



# Installation Manual

---

## YUKON

Tall Floor Split Systems

36,000 - 120,000 Btu/h

Cooling Only

MCV Series 50/60 Hz



**50 Hz Models  
Cooling Only**  
MCV 036 BB  
MCV 048 BB  
MCV 060 BB  
MCV 090 BB  
MCV 120 BB

**60 Hz Models  
Cooling Only**  
MCV 036 B1  
MCV 048 B1  
MCV 060 B1  
MCV 090 B1  
MCV 120 B1

---

June 2006

MS-SVN007-EN



## General Information

---

### General Information

This Installation Manual is provided as a guide to good practice in the installation by the installer of the Trane MCV vertical floor mounted split system.

Installation procedures should be performed in the sequence that they appear in this manual.

To install the system for proper and to operate reliable operation, it must be installed in accordance with these instructions. Also, the services of a qualified service technician should be employed, through a maintenance contract with a reputable service company.

Please read these Installation Manual completely before installing the air conditioning system.

### About this Manual

Cautions appear at appropriate places in this Installation Manual. Your personal safety and the proper operation of this machine require that you follow them carefully. The Trane Company assumes no liability for installations or servicing performed by unqualified personnel. All phases of the installation of this air conditioning system must conform to all national, provincial, state and local codes.

### About the Unit

These MCV units are assembled, pressure tested, dehydrated, charged and run-tested prior to shipment from the factory. The information contained in this manual applies to MCV units designed to operate in the cooling mode only.

The Trane MCV series, is equipped with a microprocessor control to provide flexibility and energy savings.

### Reception

On arrival, please inspect the unit before signing the delivery note. Specify any damage of the unit on the delivery note, and send a registered letter of protest to the last carrier of the goods within 72 hours of delivery.

The unit should be totally inspected within 7 days of delivery. If any concealed damage is discovered, send a registered letter of protest to the carrier within 7 days of delivery.

### Warning

Warnings are provided at appropriate places in this manual to indicate to installers, operators and service personnel of potentially hazardous situations which, if not avoided, COULD result in death or serious injury.

### Caution

Cautions are provided at appropriate places in this manual to indicate to installers, operators, and service personnel of potentially hazardous situations which, if not avoided, MAY result in minor or moderate injury or malfunction of the unit.

Your personal safety and the proper operation of this unit require that you follow them carefully. The Trane Company assumes no liability for installations or servicing performed by unqualified personnel.

### Warranty

Warranty is based on the general terms and conditions in each country. The warranty is void if the equipment is modified or repaired without the written approval of The Trane Company, if the operating limits are exceeded or if the control system or the electrical wiring is modified.

Damage due to inappropriate installation, lack of knowledge or failure to comply with the manufacturer's instructions, is not covered by the warranty obligation. If the installation does not conform to the rules described in Installation Manual, it may entail cancellation of warranty and liabilities by The Trane Company.

### Important

This document is customer property and is to remain with the unit. Please place it in the service information pack upon completion of work.

These instructions do not cover all variations in systems, nor do they provide for every possible contingency to be met in connection with installation. Should further information be desired or should particular problems arise which are not covered sufficiently in this manual, the matter should be referred to your Trane sales representative.



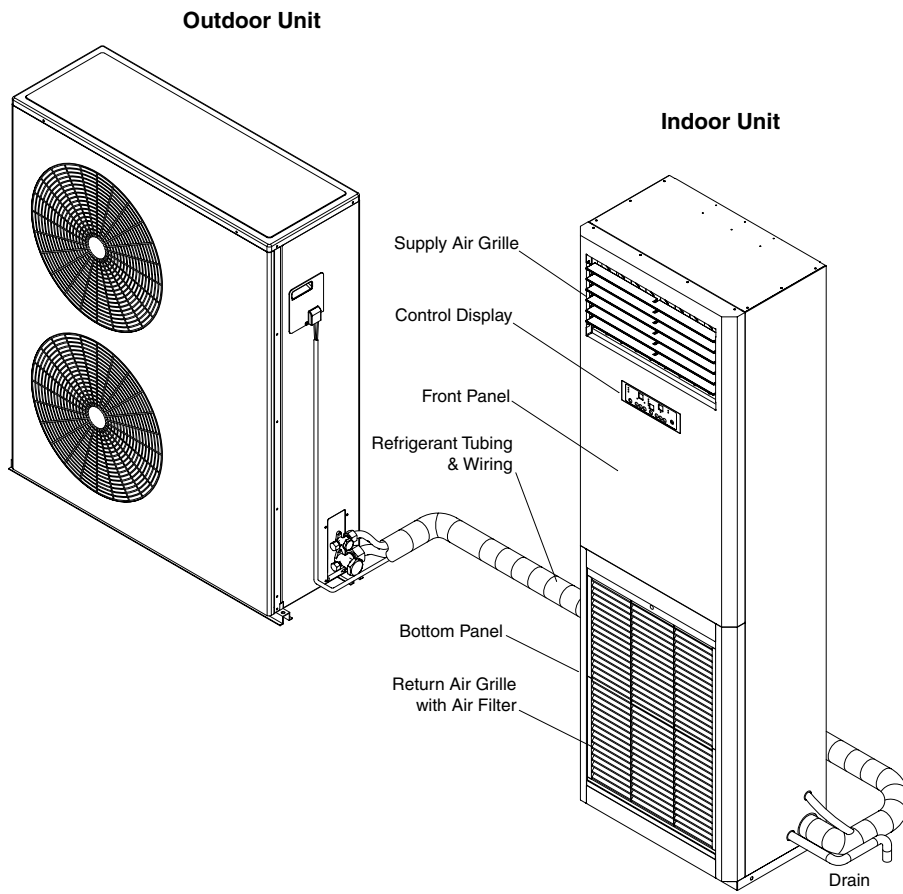
## Contents

---

General Information	2
Typical Installation	4
Location and Preparation of Unit	5
Unit Installation	6
Condensate Drain Piping	8
Electrical Installation	9
Typical Wiring Diagram	10
Dimensional Data	11



## Typical Installation





## Location and Preparation of Unit

1. Select an appropriate position that allows every corner of the room to be uniformly air conditioned and where it is easy to route the refrigerant tubing (Figure 1).
2. Ensure that the floor construction is sufficient to fully support the weight of the indoor unit.
3. Consideration must be given to ensure an unobstructed flow of supply and return air.
4. Refrigerant tubes between indoor and outdoor units should be kept as short as possible.
5. Length of the condensate drain hose should be kept as short as possible.
6. Do not install in direct sunlight or near other heat sources as this may affect performance. Do not allow outside air to directly enter unit or condensate may form at the unit's discharge.
7. Recommended service clearance as shown in (Figure 2).

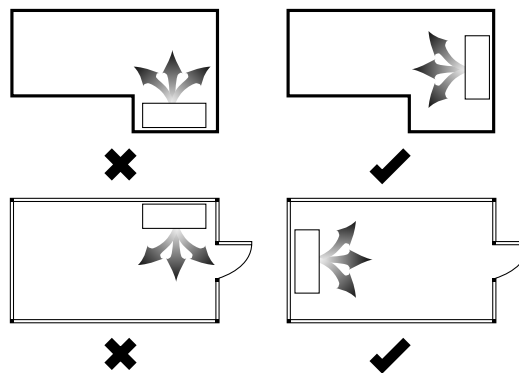


Figure 1

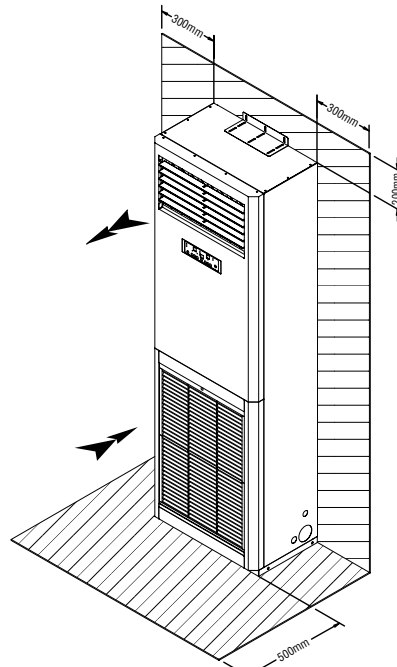


Figure 2



## Unit Installation

### Indoor Unit

1. Select a location to route tubing, wiring and drain pipe between the indoor and outdoor units.
2. Make a hole in the wall using a key hole saw or hole-cutting drill attachment.

The hole should be made at a slight downward slant to the outdoor side (Figure 3).

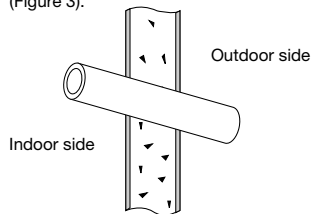


Figure 3

Before cutting, check that no pipes or studs are directly behind the place to be cut. Avoid areas where electrical wiring or conduits are located.

3. Place the unit on a solid and level foundation.
4. Tubing, wiring and the drain pipe can be routed to rear or left and right side of the unit.
5. To gain access to the electrical terminals, the drain and the refrigerant lines, remove the return air grille and bottom panel.
  - 5.1 Remove a screw at return air grille (Figure 4).
  - 5.2 Pull the return air grille forward and lift up to remove it (Figure 5).
  - 5.3 Unscrew at the bottom panel, pull forward and lift up to remove the panel. The electrical box will be on the left hand side, the drain and refrigerant lines will be on the right hand side when facing front (Figure 6).
  - 5.4 Unscrew at the electrical box to remove the cover, the electrical terminal will be placed inside the box (Figure 7).
6. Replace the cover of electrical box, bottom panel and the return air grille after the installation of wiring, tubing and piping is completed.

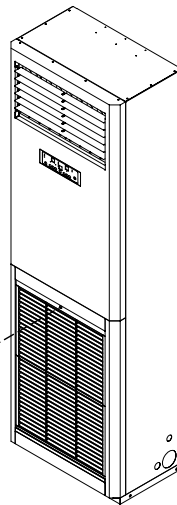


Figure 4

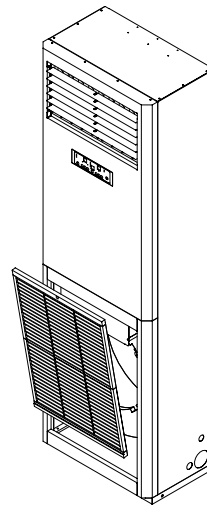


Figure 5

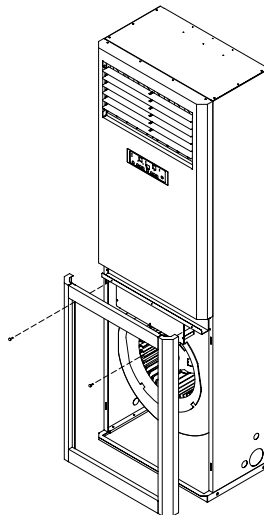


Figure 6

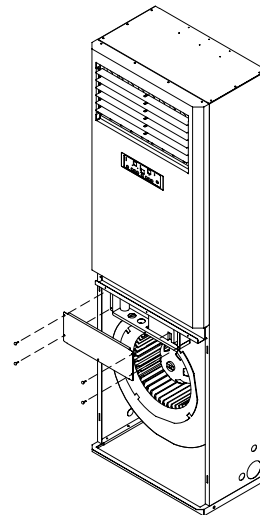


Figure 7

# Unit Installation

## Outdoor Unit

See the proper installation method provided in the Installation Manual for the outdoor unit.

## Connection of Refrigerant Tubing

Complete instructions for installation brazing, leak detection, and evacuation of refrigerant lines is covered in the Installation Manual packaged with the outdoor unit.

The indoor unit refrigerant piping connections are located on the right hand side when facing the unit.

## Bending

- When bending the tube, be careful not to crush it. To prevent crushing of the tube, bend it gently and do not bend the tube at a radius curvature of less than 100 mm.
- If the copper tube is bent or pulled too often, it will become stiff. Do not bend the pipe more than three times at one place.

## Connecting the Unit with Brazing Procedure

1. Cut the copper tube to the required length with a tube cutter. It is recommended to cut approx. 20-30 cm. longer than the tube length you estimate.
2. Remove burrs at the end of the copper tube with a tube reamer (Figure 8).

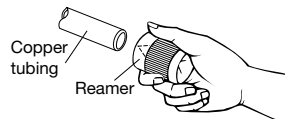


Figure 8

3. There are 2 ways to connect the copper tube.
  - Use a coupling between the copper tube of indoor unit and the copper tube used for installation (Figure 9).

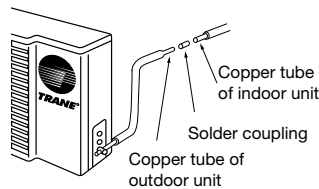


Figure 9

- Expand the copper tube by using a swaging tool set (Figure 10).

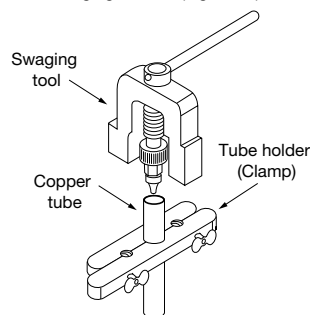


Figure 10

4. Clean internal and external surfaces of coupling or expanded tube prior to brazing.
5. Insulate the entire suction line.
6. Do not allow uninsulated liquid line to come in direct contact with bare suction line.
7. Precautions should be taken to avoid heat damage to the pressure tap valve core during brazing. It is recommended that a wet rag be wrapped around the valve body.
8. It is recommended to use braze shield, soak pad in water and place over suction and liquid lines to protect unit finish.
9. To braze the copper tube, before brazing a copper tube to a solder coupling or a copper tube to an expanded tube, do not forget to keep them tight as shown in (Figure 11, 12).

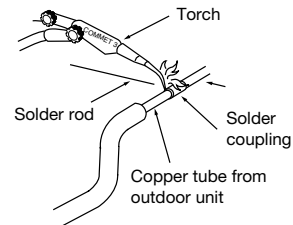


Figure 11

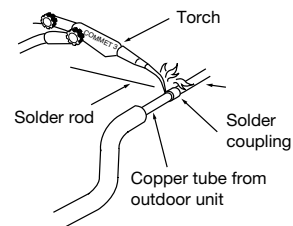


Figure 12

10. Use a dry nitrogen purge and brazing alloy without flux when brazing the field line to the copper factory connection. Flow dry nitrogen into either valve pressure tap port, through the tubing and out the other port while brazing.
11. Braze using accepted good brazing techniques.



## Condensate Drain Piping

- The drain hose should run straight down the wall to a level where the run off will not stain the wall.
- There should be no traps. Avoid putting the end of the hose in water.
- To conveniently drain the system, the drain hose must slant downward, with a slope of at least 1 : 50 to prevent leakage.
- When the drain hose is placed in the room, insulate the hose with foam polyethylene to avoid damage to the ceiling or furniture.
- After completing installation of refrigerant lines, wiring and drain connections, bind the tubing, wiring and drain hose (check if local codes permit binding) into a bundle by using tape at 100 or 200 mm. (4" to 8") intervals. Make sure the drain hose is at the bottom of the bundle (Figure 12).

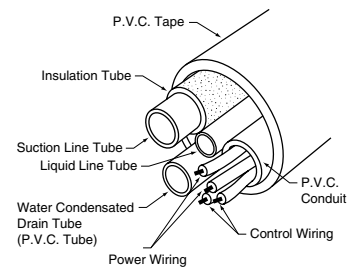


Figure 12





## Electrical Installation

---

All wiring and grounding must comply with local electrical codes.

### 1. Wiring

Important Safeguards:

- Check the unit nameplate for electrical rating. Be sure wiring is done according to local codes and wiring diagram.
- Use a separate power line with circuit breaker for each air conditioning unit.
- Connect electrical ground to all units.
- Wiring should not touch refrigerant tubing, compressor, motors or moving parts.
- The manufacturer will accept no responsibility for problems caused by unauthorized changes in the internal wiring.
- Connect the wiring firmly.

### 2. Electrical Connections

See Section: Typical Wiring Diagram

### Indoor Unit

Remove the return air grille and cover of electrical box (see previous instructions) to access the terminal base.

- Connect the wire terminals to the terminal base. (See connection indication on system wiring diagram).
- Make sure all connections are tight.

### Outdoor Unit

Outdoor unit - indoor unit electrical interconnection should be in accordance with the applicable system wiring diagram and indoor unit diagrams.

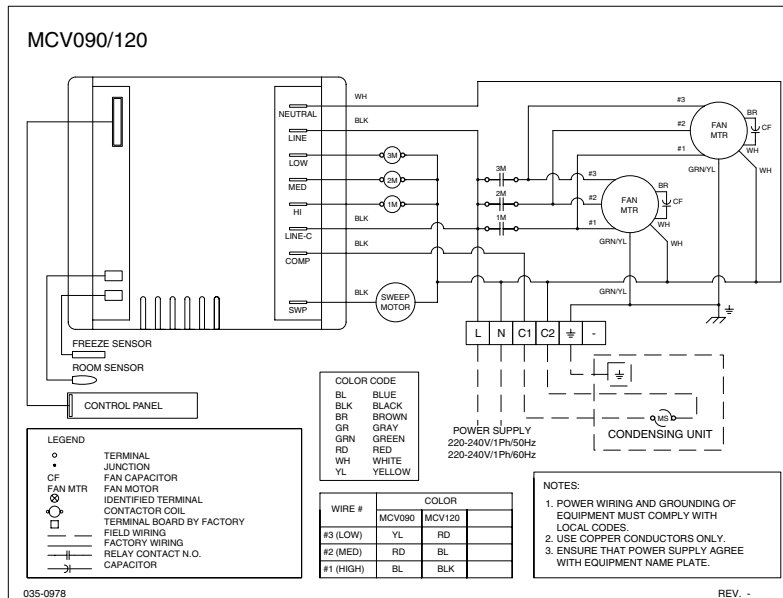
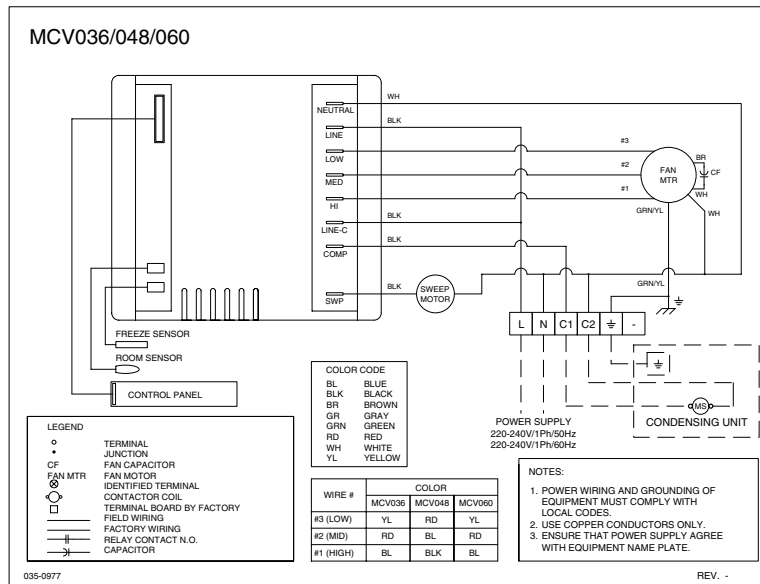
Outdoor unit diagram is contained in the outdoor unit Installation Manual

### Note:

- All wiring must comply with national state and local codes.
- After completing the connections, re-confirm them to be in accordance with the unit and system wiring diagrams.



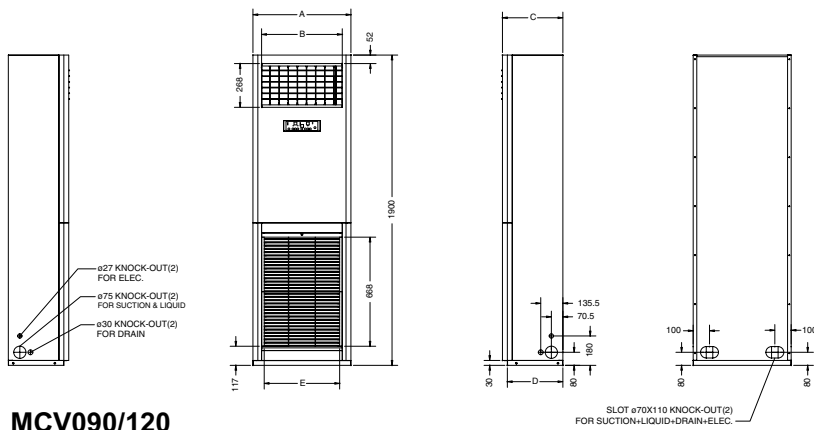
# Typical Wiring Diagram



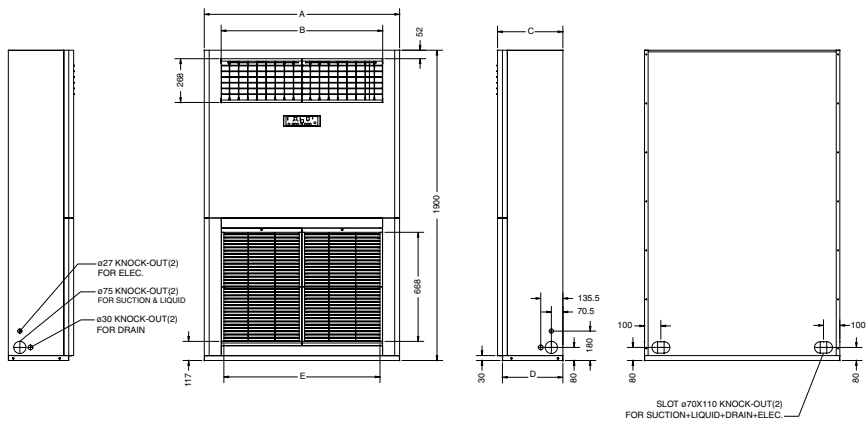


## Dimensional Data

### MCV036/048/060



### MCV090/120



FOR EXPORT MODEL (50/60Hz)

MODEL	A	B	C	D	E	LIQUID SIZE	SUCTION SIZE	CONNECTION TYPE
MCV036	600	494	370	340	462	3/8"	3/4"	BRAZE
MCV048	600	494	370	340	462	3/8"	1-1/8"	BRAZE
MCV060	848	742	400	370	710	3/8"	1-1/8"	BRAZE
MCV090	1196	989	400	370	954	1/2"	1-1/8"	BRAZE
MCV120	1196	989	400	370	954	1/2"	1-3/8"	BRAZE

NOTE : ALL DIMENSIONS ARE IN MILLIMETER.



Trane  
A business of American Standard Companies

<http://www.trane.com>

For more information, contact your local district office

---

Literature Order Number MS-SVN007-EN (June 2006)

---

File Number MS-SVN007-EN.pdf

---

Supersedes New

---

Stocking Location Thailand

---

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice. Only qualified technicians should perform the installation and servicing of equipment referred to in this publication.