

Group: **Wall Mounted**Part Number: **R08019028218**Date: **July 2006****M5WM Wall Mounted Split Type Air Conditioner (SEER 13)**

Indoor Unit



Wireless Remote Control (Standard)



Outdoor Unit



Wired Wall Control (Optional)

McQuay
Air Conditioning

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Model Numbers

Cooling Only

Indoor Unit	Outdoor Unit	Nominal Cooling – BTUH
M5WM10F	M5LC10C	9000
M5WM15F	M5LC15C	12,000
M5WM20F	M5LC20C	17,500
M5WM25F	M5LC25C	23,000

Cooling/Heat Pump

Indoor Unit	Outdoor Unit	Nominal Cooling - BTUH	Nominal Heating - BTUH
M5WM10FR	M5LC10CR	9000	8800
M5WM15FR	M5LC15CR	12,000	12,000
M5WM20FR	M5LC20CR	17,500	18,000
M5WM25FR	M5LC25CR	23,000	23,500

General Information

This manual provides the installation procedures so your air conditioner unit operates properly and provides you the service it was designed to provide.

Special adjustment may be necessary to suit local requirements. Before using your air conditioner, please read this instruction manual carefully and keep it for future reference.

Safety Precautions

Before installing the air conditioner unit, please read the following safety precautions carefully.

WARNING

- The installer must determine and follow all applicable codes and regulations. This equipment presents hazard of electricity, rotating parts, sharp edges, heat and weight. Failure to read and follow these instructions can result in property, severe personal injury or death. This equipment must be installed by experienced, trained personnel only.
- Improper installation can cause equipment damage, service personnel injury or death.
- Do not allow flammable fumes near unit or areas sharing ventilation.
- Installation and maintenance must be performed by qualified persons who are familiar with local code and regulations, and experienced with this type of appliance.
- All field wiring must be done in accordance with industry standards and local codes.
- Inspect the unit nameplate to be certain the voltage is the same as the voltage that will be delivered to the unit. Improper electrical wiring can cause property damage, severe personal injury or death.
- The unit must be GROUNDING.
- Make sure wiring does not touch refrigerant piping, compressor, or any moving parts of the fan motors.
- Confirm that the power supply is switched OFF before installing or servicing the unit.

WARNING

Hazardous Voltage!

Disconnect all electrical power including remote disconnects before servicing. Failure to disconnect power before servicing can cause severe personal injury or death.

CAUTION

Use copper conductors only. Unit terminals are not designed to accept other types of conductors. Failure to do so may cause damage to the equipment.

CAUTION

- Do not install in a laundry room. Humidity and laundry chemicals can corrode unit components.
- Do not install the unit where leakage of flammable gas may occur. If gas leaks and accumulates around the unit, it may cause a fire.
- Connect drainage piping properly. If drainage piping is not connected properly, water leakage can cause property damage.
- Do not overcharge the unit. This unit is factory pre-charged. Overcharge will cause over-current or damage to the compressor.
- Keep panel closed. Unsecured panels will cause the unit to operate noisily.

NOTICE

This product was carefully packed and thoroughly inspected before leaving the factory. Responsibility for its safe delivery was assumed by the carrier upon acceptance of the shipment. Claims for loss or damage sustained in transit must therefore be made upon the carrier, as follow:

VISIBLE LOSS OR DAMAGE

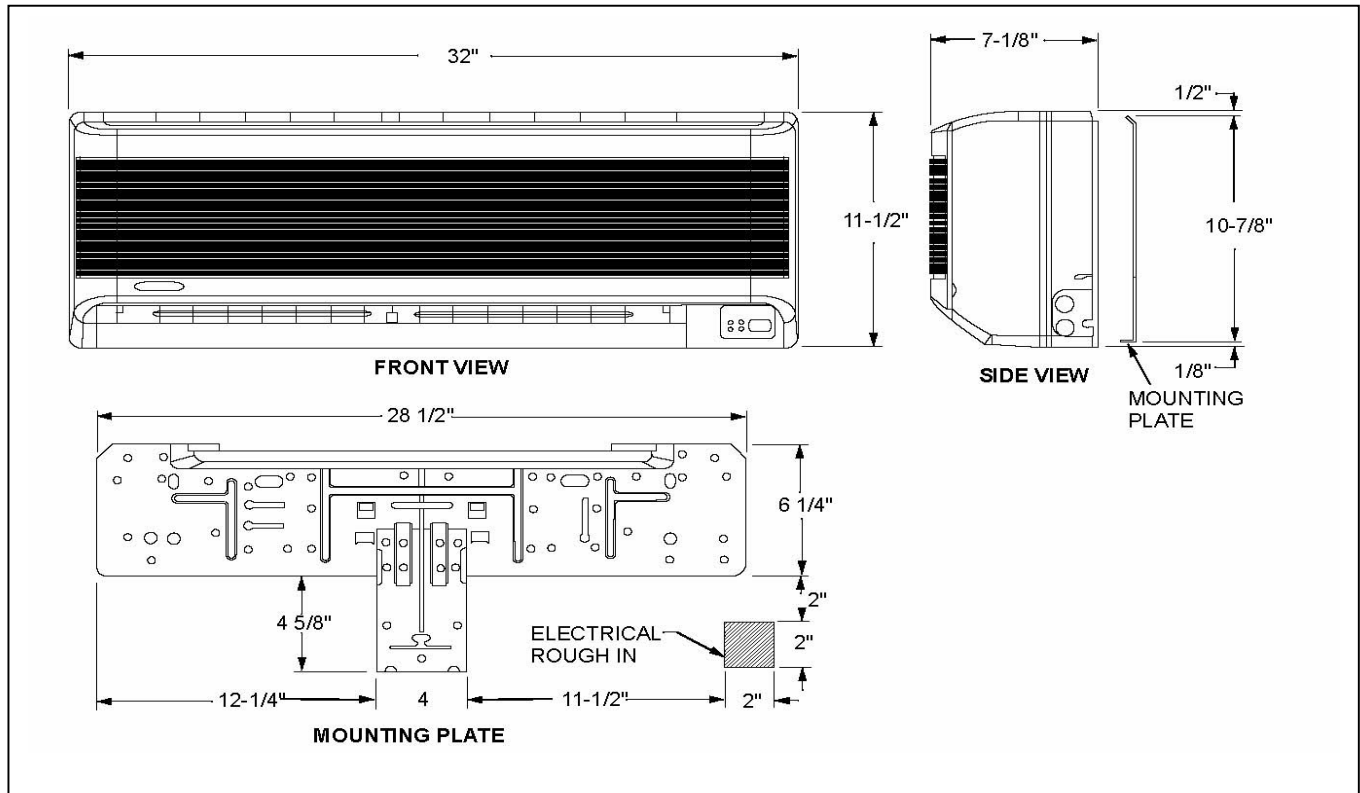
Any external evidence of loss or damage must be noted on the freight bill or carrier's receipt, and signed by the carrier's agent. Failure to adequately describe such external evidence of loss or damage may result in the carrier's refusing to honor a damaged claim. The form required to file such a claim will be supplied by the carrier.

CONCEALED LOSS OR DAMAGE

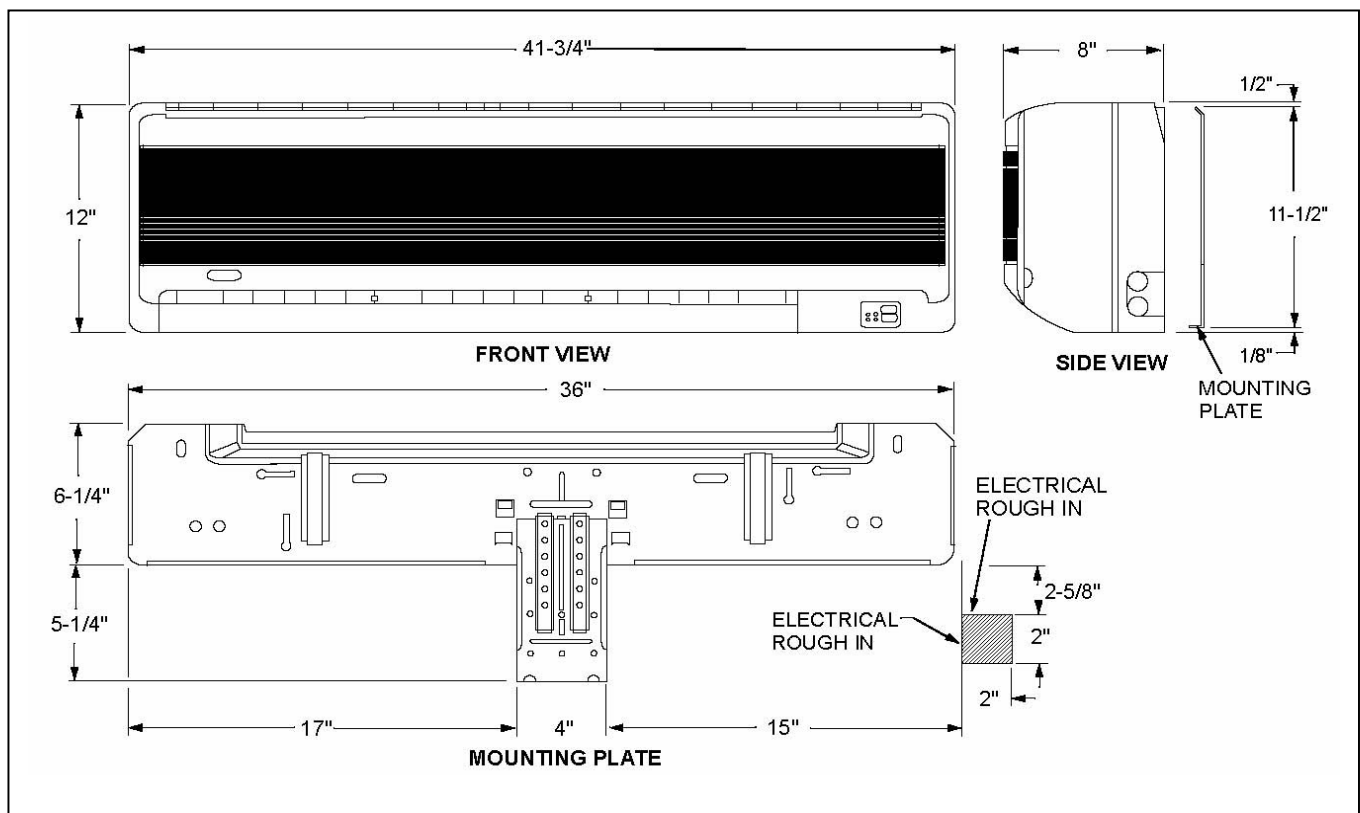
Concealed loss or damage means loss or damage which does not become apparent until the product has been unpacked. The contents may be damaged in transit due to rough handling even though the carton may not show external damages. When the damage is discovered upon unpacking, make a written request for inspection by the carrier's agent within fifteen (15) days of the delivery date. File a claim with the carrier since such damage is the carrier's responsibility.

Unit Dimensions

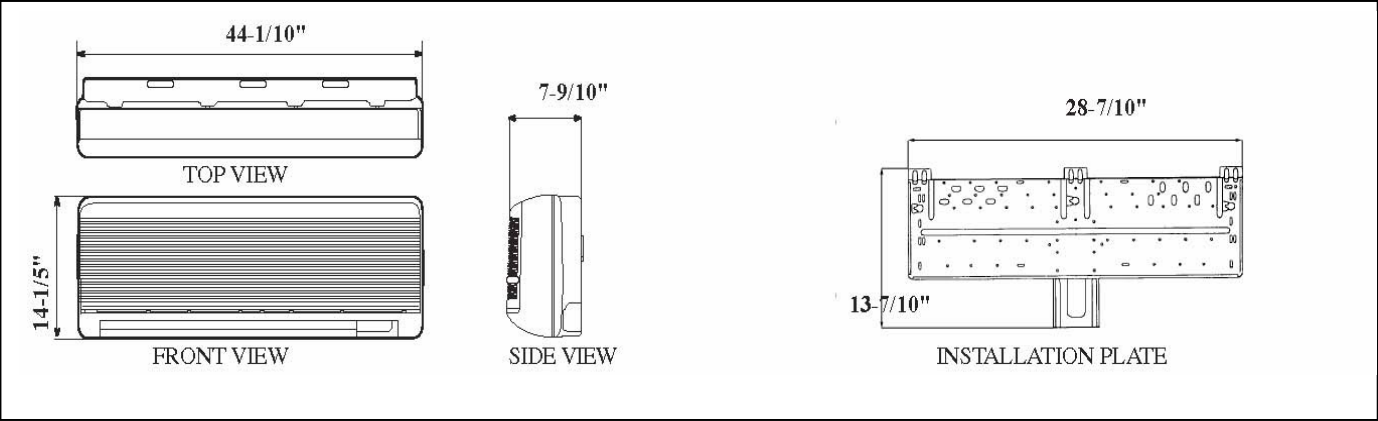
Model: M5WM10F, 10FR – Indoor Unit



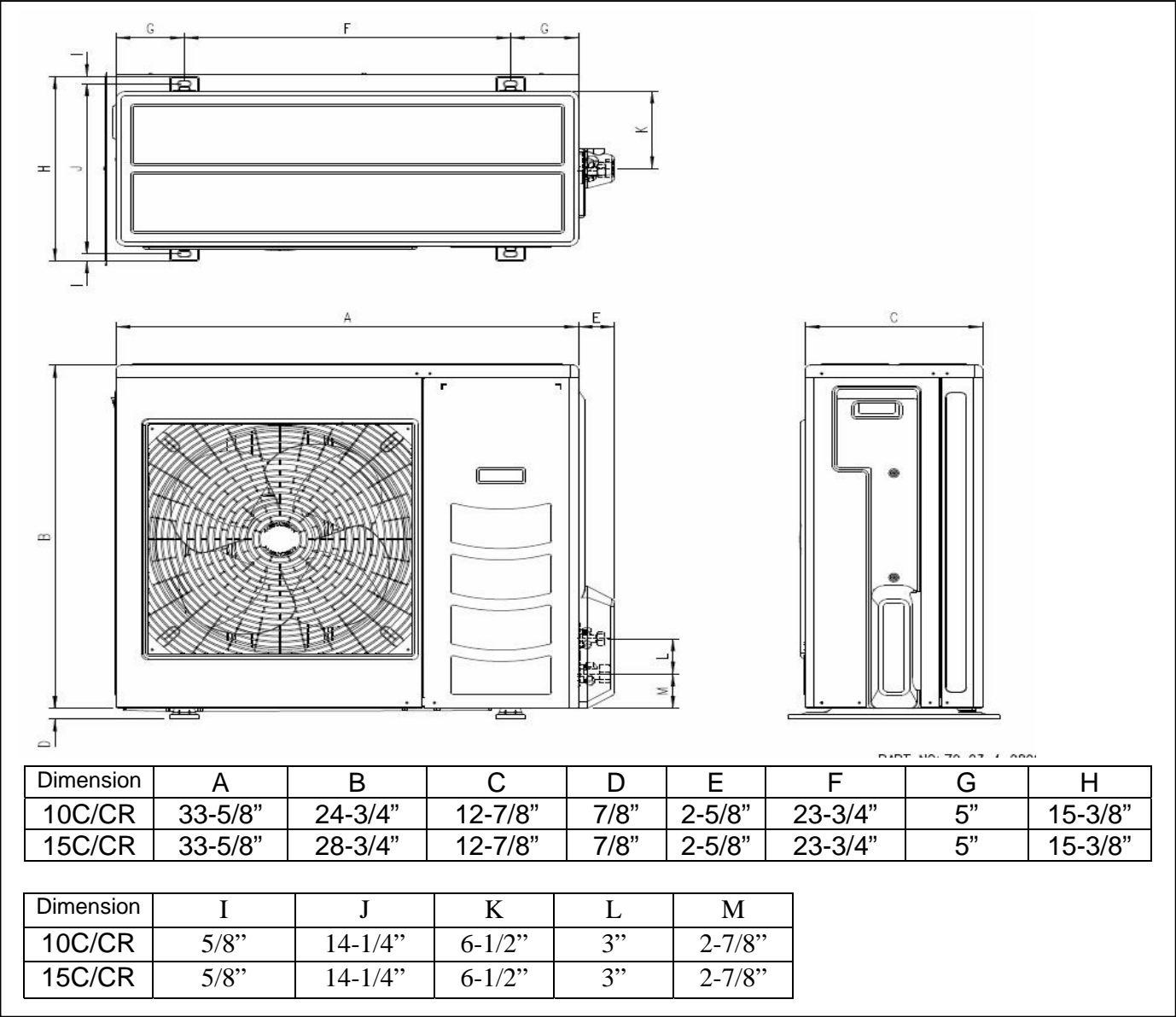
Model: M5WM15F, 15FR, 20F, 20FR – Indoor Unit

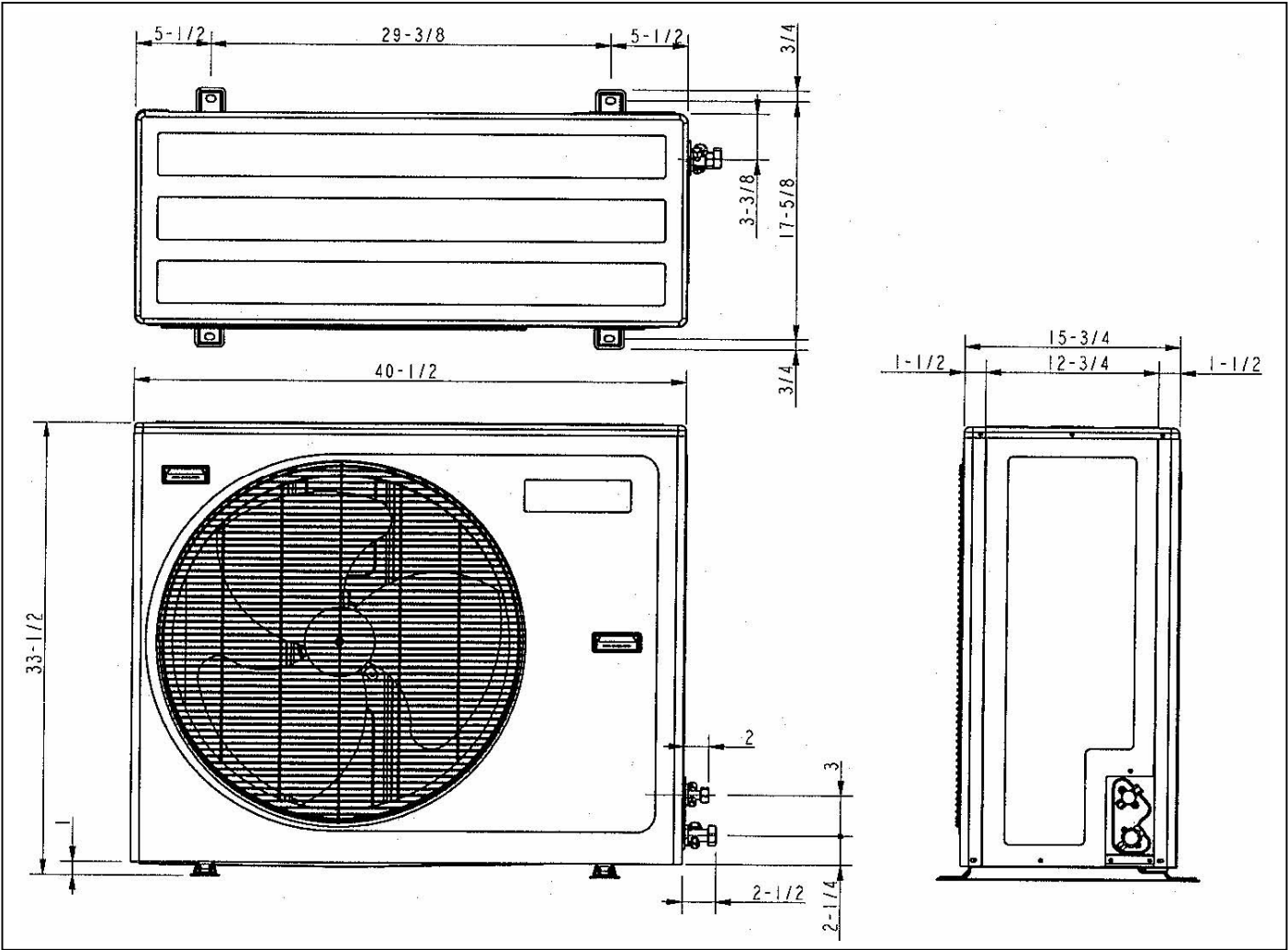


Model: M5WM25F, 25FR – Indoor Unit



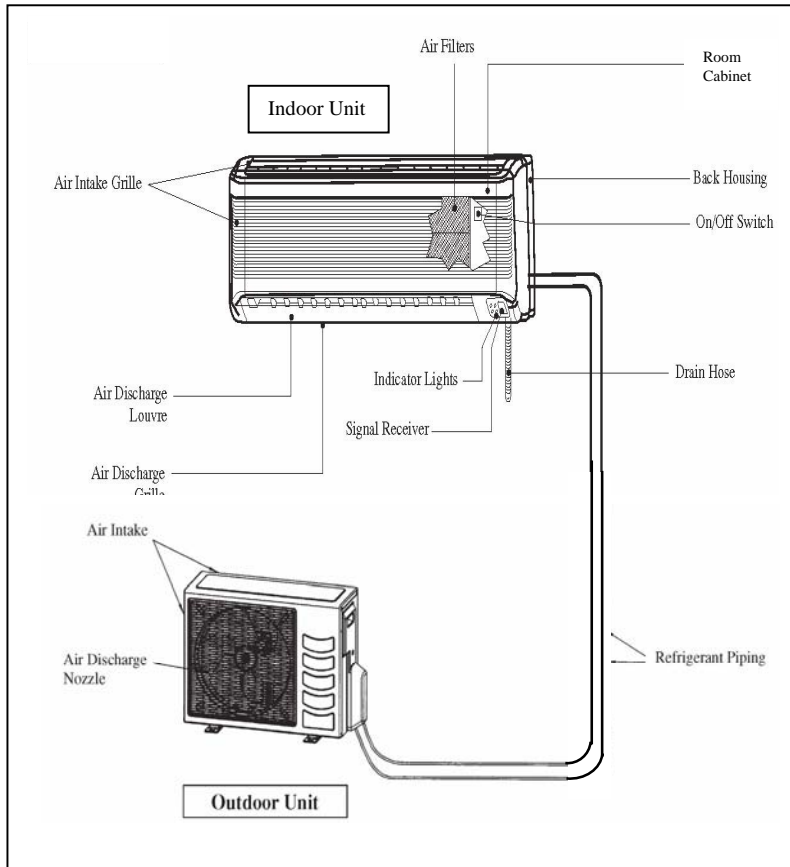
Model: M5LC10C, 10CR, 15C, 15CR – Outdoor Unit





Installation Guidelines

Installation Diagram

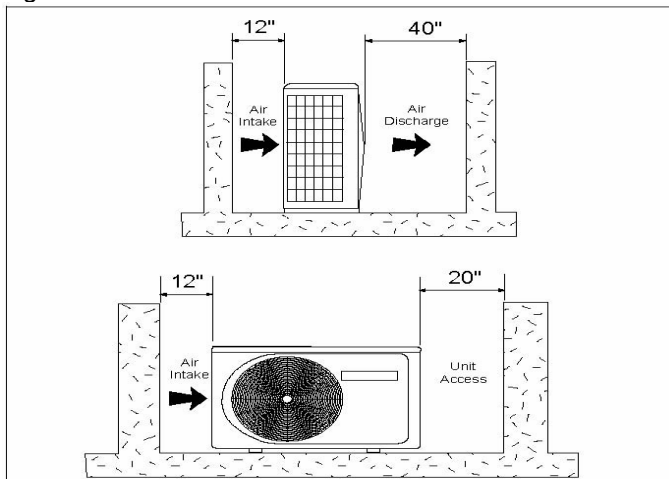


Installation of Outdoor Unit

Outdoor Unit Clearances

Install the outdoor unit in a manner to prevent mixing hot discharged air with return air flow. Also the unit should be a suitable distance from obstructions. See Figure 1 for installation clearances. Double the dimensions shown if surroundings are more than 72" tall, or if there is an obstruction on top. Select the coolest possible place where intake air temperature is not greater than the outside air temperature (maximum 113°F).

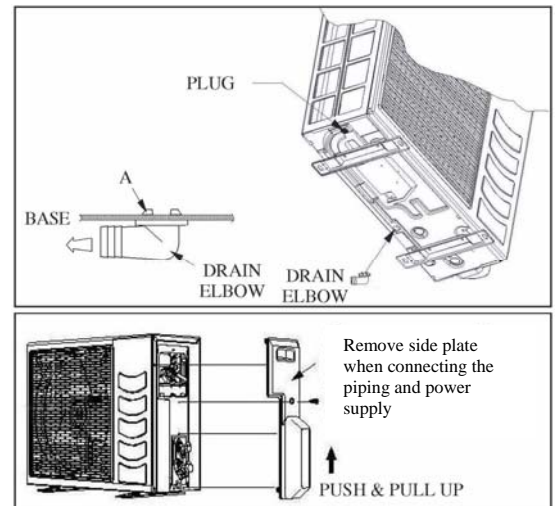
Figure 1. Outdoor Unit Minimum Clearances



Condensate Disposal of Outdoor Unit (Heat Pump Unit Only)

- There are 2 holes on the base of outdoor unit for condensed water to flow out. Insert the drain elbow to one of the holes.
- To install the drain elbow, first insert one portion of the hook to the base (portion A), then pull the drain elbow in the direction shown by the arrow while inserting the other portion to the base. After installation, check to ensure that the drain elbow clings to base firmly.
- If the unit is installed where the condensate may freeze in the base, remove plug at the bottom of unit for better drainage
- See Figure 2.

Figure 2. Condensate Disposal of Outdoor Unit (Heat Pump Unit Only)

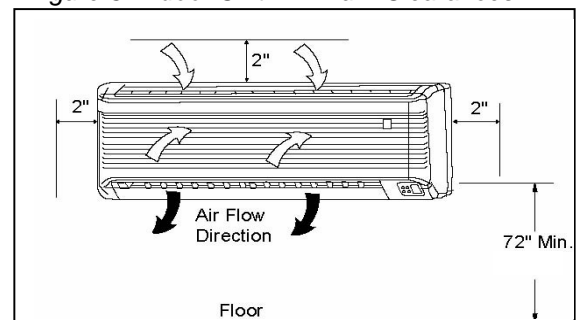


Installation of the Indoor Unit

Indoor Unit Clearance

The indoor unit must be installed in a manner to prevent mixing the discharged air with the return air. Please follow the installation clearances shown in Figure 3. Do not place the indoor unit in direct sunlight. The location must be suitable for piping and drainage, and be away from doors or windows.

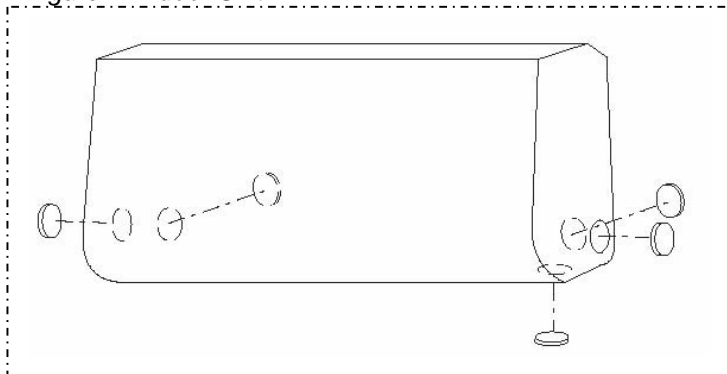
Figure 3. Indoor Unit Minimum Clearances



Piping

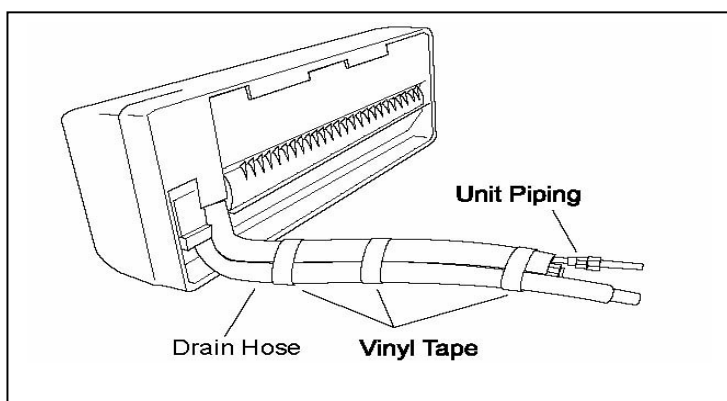
The refrigerant piping can enter the indoor unit at several different locations. Use the knock outs provided in the room cabinet. See *Figure 4*.

Figure 4. Indoor Unit



Bend the pipes carefully to prevent kinks and restrictions. It's best to use a tube bender. The condensation drain hose can be taped to the pipes. See *Figure 5*.

Figure 5. Rear View of Indoor Unit



Mounting Plate Installation

The mounting plate ships attached to the back of the indoor unit. To detach for mounting on wall, remove plastic rivet from bottom (pry loose with a knife blade) and unhook.

The wall must be strong enough to support the weight of the unit. If necessary, reinforce the wall. Drill holes in plate to align with wall studs and attach with four (4) screws.

If the refrigerant piping is going thru the wall behind the indoor unit, provide a 2-1/2" hole that is slightly pitched to the outside. See *Figure 6*. Hole must be located in alignment with the arrows on the mounting plate. See *Figure 7*.

Figure 6. Wall Opening for Piping

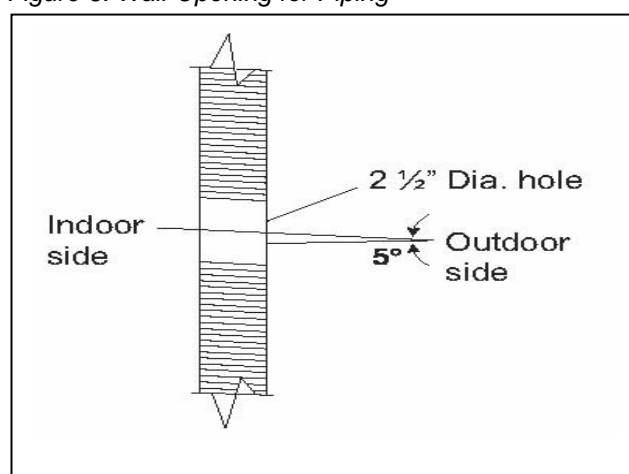
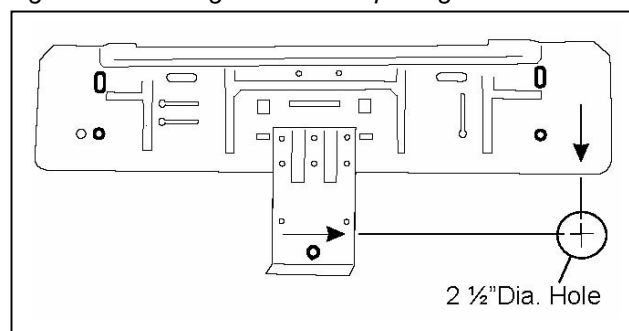


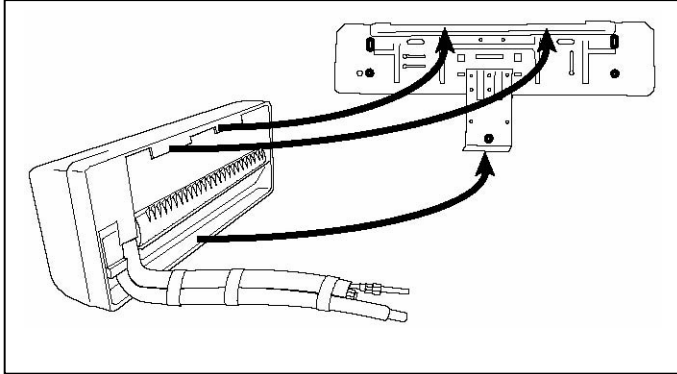
Figure 7. Mounting Plate/Wall Opening



Installing Unit on Mounting Plate

Hook the indoor unit onto the upper portion of the mounting plate (engage the two hooks at the rear top of the indoor unit with the upper edge of the plate). Properly seat the hooks and replace the plastic rivet at the bottom.

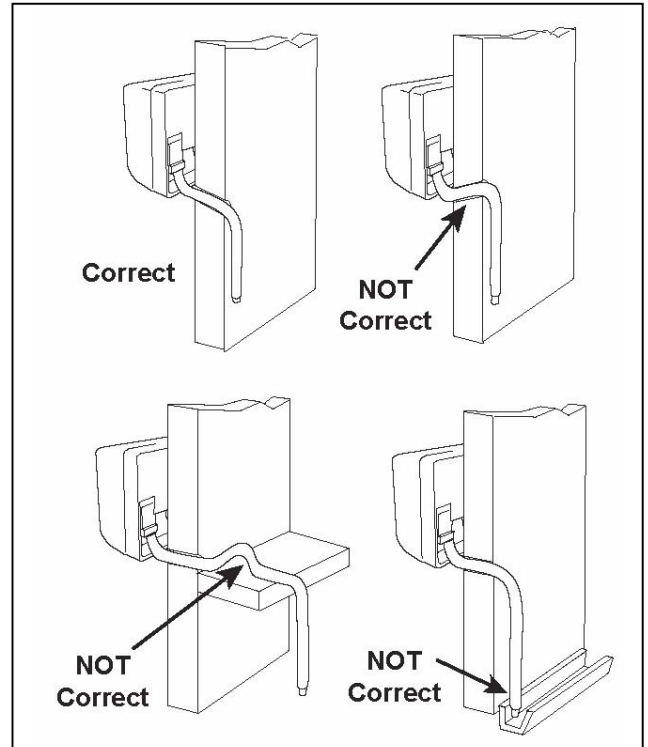
Figure 8. Installing Unit on Mounting Plate



Drain Hose Installation

The condensate drain hose (20" long) come factory attached to the indoor unit. It is gravity flow. Avoid situations that could restrict drainage. See Figure 9.

Figure 9. Drain Hose Installation



Refrigerant Tubing

Tubing Length & Elevation

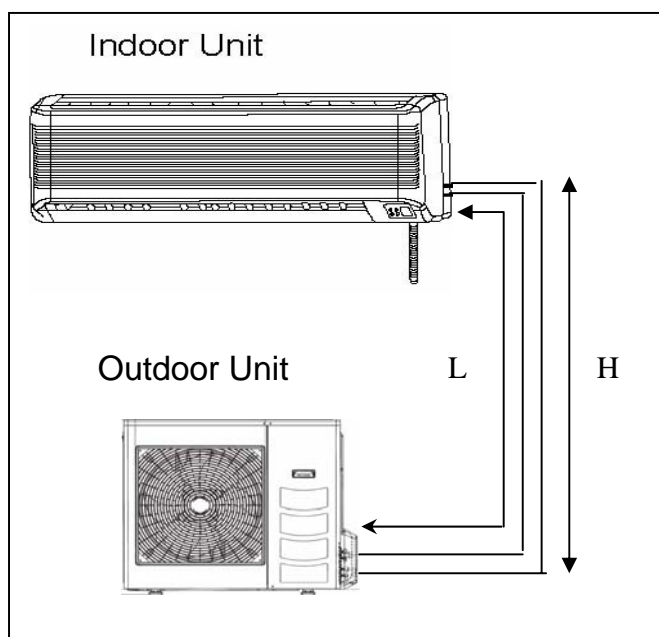
Copper tubing to connect the indoor and outdoor units is supplied by others or it can be ordered from the factory. See *Table 1* for requirements. Cover both tubes individually with 3/8" wall foam insulation.

Table 1. Refrigeration Tubing Requirements

Model	10	15	20	25
Maximum length, ft., L	40	40	50	50
Max. elevation, ft., H	16	16	26	26
Max. number of bends	10	10	10	10
Liquid tube size – OD	1/4"	1/4"	1/4"	1/4"
Gas tube size – OD	3/8"	1/2"	1/2"	5/8"

Note: The refrigerant pre-charged in the outdoor unit is for tubing length up to 25ft. See *Table 5*, page 18 for additional R410A refrigerant required on longer runs.

Figure 10. Tubing Length and Elevation



Tubing Preparation

- Do not use contaminated or damaged copper tubing. Do not remove plastic, rubber plugs and brass nuts from the valves, fittings, tubings and coils until you are ready to connect suction or liquid line into valves or fittings.
- If any brazing work is required, ensure that the nitrogen gas is passed through coil and joints while the brazing work is done. This will eliminate soot formation on the inside wall of the copper tubing.
- Cut the copper tubing with a tube cutter. See *Figure 11*.
- Remove burrs from cut ends by holding tubing downwards to prevent metal chips from entering the tubing.
- Slide the flare nuts, for both the indoor unit and outdoor unit onto the copper tubing.
- Flare the tubing as shown in *Figure 11*, *Figure 12* and *Table 2*.
- The flare must be even and not cracked or scratched.

Figure 11. Cutting and Flaring Tube

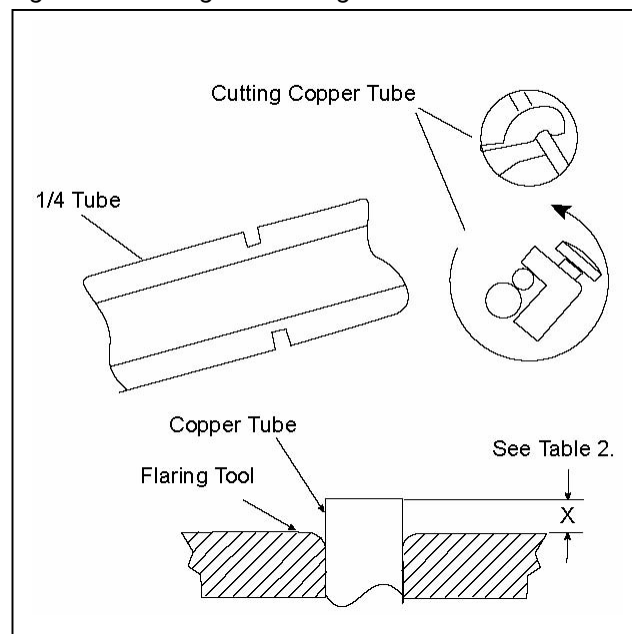


Table 2: Tube Flaring Dimensions

Tube Diameter - OD	X (in.)	
	Inch	Imperial
1/4		.051
3/8		.063
1/2		.075
5/8		.087
		Rigid
		.028
		.039
		.051
		.067

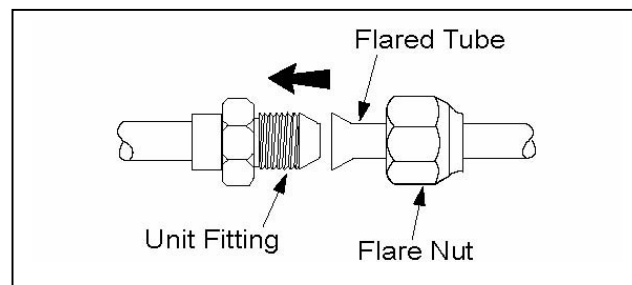
Tubing Connection To Units

- Connect the copper tubing to both the indoor and outdoor units. See *Figure 12*.
- Torque each flare nut to specifications. See *Table 3*.
- Cover both tubes individually with 3/8" minimum wall foam insulation.

Table: Flare Nut Torque Specifications

Tube Size (in.)	Torque (ft./lb.)
1/4	13.3
3/8	31.0
1/2	40.6
5/8	48.0

Figure 12. Flare Tubing Connections



Electrical Connections



WARNING

Improper installation can cause severe personal injury or death. Wiring must be done by a qualified electrician in compliance with local codes. Model 10F, 10FR, 15F and 15FR are using two separate power supply. Indoor unit powered by 115V/1Ph/60Hz. Outdoor unit powered by 208-230V/1Ph/60Hz.

- Wiring must be in accordance with all applicable electrical codes.
- Wires must not touch the refrigerant piping, compressor or any moving part.
- All electrical field wiring must be clamped at both the indoor unit and the outdoor unit. See Figure 14 for typical clamp.
- See Table 4, figure 13 and Figure 15 for the number of wires, wire gauge and fuse/circuit breaker size required.

Table 4: Wire and Fuse/Breaker Requirements

Unit Size	10/15		20/25
	Indoor	Outdoor	
Voltage-1Ph/60Hz	115V	208/230V	208/230V
Power supply wire size	14 ga.	14 ga.	12ga.
Number of wires	2 + gnd.	2 + gnd.	2 + gnd.
Connecting wire size	14 ga.		14 ga.
Number of wires - A/C	2		3 + gnd.
Number of wires - HP	4		5 + gnd.
Fuse/Breaker size	15 amp	15 amp	20 amp

* Not including the Outdoor Coil Sensor Cable.

Figure 13. Cooling Only Size 10 & 15

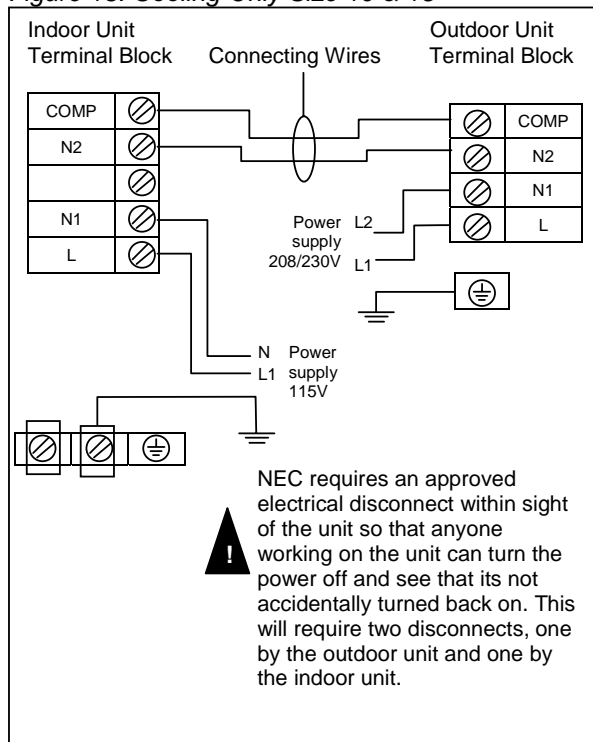


Figure 14. Terminal Block and wire Clamp

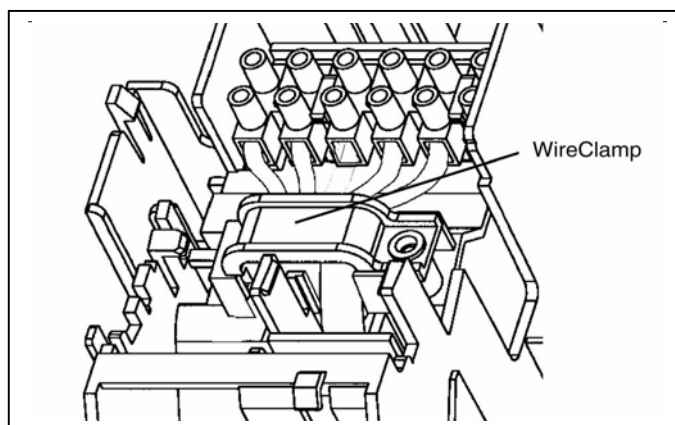


Figure 15. Heat Pump Unit Size 10 & 15

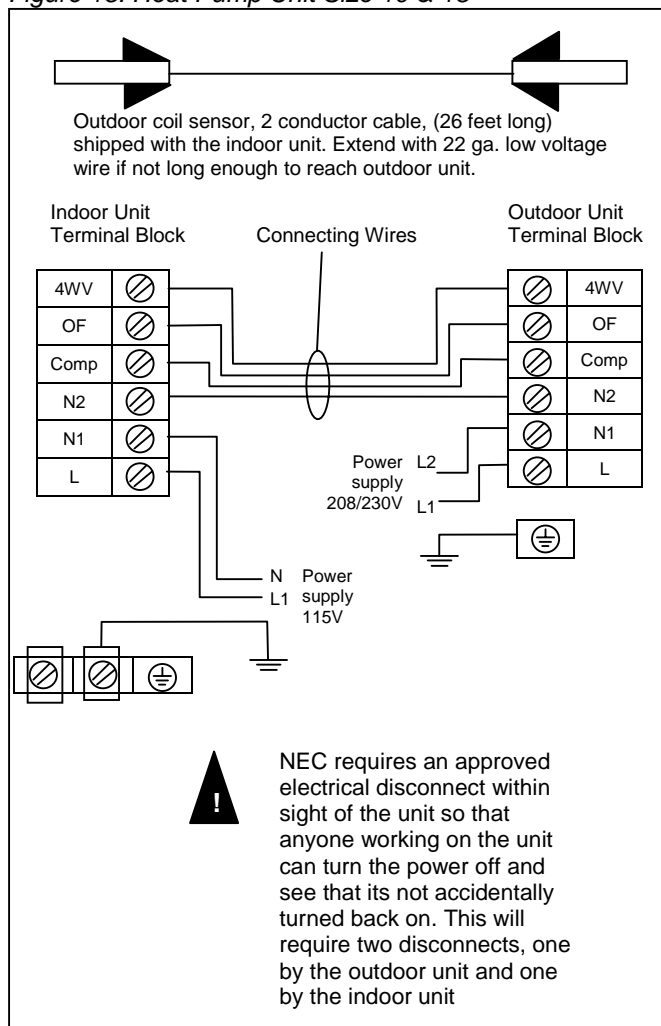


Figure 16. Cooling Only Size 20 & 25

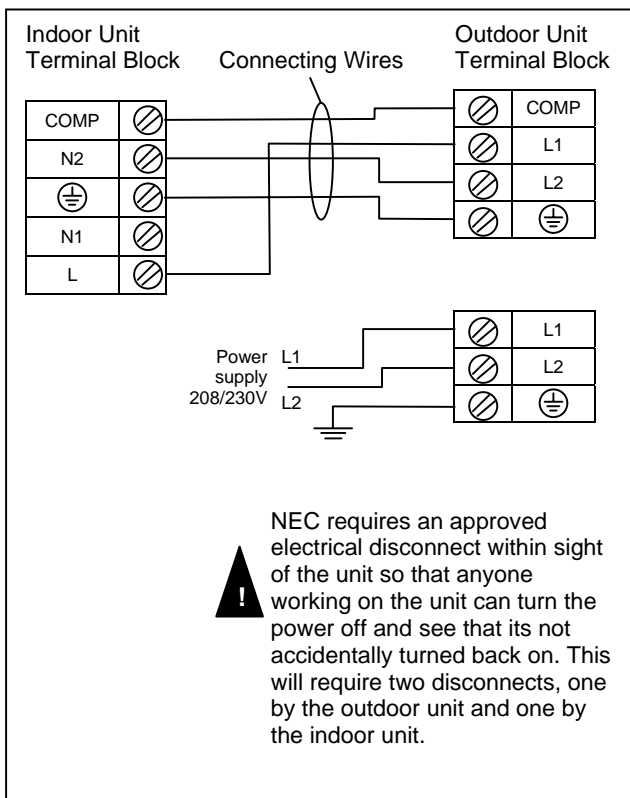
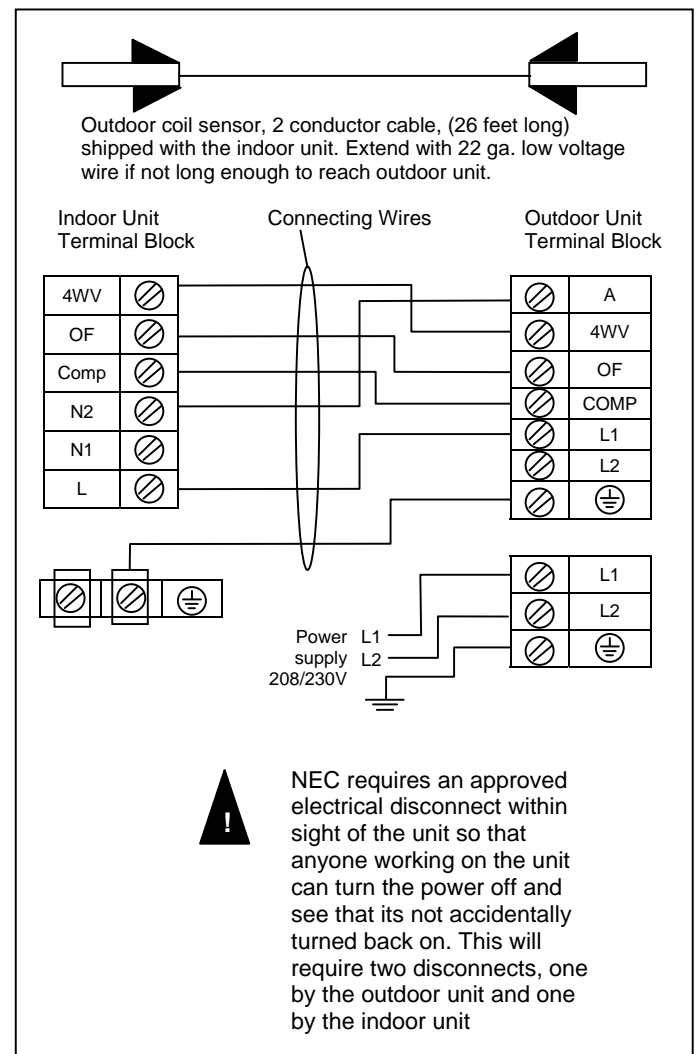
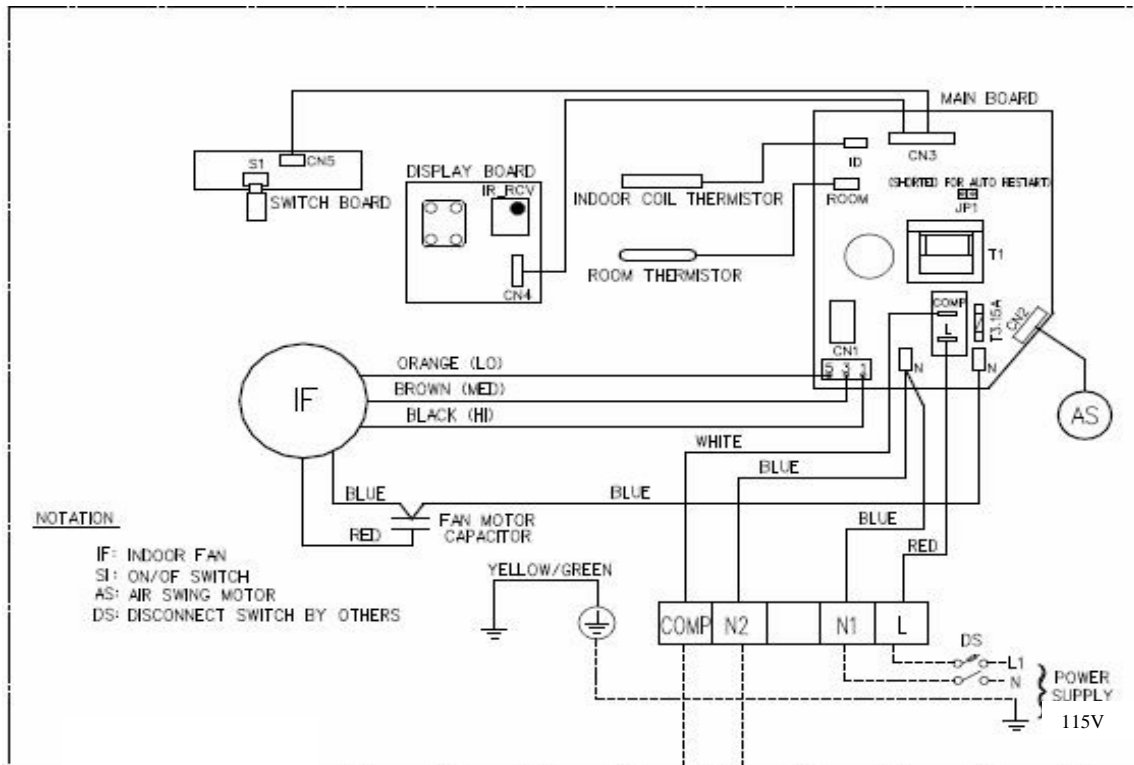


Figure 17. Heat Pump Unit Size 20 & 25

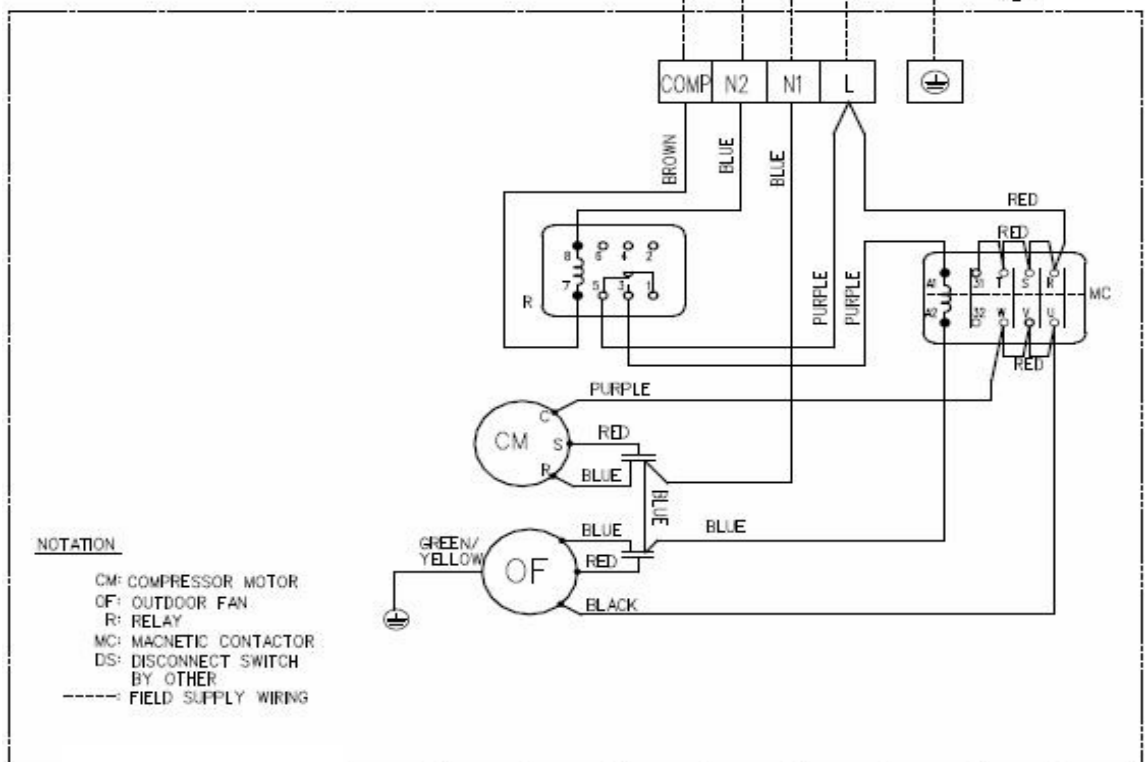


Wiring Diagrams

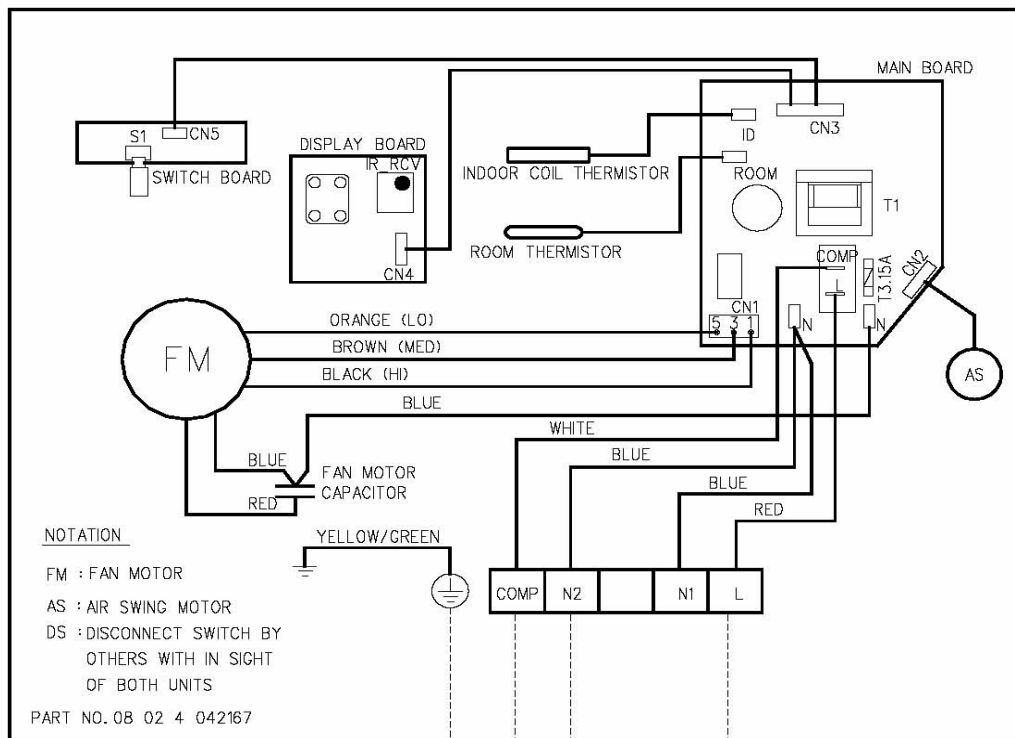
INDOOR UNIT MODEL: M5WM 10F – 15F



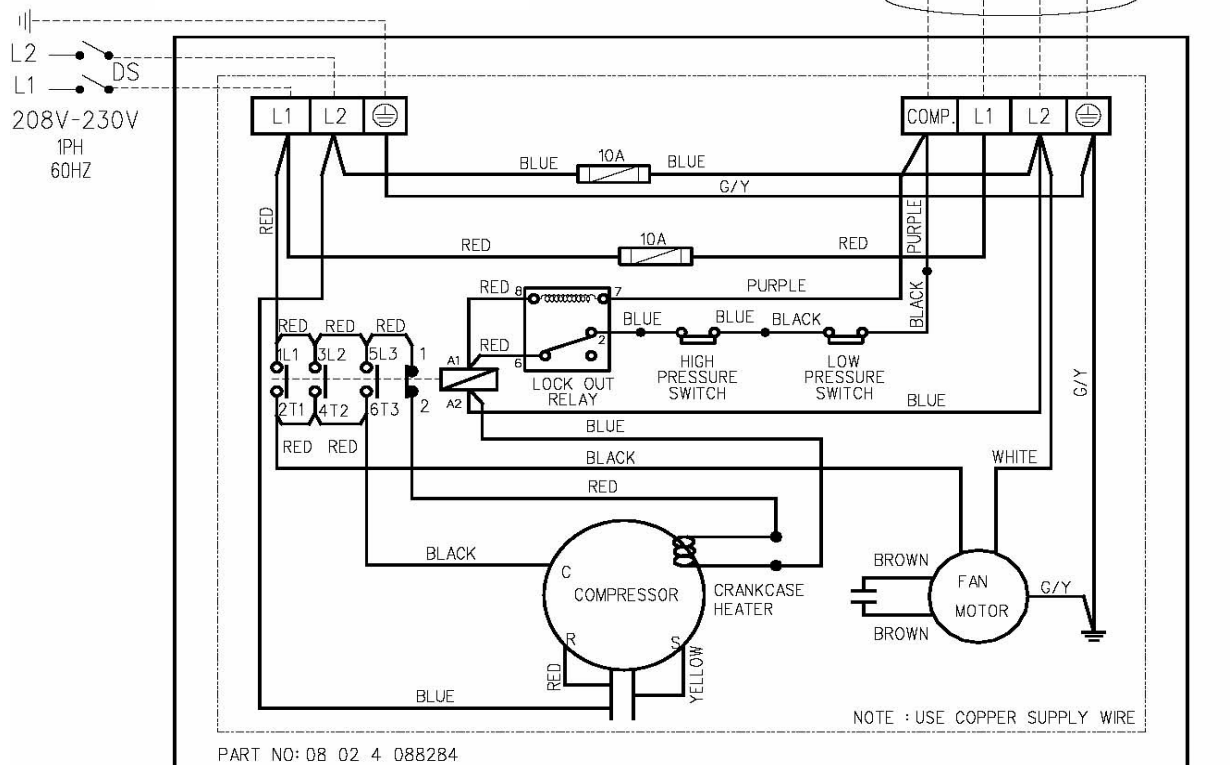
OUTDOOR UNIT MODEL: M5LC 10C – 15C



INDOOR UNIT **MODEL :M5WM 20F**



OUTDOOR UNIT **MODEL: M5LC 20C**



SWITCH BOARD

DISPLAY BOARD

INDOOR COIL THERMISTOR

ROOM THERMISTOR

MAIN BOARD

RED

BLUE

CAPACITOR FAN MOTOR

ORANGE (LO)

BROWN (MED)

YELLOW (HI)

FM

AS

COMP

N2

N1

L

YELLOW/GREEN

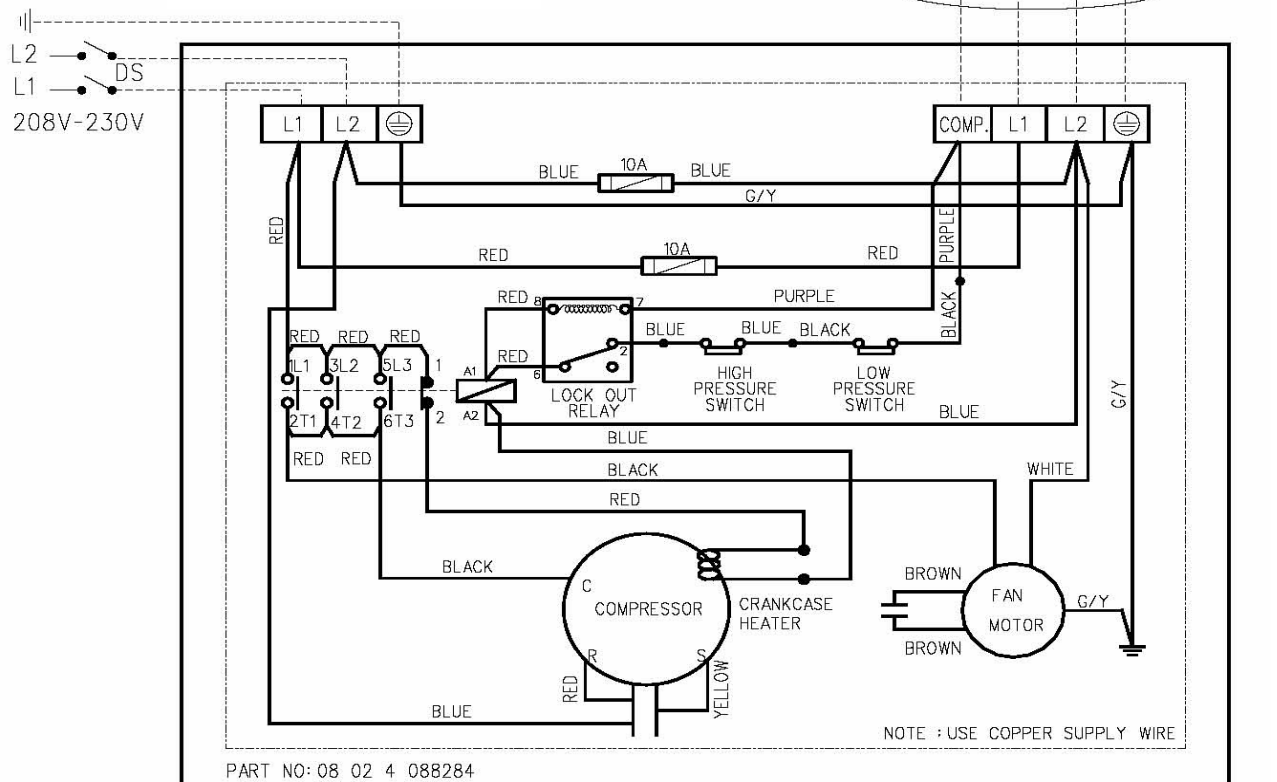
NOTATION

FM : FAN MOTOR

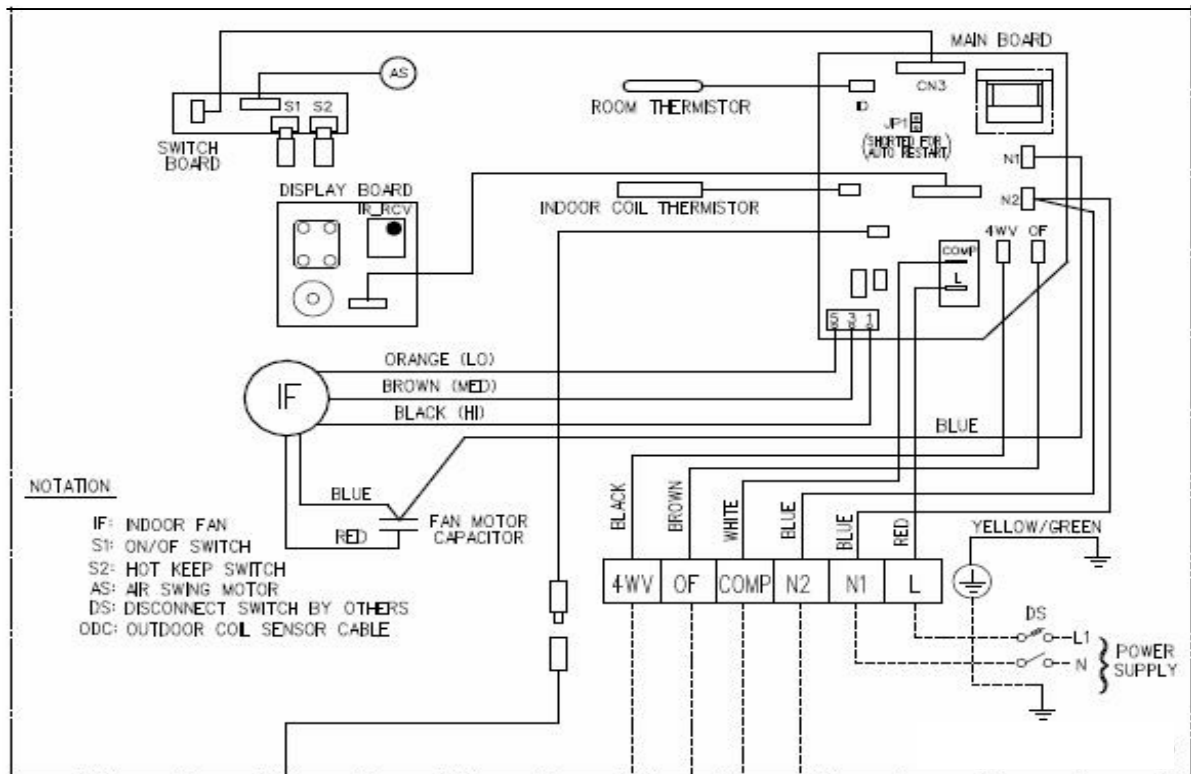
AS : AIR SWING MOTOR

DS : DISCONNECT SWITCH BY
OTHERS WITH IN SIGHT
OF BOTH UNITS

PART NO.08 02 4 052609

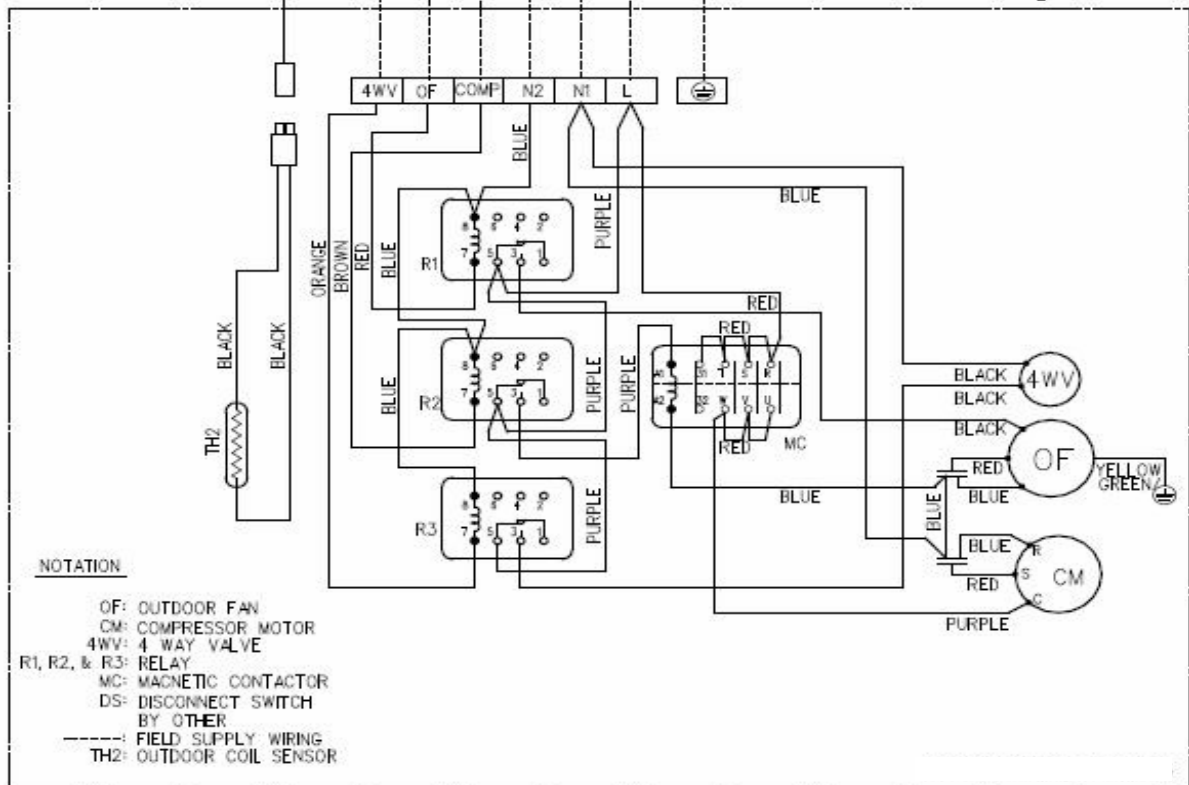


INDOOR UNIT
MODEL: M5WM 10FR – 15FR

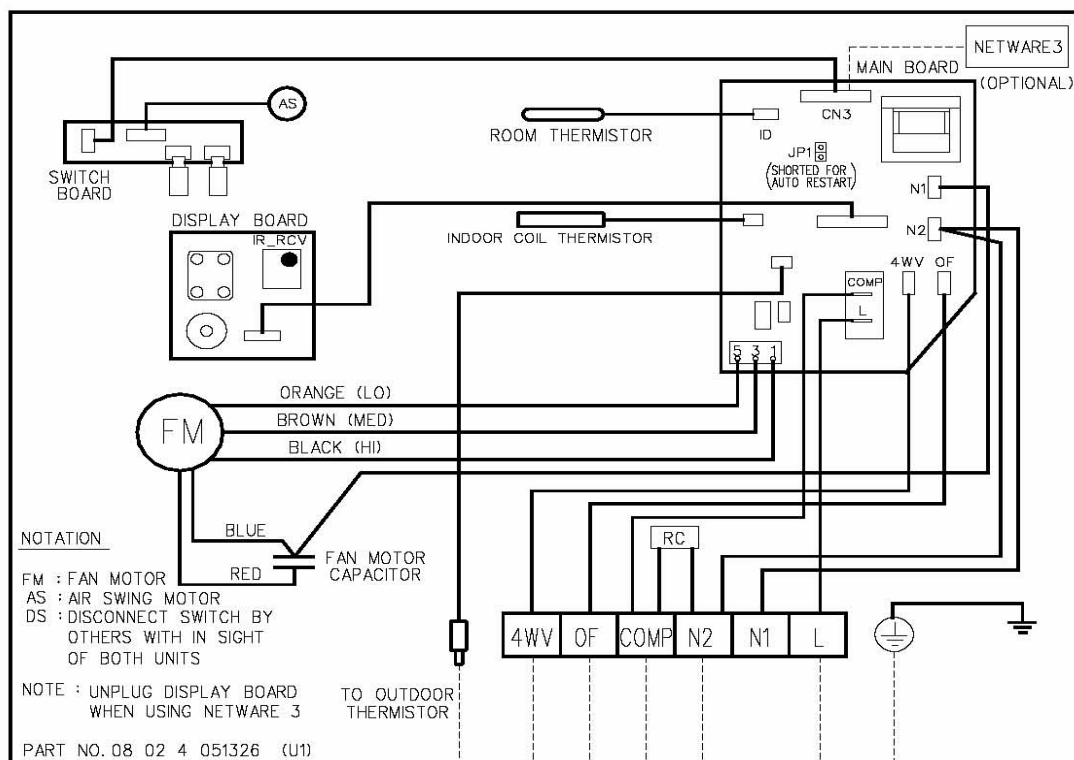


LOW VOLTAGE CABLE TO
 OUTDOOR COIL SENSOR

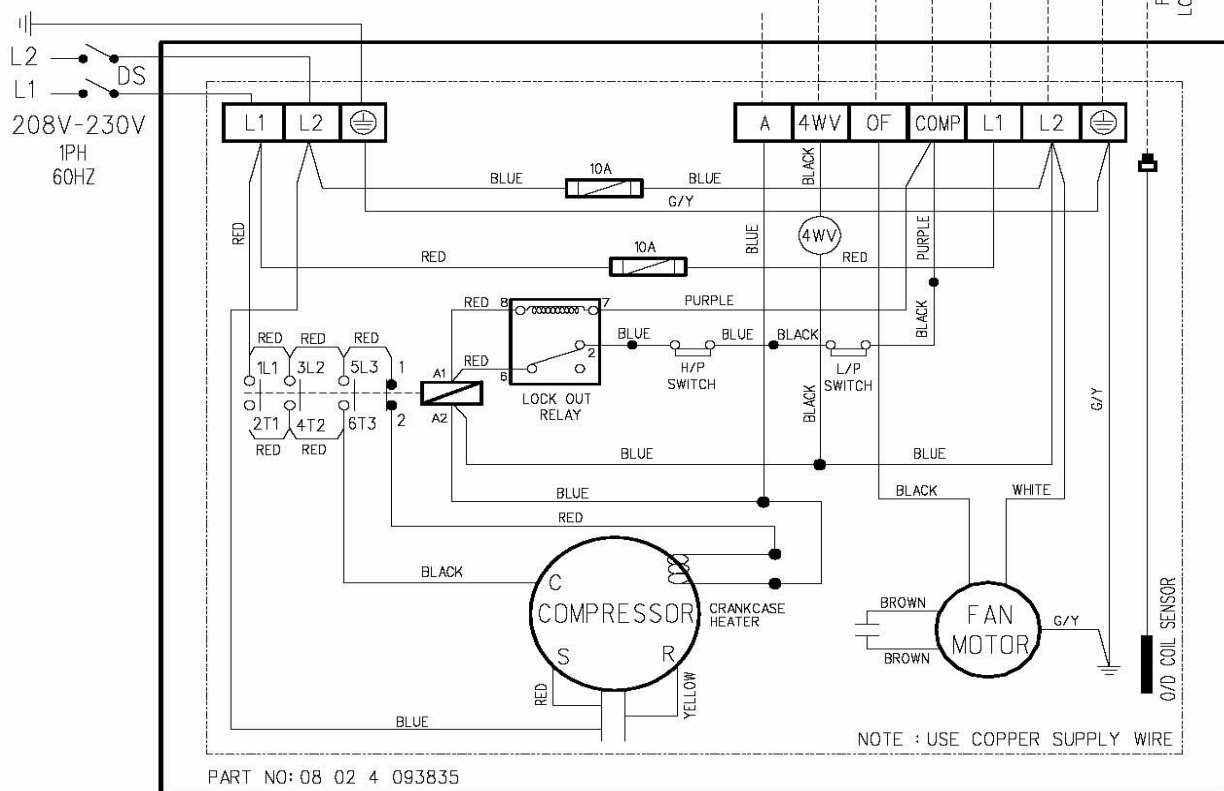
OUTDOOR UNIT
MODEL:
M5LC 10CR – 15CR



INDOOR UNIT **MODEL: M5WM 20FR**



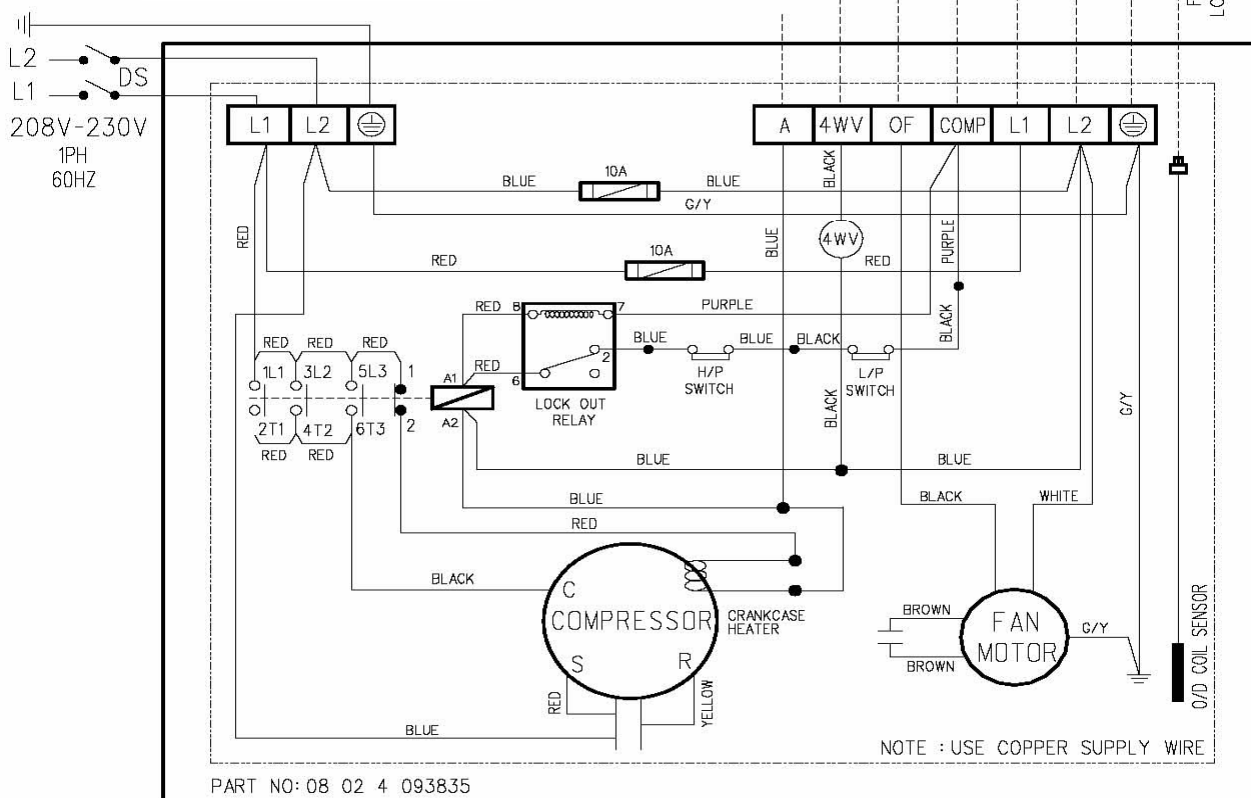
OUTDOOR UNIT **MODEL: M5LC 20CR**



NOTATION

FM : FAN MOTOR
 AS : AIR SWING MOTOR
 DS : DISCONNECT SWITCH BY OTHERS WITH IN SIGHT OF BOTH UNITS
 NOTE : UNPLUG DISPLAY BOARD WHEN USING NETWORK 3

PART NO. 08 02 4 052645



Vacuumping and Charging

Purging the Piping and the Indoor Unit

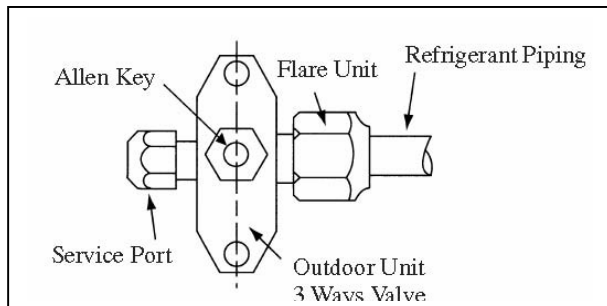
Except for the outdoor unit which is pre-charged with refrigerant, the indoor unit and the refrigerant connection pipes must be air-purged because the air containing moisture that remains in the refrigerant cycle may cause malfunction of the compressor.

- Remove the caps from the valve and the service port.
- Connect the center of the charging gauge to the vacuum pump.
- Connect the charging gauge to the service port of the 3-way valve. (See Figure 18.)
- Start the vacuum pump. Evacuate for approximately 30 minutes. The evacuation time varies with different vacuum pump capacity. Confirm that the charging gauge needle has moved towards -760mmHg (-29.9"Hg).

Caution:

- If the gauge needle does not move to -760mmHg, be sure to check for gas leaks (using the refrigerant detector) at flare type connection of the indoor and outdoor unit and repair the leak before proceeding to the next step.
- Close the valve of the charging gauge and stop the vacuum pump.
- On the outdoor unit, open the suction valve (3 way) and liquid valve (2 way) (in anti-clockwise direction) with 4mm key for hexagon sanded screw.

Figure 18. 3-way Suction Valve on Outdoor Unit



Additional Charge

The refrigerant is pre-charged in the outdoor unit. If the tubing length between the indoor and outdoor unit is no more than 25ft. than an additional charge after evacuation is not necessary. If the tubing length is more than 25ft., use additional R410A as indicated in Table 5.

Table 5. Additional R410A ounces (when tubing length is more than 25 feet)

Model	26' -33'	34' - 40'	41' - 50'
10F	1.2	2.0	-
15F	1.2	2.0	-
20F	1.2	2.0	3.5
25F	2.8	5.3	9.4
10FR	1.6	2.8	-
15FR	1.6	2.8	-
20FR	2.0	3.5	5.8
25FR	4.0	7.0	11.8

Charge Operation

This operation must be done by using a gas cylinder and a precise weighing machine. The additional charge is topped-up into the outdoor unit using the suction valve via the service port. See Figure 20.

- Remove the service port cap.
- Connect the low pressure side of the charging gauge to the suction service port center of the cylinder tank and close the high pressure side of the gauge. Purge the air from the service hose.
- Start the air conditioner unit.
- Open the gas cylinder and low pressure charging valve.
- When the required refrigerant quantity is pumped into the unit, close the low pressure side and the gas cylinder valve.
- Disconnect the service hose form service port. Put back the service port cap.

Figure 19. Vacuuming Schematic

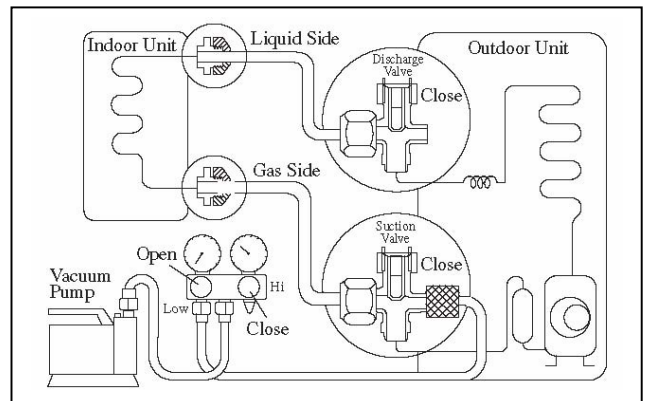
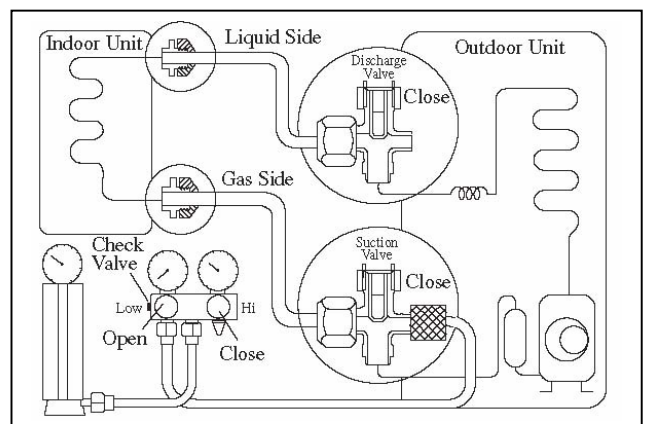


Figure 20. Charging Schematic



Special Precautions When Dealing With R410A Unit

R410A is a new HFC refrigerant which does not damage the ozone layer. The working pressure of this new refrigerant is 1.6 times higher than conventional refrigerant (R22), thus proper installation/servicing is essential.

- Never use refrigerant other than R410A in an air conditioner which designed to operate with R410A.
- POE oil is used as lubricant for R410A compressor, which is different from the mineral oil used for R22 compressor. During installation or servicing, extra precaution must be taken not to expose the R410A system too long to moist air. Residual POE oil in the piping and components can absorb moisture from the air.
- To prevent mischarging, the diameter of the service port on the flare valve is different from that of R22.
- Use tools and materials exclusively for refrigerant R410A. Tools exclusively for R410A are manifold valve, charging hose, pressure gauge, gas leak detector, flare tools, torque wrench, vacuum pump and refrigerant cylinder.
- As an R410A air conditioner incurs higher pressure than R22 units, it is essential to choose the copper pipes correctly. Never use copper pipes thinner than 0.8mm even though they are available in the market.
- If the refrigerant gas leakage occurs during installation/servicing, be sure to ventilate fully. If the refrigerant gas comes into contact with fire, a poisonous gas may occur.
- When installing or removing an air conditioner, do not allow air or moisture to remain in the refrigerant cycle.



CAUTION

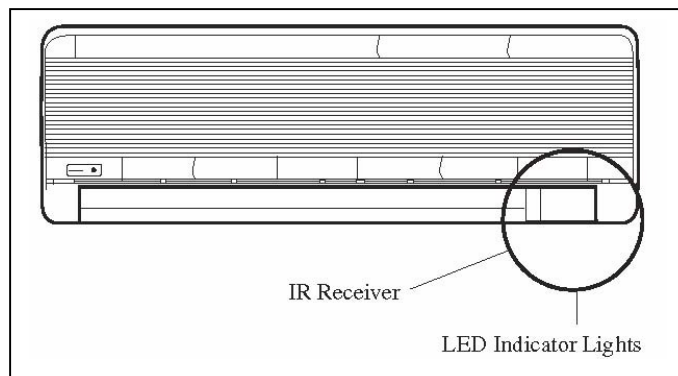
- R410A must be charged as liquid. Usually R410A cylinder is equipped with a dip-pipe for liquid withdrawal. If there is no dip-pipe, the cylinder should be inverted so as to withdraw liquid R410A from the valve.
- Do not top-up when servicing leak, as this will reduce the unit performance. Vacuum the unit thoroughly and then charge the unit with fresh R410A according to the amount recommended in the specification.
- Do not touch the compressor or refrigerant piping when the chiller is running. If necessary wear protective gloves.

Unit Indicator Lights

IR Signal Receiver

When an infrared remote control operating signal is transmitted, the signal receiver on the indoor unit beeps to confirm acceptance of the signal transmission.

Figure 21. Indicator Lights Location – Indoor Unit



Cooling Only Unit

Table 6 shows the LED indicator lights for the cooling only unit under normal operation and fault conditions. The LED indicator lights are located at the bottom right side of the indoor unit. (See Figure 21 and Figure 22).

Figure 22. LED Indicator Lights for Cooling Only Unit

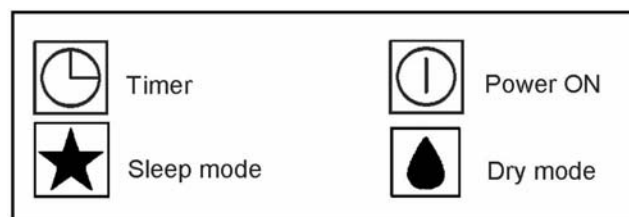






Table 6. LED Indicator Lights: Normal Operation and Fault Conditions for Cooling Only Unit

 Power	 Sleep	 Timer	 Dry	Mode or Fault	Action
○		○		Timer	-
○	○			Sleep	-
○			○	Dry	-
●				Room air sensor contact loose/short	Repair or replace
●●				Indoor coil sensor contact loose/short	Repair or replace
●●●				Sensor coil problem, compressor overload protection trip or gas leak.	Check circuit breaker, check for gas leak

○ ON

○ / ● ON or OFF

● Blinking

Heat Pump Unit

Table 7 shows the LED indicator lights for the heat pump unit under normal operation and fault conditions. The LED indicator lights are located at the bottom right side of the indoor unit.

The heat pump units are equipped to maintain selected room temperature by switching automatically to either “cool” or “heat” mode.

Figure 23. LED Indicator Lights: Normal Operation and Fault Conditions for Heat Pump Unit

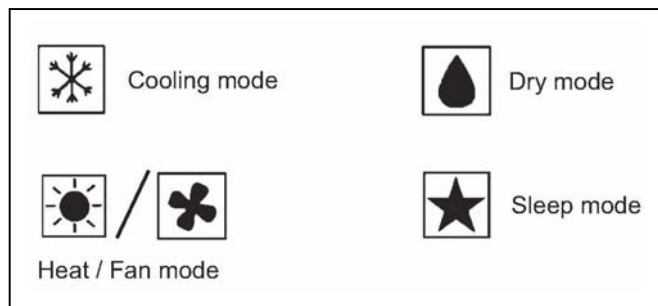







Table 7. LED Indicator Lights: Normal Operation and Fault Conditions for Heat Pump Unit

 Cool	 Dry	 Fan	 Heat	 Sleep	Mode or Fault	Action
○				○/●	Cooling	-
	○				Dry	-
		○			Fan	-
			○	○/●	Heat	-
●			○	○/●	Auto mode in heating operation. *	-
○			●	○/●	Auto mode in cooling operation. *	-
●					Compressor cycling on overload	Low outdoor air flow, defective compressor or overload.
				●	Indoor coil sensor loose or defective	Attach or replace.
	●				Outdoor coil sensor loose or defective	Attach or replace.
		●			Room air sensor loose or defective	Attach or replace.
●	●				Unit Malfunctions	If in AUTO or SLEEP mode, switch to Heat, turn SLEEP off, unplug power cord and plug back in. If both lights blink with unit in Heat or Cool and SLEEP off, the problem may be coil sensor, compressor has tripped or low refrigerant.

○ ON

○ / ● ON or OFF

● Blinking

* Unit has 10 minutes delay before it will switch between modes.

Special Features

Dry Mode

- Select this mode when the standard Cool mode does not provide sufficient dehumidification. The compressor and indoor low fan will cycle together and will operate for longer periods of time to provide the increased rate of dehumidification. As a result, the room temperature differential may increase slightly.

Heat Mode (Heat Pump Only)

- When the unit is switched on from cold start or defrosting cycle, the indoor fan will start to operate only after the indoor coil becomes warmer.
- When the set temperature is achieved, the indoor fan will stop as the indoor coil starts to cool.

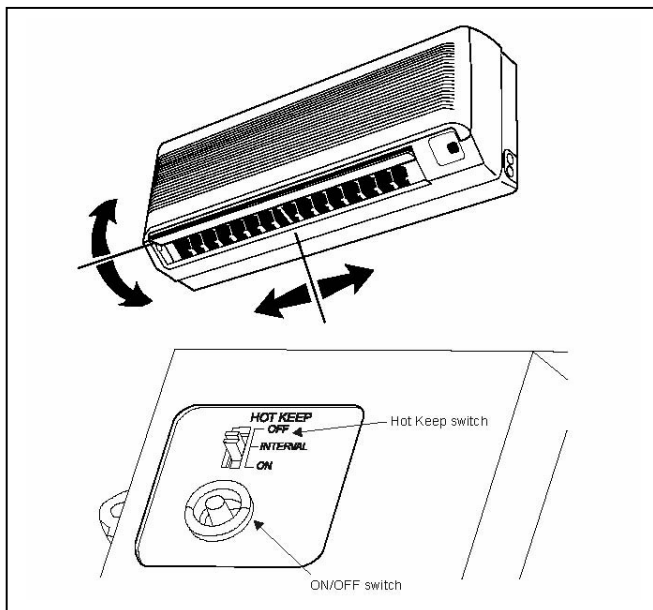
Air Flow Control

- For more effective air circulation, you can manually adjust the air discharge grille to the left or right.
- During cool and dry mode operation, do not direct the air discharge louver downwards as it may cause condensate to drip. (See *figure 24*).

Hot Keep (For Heat Pump Only)

- With the Hot Keep switch OFF, the indoor fan will stop when coil temperature drops to 86°F. With the switch ON, the fan will not stop unless coil temperature drops below 65°F. With the switch in INTERNAL, and the unit is not heating, the fan is on for 30 seconds and off for 2 min. (See *Figure 24*).
- In cool mode, fan runs continuous at selected speed.
- The switch is located on front of the indoor unit, above the ON/OFF switch (See *Figure 24*).

Figure 24



Overheating Protection (Heat Pump Only)

- If the indoor coil temperature exceeds 145°F because of high ambient conditions, dirty air filter, etc., the compressor will turn off.

Frost Prevention

- If the indoor coil starts to frost in cooling mode, the compressor will stop.
- If the outdoor coil becomes frosted, heating will stop for a few minutes while the unit goes into defrost.

Fan Speed and Rated Cooling Capacity

- The rated cooling capacity is provided at the maximum fan speed.
- The cooling capacity is slightly lower when the unit is operating at MEDIUM and LOW fan speed.

Main Filters – Permanent and Washable

Air filters must be cleaned at regular intervals. Twice annually may be adequate in some areas, while twice monthly may be required in others. Areas with high dirt and lint content or heavy usage of units require more frequent filter maintenance than those areas of relatively clean operating or low usage conditions. Unit malfunction will occur if air filters are not kept clean. Vacuum the filters from the dirty side or wash with hot water and a mild detergent. Allow the filters to dry thoroughly before replacing them. See *Figure 25*.

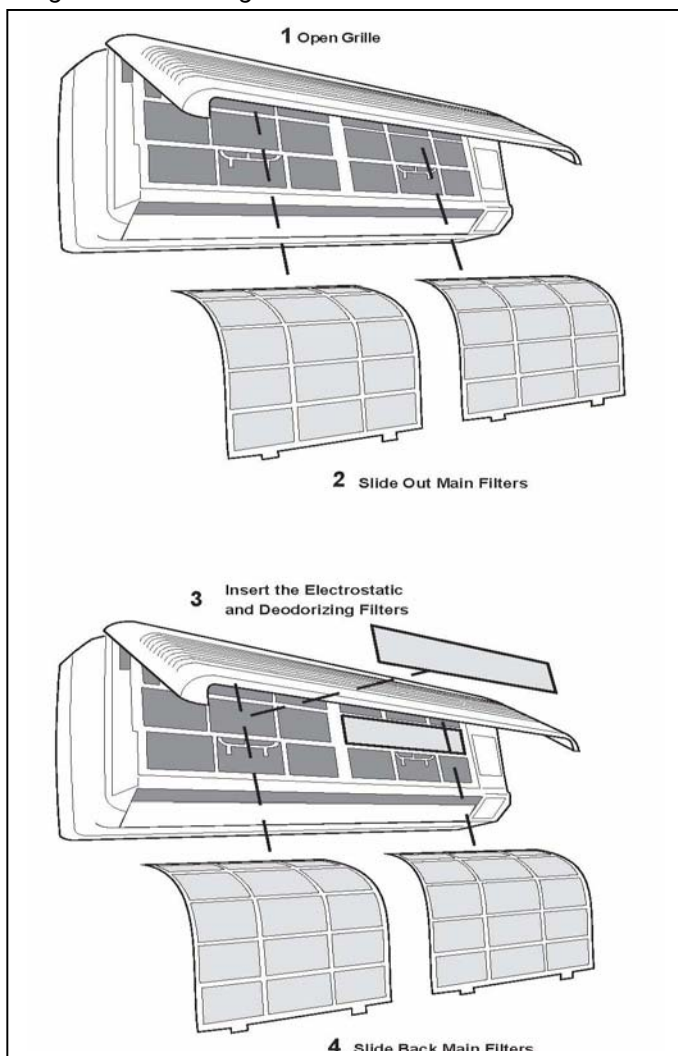
Electrostatic Air Purifying Filter

Pre-charged electrostatic polypropylene filter removes microscopic dust, smoke and small invisible particles to keep the room air clean.

Deodorizing Filter

Activated carbon filter removes unwanted smells and odors in the air and keeps the room air fresh.

Figure 25. Installing Filters



Filter Replacement



WARNING

Disconnect the main power supply before opening the return air grille.
DO NOT restore power until the grille is closed.

Replace the electrostatic air purifying and deodorizing filters every 6 months or sooner if they turn brown.

Replacement filters can be purchased from your sales representative or distributor.

Use the new filter immediately once it has been removed from the package.

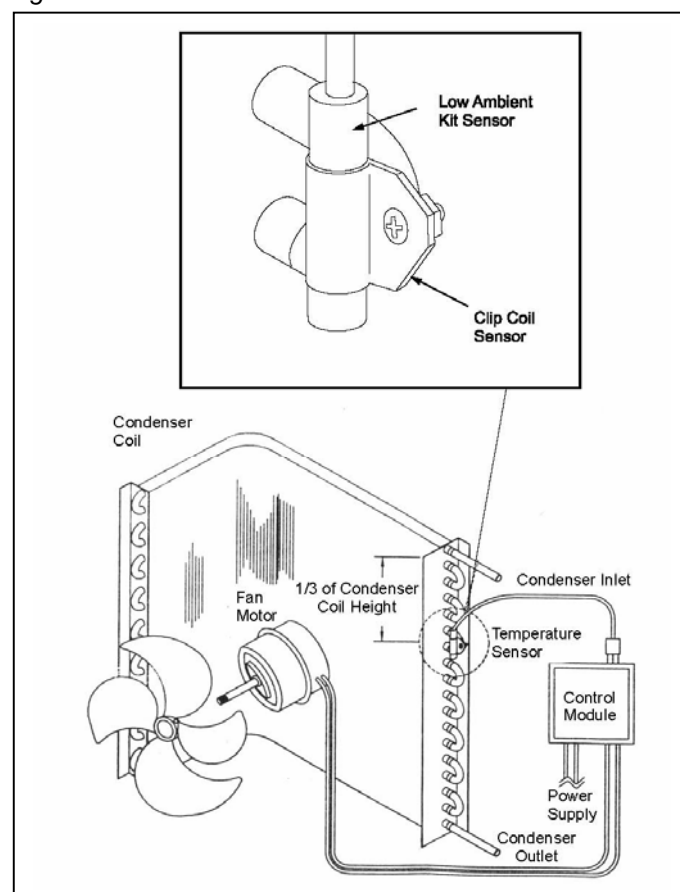
Auto Random Re-start Function

If there is a power loss to the building, the units will randomly restart when the power is restored. Control will restart at the last setting regardless of how long the power was off.

Low Ambient Kit

With this option, the unit can cool down to 32°F outdoor temperature. (Standard units only cool down to 66°F). To install, wire the Fan Speed Control Module (FSCM) in the outdoor unit per wiring diagram supplied with the kit. Attach the Outdoor Coil Sensor to the return bend as shown in Figure 26. Wrap sensor and return bend with insulating tape to promote accurate sensing of the refrigerant temperature. Refer also to the instructions supplied with the kit.

Figure 26 Low Ambient Location



Minimum and Maximum Operating Temperature Cooling

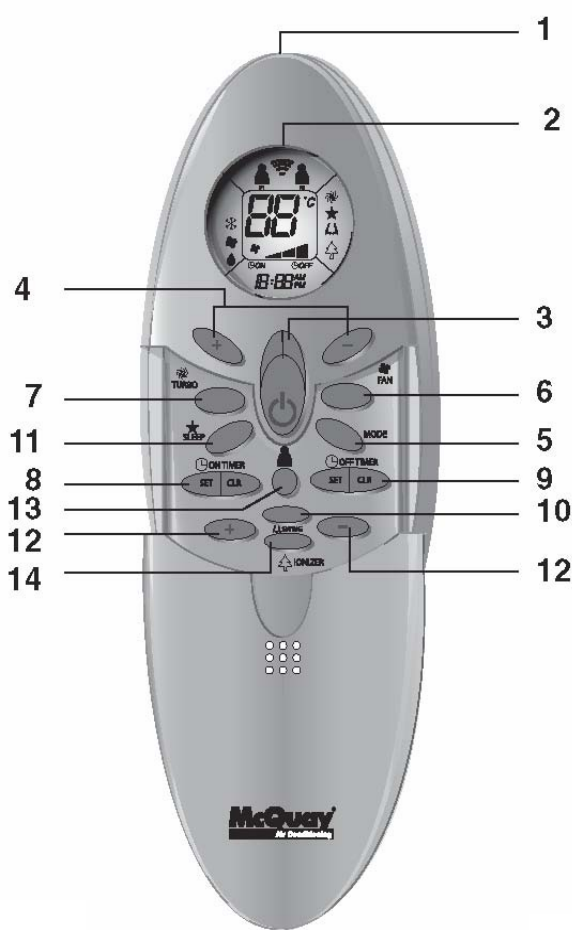
Temperature	Ts °F	Th °F
Minimum Indoor	67	57
Maximum Indoor	80	67
Minimum Outdoor	*66	57
Maximum Outdoor	115	75

Heating (Heat Pump Only)

Temperature	Ts °F	Th °F
Minimum Indoor	50	-
Maximum Indoor	80	-
Minimum Outdoor	16	16
Maximum Outdoor	75	65

Ts = Dry Bulb Temperature, Th = Wet Bulb Temperature
* 32°F with optional Low Ambient Kit

Remote Controller Operation Guide



1) Transmission Source

- The source where the signal is transmitted.

2) Signal Transmission Indication

- Blinks to confirm the last setting has been transmitted to the unit.

3) "ON/OFF" Button

- Press once to start the unit.
- Press again to stop the unit.

4) Temperature Setting

- To set the desired room temperature, press the + or – button to increase or decrease the set temperature.
- The temperature setting range is from 60°F to 86°F (Optional setting 68°F to 86°F).
- Press both buttons simultaneously to toggle + and – from °C to °F setting.

5) Operation Mode

- Press the **MODE** button to select the type of operating mode.
- For cooling only unit, the available modes are: **COOL**, **DRY** and **FAN**.
- For heat pump unit, the available modes are: **AUTO**, **COOL**, **DRY**, **FAN** and **HEAT**.

6) Fan Speed Selection

- Press the **FAN** button continuously to toggle the fan speed in the following order:
Low → Med → High → Auto
- Stop pressing when the desired fan speed appears on the display screen.

7) Turbo Function

- Press **TURBO** for fast cooling or heating operation.
- The temperature will be increased internally if it is in **HEAT** mode, decreased if in **COOL** and **DRY** mode.
- Fan speed will be increased if it is not at maximum speed.
- The temperature and fan speed will resume to user setting if **TURBO** is pressed again or after 20 minutes.
- Available under **HEAT**, **COOL** and **DRY** modes only.

8) ON Timer Setting

- Press the **SET** button will activate the on timer function.
- Set the desired on time by pressing the **SET** button continuously. If the timer is set to 7.30am, the air conditioner will turn on at 7.30am sharp.
- Press the **CLR** button to cancel the on timer setting.

9) OFF Timer Setting

- Press the **SET** button will activate the off timer function.
- Set the desired of time by pressing the **SET** button continuously.
- Press the **CLR** button to cancel the off timer setting.

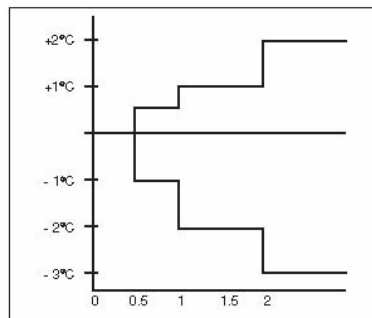
10) Automatic Air Swing (optional)

- Press the **SWING** button to activate the automatic air swing function.
- To distribute the air to a specific direction, press the **SWING** button and wait until the louver move to the desired direction and press the button once again.

11) Sleep Mode Setting

- Press the **SLEEP** button will activate the sleep mode function.
- This is an energy saving option. When the unit is operating under cooling mode, the set temperature is increased by 0.5°C after the first half an hour, another 0.5°C after the second half an hour and 1°C after the following 1 hour. This function will prevent excessive cooling during summer season.
- When the unit is operating under heating mode, the set temperature is decreased by 1°C after the first half an hour, another 1°C after the second half an hour and 1°C after the following 1 hour. This function will prevent night sweat during summer season.
- This function is available under **COOL**, **HEAT** and **AUTO** mode.






Figure 27 Sleep Mode Setting




12) Clock Time Setting

- Press + button to increase the clock time.
- Press – button to decrease the clock time.

13) Personalize Setting

- Press  and hold for 3 seconds, then  will blink. Press again to cycle between  and .
- Set the desired setting, then leave the handset for 4 seconds without pressing any key and it will save the setting into the program.
- Press  once to activate the P1 setting, press again to cycle between P1 and P2.
- Press any key to deactivate the personalize setting.

14) Ionizer Setting (optional)

- Press  will activate the ionizer function.
- Press again to deactivate the function.

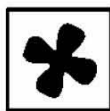
Symbol Identification



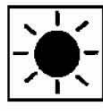
Cool



Dry



Fan



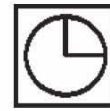
Heat



Sleep



Power



Timer



Auto

Service and Maintenance



CAUTION

Disconnect the electrical power supply before performing any service, maintenance or troubleshooting.

Troubleshooting

If any malfunction of the unit is noted, immediately switch off the power supply.

Check the following chart for possible causes/treatments.

If the trouble persists, please call your local dealer/serviceman.

Maintenance Schedule

Item	Maintenance Procedures	Frequency
Indoor Air Filters	Lift the return air grille and remove the filters (See Figure 23). Clean the filters by using a vacuum cleaner or wash in lukewarm water and soap. Rinse and dry before reinstalling.	As required to prevent restriction of air flow.
Indoor Cabinet	Remove any dust on the grille or panel by wiping it with a soft cloth soaked in lukewarm water (below 40°C / 104°F) and a mild detergent.	As required to maintain appearance.
Outdoor Unit	Clean the louvers and coil. Be careful not to bend or flatten the aluminium fins. DO NOT use cleaning fluids that might corrode the coil.	As required to prevent restriction of air flow.

Trouble	Possible Cause/Treatment
The compressor does not operate.	Protection against frequent starting. Wait for 3 to 4 minutes for the compressor to start operating.
Fans and compressor do not operate.	Power failure. Check fuse or circuit breaker. Power supply disconnect off. Delay timer may be set incorrectly. Adjust timer setting by using remote controller.
Air flow too low or insufficient cooling/heating capacity.	Dirty air filters. Open doors or window. Adjust thermostat setting.
Discharge air flow has bad odor.	Smoke, perfume, etc. may have collected on the indoor coil. Clean coil.
Condensation on the return air grille of the indoor unit.	Use dry mode. High humidity in conditioned space. Set temperature too low. Increase temperature setting and operate unit at high fan speed.
Condensate leaking into room.	Condensate drain plugged.
Hissing sound from the unit during operation.	Refrigerant fluid flowing into the evaporator coil. Operate for a while to see if sound goes away.

This document contains the most current product information as of this printing. The manufacturer reserves the right to revise any of the specification and design contain herein at any time without prior notification.



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