DAIKIN

3P772618-1

DAIKIN ROOM AIR CONDITIONER

INSTALLATION MANUAL

CHILLED WATER FAN COIL UNIT

MODELS

FWT02HATVMV1
FWT03HATVMV1
FWT04HATVMV1
FWT05HATVMV1
FWT06HATVMV1

Installation Manual
Chilled Water Fan Coil Units

English

INSTALLATION MANUAL

SAFETY PRECAUTIONS

Read the precautions in this manual carefully before operating the unit.

- The precautions described herein are classified as WARNING and CAUTION.
  They both contain important information regarding safety. Be sure to observe all precautions without fail.
- Meaning of WARNING and CAUTION notices.

⚠ **WARNING**	Failure to follow these instructions properly may result in personal injury or loss of life.
⚠ **CAUTION**	Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- The safety marks shown in this manual have the following meanings:

❗	Be sure to follow the instructions.	⏚	Be sure to establish a ground connection.	⃠	Never attempt.

- After completing installation, conduct a trial operation to check for faults and explain to the customer how to operate the air conditioner and take care of it with the aid of operation manual.

⚠ WARNING

- Ask your dealer or qualified person to carry out installation work.
  Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shocks or fire.
- Small children or immobile persons (due to illness or injury) should not operate the unit by themselves.
  ◆ For EU, UK, Turkey:
  This appliance can be used by children aged from 8 years and above and person with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
  ◆ For other regions:
  This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
  - Children should be supervised to ensure that they do not play with the appliance.
  - Persons who are heavily intoxicated or have taken sleep medication should not operate the unit.(An electric shock, injury or poor health may result.)
- This appliance is intended to be used by expert or trained users in shops,in light industry and on farms, or commercial use by lay persons.
- Install the air conditioner according to the instructions given in this manual.
  Incomplete installation may cause water leakage, electrical shock, or fire.
- Be sure to use only the specified accessories and parts for installation work.
  Failure to use the specified parts may result in the unit falling, water leakage, electric shocks or fire.
- Install the air conditioner on a foundation strong enough to withstand the weight of the unit.
  A foundation of insufficient strength may result in the equipment falling and causing injury.
- Electrical work must be performed in accordance with relevant local and national regulations and with instructions in this installation manual.
  Be sure to use a dedicated power supply circuit only. Insufficiency of power circuit capacity and improper workmanship may result in electric shocks or fire.
- Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance.
- Use a cable of suitable length.
  Do not use tapped wires or an extension lead, as this may cause overheating, electric shocks or fire.
- Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires.
  Improper connections or securing of wires may result in abnormal heat build-up or fire.
- When wiring the power supply, position the wires so that the control box lid can be securely fastened.
  Improper positioning of the control box lid may result in electric shocks, fire or overheating terminals.
- After connecting interconnecting and supply wiring, be sure to shape the cables so that they do not put undue force on the electrical covers or panels. Install covers over the wires.
  Incomplete cover installation may cause terminal overheating, electrical shocks, or fire.
- When installing or relocating the air conditioner, be sure to bleed the refrigerant circuit to ensure it is free of air, and use only water.
  The presence of air or other foreign matter in the refrigerant circuit cause abnormal pressure rise, which may result equipment damage and even injury.
- The installation height from the floor must be over 2.3m.
- Be sure to earth the air conditioner. ⏚
  Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shocks.
- Be sure to install an earth leakage breaker. Failure to install an earth leakage breaker may result in electrical shocks, or fire.
- All electrical wiring must not touch the water piping or any moving parts of the fan motors.
- Confirm that the unit has been switched OFF before installing or servicing the unit.
- Disconnect from the main power supply before servicing the air conditioner unit.
- DO NOT pull out the power cord when the power is ON.
  This may cause serious electrical shocks which may result in fire hazards.
- Keep the indoor units, power cable and transmission wiring, at least 1m from TVs and radios, to prevent distorted pictures and static.
  Depending on the type and source of the electrical waves, static may be heard even when more than 1m away.

⚠ CAUTION

- Do not install the air conditioner at any place where there is danger of flammable gas leakage.
  In the event of a gas leakage, build-up of gas near the air conditioner may cause a fire to break out.
- While following the instructions in this installation manual, install drain piping to ensure proper drainage and insulate piping to prevent condensation.
  Improper drain piping may result in indoor water leakage and property damage.
- Ensure that the unit's panel is closed after service or installation.
  Unsecured panels will cause the unit to operate noisily.
- Sharp edges and coil surfaces are potential locations which may cause injury hazards.
  Avoid from being in contact with these places.
- Before turning off the power supply set the remote controller's ON/OFF switch to the "OFF" position to prevent the nuisance tripping of the unit.
  If this is not done, the unit's fans will start turning automatically when power resumes, posing a hazard to service personnel or the user.
- Make sure to provide for adequate measure in order prevent that the outdoor unit be used as a shelter by small animals. Small animal making contact with electrical parts can cause malfunctions, smoke or fire.
  Please instruct the customer to keep the area around the unit clean.
- The temperature of refrigerant circuit will be high, please keep the inter-unit wiring away from copper pipes that are not thermally insulated.

NOTICE

Disposal requirement

Your air conditioning product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste. Do not try to dismantle the system yourself: the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation. Air conditioners must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information. Batteries must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

ACCESSORIES

Ⓐ Mounting plate	1	Ⓑ Installation manual	1	Ⓒ PM2.5 filter	2
Ⓓ O-ring	2				

CHOOSING AN INSTALLATION SITE

- Before choosing the installation site, obtain user approval.

Indoor Unit

The indoor unit should be sited in a place where:

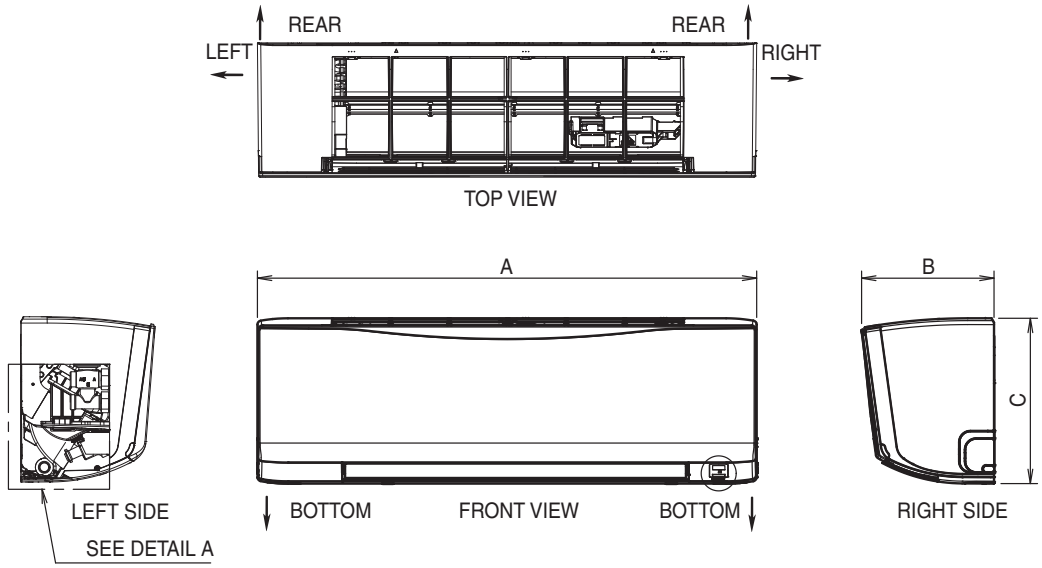
- The restrictions on installation specified in the indoor unit installation drawing are met.
- Both air intake and exhaust have clear paths met.
- The unit is not in the path of direct sunlight.
- The unit is away from the sources of heat or steam.
- There is no source of machine oil vapour (this may shorten indoor unit life).
- Cool air is circulated throughout the room.
- The unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type). As these may shorten the remote controller range.
- The unit is at least 1 metre away from any television or radio set (unit may cause interference with the picture or sound).
- Install at the recommended height (more than 2.3m).
- Do not install the units at or near doorway.
- Do not operate any heating apparatus too close to the air conditioner unit or use in room where mineral oil, oil vapour or oil steam exist, this may cause plastic part to melt or deform as a result of excessive heat or chemical reaction.
- When the unit is used in kitchen, keep flour away from going into suction of the unit.
- This unit is not suitable for factory used where cutting oil, mist or iron powder exist or voltage fluctuates greatly.
- Do not install the units at area like hot spring or oil refinery plant where sulphide gas exists.
- IMPORTANT : DO NOT INSTALL OR USE THE AIR CONDITIONER UNIT IN A LAUNDRY ROOM.
  Do not use joined and twisted wires for incoming power supply. The equipment is not intended for use in a potentially explosive atmosphere

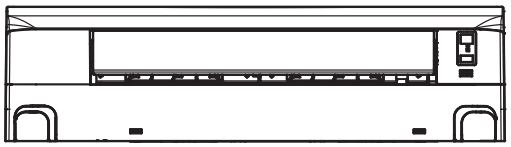
Wireless Remote Controller

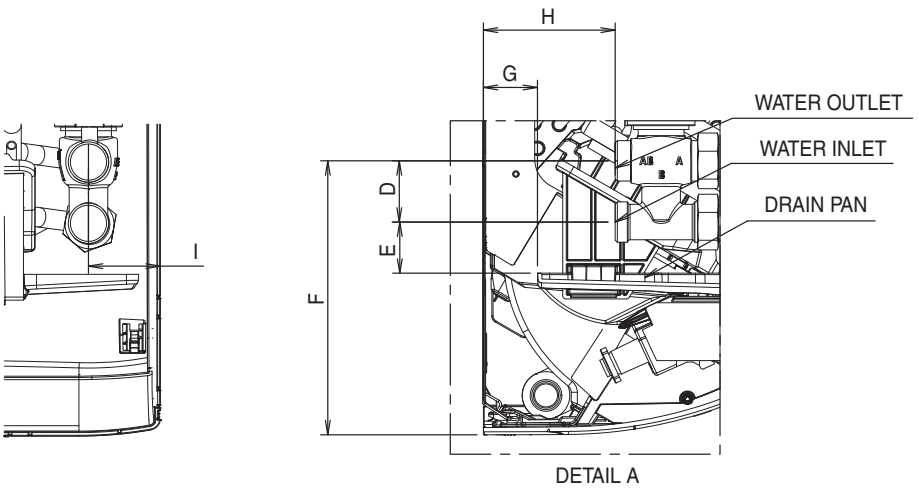
- Do not expose the remote controller to direct sunlight (this will hinder receiving signals from the indoor unit).
- Turn on all the fluorescent lamps in the room, if any, and find the site where remote controller signals are properly received by the indoor unit (within 7 metres).

OUTLINE DIMENSION

THE MARK (⟶) SHOWS PIPING DIRECTION







Model \ Dimension	A	B	C	D	E	F	G	H	I
FWT02/03/04	870	234	288	40	33	179	36	87	47
FWT05/06	1089	275	317	40	43	195	36	92	45

All dimensions are in mm

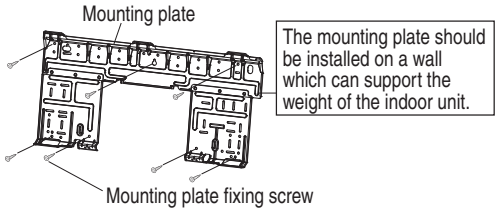
INDOOR INSTALLATION GUIDELINE

INSTALLING THE MOUNTING PLATE

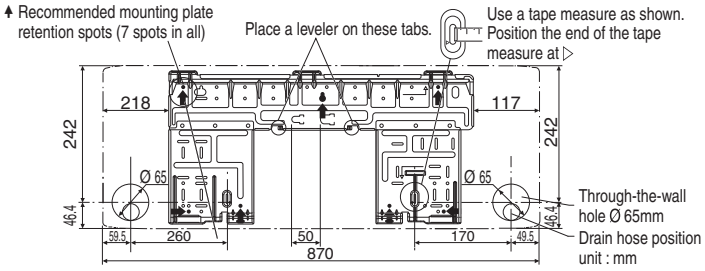
- The mounting plate should be installed on a wall which can support the weight of the indoor unit.

1) Temporarily secure the mounting plate to the wall, make sure that the panel is completely level, and mark the drilling points on the wall.
2) Secure the mounting plate to the wall with screws.

Recommended mounting plate retention spots and dimensions

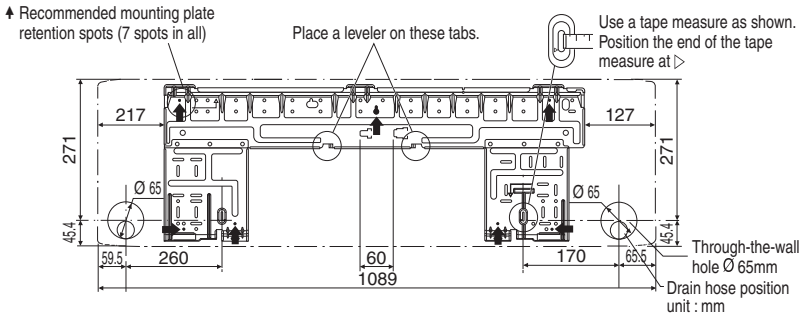


FWT02/03/04



All dimensions are in mm

FWT05/06

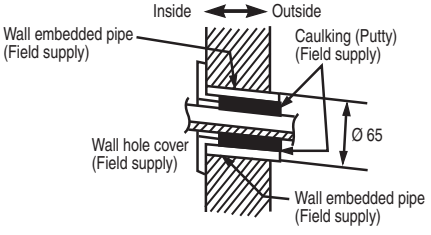


All dimensions are in mm

DRILLING A WALL HOLE AND INSTALLING WALL EMBEDDED PIPE

- For walls containing metal frame or metal board, be sure to use a wall embedded pipe and wall cover in the feed-through hole to prevent possible heat, electrical shock, or fire.
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.

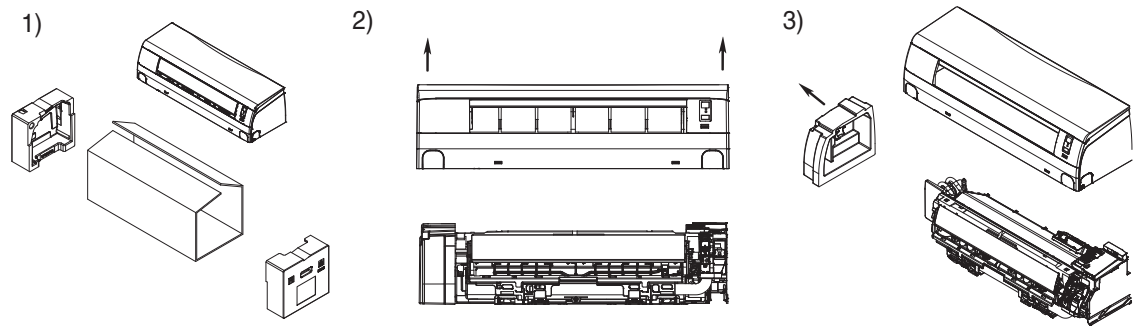
1) Drill a feed-through hole of 65mm in the wall so it has a down slope toward the outside.
2) Insert a wall pipe into the hole.
3) Insert a wall cover into wall pipe.
4) After completing refrigerant piping, wiring, and drain piping, caulk pipe hole gap with putty.



INSTALLING INDOOR UNIT

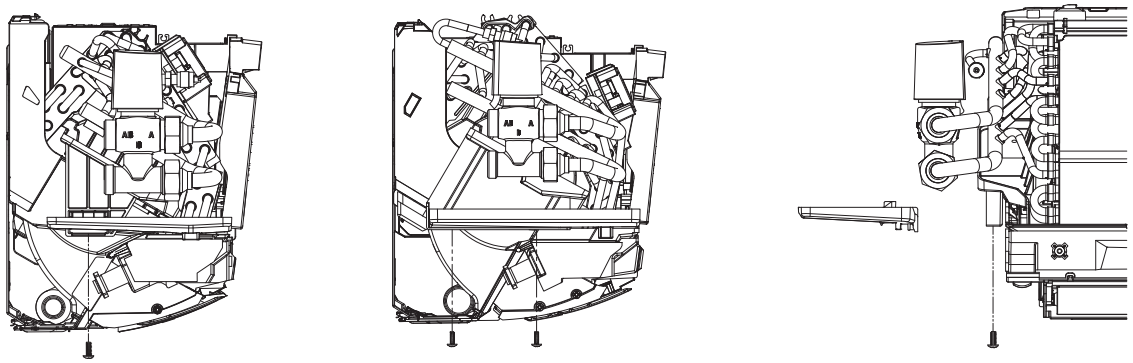
Unpack indoor unit

1) Remove the packaging and polybag, followed by the cushion foam from front panel.
2) Take off front grille from the indoor unit.
3) Remove cushion from the valve.



Remove the extended drain pan

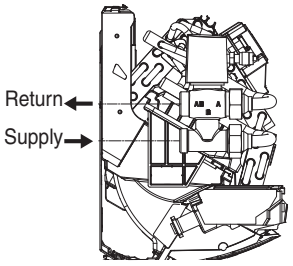
Unscrew and take off the extended drain pan to ease piping installation.



FWT02/03/04 FWT05/06

Connect chilled water supply and return piping

1) Remove the valve cap from the valve joint.
2) Connect the chilled water return piping (field supply), followed by chilled water supply piping (field supply).
3) It is recommended to use flexible pipes to connect chilled water supply and return to the valve joint for easier installation.
4) Use torque wrench when tightening the nut. Recommended torque is 21-23Nm for the joint connection.

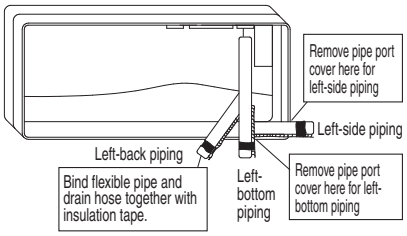


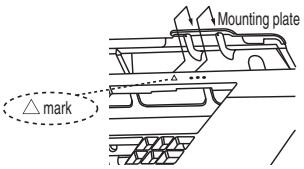
Model	DN	G	Kvs (Straight Flow)	Kvs (Bypass Flow)	Valve Type
FWT-HATVMV1	15	3/4"	4	3	3 way

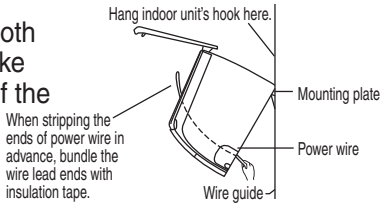
INSTALLING INDOOR UNIT

Left-side, left-back, or left-bottom piping.

1) Attach the drain hose to the underside of the flexible pipes with adhesive vinyl tape.
2) Wrap the flexible pipes and drain hose together with insulation tape.
3) Pass the drain hose and flexible pipes through the wall hole, then set the indoor unit on the mounting plate hooks by using the △ markings at the top of the indoor unit as a guide.
4) Open the front panel, then open the service lid. (Refer to figure.)
5) Pass the power wires through the back of the indoor unit (space between unit casing and installation plate) to the right side of the unit. Pull the wire to the front and connect to the unit terminal block. (refer wiring session.)
6) Press the bottom frame of the indoor unit with both hands to set it on the mounting plate hooks. Make sure the wires leads do not catch on the edge of the indoor unit.





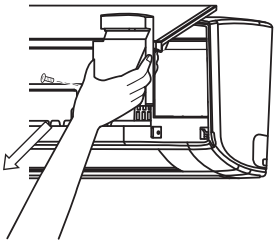


Service lid

The service lid is removable.

■ **Opening method**

1) Remove the service lid screws.
2) Pull out the service lid diagonally down in the direction of the arrow.
3) Pull down.



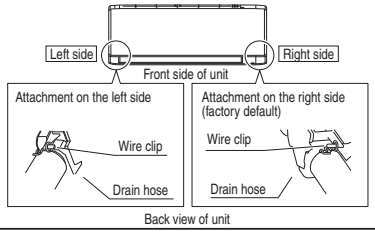
Right-side, right-back, or right-bottom piping.

How to replace the drain plug and drain hose

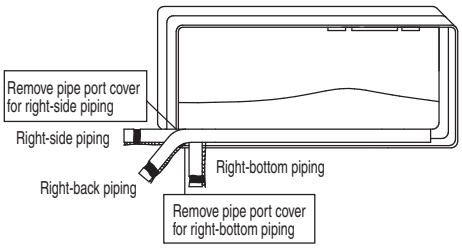
- **Removal method**
  1) Rotate to detach wire clip from hook on the right and remove the drain hose.
  2) Remove the drain plug on the left side and attach it to the right side.
  3) Insert the drain hose and tighten by rotating the wire clip to hook.
     Forgetting to tighten this may cause water leakages.

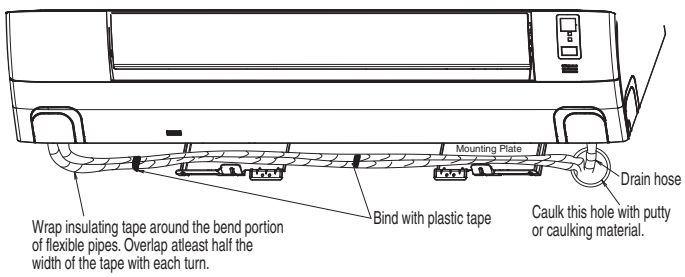
Drain hose attachment position

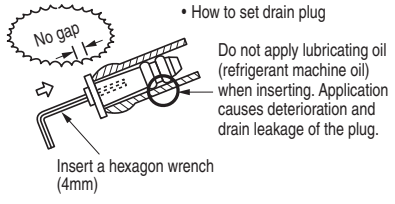
The drain hose is on the back of the unit.



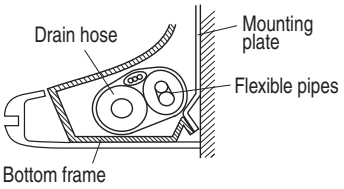
1) Attach the drain hose to the underside of the flexible pipes with adhesive vinyl tape.
2) Be sure to connect the drain hose to the drain port in place of a drain plug.
3) Shape the flexible pipe along the pipe path marking on the mounting plate.
4) Pass drain hose and flexible pipes through the wall hole, then set the indoor unit on mounting plate hooks, using the △ markings at the top of indoor unit as a guide.







5) Wrap the flexible pipes and drain hose together with insulation tape as right figure.

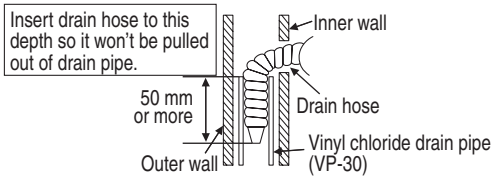


Wall embedded piping.

Follow the instructions given

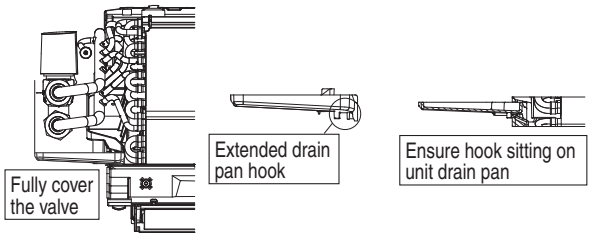
Right-side, right-back, or right bottom piping

1) Insert the drain hose to this depth so it won't be pulled out of the drain pipe.

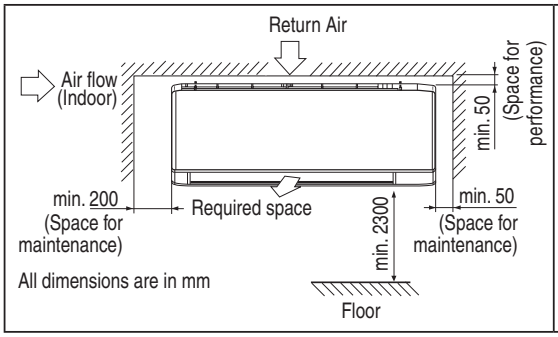


Install the extended drain pan

1) Install the extended drain pan to collect condensate water from valve and piping. The valve must be fully cover by the extended drain pan to prevent dripping of condensate water.

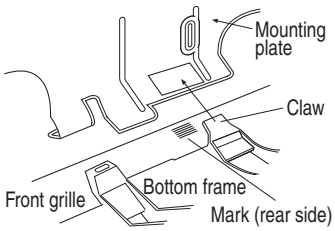


The indoor unit must be installed in such a way so as to prevent short circuit of the cool discharged air with the hot return air. Please follow the installation clearance shown in the figure. Do not place the indoor unit where there could be direct sunlight shining on it. Also, this location must be suitable for piping and drainage, and be away from doors or windows.



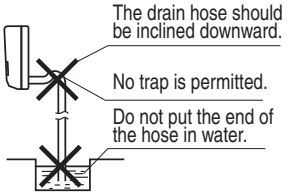
■ **How to attach the indoor unit**
Hook the claws of the bottom frame to the mounting plate.

■ **How to remove the indoor unit.**
Push up the marked area (at the lower part of the front grille) to release the claws.

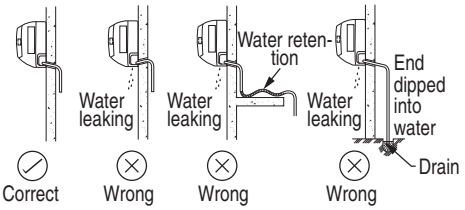


DRAIN PIPING

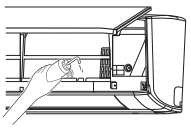
- Connect the drain hose, as described below.



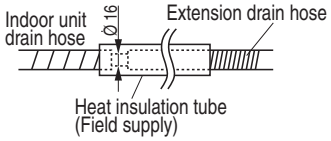
- Water Drainage



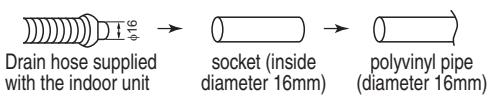
- Remove the air filters and pour some water into the drain pan to check the water flows smoothly.



- When drain hose requires extension, obtain an extension hose commercially available. Be sure to thermally insulate the indoor section of the extension hose.



- When connecting a rigid polyvinyl chloride pipe (inside diameter 16mm) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (inside diameter 16mm) as a joint.

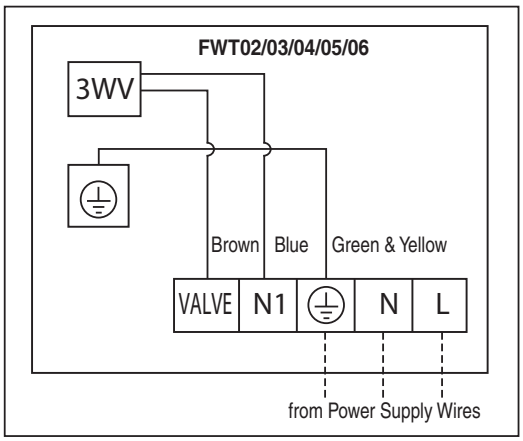


WIRING

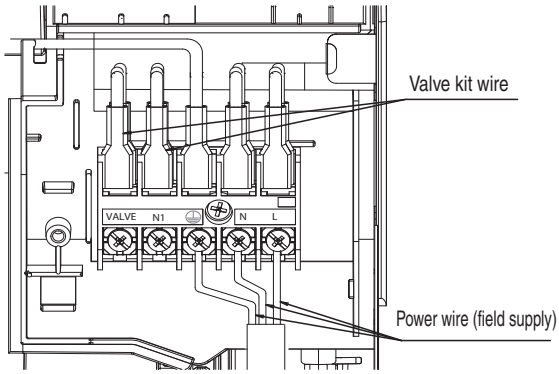
IMPORTANT : * The figures shown in the table are for information purpose only. They should be checked and selected to comply with the local/national codes of regulations. This is also subject to the type of installation and conductors used.

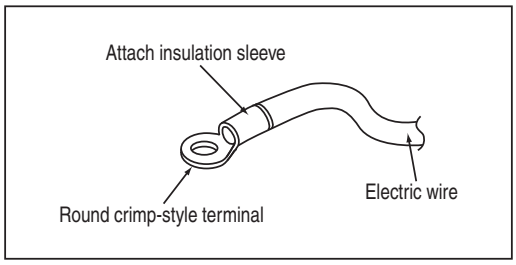
** The appropriate voltage range should be checked with label data on the unit.

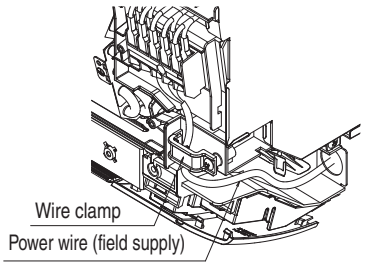
Model	FWT02/03/04/05/06HATVMV1
Voltage range**	220-240V/~/50Hz + ⏚
Power supply cable size* mm²	1.5
Number of conductors	3
Recommended time delay fuse A	2



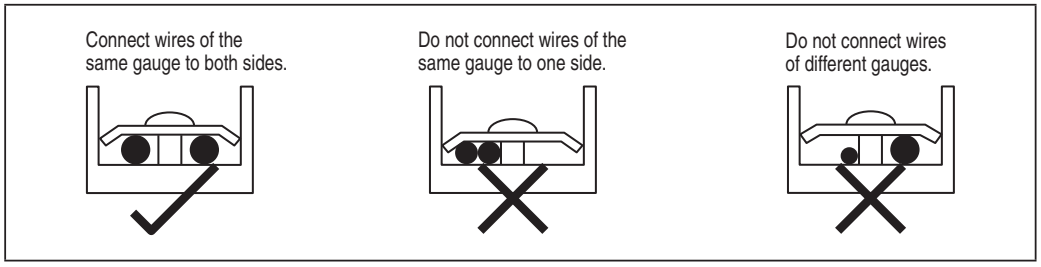
- All wires must be firmly connected.
- Make sure all the wire do not touch the pipings, or any moving parts.
- The connecting wire to the indoor unit must be clamped by using provided cord anchorage.
- The power supply cord must be equivalent to H07RN-F which is the minimum requirement.
- Make sure no external pressure is applied to the terminal connectors and wires.
- Make sure all the covers are properly fixed to avoid any gap.
- Use round crimp-style terminal for connecting wires to the power supply terminal block. Connect the wires by matching to the indication on terminal block. (Refer to the wiring diagram attached on the unit).





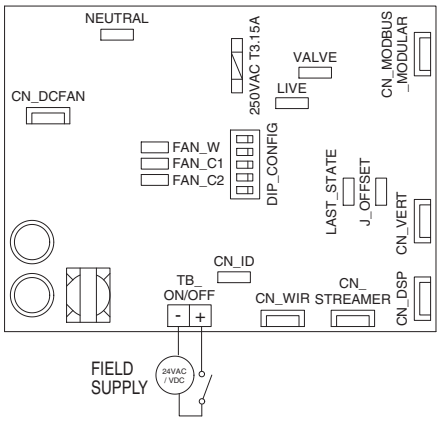


- Used the correct screwdriver for terminal screws tightening. Unsuitable screwdrivers can damage the screw head.
- Over tightening can damage the terminal screws.
- Do not connect wire of different gauge to same terminal.
- Keep wiring in an orderly manner. Prevent the wiring from obstructing other parts and the terminal box cover.



HARDWARE SETTING

The printed circuit board has 3 jumpers option to control the unit operation when room temperature achieve user set temperature. Refer table below when choosing for desired mode.



Connector location for accessories

Connector	Function
TB_ON/OFF	Contact On-off
CN_WIR	Accessory: Wired remote control (BRC51D67)
CN_MODBUS_MODULE	Accessory: Modbus (FCBAG)

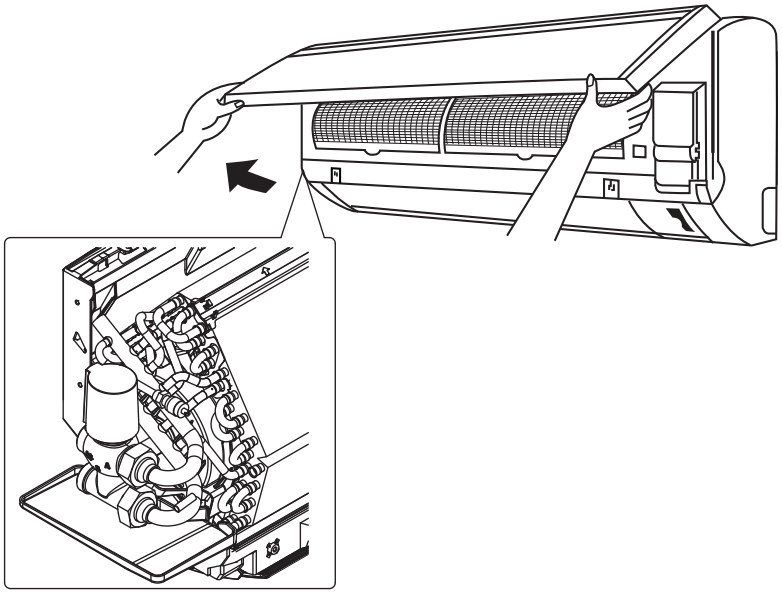
Mode	Fan stop	Fan run at minimum fan speed	Fan run at user set fan speed
Heat	Default	Disconnect Jumper **FAN_W**	-
Cool	Disconnect Jumper **FAN_C1** & Jumper **FAN_C2**	Disconnect Jumper **FAN_C1**	Default

Note:
During heat mode, fan will stop eventually to prevent cold draft to user.

For contact on-off feature:

1) Turn on DIP_CONFIG 5 to enable contact on-off.
2) Connect contact to TB_ON/OFF with AWG 18 Stranded Copper Wire.
3) Supply 24VAC or 24VDC with current < 100mA.
4) When the contact is closed, the unit will be on standby mode. Unit can be operational when turn ON using wireless controller or wired panel.
5) When the contact is opened, the unit will be on standby mode and not able to change status.

AIR PURGING



COMMISSIONING

1. CHECKLIST BEFORE COMMISSIONING

Do NOT operate the system before the following checks are OK:

☐	The **indoor unit** is properly mounted.
☐	The system is properly **earthed** and the earth terminals are tightened.
☐	The **fuses** or locally installed protection devices are installed according to this document, and have NOT been bypassed.
☐	The **power supply voltage** matches the voltage on the identification label of the unit.
☐	There are NO **loose connections** or damaged electrical components in the switch box.
☐	There are NO **damaged components** or **squeezed pipes** on the inside of the indoor units.
☐	There are NO **water leaks**.
☐	The **chilled water pipes** are thermally insulated.
☐	The correct pipe size is installed and the **pipes** are properly insulated.
☐	The **water valve** on the indoor unit is fully open.
☐	The following **field wiring** has been carried out according to this document and the applicable legislation.
☐	**Drainage** Make sure drainage flows smoothly. **Possible consequence**: Condensate water might drip.
☐	The indoor unit receives the signals of the **user interface**.

2. CHECKLIST DURING COMMISSIONING

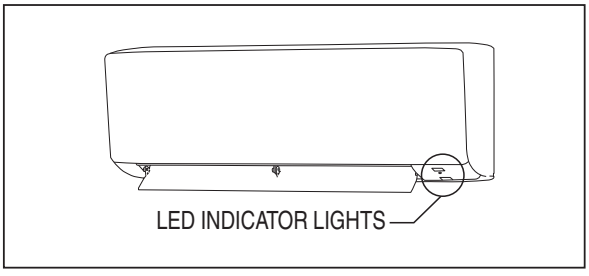
☐	To perform an **air purge**.
☐	To perform a **test run**.

INDICATION LIGHTS

IR Signal Receiver

When an infrared remote control operating signal has been transmitted, the signal receiver on the indoor unit will respond as below to confirm acceptance of the signal transmission.

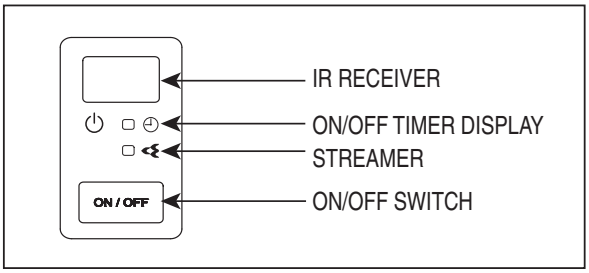
ON to OFF	1 Long Beep
OFF to ON	2 Short Beep
Others	1 Short Beep



Fan Coil Unit

The table shows the LED indicator lights for the air conditioner unit under normal operation and fault conditions. The LED indicator lights are located at the side of the air conditioner unit.

LED Indicator Lights for Fan Coil Unit



LED Indicator Lights : Normal Operation & Fault Conditions For Fan Coil Unit

⏻	◴			Operation
◯			Green	Cool mode
◯			Red	Heat mode
◯			Green	Fan mode on
◯			Green	Dry mode on
◯			Dimmed Green / Dimmed Red / Dimmed Blue / Dimmed Yellow	Sleep mode on
	◯		Yellow	Timer on
		◯	Blue	Streamer on
◑			Green	Unit error

◯ ON ◑ Blinking

OPERATING RANGE

Operating Limits:

Thermal carrier: water
Minimum water entering temperature: 6
Maximum water entering temperature: 50
Maximum water pressure: 16 bar
Maximum water differential pressure : 1.6 bar
Air temperature : (as below)

Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	18.0 / 64.4	-
Maximum indoor temperature	32.0 / 89.6	-

Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	10.0 / 50.0	-
Maximum indoor temperature	30.0 / 86.0	-

Ts: Dry bulb temperature. Th: Wet bulb temperature.

MAINTENANCE AND SERVICE

NOTICE
Maintenance MUST be done by an authorized installer or service agent.
We recommend performing maintenance at least once a year. However, applicable legislation might require shorter maintenance intervals.

Maintenance safety precautions

DANGER: RISK OF ELECTROCUTION

DANGER: RISK OF BURNING

NOTICE: Risk of electrostatic discharge
Before performing any maintenance or service work, touch a metal part of the unit in order to eliminate static electricity and to protect the PCB.

WARNING
- Before carrying out any maintenance or repair activity, ALWAYS switch off the circuit breaker on the supply panel, remove the fuses or open the protection devices of the unit.
- Do NOT touch live parts for 10 minutes after the power supply is turned off because of high voltage risk.
- Please note that some sections of the electric component box are hot.
- Make sure you do NOT touch a conductive section.
- Do NOT rinse the unit. This may cause electric shocks or fire.

Note is valid for Turkey only: The lifetime of our products is ten (10) years.

DISPOSAL

NOTICE
Do NOT try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, oil and other parts MUST comply with applicable legislation. Units MUST be treated at a specialised treatment facility for reuse, recycling and recovery.

- In the event that there is any conflict in the interpretation of this manual and any translation of the same in any language, the English version of this manual shall prevail.
- 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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Malaysia.

Information requirements for fan coil units

Information to identify the model(s) to which the information relates: **FWT02HATVMV1**							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	1,77	kW	Total electric power input	P_{elec}	0,010	kW
Cooling capacity (latent)	$P_{rated,c}$	0,66	kW	Sound power level (per speed setting, if applicable)	L_{WA}	46/44/43/41/39	dB
Heating capacity	$P_{rated,h}$	2,73	kW				
Contact details	DAIKIN EUROPE N.V Zandvoordestraat 300,B-8400 Oostende, Belgium						

Information to identify the model(s) to which the information relates: **FWT03HATVMV1**							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	2,07	kW	Total electric power input	P_{elec}	0,012	kW
Cooling capacity (latent)	$P_{rated,c}$	0,63	kW	Sound power level (per speed setting, if applicable)	L_{WA}	49/47/44/41/39	dB
Heating capacity	$P_{rated,h}$	2,96	kW				
Contact details	DAIKIN EUROPE N.V Zandvoordestraat 300,B-8400 Oostende, Belgium						

Information to identify the model(s) to which the information relates: **FWT04HATVMV1**							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	2,61	kW	Total electric power input	P_{elec}	0,020	kW
Cooling capacity (latent)	$P_{rated,c}$	0,88	kW	Sound power level (per speed setting, if applicable)	L_{WA}	55/53/52/48/45	dB
Heating capacity	$P_{rated,h}$	3,72	kW				
Contact details	DAIKIN EUROPE N.V Zandvoordestraat 300,B-8400 Oostende, Belgium						

Information to identify the model(s) to which the information relates: **FWT05HATVMV1**							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3,56	kW	Total electric power input	P_{elec}	0,025	kW
Cooling capacity (latent)	$P_{rated,c}$	0,98	kW	Sound power level (per speed setting, if applicable)	L_{WA}	55/53/51/49/48	dB
Heating capacity	$P_{rated,h}$	4,89	kW				
Contact details	DAIKIN EUROPE N.V Zandvoordestraat 300,B-8400 Oostende, Belgium						

Information to identify the model(s) to which the information relates: **FWT06HATVMV1**							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	4,19	kW	Total electric power input	P_{elec}	0,043	kW
Cooling capacity (latent)	$P_{rated,c}$	1,09	kW	Sound power level (per speed setting, if applicable)	L_{WA}	59/56/54/53/51	dB
Heating capacity	$P_{rated,h}$	6,24	kW				
Contact details	DAIKIN EUROPE N.V Zandvoordestraat 300,B-8400 Oostende, Belgium						