



INSTALLATION MANUAL

SPLIT TYPE ROOM AIR CONDITIONER

FWMFP Series

ENGLISH

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Please Read Before Installing

Tasaki air conditioning systems meet strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently. On receipt of the unit you must check thoroughly for any possible damage.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all national electrical codes.
- Pay close attention to all danger, warning, and caution notices given in this manual. (explanation below)

WARNING: This symbol refers to a hazard or unsafe practice which can result in severe injury or death.

CAUTION: This symbol refers to a hazard or unsafe practice which can result in injury and the potential for product or property damage.



Electrical



Safety / Alert

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact Tasaki directly for advice.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

- This air conditioning system contains refrigerant under pressure, rotating parts and electrical connections which may be dangerous and could cause serious injury.
- If the unit is incorrectly installed it is the responsibility of the purchaser / installer, NOT Tasaki (UK) Ltd., for any damage caused by the use of this device.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death.**
- Turn the power OFF at the main circuit breaker before opening the unit.
- Keep your fingers and clothing away from any moving parts.

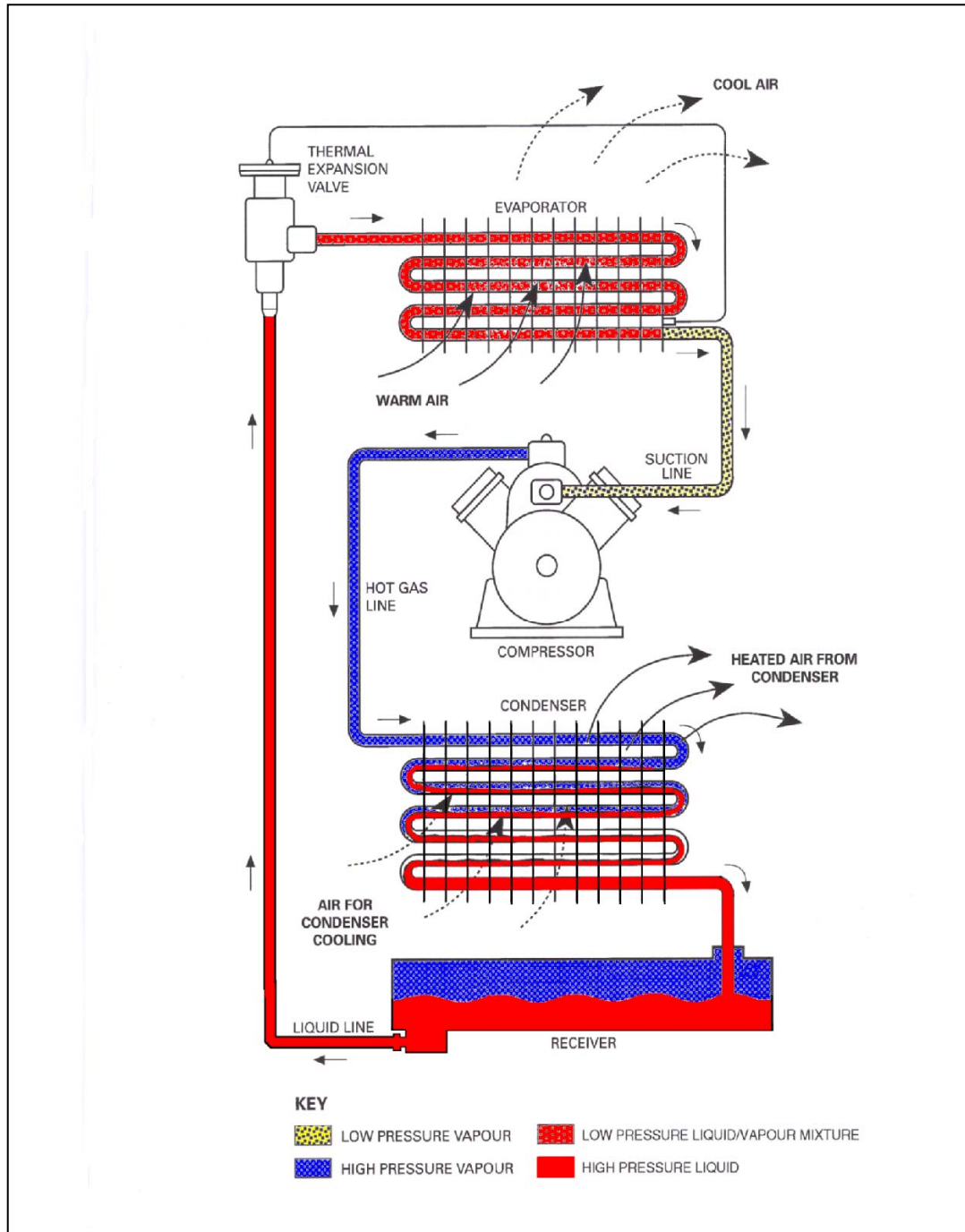
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SYSTEM OVERVIEW

This particular system is capable of both heating and cooling. Below is a diagram of the system working in the cooling cycle, for the heat cycle its operation is simply reversed.

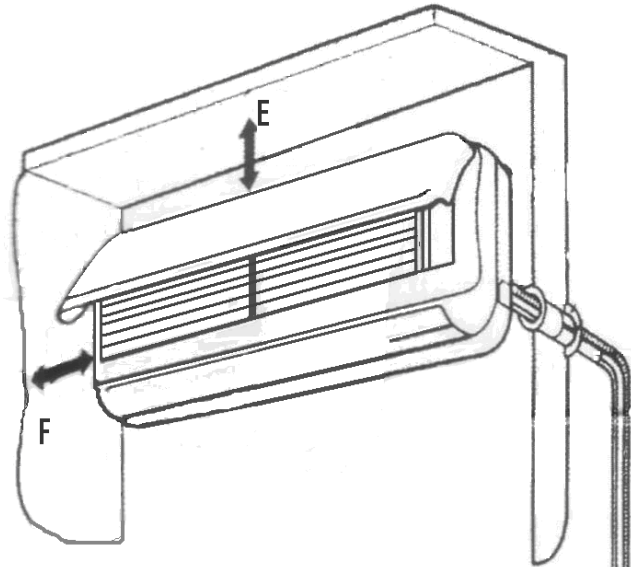
The suction and liquid lines, as shown, are the connections you will need to make in the installation of this system. All other components are contained within the indoor and outdoor unit.



SELECTING THE MOUNTING POSITION

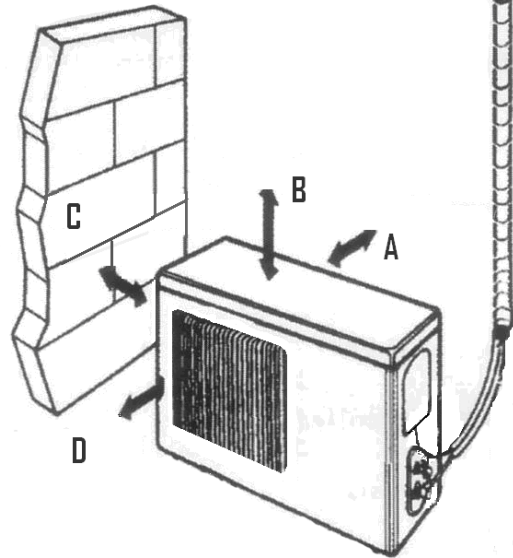
INDOOR UNIT

- Avoid positioning near to sources of heat or steam
- Plan your pipe route in conjunction with positioning of the unit
- Ensure the condensate drainage tube can be conveniently routed away
- Ensure the unit is securely fastened to the wall
- Distance E >60mm
- Distance F >50mm



OUTDOOR UNIT

- Ensure the unit is securely fastened to the floor or wall (using the appropriate bracket)
- Ensure the selected location is capable of supporting the weight of the unit
- Select a location where the warm air and noise produced from the units operation may not affect its surroundings
- Ensure heat radiation of the unit is not restricted by surrounding obstacles
- Distance A >100mm
- Distance B >300mm
- Distance C >100mm
- Distance D >700mm



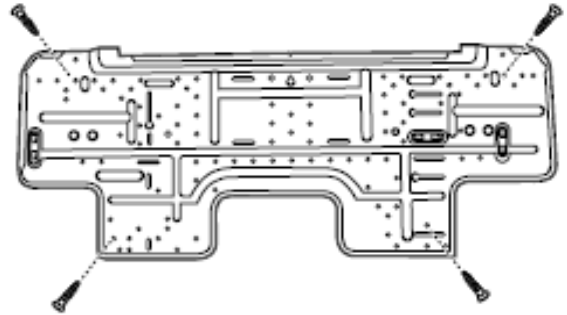
INSTALLATION

INDOOR UNIT

- Securely fix the indoor unit bracket in the desired location, allowing for clearance distances E and F, and ensure it is horizontal.
- Install the wall hook bracket so that it is strong enough to withstand the weight of an adult.
- Fasten the wall hook bracket to the wall with 6 or more screws through the holes near the outer edge of the bracket.

WARNING:

In order to avoid deforming the bracket ensure all screws are not over tightened.



NOTE It is possible to route the pipe work horizontally to the left and right of the unit, using the breakout sections, as well as directly through the wall. To do so gently rotate the pipes into position by hand.

Drilling the Hole to the outside

After determining the pipe hole position drill the hole at a slight downward slant towards the outdoor side. This allows the condensate water to drain effectively along with preventing water from the outside in.

A 75mm hole is adequate to fit the two copper suction and liquid pipes through along with the condensate hose and connection cable through.

Hanging the unit

1. The bracket has three hooks at the top, which coordinate with three slots on top of the unit. Hang the unit by locating the hooks with the slots.
2. At the bottom of the bracket there are two locating grooves which snap onto the bottom of the unit securing it to the wall.
3. If routing the pipes to the left of the unit the flare nuts on the connecting pipe work, connection cable and additional condensate hose must be connected before stage 2.
4. If routing pipes directly behind the unit, through a wall, ensure the connecting pipe work, connection cable and additional condensate hose are in position through the hole before stage 2.

OUTDOOR CONDENSING UNIT

- Ensure the unit is on a sturdy surface capable of supporting the units' weight.
- Attach the four vibration reducing rubber feet onto the four corners of the unit using nuts and washers provided.
- Securely fix the unit to the ground through the fixing holes on the rubber anti-vibration feet.
- Observe distances A,B,C and D.
- It is possible to mount the unit on a bracket as to raise its height from the floor. It must be fixed securely through its feet mounting points.



- The condenser must not be installed where it will be angled more than 5°.
- In areas subject to high winds, ensure the unit is secure.

CONNECTING THE UNITS

Unit size (btu/h)	Pipe size (Liquid)	Pipe size (Suction)	Flaring Torque
12,000	3/8	1/4	
18,000 – 36,000	5/8	3/8	

Forming the Pipework

The pipes come in coils therefore both must be straightened out by hand.



- When uncoiling or forming be sure not to collapse the pipe walls
- Do not bend the pipes in an angle more than 90°.
- When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

Flaring and Connection

1. Cut the connection pipe to the necessary length. Hold the pipe downwards so copper shards do not enter the pipe.
2. Remove all burrs.
3. Slide over the insulation so that it covers the entire length of copper.
4. Slide the flare nut over the end of the pipe.
5. Flare the pipe end with a flaring tool. The lip created by the flaring tool must formed uniformly.
6. Butt the flared pipe up to the air conditioners connector then slide the nut over and tighten to the desired torque.

Condensate Hose

The running of the system causes condensation to build up within the indoor unit. This must be allowed to drain away freely.

At the rear of the indoor unit there is a short length of hose. If this does not reach to the outside of the building insert additional condensate hose into the end and run this outside

CAUTION: It is essential that this hose flows downwards otherwise leakage within the indoor unit will occur.

Control Cable

Along the same route as the pipework run the 7 core control cable from the indoor to outdoor unit. Connections are explained in the electrical wiring section.

ELECTRICAL WIRING



- For systems above 24,000 BTU/H the power supply from the external unit to the fuse board must be installed by a qualified electrician.

Systems above 24,000 BTU/H are to be electrically supplied directly from the fuse board to the external unit via and isolation switch (see table for appropriate sizes).

Systems below 24,000 BTU/H can be supplied using a 13amp plug connected to the connection board via 2.5mm 3 core flex.

Unit Size (BTU/H)	Electrical connection device	Size
12,000	Plug from unit	13amp
18,000	Plug from unit	13amp
24,000	Isolation switch	20amp
30,000	Isolation switch	32amp
36,000	Isolation switch	32amp

Control cable connection

CAUTION: Ensure all connections are securely tightened.

Outdoor unit

1. Remove outer power connection cover.
2. Remove power connection cover.
3. Strip back the 7 core connection cable which will link the two units.
4. The 7 cores are labelled. Cut off number 7 and discard.
5. Strip back 8mm of sheath from the end of each wire.
6. Match the numbers on the connection block on the unit to the cables numbers.
7. Using a screwdriver, remove the terminal screw(s) on the terminal board.
8. Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.
9. Repeat for all cables.
10. Replace cover.

Indoor unit

1. Open lid on indoor unit.
2. Remove power connection cover.
3. Strip back the 7 core connection cable which will link the two units.
4. The 7 cores are labelled. Cut off number 7 and discard.
5. Strip back 8mm of sheath from the end of each wire.
6. Match the numbers on the connection block on the unit to the cables numbers.
7. Using a screwdriver, remove the terminal screw(s) on the terminal board.
8. Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.
9. Repeat for all cables.
10. Replace covers and lid

COMMISSIONING OF THE UNIT



- This system contains r407c gas under pressure and therefore you must take all necessary precautions to prevent injury.
- Goggles and latex gloves must be worn during the commissioning process.
- Turn off the power supply to the unit.

1. Ensure all 4 flare nuts are secured to the correct torque.
2. Remove both cover nuts on the outdoor unit.
3. Fully open the grub screw under the cover nut on the liquid side.
4. Wait 30 seconds.
5. Slowly depress the stem of the 3-way valve service port on suction side until gas escapes and close immediately. This is deemed a service procedure and therefore is within the guidelines of the "Safe handling of refrigerants" code.
6. Check the system for leakage using a leak detector or soap.
7. Fully open the grub screw under the cover nut on the liquid side
8. Replace all cover nuts.

The unit is now ready for operation

FINISHING

1. Wrap the pipe work with the connecting cable and condensate hose with vinyl tape and fasten along its route with saddles. (it is also possible to use trunking to cover the connections). The condensate hose must always run downwards.
2. Ensure the hole through the wall is filled with expanding foam. This will prevent water and insects etc. entering the wall.

INFORMATION

It is recommended that the unit is serviced bi-annually to ensure optimal performance. However to increase the service interval open the indoor unit front cover and remove the filters for cleaning on a monthly basis.

DE - COMMISSIONING DISMANTLING & DISPOSAL

This product contains refrigerant under pressure, rotating parts, and electrical connections which may be a danger and cause injury!

All work must only be carried out by competent persons using suitable protective clothing and safety precautions.



Read the Manual



Risk of electric shock



Unit is remotely controlled and may start without warning



1. Isolate all sources of electrical supply to the unit including any control system supplies switched by the unit. Ensure that all points of electrical and gas isolation are secured in the OFF position. The supply cables and gas pipework may then be disconnected and removed. For points of connection refer to unit installation instructions.
2. Remove all refrigerant from each system of the unit into a suitable container using a refrigerant reclaim or recovery unit. This refrigerant may then be re-used, if appropriate, or returned to the manufacturer for disposal. **Under No circumstances should refrigerant be vented to atmosphere.** Where appropriate, drain the refrigerant oil from each system into a suitable container and dispose of according to local laws and regulations governing disposal of oily wastes.
3. Packaged unit can generally be removed in one piece after disconnection as above. Any fixing down bolts should be removed and then unit lifted from position using the points provided and equipment of adequate lifting capacity. Reference MUST be made to the unit installation instructions for unit weight and correct methods of lifting. Note that any residual or spilt refrigerant oil should be mopped up and disposed of as described above.
4. After removal from position the unit parts may be disposed of according to local laws and regulations.