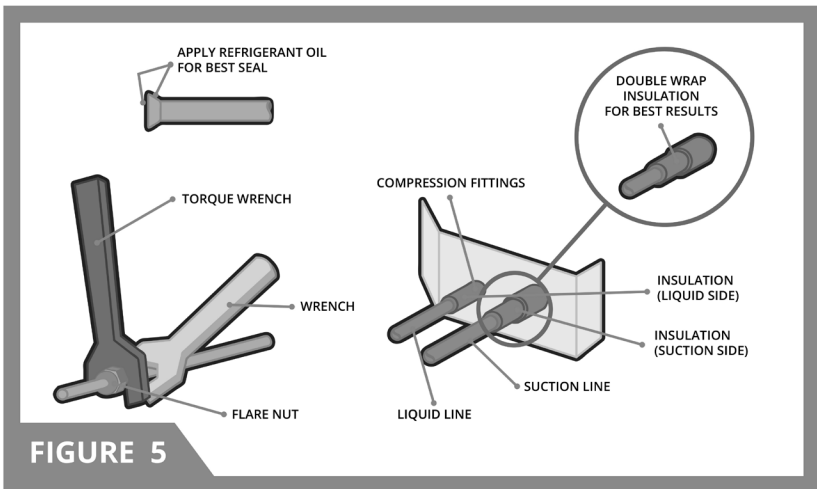


6 Connecting Refrigerant Lines

1. Connect the flare fitting of the refrigerant line set to the refrigerant port of the ceiling cassette and tighten the compression nut by hand.
2. Tighten the compression nut by using a torque wrench set to the specification in the table on the next page.

Refridgerant line size	Torque ft/lb
1/4"	22
3/8"	25
1/2"	34
5/8"	45
3/4"	53

3. Use a second wrench with back pressure on the pipe joint to prevent twisting the lines (see Fig 5).
4. Double insulating the compression fittings on both liquid and suction lines will reduce the possibility of condensation forming and introducing moisture inside the ceiling.



7

Connecting the Condensate Drainage Hose

1. Maintain a steady downward slope of at least 1/100 along the entire length of the drain hose (See Fig. 6 on next page).

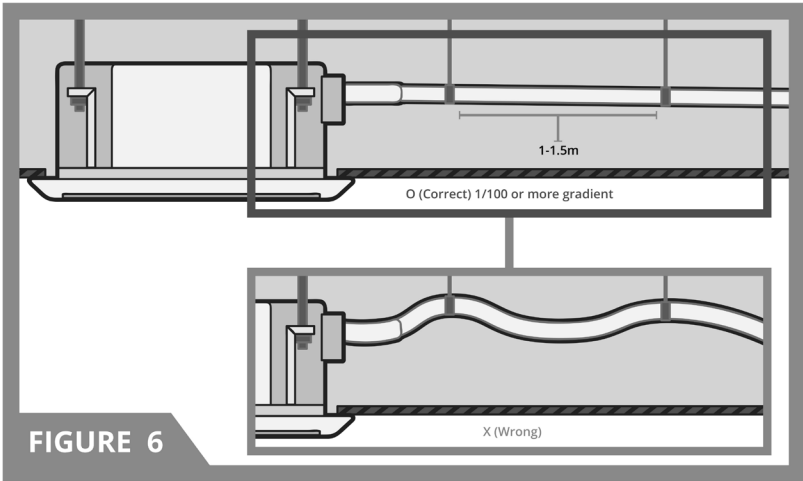


FIGURE 6

2. Use the provided clamp to connect to the correctly sized drain hose (See Fig. 7).

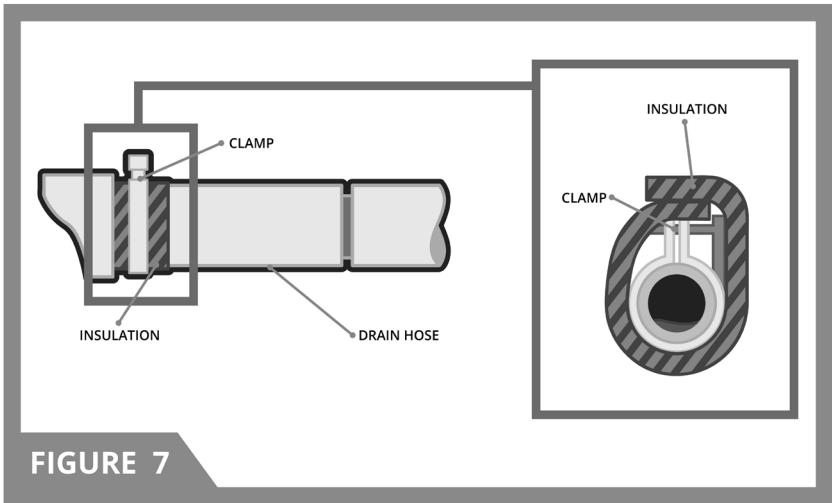
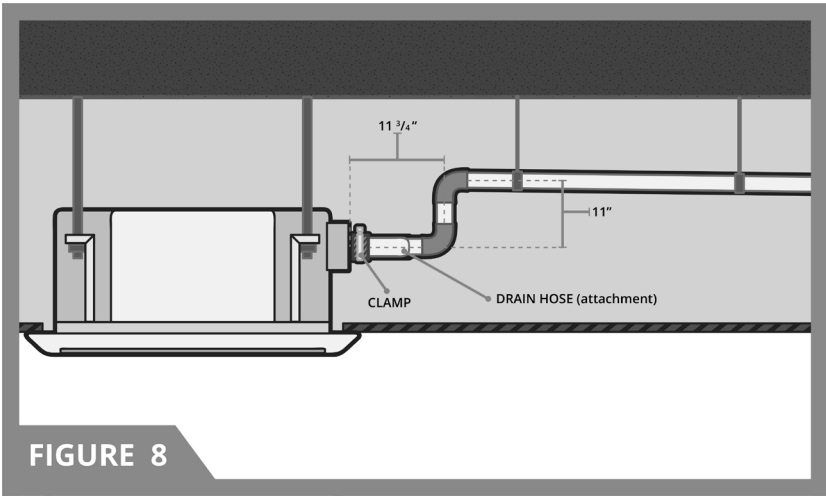
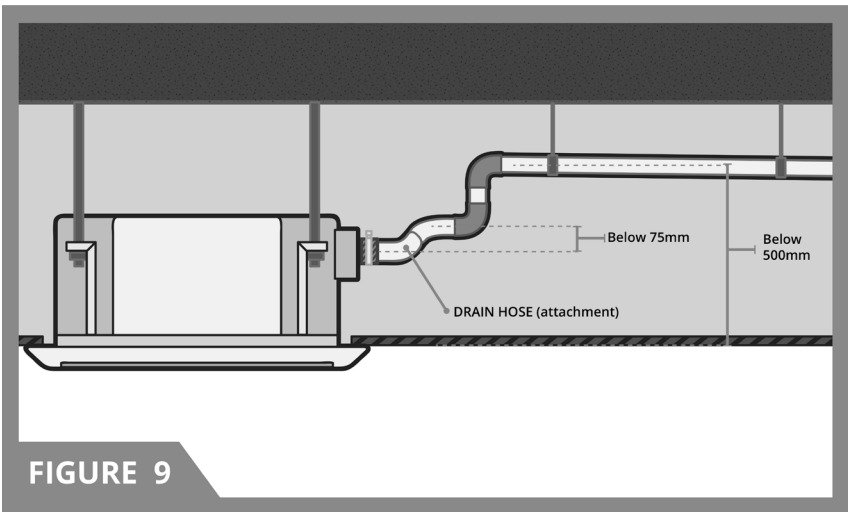


FIGURE 7

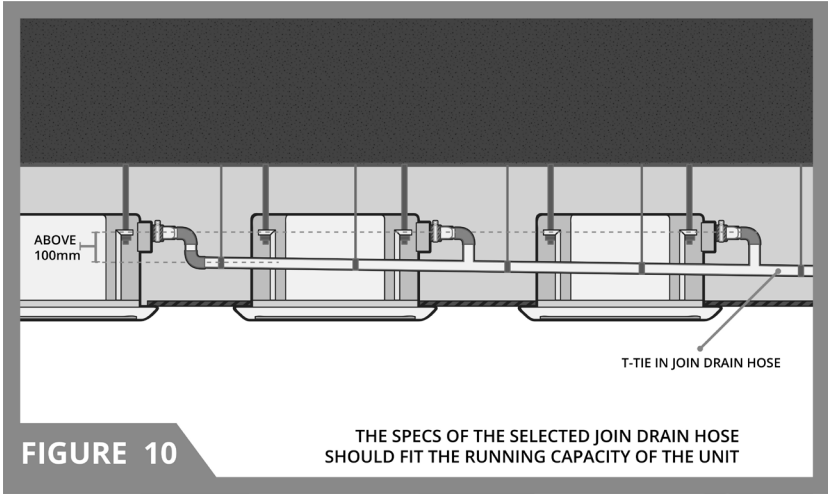
3. The built-in condensate pump can accommodate an upward bend in the drainage hose. If your installation requires an upward bend in the drain hose, it should be a right angle, not exceed 11" and should not occur more than 11 ³/₄" away from the unit (See Fig. 8).



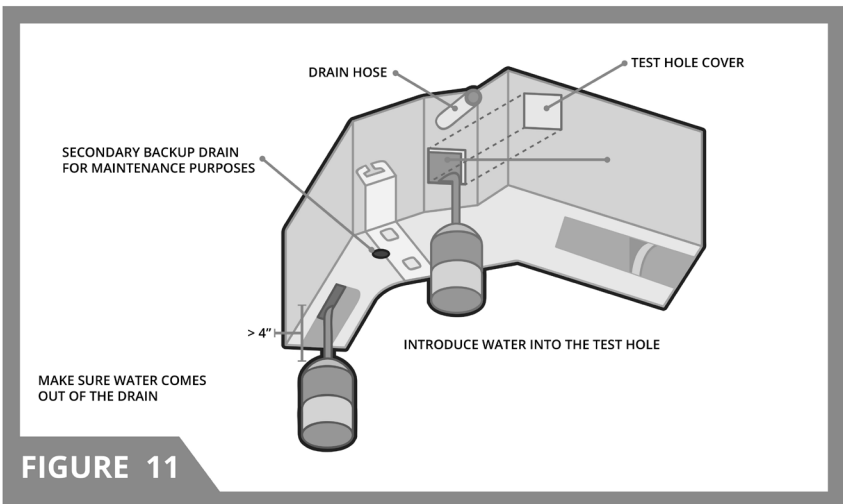
4. The upward bend should be a direct vertical pipe section -- avoid downward slope in the pipe section immediately adjacent to the unit (See Fig. 9).



5. If joining multiple unit drainage hoses together, use T fittings and make sure the overall drain line maintains a downward slope of at least 1/100 along the entire length (See Fig. 10).



6. Check the drain capacity by introducing 20 fl. Oz. of water into the drain hose or outlet vent (see Fig.11), and by verifying drainage during initial startup in cooling mode (See Fig. 11).



8

Electrical Connections

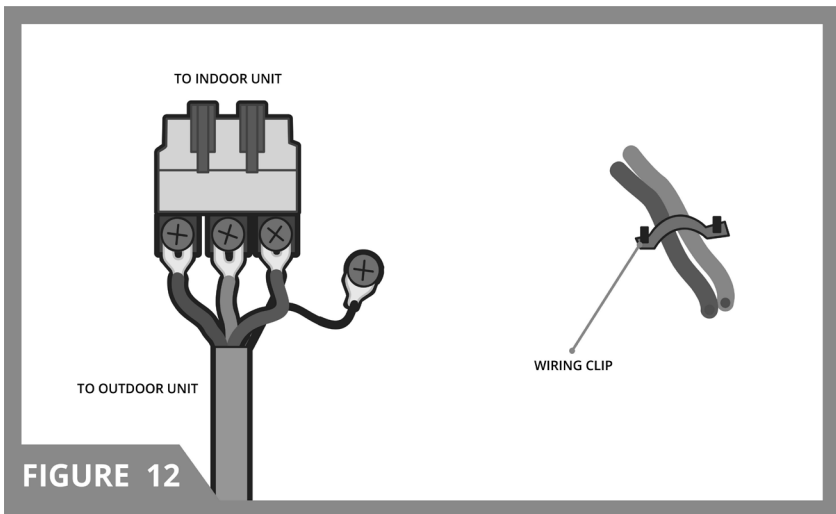


Warning -- Shock hazard -- The power of the indoor unit must come from the outdoor unit only.

Warning -- Shock hazard -- Do not bypass the ground on the indoor unit, or anywhere in the system.

NOTES

- See electrical schematic diagram for more detail.
 - Wiring should be done by a trained professional.
1. Open the wiring box cover and remove the rubber plug
 2. Remove the wiring clip
 3. Route the wiring through the hole, check for length and strip wire.
 4. Make connections according to the schematic diagram inside the unit.
 5. Secure wiring bundle with wiring clip.



9

Install the Grill Cover

1. Match the position of the louvre motor to the refrigerant piping location on the unit.
2. Use the hooks on the opposite side of the louver motor to temporarily attach the ceiling panel, connect the wiring (see Fig. 16) then attach the remaining hooks.

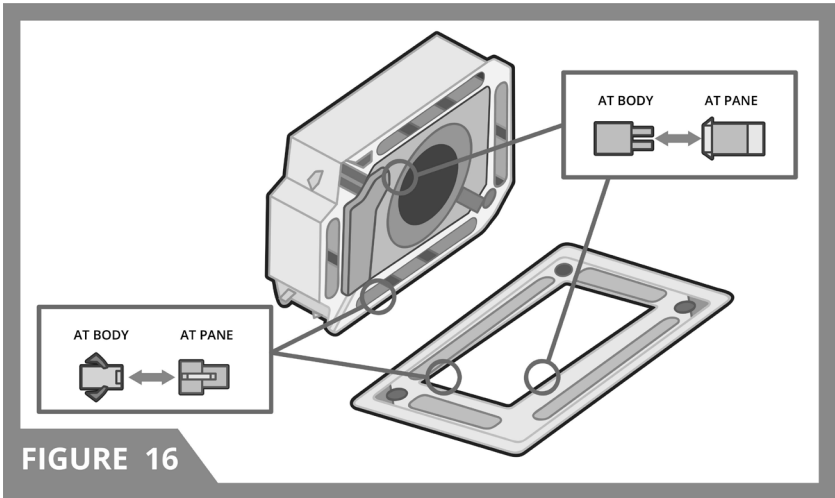


FIGURE 16

3. Use the adjustment screws to tighten the panel into place.
4. Once the grill makes contact, twist the grill in the direction indicated by the arrows (See Fig. 13 on the next page) to lock it in place.

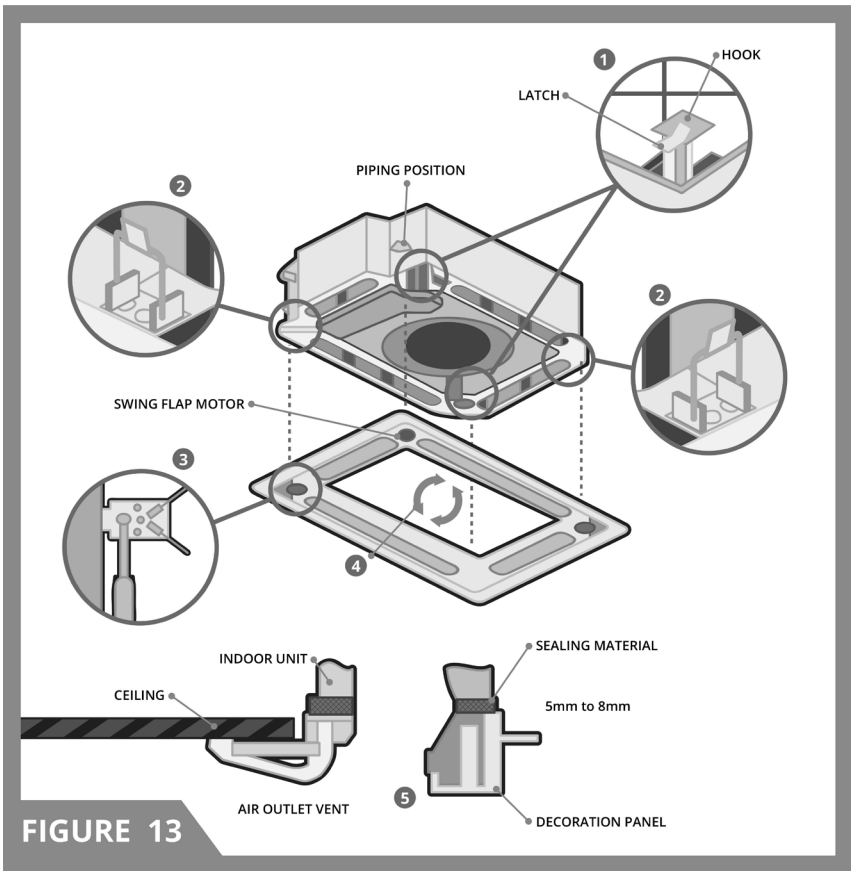
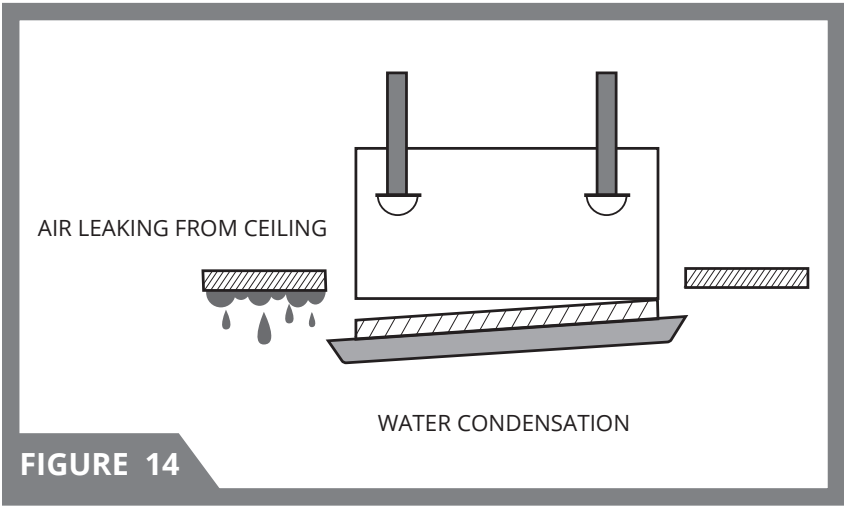
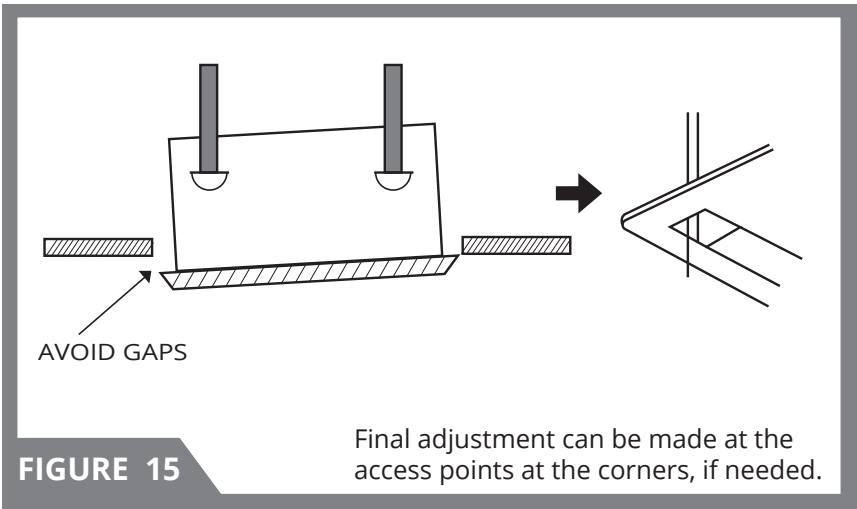


FIGURE 13

5. Use the adjustment screws to make good contact with the ceiling. Avoid tightening the screws to protect from deforming or breaking the grill.
6. Take the necessary steps to ensure good contact is made between the grill and the ceiling on all four sides. Air leakage around the grill can effect performance and lead to moisture forming around the grill (See Fig. 14 on next page).

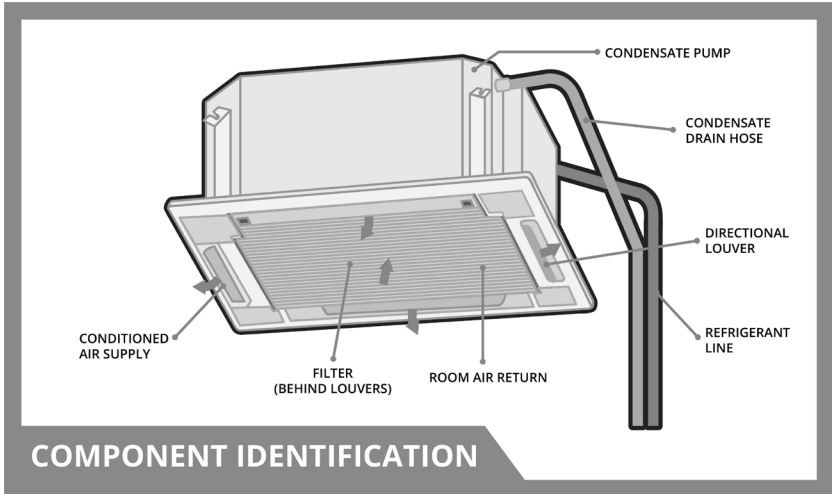


7. If necessary, remove the grill and adjust the height of the unit via the mounting hardware (See Fig. 15).



4

Ceiling Cassette Component Identification



COMPONENT IDENTIFICATION

BMKH12CC1G

BMKH18CC1G

5

Operating Temperature Range

	Indoor	Indoor	Outdoor	Outdoor
	Dry Bulb Temp F	Wet Bulb Temp F	Dry Bulb Temp F	Wet Bulb Temp F
Rated Cooling	80	66	95	75
Max. Cooling	90	73	118	79
Min. Cooling	70	59	64	-
Rated Heating	68	59	45	43
Max. Heating	80	-	75	64
Min. Heating	68	59	5	3

6

Troubleshooting



Safety Warning -- Shock hazard -- If you suspect malfunction, such as a strange odor or sound, immediately cut power to the unit and contact a maintenance professional or call customer support at 800-865-5931.

1

Troubleshooting steps to take before calling

Problem	Reason	Action to Take
Air conditioner does not run at all	Tripped breaker or blown fuse	Reset/Replace
	Power cut	Restart when power is restored
	Wiring problem	With power OFF, reconnect wiring
Air conditioner starts but stops immediately	Low batteries on remote	Check batteries, replace
	Wireless remote out of range	Move within 25' of unit
Poor performance heat or cool	Supply or return vents of indoor or outdoor unit blocked	Remove blockage
	Dirty coil or filter	Check, clean
	Supply or return vents of indoor or outdoor unit blocked	Remove blockage
	Thermostat temp incorrect	Correct with remote
	Low fan speed	Correct with remote
	Air direction incorrect	Adjust with remote
	Door or window open	Close
	Direct sunlight overheating space	Block with curtain or shade
	Too many people in the room	Temporary
	Other heating equipment in the room	Use one or the other
	Filter dirty	Clean filter

NOTE

*If the problem persists after trying the above, contact customer

2

The following issues constitute normal operation and are not considered malfunctions.

Issue	Reason
System will not restart immediately after being shut off	The overload protection circuit continues operation for 3 minutes after shutoff
System does not begin to cool immediately after power up	Cooling begins approximately 1 minute after powering up
Mist comes from supply air vent	Happens when the room is very humid
Click sound heard at startup	Normal sound of the electric expansion circuit opening
Hissing sound during cooling	Normal sound of refrigerant circulation
Hissing sound at startup or shutoff	Normal sound of refrigerant stopping circulation -- stops in a few seconds
Humming, hissing, trickling sound	Normal sound of drainage system operation
Popping or creaking sound during operation or after shutoff	Normal sounds of expansion and contraction of parts during heating or cooling
Cooking or tobacco smoke odors	Remnant from previous operation during cooking or tobacco use

7

Maintenance



Warning -- Shock hazard -- Be sure to turn off the power at the breaker prior to cleaning or maintenance.

NOTE

For best results, perform maintenance at the beginning or end of each (heating and cooling) season.

NOTE

When the unit will not be used for an extended period, turn off power at the circuit breaker.

1

Cleaning the air filter and grill

- a. Use proper safety equipment such as gloves and eye protection
- b. Open air inlet grill by loosening two screws, and pushing the latches toward each other (See Fig. 17).
- c. Swing the grill door open and remove filter (See Fig. 18).
- d. Clean the filter with warm, soapy water if heavily soiled. If the filter is only dusty, use compressed air or a soft brush.
- e. Clean the grill with a soft cloth or brush while the door is open and the filter is out.
- f. Clean the supply air outlets with a soft cloth or brush,

2

Optional odor filters are available and can be installed in place of the original filter

