



Installation Manual

Mini Split Systems, Hi Wall Type 9000-30000 Btu/h, 50Hz, R22



System Combinations

	Indoor Unit	Outdoor Unit
50Hz	MWW509IB	TWK509JB
Heat Pumps	MWW512IB	TWK512JB
	MWW518IB	TWK518JB
	MWW524IB	TWK524JB
	MWW526IB	TWK526JB
	MWW530IB	TWK530JB



General Information

Foreword

These Installation instructions are given as a guide to good practice in the installation, start-up and operation by the installers of MCW/MWW and TTK/TWK mini-split systems.

They do not contain the full service procedures necessary for the continued successful operation of this equipment. The services of a qualified service technician should be employed, through the medium of a maintenance contract with a reputable service company.

Read them completely before doing anything with your air conditioning system.

Warranty

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

Damage due to misuse, lack of maintenance, or failure to comply with the manufacturer's instructions, is not covered by the warranty obligation.

If the user does not conform to the rules described in the manual, it may entail cancellation of warranty and liabilities by the Trane company.

Reception

On arrival, inspect the unit before signing the delivery note. Specify any damage on the delivery note, and send a registered letter of protest to the last carrier of the goods within 72 hours of delivery. Notify the local sales office at the same time. 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 and notify the local sales office. Units are shipped with the refrigerant operating or holding charge and should be examined with an electronic leak detector to determine the hermetic integrity of the unit. The refrigerant charge is not included in the standard Warranty Cover.

About this manual

Cautions appear at appropriate places in this instruction manual. Your personal safety and the proper operation of this machine require that you follow them carefully. The constructor assumes no liability for installations or servicing performed by unqualified personnel.

All phases of the installation of these air conditioning systems must conform to all provincial/state and local codes.

Please keep this installation manual carefully for consultation.

About the unit

These MCW/MWW and TTK/TWK units are assembled, pressure tested, dehydrated, charged and run tested before shipment. The information contained in this manual applies to units designated MCW/MWW and TTK/TWK. MCW and TTK units are designed to operate in cooling mode only, whereas MWW and TWK can operate in cooling or heating modes.

Refrigerant

The refrigerant provided by the constructor meets all the requirements of our units. When using recycled or reprocessed refrigerant, it is advisable to ensure its quality is equivalent to that of a new refrigerant. For this, it is necessary to have a precise analysis made by a specialized laboratory. If this condition is not respected, the constructor warranty could be cancelled.

Important

These instructions do not cover all variations in system, nor do they provide for every possible contingency to be met.

Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the Trane sales office in your region.

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Product Specifications

Model	Indoor Unit Outdoor Unit	MWW509IB0R TWK509JB0E	MWW512IB0R TWK512JB0E	MWW518IB0R TWK518JB0E
Function		Cool Heat	Cool Heat	Cool Heat
Cooling Capacity (W)		2300W	3200W	4500W
Heating Capacity (W)		2400W	3800W	4800W
Power Supply		50Hz/240V/1PH		
Rated Current (Cooling/Heating) (A)		3.5/3.4	6.2/6.75	8.39/8.39
Rated Input (Cooling/Heating) (W)		820/800	1350/1460	1900/1750
Air Flow Volume (m ³ /h)		380	470	600
Refrigerant and Charge(kg)		R22/0.65	R22/0.87	R22/1.2
Water Proof Level		IP x 4		
Sound Pressure Level (Indoor/Outdoor) dB(A)		37/52	39/58	44/57
Climate Type		T1		
Anti-Electric shock protection		I		
Net Weight (Indoor/Outdoor) (Kg)		7/25kg	8.5/38kg	12/40kg
Dimension (mm) (WxHxD)		Indoor 770 x 250 x 180 Outdoor 848 x 540 x 320	Indoor 770 x 250 x 180 Outdoor 848 x 540 x 320	Indoor 907 x 290 x 195 Outdoor 950 x 700 x 412

Model	Indoor Unit Outdoor Unit	MWW524IB0R TWK524JB0E	MWW526IB0R TWK526JB0E	MWW530IB0R TWK530JB0E
Function		Cool Heat	Cool Heat	Cool Heat
Cooling Capacity (W)		6000W	7000W	8000W
Heating Capacity (W)		7000W	7500W	8800W
Power Supply		50Hz/240V/1PH		
Rated Current (Cooling/Heating) (A)		10.7/11.3	12.5/12.3	20.5/19.5
Rated Input (Cooling/Heating) (W)		2450/2580	2850/2800	4010/3600
Air Flow Volume (m ³ /h)		720	950	1250
Refrigerant and Charge(kg)		R22/2	R22/2.5	R22/2.75kg
Water Proof Level		IP x 4		
Sound Pressure Level (Indoor/Outdoor) dB(A)		48/59	51/59	49/60
Climate Type		T1		
Anti-Electric shock protection		I		
Net Weight (Indoor/Outdoor) (Kg)		12/59kg	24/72kg	24/72kg
Dimension (mm) (WxHxD)		Indoor 907 x 290 x 195 Outdoor 950 x 700 x 412	Indoor 1220 x 360 x 205 Outdoor 950 x 840 x 412	Indoor 1178 x 326 x 227 Outdoor 950 x 840 x 412








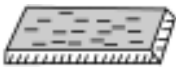




(1) Rating Conditions & Working temperature range		
	Indoor Side DB/WB (°C)	Outdoor Side DB/WB (°C)
Maximum Cooling	32/23	43/26(T1)
Minimum Cooling	21/15	21/-
Maximum Heating	27/-	24/18
Minimum Heating	20/-	-5/-6

(2) Sound Pressure level 1m from the unit. It is sound data at high speed.

(3) All above should be changed without notice, please refer to nameplate for actual data.

Installation Items

Installation items (check that all installation items are present before installation)

NO.	Part name	Diagram	Qty	Specification	Memo
1	Mounting plate		1		
2	Wireless remote controller		1		
3	Battery		2	AAA,1.5V	
4	Power connection cord		1		
5	Control cord		1	4 X 0.75	Heat pump model only
6	Tapping screw		10	ST4.2 X 25	Fix the mounting plate
7	Plastics drain hose		1	L = 2m	
8	Gum type sealer		1	120 X 65 X 25	
9	Thermal insulation hose		1	φ35 X 500	
10	Outdoor drain elbow		1		Heat pump type only
11	Outdoor drain stem		2		Heat pump type only
12	Air cleaner		2		Packaged with indoor unit

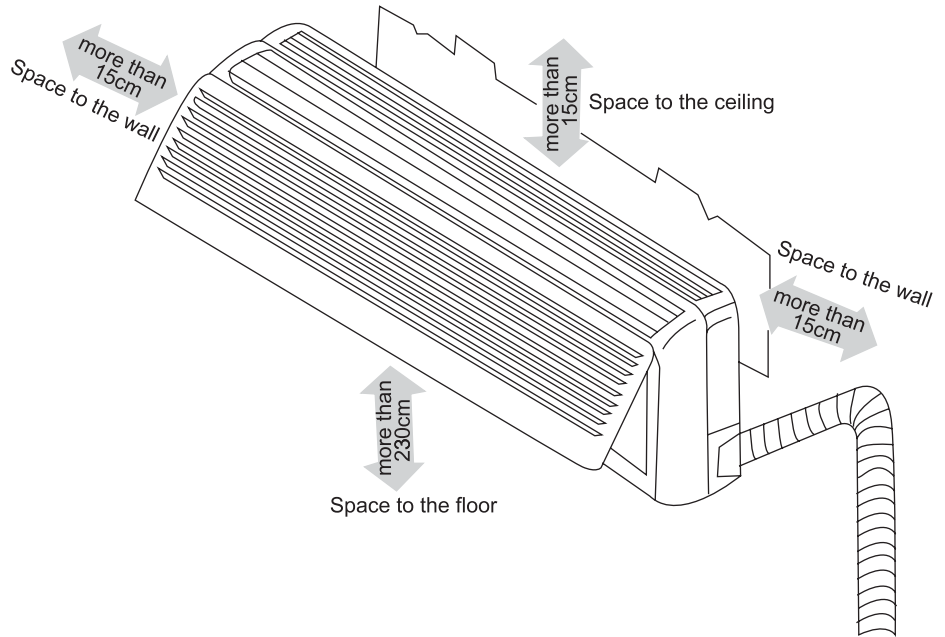
Be sure to use the exclusive accessories list above in the installation, otherwise it will lead to water leakage, electric shock, fire, etc.

Installation Diagram

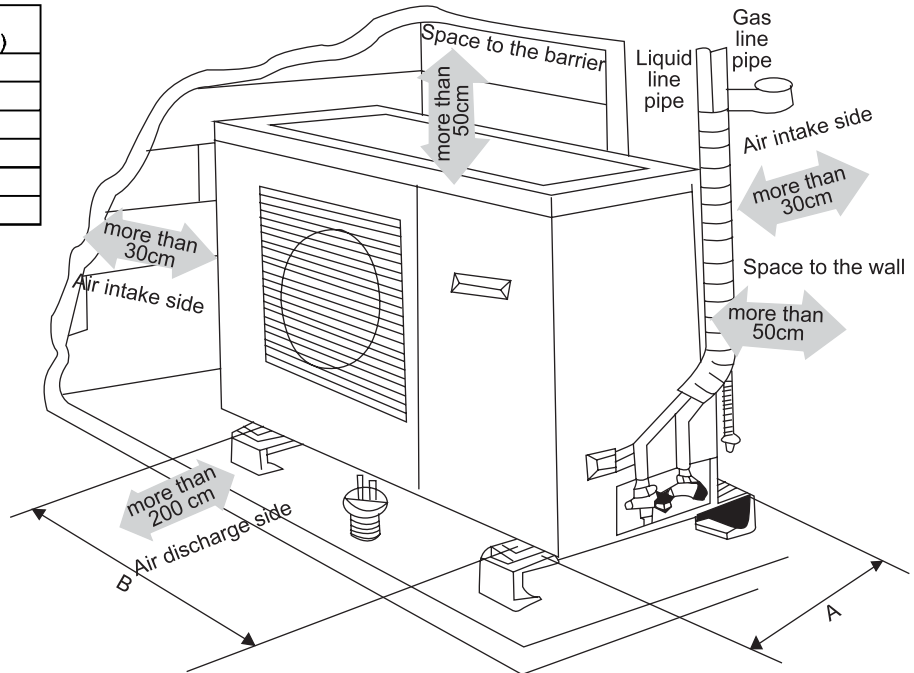
Installation dimension diagram

CAUTION!

- The installation must be done by trained and qualified service personnel with reliability according to this manual.
- Grounding wire should be connected with the special device. If not, please install it by professional personnel.
- When lifting up and moving the units, you must be guided by trained and qualified personnel.



Outdoor Model	A (mm)	B (mm)
TWK509JB0E	286	540
TWK512JB0E	286	540
TWK518JB0E	378	572
TWK524JB0E	378	572
TWK526JB0E	378	570
TWK530JB0E	378	570



Installation Location

Indoor unit

1. The air inlet and outlet should be far away from the barrier to make sure that the air can reach to all parts of the room;
2. Select the location where it is easy to drain the condensing water and connect to the outdoor unit;
3. Keep the indoor unit far away from the heat source, vapor and inflammable gas;
4. Install in a location where is strong enough to withstand the full weight and vibration of the unit;
5. Be sure that the installation of the indoor unit conforms to the installation dimension diagram;
6. Be sure to leave enough space to allow access of routine maintenance, clearance between the indoor unit and the floor should be more than 200cm;
7. Install in a location where is more than 1 meter away from other electric appliances such as television, audio device etc.;
8. Select location where is easy to remove and clean the air filters.

Outdoor unit

1. Select a location from which noise and air discharge by unit will not annoy neighbors.
2. Select location where there should be sufficient ventilation.
3. There should not be barriers preventing air inlet and outlet near the outdoor unit.
4. Select the location which can bear the weight and vibration of the outdoor unit, where installation work can be carried out safely.
5. There should be no danger of flammable or corrosive gas leaks.
6. Be sure that the installation of the outdoor unit conforms to the installation dimension diagram.

CAUTION!

Install in the following place may cause malfunction. If it is unavoidable, contact with service agency for consultant.

- Place where oil (machine oil) is used.
- The place where a lot of salinities such as coast exists.
- Place where a sulfured gas such as the hot spring zones is generated.



- Place where high-frequency waves are generated by radio equipment, welders and medical equipment.
- Other place with special circumstance.

Installation for MWW509IB/TWK509JB MWW512IB/TWK512JB

Install the indoor unit

Install the mounting plate

1. Always mount the mounting plate horizontally.
2. Fix the mounting plate on the selected location with screws supplied with the unit.
3. Be sure that the mounting plate has been fixed firmly enough to withstand the weight of an adult of 60kg, furthermore, the weight should be evenly shared by each screw.

Cut the piping hole

1. Make the piping hole ($\phi 55$) in the wall at a slight downward slant to the outdoor side. The center of the hole should be determined refer to Figure 1.
2. Insert the piping - hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

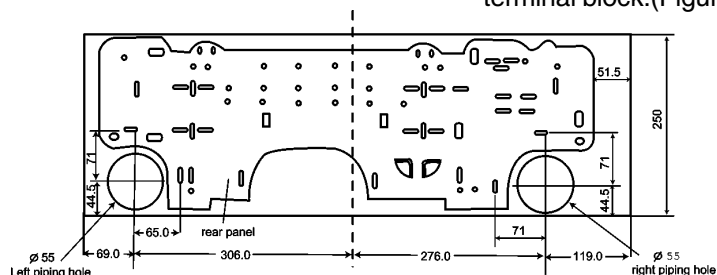


Figure 1

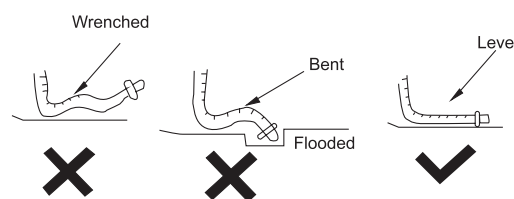


Figure 2

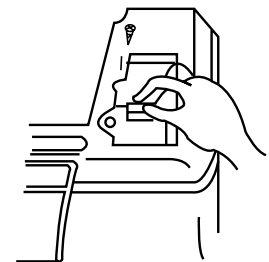


Figure 3

Install the drain hose

1. For well draining, the drain hose should be placed at a downward slant.
2. Do not wrench or bend the drain hose or flood its end by water. (Figure 2)

Install the connection pipes

Connect the connection pipes with the relevant union pipes of the indoor unit (Shown in "Install the connection pipes" section)

CAUTION!

- Connect the connection pipes with the indoor unit firstly and the outdoor unit secondly.
- Be careful in bending the connection pipes, or you will damage the pipes.
- If the tightening torque is too big in tightening the flare nuts, leakage will happen.

Electrical wiring

1. Open the front panel.
2. Remove the screws on the left of wiring access panel and open the panel upward. (Figure 3)
3. Route the power connection cords from the back of the indoor unit and pull it toward the front through the wiring hole for connection.
4. Connect the blue wire of the power connection cord to the terminal "N(1)", the brown one to "2", and the yellow-green one (earth wire) to "⊥" terminal as shown Figure 4, tighten the power supply cords by a clamp installed in front of the terminal block. (Figure 4)

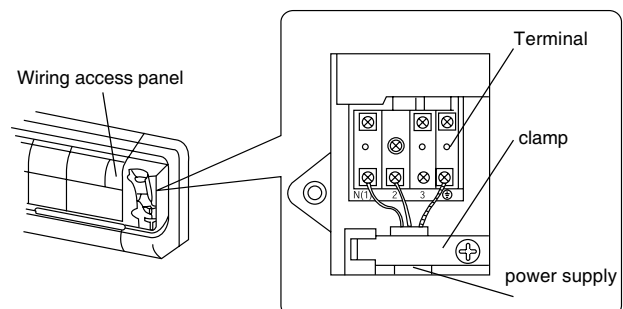


Figure 4

Installation for MWW509IB/TWK509JB MWW512IB/TWK512JB

5. For heat pump unit, connect the control cable to the indoor unit through the intertaces (see figure 5).
6. Reassemble the wiring access panel.
7. Recover the front panel.

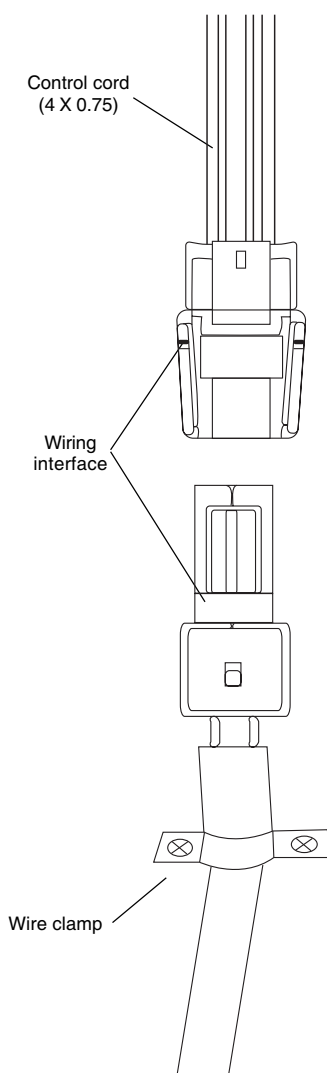


Figure 5

CAUTION!

- All the electrical work must be done by qualified personnel according to the local rules and this manual.
- The rated voltage and the exclusive circuit must be used.
- Leakage circuit - breaker must be installed.
- Please use specified fuse.
- The diameter of power cord should be large enough. Use the exclusive wire to replace the damaged wire.
- Wiring work should conform to national standard.

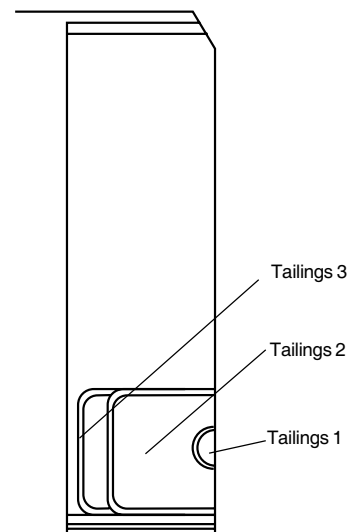


Figure 7

Install the indoor unit

1. The piping routing of the indoor unit see Figure 6 (a) (b), when routing the piping and wiring from the left or right side of the indoor unit, cut off the tailings from the chassis in necessary (shown in Figure 7)
 - ① Cut off the tailings 1 when routing the wiring only.
 - ② Cut off the tailings 1 and tailings 2 when routing both the wiring and piping.
2. Wrap the piping and wiring, and pull them through the cut-off tailings hole. (shown in Figure 8)

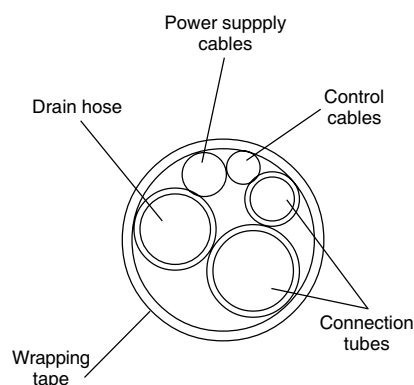


Figure 8

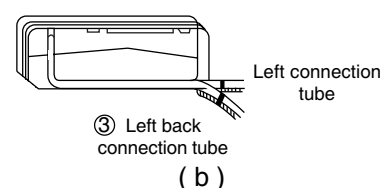
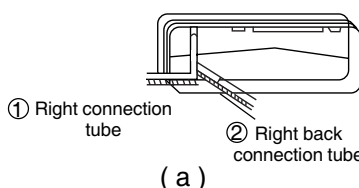


Figure 6

Installation for MWW509IB/TWK509JB MWW512IB/TWK512JB

3. Hang the 2 mounting slots of the indoor unit on the upper tabs of the mounting plate and check if it is firm enough.(figure 9. 10)
4. The height of the installation location should be 2.3m or more from the floor.

Tightening torque table

Hex nut diameter(mm)	Tightening torque(N.m)
∅ 6	15-20
∅ 9.5	31-35
∅ 12	50-55

Install the outdoor unit

Install the connection pipe

1. Align the center of the piping flare with the relevant valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench.
(Refer to Figure 9)

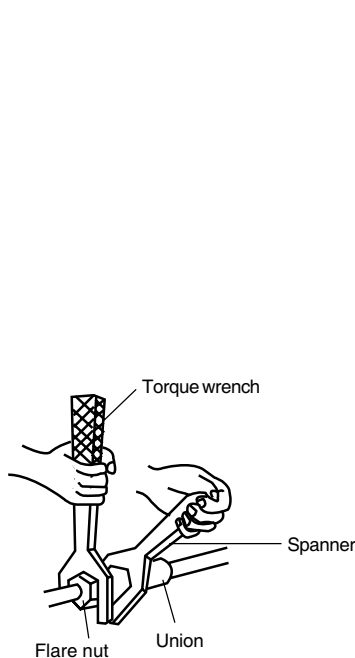


Figure 9

Electric wiring connection

(See Figure 10)

1. Disassemble the handle (4 screws) on the right side of the outdoor unit.
2. Remove the wire clamp and connect the end of the power connection cord with screws to the wiring terminal board. Be sure that the wiring connection is in accordance with the indoor unit's
3. Fix the wiring with wire clamp. joint the relevant interfaces accordingly
4. Make sure that the wiring has been connected securely.
5. Reassemble the handle.

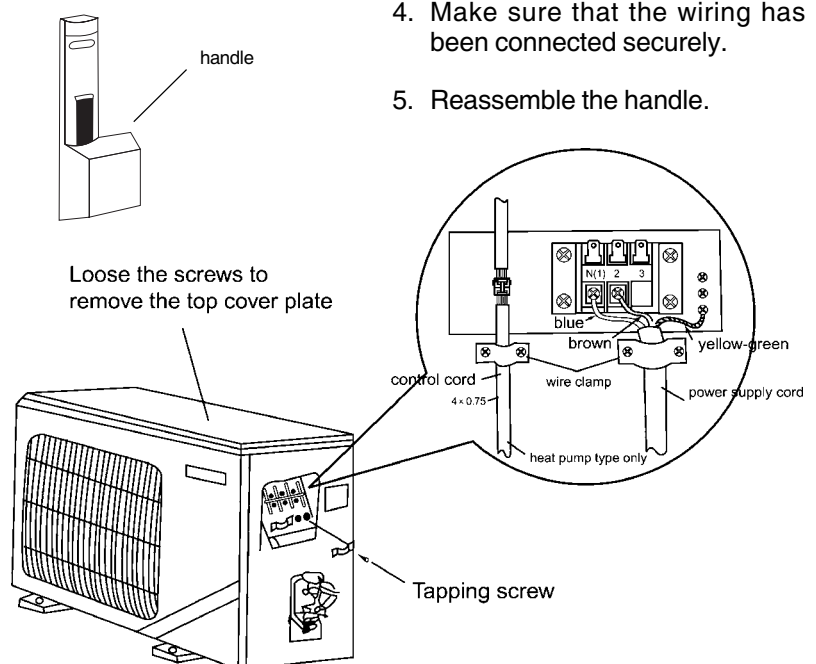


Figure 10

Installation for MWW518IB/TWK518JB MWW524IB/TWK524JB

Indoor unit installation

Install the mounting plate

1. Adjust the horizontal level of the mounting plate. With the outlet of the drain hose at the left side, lower the left side slightly while adjusting the mounting plate.
2. Fixing the mounting plate on the wall with screws.
3. Pull the mounting plate manually to check its reliability after installation. Be sure that the mounting plate has been fixed firmly enough to withstand the weight of an adult of 60kg, furthermore, the weight should be evenly shared by each screw.

Cut the piping hole

1. Connection tube can go out from six directions, select one for needed as shown in figure 1.
2. Make the piping hole ($\phi 65$) in the wall at a slight downward slant to the outdoor side. The center of the hole should be determined refer to Figure 2.
3. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the wall.

Install the drain hose

1. For well draining, the drain hose should be placed at a downward slant.
2. Do not wrench or bend the drain hose or flood its end by water. (Figure 3)
3. Lengthened drain hose should be wrapped with insulation when going through the room.

Install the connection tube

Connect the connection tubes, and fasten the coupling nuts of the connection tubes. (See "Install the connection tube" section).

CAUTION!

- Connect the connection tube with the indoor unit firstly, and then the outdoor unit.
- Be careful in bending the connection tube, or you will damage the tube.
- If the tightening torque is too big in tightening the flare nuts, leakage will happen.

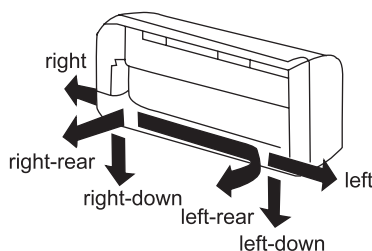


Figure 1

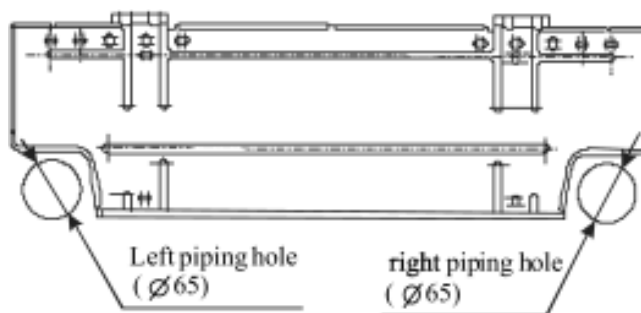


Figure 2

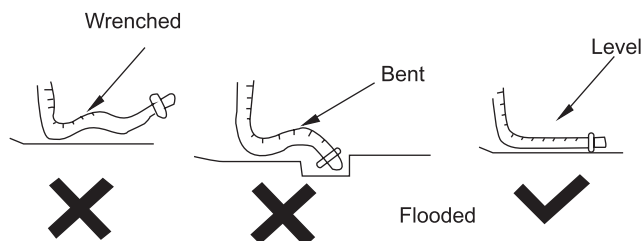


Figure 3

Electrical Wiring

1. Open the front cover upwards.
2. Remove the wiring cover as shown in figure 4.
3. Put the power connecting cables through the chassis and control box bottom from down to up.
4. Connect the blue power supply cable with the terminal "N(1)" on the terminal block, the brown one with terminal "2", the red one with terminal "3", and the yellow-green one (earth wire) with the terminal "⊕". (Figure 4)
5. For heat pump model, one control cord should be connected through connector (Figure 4) and should be clamped with a clamp on the chassis.
6. Install the wiring cover to the original place and fasten the screws.
7. Put back the front cover.

Installation for MWW518IB/TWK518JB MWW524IB/TWK524JB

CAUTION!

- All the electrical work must be done by qualified personnel according to the local rules and this manual.
- The rated voltage and the exclusive circuit must be used.
- Leakage circuit - breaker must be installed.
- Please use specified fuse.
- The diameter of power cord should be large enough. Use the exclusive wire to replace the damaged wire.
- Wiring work should conform to national standard.

Install the indoor unit

1. When routing the piping or wiring from the left or right side of the indoor unit, cut off the tailings from the chassis in necessary (Shown in figure 5)
 - (1) Cut access hole 1 when only routing the power wire.
 - (2) Cut tailings 1 when routing both the wiring and piping.
2. After wrapping the connection tubes and wire, put them through the wall piping hole. (Figure 6)
3. Hang the grip at the back of the indoor unit to the hook on the mounting plate, check if it is firm enough.
4. The height of the installation location should be more than 2.3m from the floor.

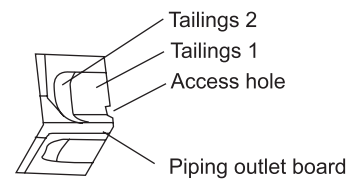


Figure 5

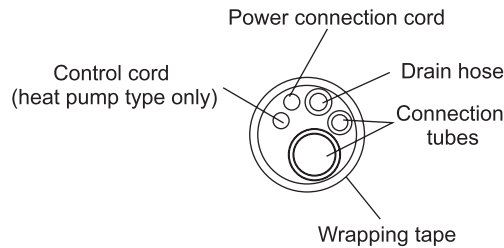


Figure 6

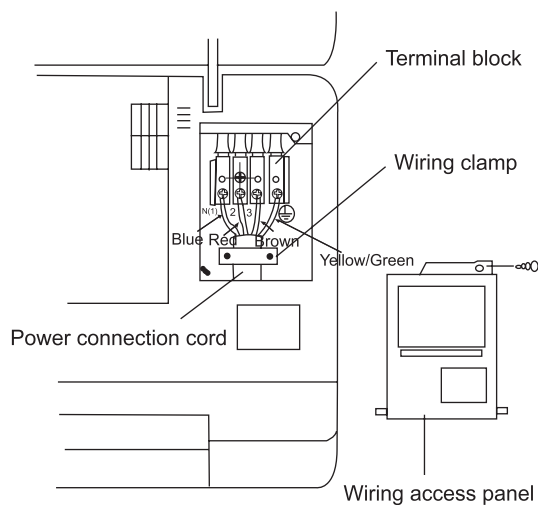
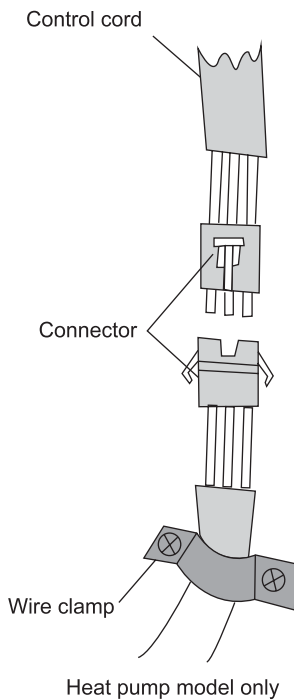


Figure 4

Installation for MWW518IB/TWK518JB MWW524IB/TWK524JB

Outdoor Unit Installation

Install the connection tube

1. Align the center of the piping flare with the relevant valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench. (refer to figure 7) Note: Too large torque will damage the nut.

Tightening torque table.

Hex nut diameter(mm)	Tightening torque(N m)
φ 6	15 ~ 20
φ 9.5	31 ~ 35
φ 12	50 ~ 55
φ 16	60 ~ 65

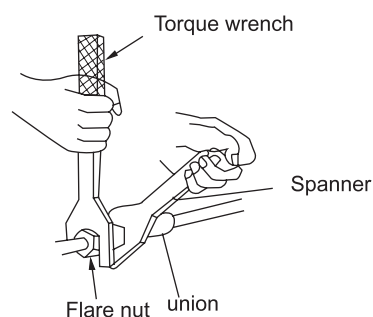


Figure 7

Electric wire Connection

1. Remove the front right side panel of the outdoor unit and knock through the outdoor wiring hole. Put on the wire rubber ring.
2. Remove the wire clamp and connect the end of the power connection cord with screws to the wiring terminal board as shown in figure 8.
3. Fix the power connection cord and control cord by using the wire clamp.
4. Make sure that the wiring has been connected securely.
5. Install the front side panel.

CAUTION!

- Wrong wiring connection will cause electrical mal-function.
- After fixing the cables, make sure that the cable between the connection location and fixing location can move to some extent.

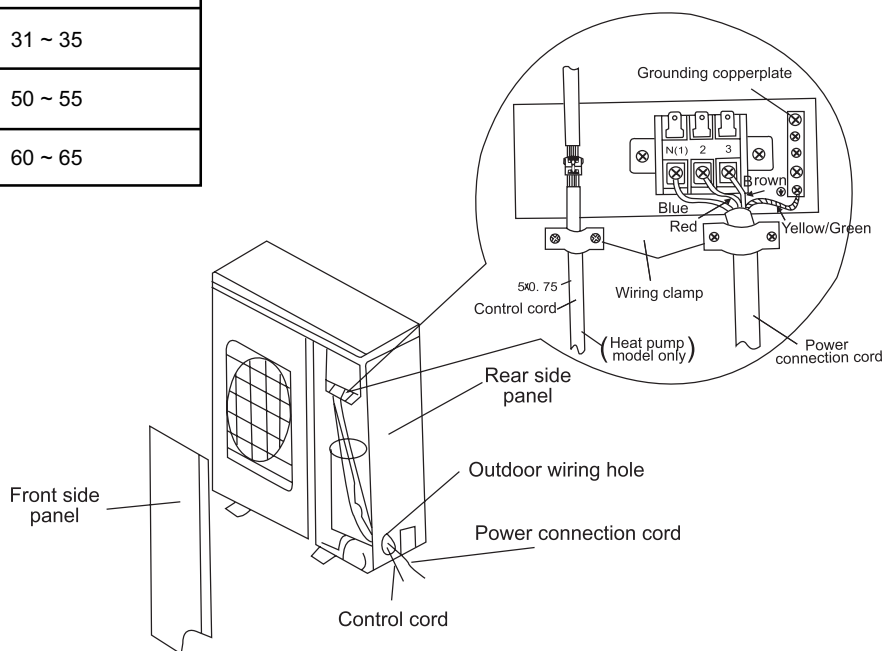


Figure 8

Installation for MWW526IB/TWK526JB

Indoor Unit Installation

Install the mounting plate

1. Adjust the horizontal level of the mounting plate.
2. Fixing the mounting plate on the wall with screws.
3. Pull the mounting plate manually to check its reliability after installation. Be sure that the mounting plate has been fixed firmly enough to stand the weight of an adult of 60kg, furthermore, the weight should be evenly shared by each screw.

Cut the piping hole

1. Make the piping hole ($\phi 65$) in the wall at a slight downward slant to the outdoor side. The center of the hole should be determined refer to Figure 1.
2. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the wall.

Install the drain hose

1. For well draining, the drain hose should be placed at a downward slant.
2. Do not wrench or bend the drain hose or flood its end by water (Figure 2).
3. Lengthened drain hose should be wrapped with insulation when going through the room.

Install the connection tube

Connect the the connection tubes, and fasten the coupling nuts of the connection tubes. (See "Install the connection tube" section).

CAUTION!

- Connect the connection tube with the indoor unit firstly, and that the outdoor unit.
- Be careful in bending the connection tube, or you will damage the tube.
- If the tightening torque is too big in tightening the flare nuts, leakage will happen.

Electrical Wiring

1. Open the front cover upwards.
2. Remove the wiring cover as shown in figure 3.
3. Put the power connecting cables through the chassis and control box bottom from down to up.
4. Connect the blue power supply cable with the terminal "N(1)" on the terminal block, the brown one with terminal "2", the red one with terminal "3", and the yellow-green one (earth wire) with the terminal "⊕", (Figure 3)
5. For heat pump model, one control cord should be connected through connector and should be clamped with a clamp.
6. Install the wiring access cover to the original place and fasten the screws.
7. Put back the front cover.

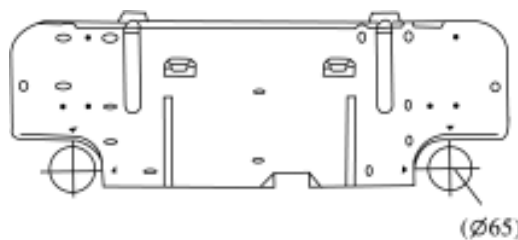


Figure 1

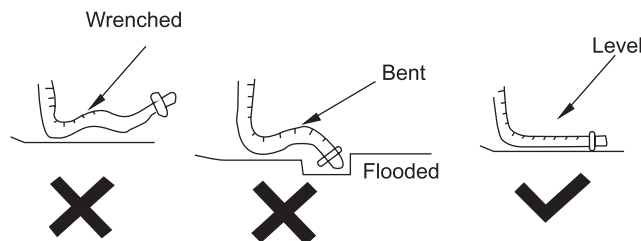


Figure 2

Installation for MWW526IB/TWK526JB

CAUTION!

- All the electrical work must be done by qualified personnel according to the local rules and manual.
- The rated voltage and the exclusive circuit must be used.
- Leakage circuit-breaker must be installed.
- Please use specified fuse.
- The diameter of power cord should be large enough. Use the exclusive wire to replace the damaged wire.
- Wire work should conform to national standard.

Install the indoor unit

1. When routing the piping or wiring from the left or right side of the indoor unit, cut off the tailings from the chassis in necessary (Shown in figure 4)
 - (1) Cut tailing 1 when routing the power wire only.
 - (2) Cut tailings 1 and 2 when routing both the wiring and piping.
2. After wrapping the connection tubes and wire, put them through the wall piping hole (Figure 5).
3. Hang the grip at the back of the indoor unit to the hook on the mounting plate, check if it is firm enough.
4. The height of the installation location should be more than 2.3m from the floor.

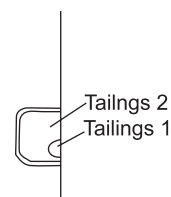


Figure 4

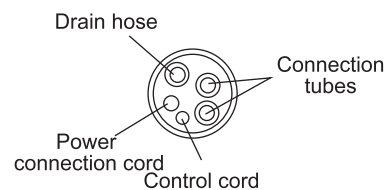


Figure 5

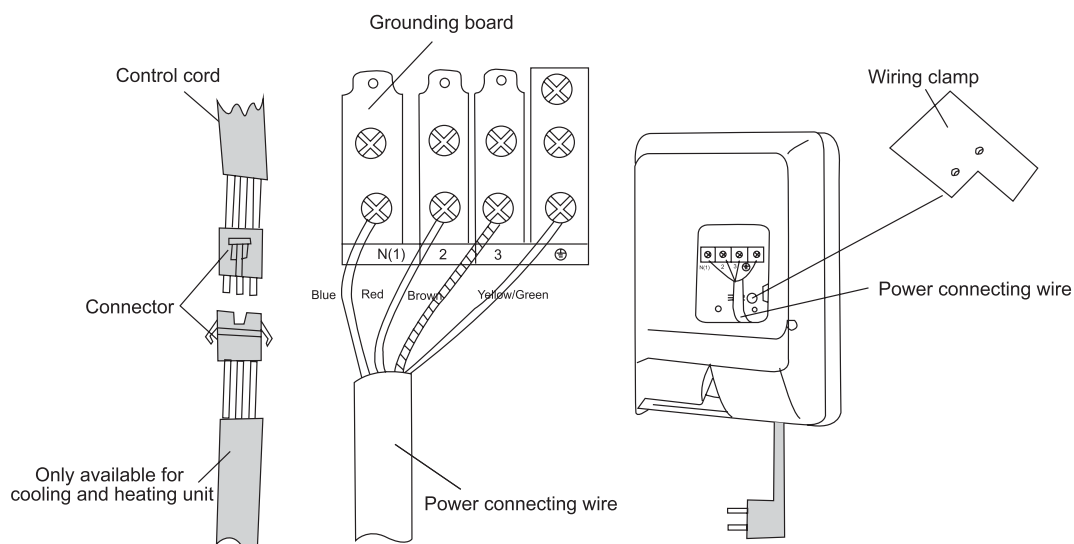


Figure 3

Installation for MWW526IB/TWK526JB

Outdoor Unit Installation

Install the connection tube

1. Align the center of the piping flare with the relevant valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench (figure 6). Tightening torque is listed in the following table.

Hex nut diameter (mm)	Tightening torque (N m)
φ 6	15 ~ 20
φ 9.5	31 ~ 35
φ 12	50 ~ 55
φ 16	60 ~ 65

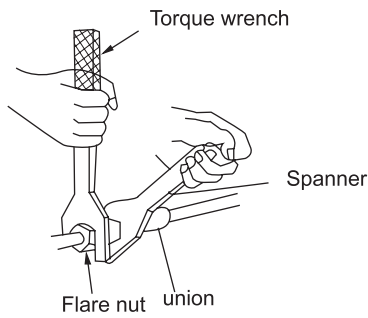


Figure 6

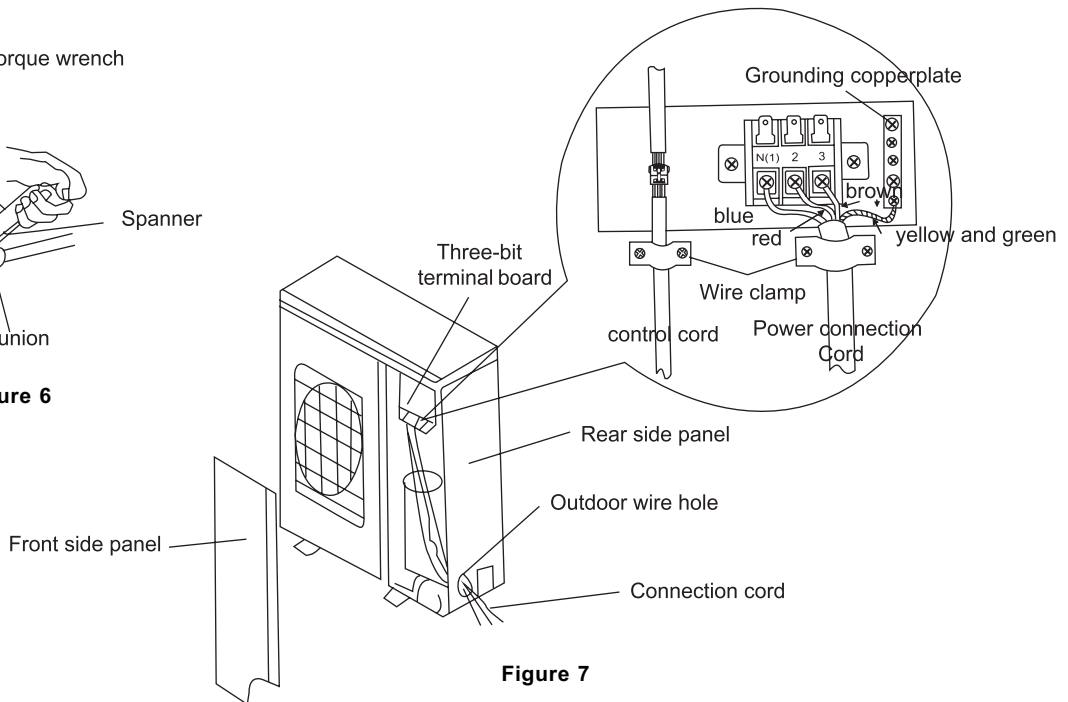


Figure 7

Electric wire Connection

1. Remove the front right side panel of the outdoor unit and knock through the outdoor wire hole. Put on the wiring rubber ring.
2. Remove the wire clamp and connect the end of the power connection cord with screws to the wiring terminal board as shown in figure 7.
3. Fix the power connecting wire and control cord by using the wire clamp.
4. Make sure that the wiring has been connected securely.
5. Install the front side panel.

Installation for MWW530IB/TWK530JB

Indoor Unit Installation

Install the mounting plate

1. Adjust the horizontal level of the mounting plate.
2. Fixing the mounting plate on the wall with screws.
3. Pull the mounting plate manually to check its reliability after installation. Be sure that the mounting plate has been fixed firmly enough to stand the weight of an adult of 60kg, furthermore, the weight should be evenly shared by each screw.

Cut the piping hole

1. Make the piping hole ($\phi 65$) in the wall at a slight downward slant to the outdoor side. The center of the hole should be determined refer to Figure 1.
2. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the wall.

Install the drain hose

1. For well draining, the drain hose should be placed at a downward slant.
2. Do not wrench or bend the drain hose or flood its end by water (Figure 2).
3. Lengthened drain hose should be wrapped with insulation when going through the room.

Install the connection tube

Connect the the connection tubes, and fasten the coupling nuts of the connection tubes. (See "Install the connection tube" section).

CAUTION!

- Connect the connection tube with the indoor unit firstly, and that the outdoor unit.
- Be careful in bending the connection tube, or you will damage the tube.
- If the tightening torque is too big in tightening the flare nuts, leakage will happen.

Electrical Wiring

1. Open the front cover upwards.
2. Remove the wiring cover as shown in figure 3.
3. Put the power connecting cables through the chassis and control box bottom from down to up.
4. Connect the blue power supply cable with the terminal "N(1)" on the terminal block, the brown one with terminal "2", the red one with terminal "3", and the yellow-green one (earth wire) with the terminal "⊕", (Figure 3)
5. For heat pump model, one control cord should be connected through connector and should be clamped with a clamp.
6. Install the wiring access cover to the original place and fasten the screws.
7. Put back the front cover.

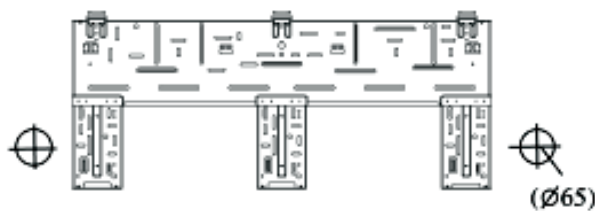


Figure 1

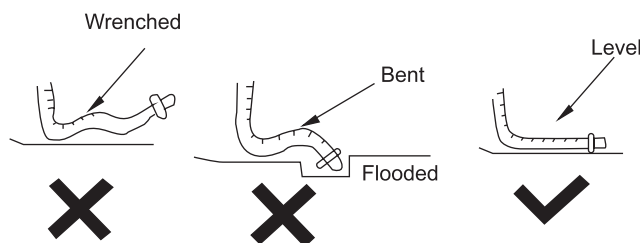


Figure 2

Installation for MWW530IB/TWK530JB

CAUTION!

- All the electrical work must be done by qualified personnel according to the local rules and manual.
- The rated voltage and the exclusive circuit must be used.
- Leakage circuit-breaker must be installed.
- Please use specified fuse.
- The diameter of power cord should be large enough. Use the exclusive wire to replace the damaged wire.
- Wire work should conform to national standard.

Install the indoor unit

1. When routing the piping or wiring from the left or right side of the indoor unit, cut off the tailings from the chassis in necessary (Shown in figure 4)
 - (1) Cut tailing 1 when routing the power wire only.
 - (2) Cut tailings 1 and 2 when routing both the wiring and piping.
2. After wrapping the connection tubes and wire, put them through the wall piping hole (Figure 5).
3. Hang the grip at the back of the indoor unit to the hook on the mounting plate, check if it is firm enough.
4. The height of the installation location should be more than 2.3m from the floor.

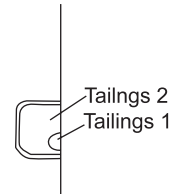


Figure 4

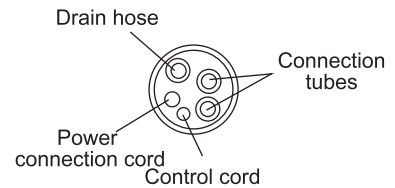


Figure 5

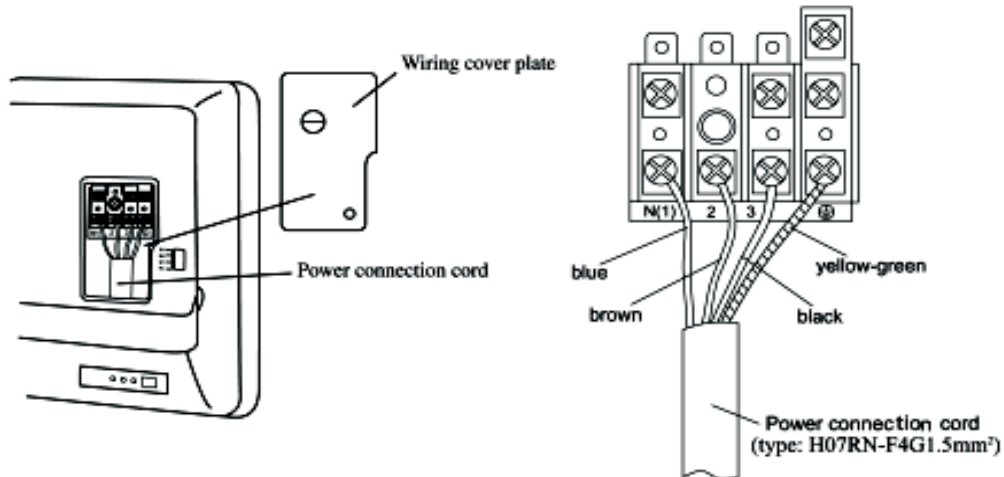


Figure 3

Installation for MWW530IB/TWK530JB

Outdoor Unit Installation

Install the connection tube

1. Align the center of the piping flare with the relevant valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench (figure 6). Tightening torque is listed in the following table.

Hex nut diameter (mm)	Tightening torque (N m)
φ 6	15 ~ 20
φ 9.5	31 ~ 35
φ 12	50 ~ 55
φ 16	60 ~ 65

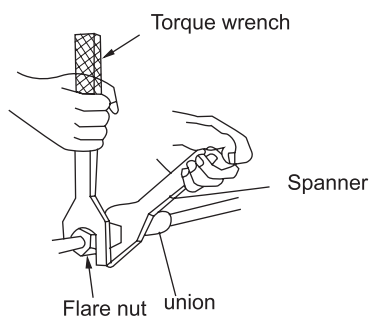


Figure 6

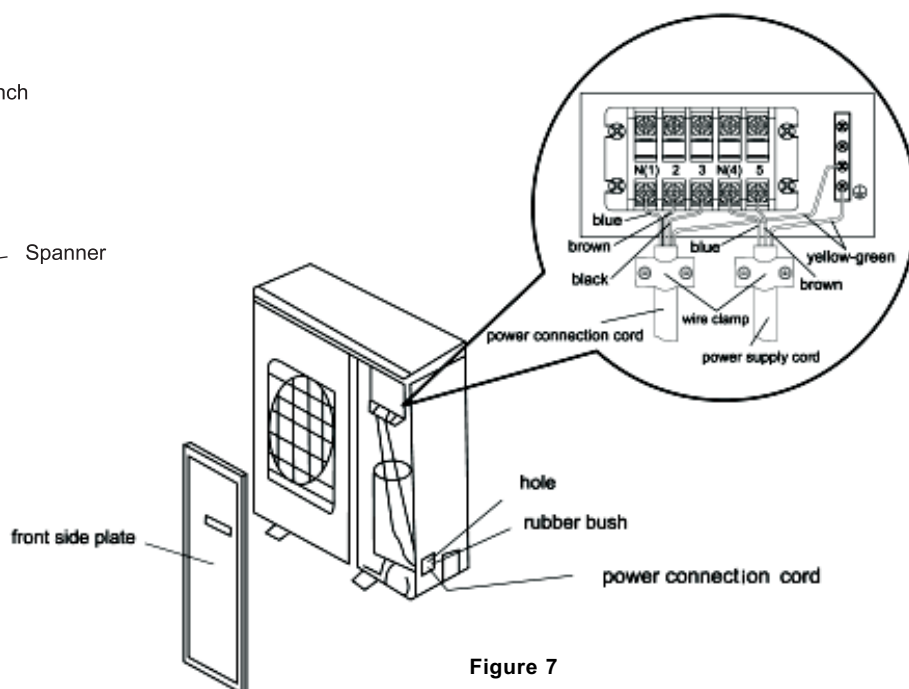


Figure 7

Electric wire Connection

1. Remove the front right side panel of the outdoor unit and knock through the outdoor wire hole. Put on the wiring rubber ring.
2. Remove the wire clamp and connect the end of the power connection cord with screws to the wiring terminal board as shown in figure 7.
3. Fix the power connecting wire and control cord by using the wire clamp.
4. Make sure that the wiring has been connected securely.
5. Install the front side panel.

Pipe Installation

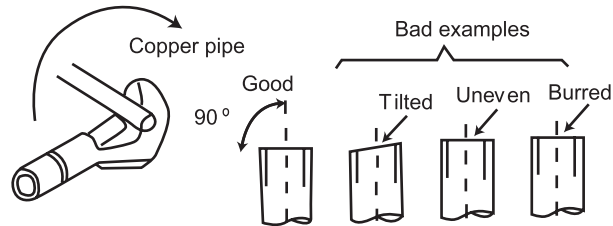
Flaring work

Main cause of gas leakage is defect in flaring work.

Perform flaring work correctly in the following procedure.

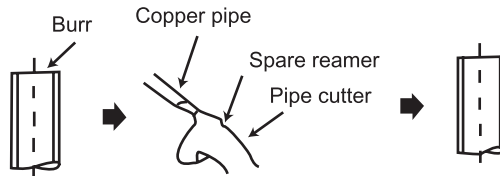
1. Pipe cutting

Cut the copper pipe correctly with pipe cutter.



2. Burrs removal

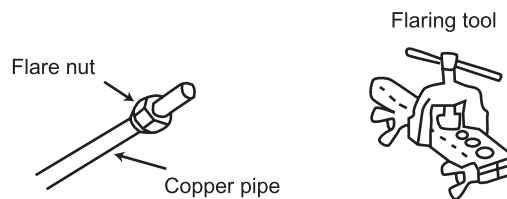
Completely remove all burrs from the cut cross section of the pipe. Put the end of the copper pipe downward to prevent burrs from dropping in the pipe.



3. Putting nut on

Remove flare nuts attached to indoor and outdoor units, then put them on pipe having completed burr removal.

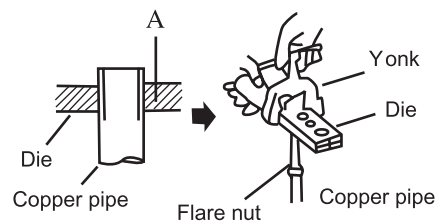
(not possible to put them on after flaring work)



4. Flaring work

Perform flaring work using flaring tool as shown in the right.

Pipe diameter	A (mm)	For rigid
	For imperial	
∅ 6 mm	2.0 to 2.5	0.5
∅ 9.52 mm	3.0 to 3.5	0.5

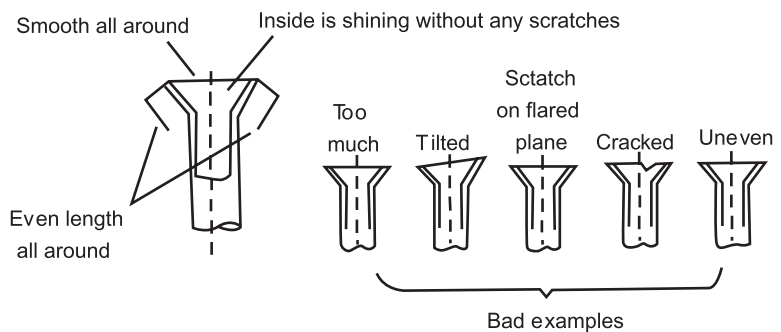


Firmly hold copper pipe in a die in the dimension shown in the table above.

5. Check

Compare the flared work with figure in the right.

If flare is noted to be defective, cut off the flared section and perform flaring work again.

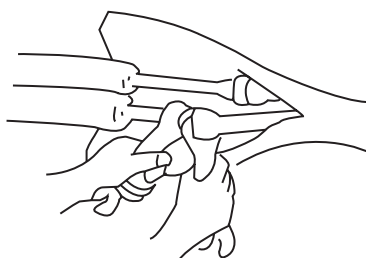


Pipe Installation

Indoor unit connection

1. Connect both liquid pipe and gas pipe to indoor unit.
2. Apply a thin coat of refrigeration oil to the seat surface of pipe.
3. For connection, align the center of both pipe and union, then tighten the first 3 to 4 turns in flare nut by hand.
4. For tightening the union part of the indoor unit side, use the table below as a standard and tighten the flare section.

Pipe diameter	Tightening torque		
	mm	N.m	kgf.cm
6.35 mm	13.7 to 17.7	140 to 180	
9.52 mm	34.3 to 41.2	350 to 420	



Outdoor unit connection

1. Connect pipes to the pipe joint part of the stop valve in the same method as the indoor unit.
2. For tightening, use the same tightening torque applied for indoor unit and tighten the flare nut with torque wrench or spanner.

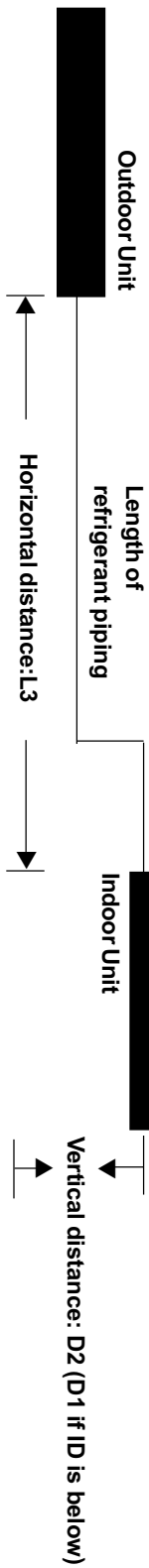
Insulation and taping

1. Cover piping joints with pipe cover.
2. For outdoor unit side, surely insulate every piping including valves.
3. Using piping tape, apply taping starting from the entry of outdoor unit.
 - Fix the end of piping tape with adhesive tape.
 - When piping has to be arranged through above ceiling, closet or area where the temperature and humidity are high, wind additional commercially sold insulator for prevention of condensation.

The Size of Refrigerant Pipe

Hi-wall Single Split Heat Pump	Max. Distance (m)	Max. length difference	Line diameters (Inch)		Connection size of FCU (Inch)		Valve size of CDU (Inch)		
	L3* (Height/Length)	D2**	D1***	Gas	Liquid	Suction	Liquid	Suction	Liquid
TWK509JB	10	5	5	3/8	1/4	3/8	1/4	3/8	1/4
TWK512JB	10	5	5	1/2	1/4	3/8	1/4	3/8	1/4
TWK518JB	20	10	10	1/2	1/4	1/2	1/4	1/2	1/4
TWK524JB	10	5	5	5/8	3/8	5/8	3/8	5/8	3/8
TWK526JB	10	5	5	5/8	3/8	5/8	3/8	5/8	3/8
TWK530JB	30	15	15	5/8	3/8	5/8	3/8	5/8	3/8

- * L3 = Horizontal Distance
- ** D2 = Vertical distance and outdoor below indoor
- *** D1 = Vertical distance and indoor below outdoor


Remark

The actual maximum pipe length could be shorter or longer than what mentioned above depending on the location, the number of all joints and connections, the diameter of the pipe, right amount of refrigerant and oil and proper installation. Therefore the numbers above can be used as a guideline. The actual ones are up to the real situation at the job site and further information can be found in Trane Application Manual. This information is for Trane Minisplit only. Since The Trane Company has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.

Air purging and leakage test

1. Remove the flare nuts from the service valves of the outdoor unit.
2. Align the center of the piping flare with the relevant valve, and screw in the flare nut about 3-4 turns by hand.
3. Tighten the flare nut with spanner and torque wrench.
4. Remove the valve caps of the gas valve and liquid valve and the service port nut.
5. Loosen the valve stem of the liquid valve with a hex wrench.
6. Push the check valve core of the gas valve to discharge air and moisture remaining in the refrigerant system.
7. After discharge time which take around 15 seconds, stop pushing the valve core as soon as the refrigerant starts to be discharged, and reinstall the service port nut.
8. Open the liquid valve and gas valve entirely (shown in Figure 14).
9. Tighten the valve caps and test leakage at all joints of the piping (both indoor and outdoor) with liquid soap or leak detector.
10. If possible, discharge air and moisture remaining in the refrigerant system with a vacuum pump. (shown in Figure 15)

CAUTION!

Exceeding tightening torque will damage the flare surface.

CAUTION!

- Wrong wiring connection will cause electrical mal - function.
- Do not pull the wire when fixing it with wire clamp.

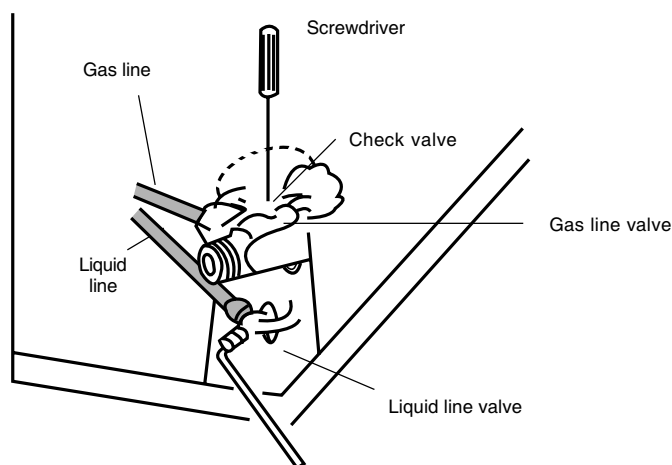


Figure 14

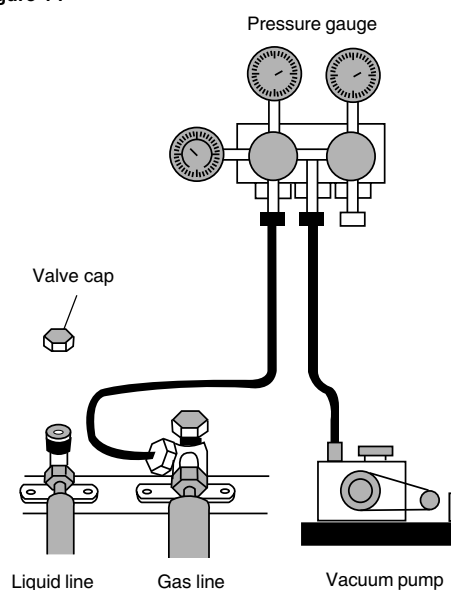


Figure 15

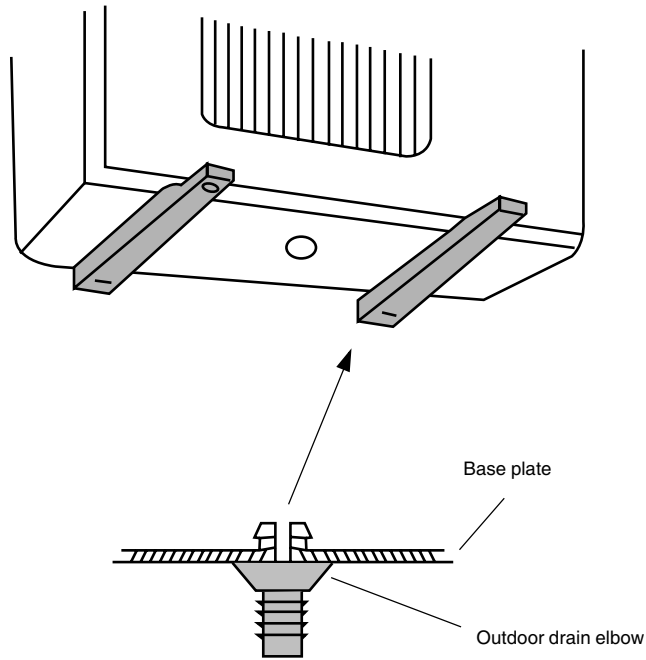


Figure 16

Outdoor condensation drainage (Heat pump type only)

When the unit is heating or defrosting, the condensation water formed in the outdoor unit can be drained out fluently through the drain hose.

Installation:

Install the outdoor drain elbow in the $\varnothing 25$ hole on the base plate as shown in Figure 16, and joint the drain hose to the elbow, so that the condensation water formed in the outdoor unit can be drained out to a proper place.

Test Operation and Check after Installation

Test operation

1. Before test operation

- (1) Do not switch on power before installation is finished completely.
- (2) Electric wiring must be connected correctly and securely.
- (3) Service valves of the outdoor unit should be opened.
- (4) All the impurities such as scraps and thrams must be clear from the unit.
- (5) Open the front panel and set the and set the munal switch to "RUN" mode. (60Hz units only)

2. Test operation method

- (1) Switch on power and press "1/0" button on the remote controll.
- (2) Press "MODE" button and check the operation condition of ❄️, 🌀, ⚙️, modes.
- (3) Emergency operation.

Act as following when the remote controller is not available.

- (1) At stopping, push the munal button to "AUTO" mode, then the unit will automatic run in the mode set by the microcomputer according to room temperature.
- (2) At operation, push the munal button to "STOP" mode to turn off the unit.

CAUTION!

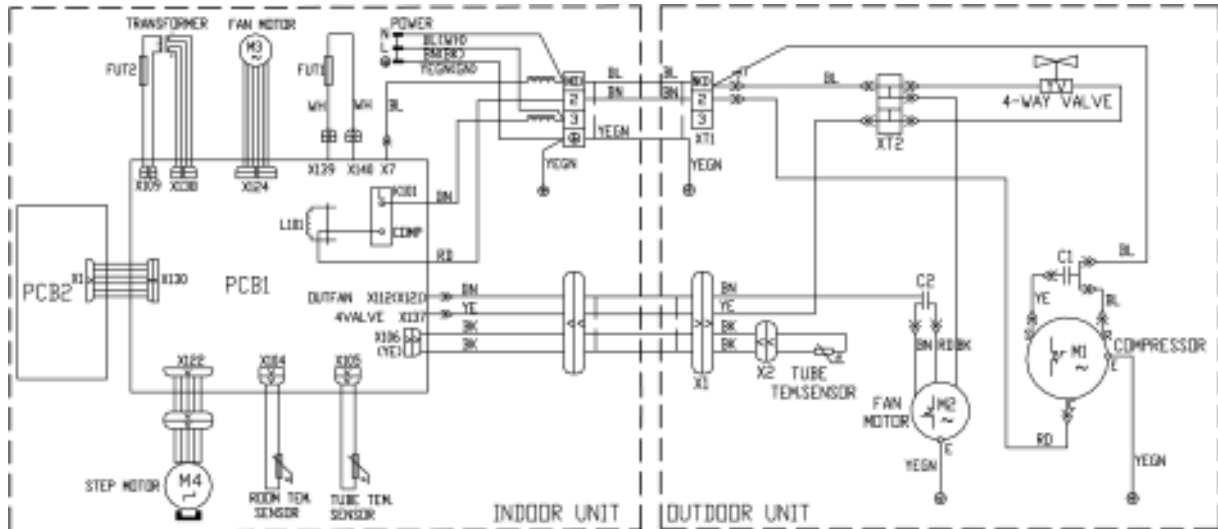
The "TEST" mode is only for testing, do not set the switch to this mode at normal operation.(60Hz units only)

Check after installation

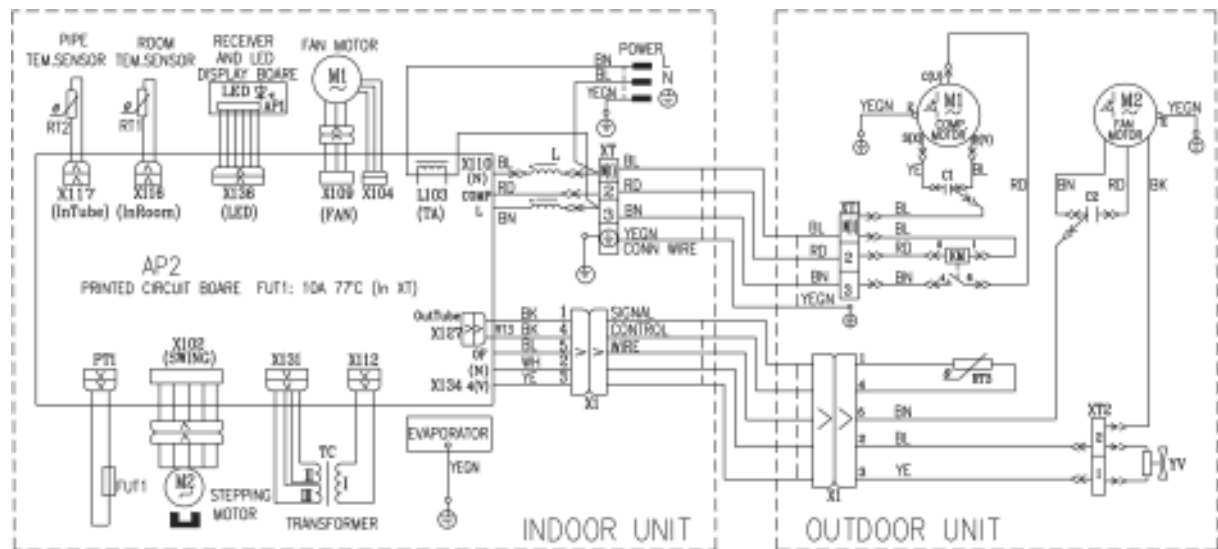
Items to be checked	Possible malfunction	Situation
Has it been fixed firmly?	The unit may drop, shake or emit noise.	
Have you done the refrigerant leakage test?	It may cause insufficient refrigerating capacity.	
Is heat insulation sufficient?	It may cause condensation and dripping.	
Does the unit drain well?	It may cause condensation and dripping.	
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric mal - function or damage the part.	
Is the electrical wiring and piping connection installed correctly and securely?	It may cause electric mal - function or damage the part.	
Has the unit been connected to a secure earth connection?	It may cause electrical leakage.	
Is the power cord specified?	It may cause electric mal - function or damage the part.	
Has the inlet and outlet been covered?	It may cause insufficient refrigerating capacity.	
Has the length of connection pipes and the refrigerant capacity been record?	The refrigerant capacity is not accurate.	

Wiring Diagram

For MWW509IB/TWK509JB; MWW512IB/TWK512JB

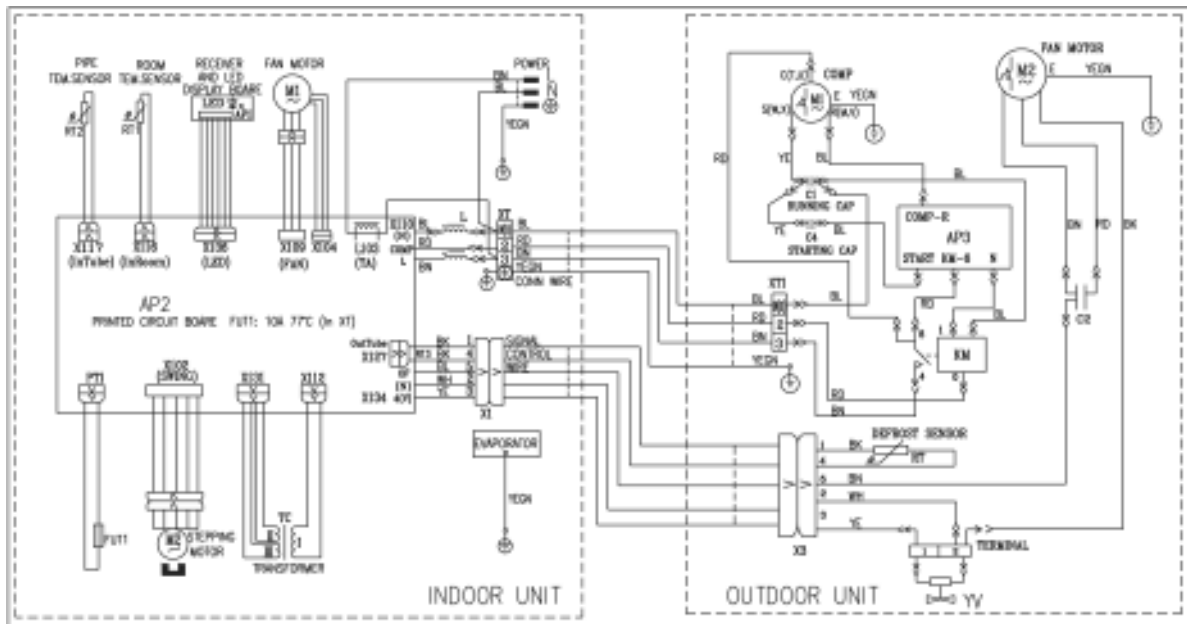


For MWW518IB/TWK518JB

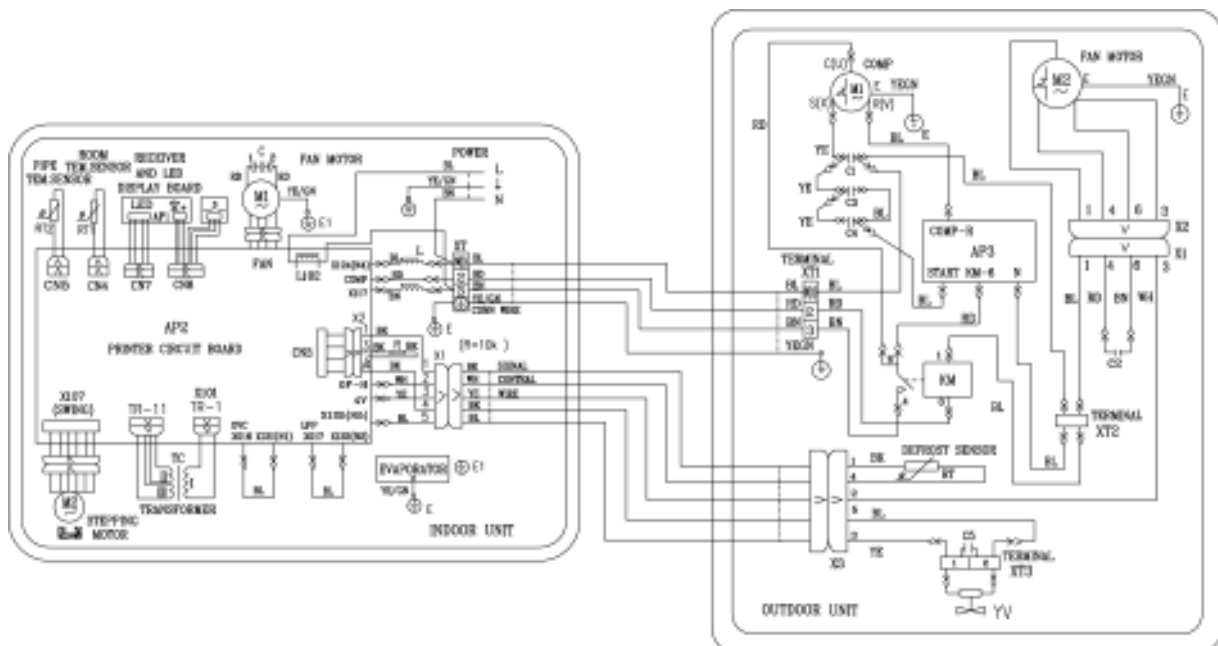


Wiring Diagram

For MWW524IB/TWK524JB

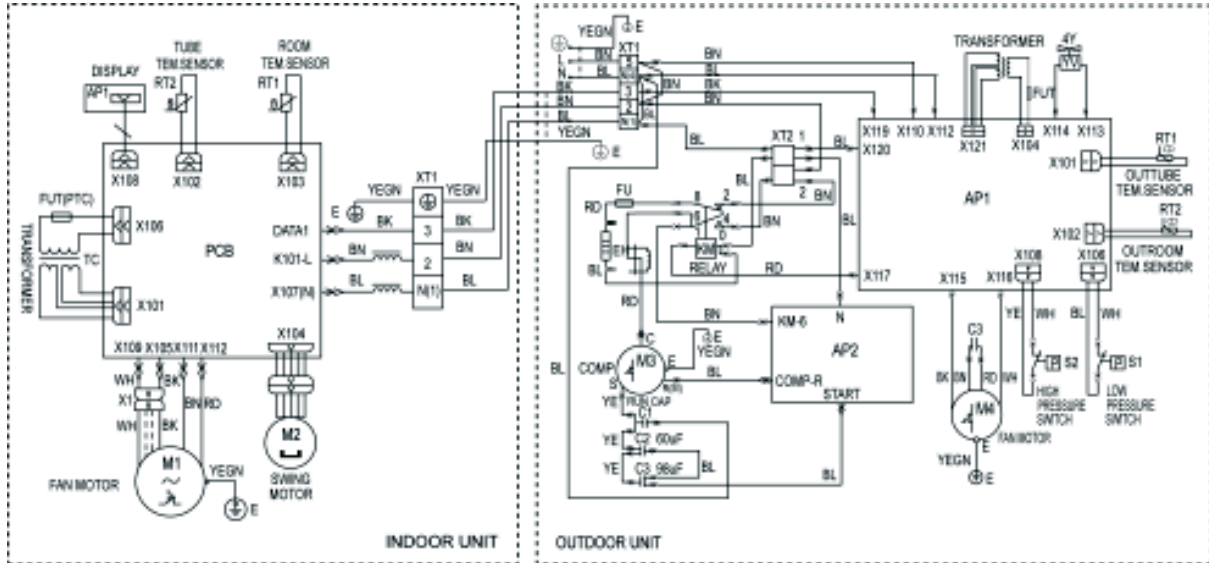


For MWW526IB/TWK526JB



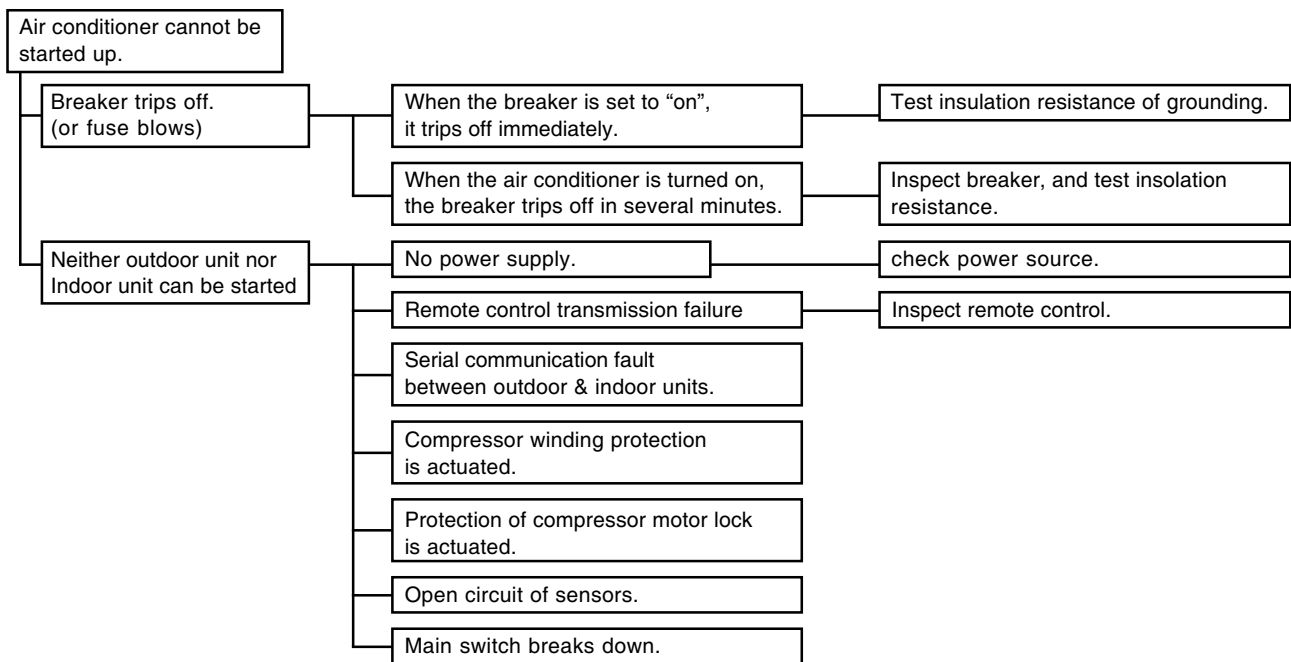
Wiring Diagram

For MWW530IB/TWK530JB

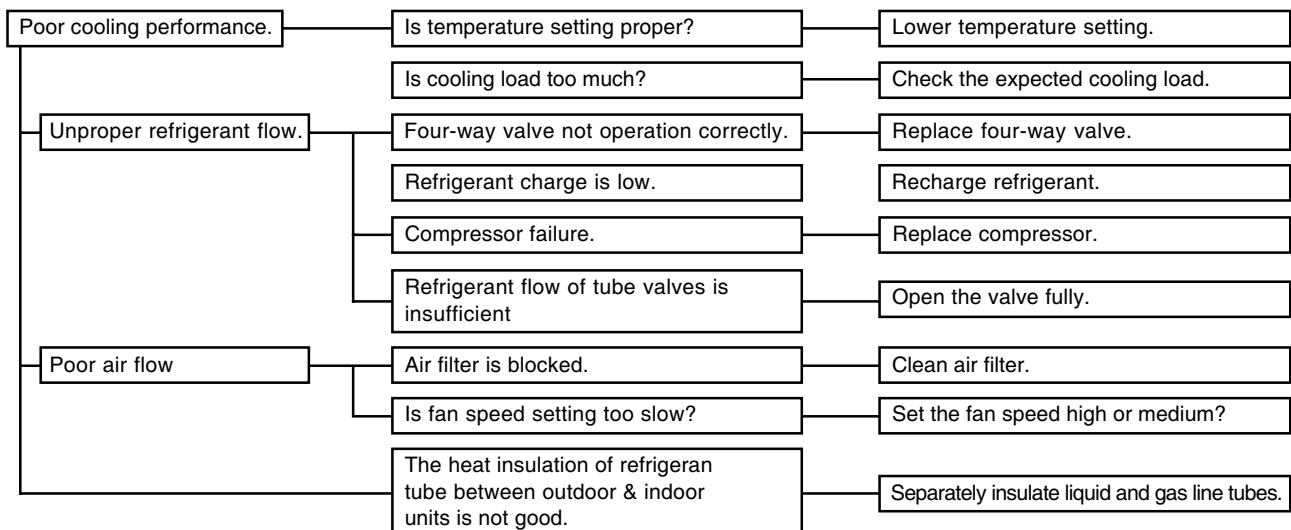


Troubleshooting

Diagnostic procedure



(a)



Safety recommendations

To avoid accidents and damage, the following recommendations should be observed during maintenance and service visits:

1. Always provide a pressure regulator.
2. Disconnect the main supply before any servicing on the unit.
3. Service work on the refrigeration system and the electrical system should be carried out only by qualified and experienced personnel.

Maintenance contract

It is strongly recommended that you sign a maintenance contract with your local Service Agency. This contract provides regular maintenance of your installation by a specialist in our equipment. Regular maintenance ensures that any malfunction is detected and corrected in good time and minimizes the possibility that serious damage will occur. Finally, regular maintenance ensures the maximum operating life of your equipment. We would remind you that failure to respect these in stallation and maintenance instructions may result in immediate cancellation of the warranty.

Training

The equipment described in this manual is the result of many years of research and continuous development. To assist you in obtaining the best use of it, and maintaining it in perfect operating condition over a long period of time, the constructor has at your disposal a refrigeration and air conditioning service school. The principal aim of this is to give operators and maintenance technicians a better knowledge of the equipment they are using, or that is under their charge, emphasis is particularly given to the importance of periodic checks on the unit operating parameters as well as on preventive maintenance, which reduces the cost of owning the unit by avoiding serious and costly breakdown.

The constructor's policy is one of continuous product improvement, and he reserves the right to alter any details of the products at any time without notice

This publication is a general guide to install and properly maintain our products. The information given may be different from the specification for a particular country or for a specific order, In this event, please refer to your nearest office.

For additional information, contact:

Distributor / Installer stamp



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www.trane.com

For more information, contact your local district office

Literature Order Number MCW - SVN13A - E4

Date September 2005

Supersedes December 2004

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