DAIKIN

DAIKIN ROOM AIR CONDITIONER 3P650120-1 M21P059

OPERATION MANUAL

(The Installation Manual is on the back side.)

MODELS: GTKW35TV16WZ/RKWG35TV16WZ,GTKW50TV16VZ/RKWG50TV16VZ, GTKW60TV16UZ/RKWG60TV16UZ

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

This appliance is filled with R32.

Safety Precautions

- Keep this manual where the user can easily find it.
- 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.

⚠ WARNING
Failure to follow these instructions properly may result in personal injury or loss of life.

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

Never attempt.

Be sure to follow the instructions.

Be sure to establish an earth connection.

- After reading, keep this manual in a convenient place so that you can refer to it whenever necessary. If the equipment is transferred to a new user, be sure also to hand over the manual.

⚠ WARNING

- To avoid fire, explosion or injury, do not operate the unit when harmful gases (e.g. flammable or corrosive) are detected near the unit.
- Be aware that prolonged, direct exposure to cool air from the air conditioner, or to air that is too cool, can be harmful to your physical condition and health.
- Do not place objects, including rods, your fingers, etc., in the air inlet or outlet. Product damage may result due to contact with the air conditioner's high-speed fan blades.
- Do not attempt to repair, dismantle, reinstall or modify the air conditioner yourself as this may result in water leakage, electric shock or fire hazards.
- Do not use flammable spray near the air conditioner, or otherwise fire may result.
- Do not use a refrigerant other than the one indicated on the outdoor unit (R32) when installing, moving or repairing. Using other refrigerants may cause trouble or damage to the unit, and personal injury.
- To avoid electric shock, do not operate with wet hands.

- Beware of fire in case of refrigerant leakage. If the air conditioner is not operating correctly, i.e. not generating cool air, refrigerant leakage could be the cause. Consult your service centre for assistance. The refrigerant within the air conditioner is safe and normally does not leak. However, in the event of a leakage, contact with a naked burner, heater or cooker may result in generation of noxious gas. Do not use the air conditioner until a qualified service person confirms that the leakage has been repaired.
- Do not attempt to install or repair the air conditioner yourself. Improper workmanship may result in water leakage, electric shock or fire hazards. Please contact your local service centre or qualified personnel for installation and maintenance work.
- If the air conditioner is malfunctioning (giving off a burning odour, etc.), turn off power to the unit and contact your local service centre. Continued operation under such circumstances may result in a failure, electric shock or fire hazards.
- Be sure to install an earth leakage circuit breaker. Failure to install the earth leakage circuit breaker may result in electric shock or fire.

- Be sure to earth the unit. Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shock.

⚠ CAUTION

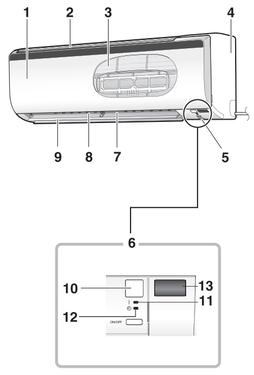
- Do not use the air conditioner for purposes other than those for which it is intended. Do not use the air conditioner for cooling precision instruments, food, plants, animals or works of art as this may adversely affect the performance, quality and/or longevity of the object concerned.
- Do not expose plants or animals directly to the airflow from the unit as this may cause adverse effects.
- Do not place appliances that produce naked flames in places exposed to the airflow from the unit as this may impair combustion of the burner.
- Do not block the air inlets or outlets. Impaired airflow may result in insufficient performance or trouble.
- Do not sit on the outdoor unit, put things on the unit, or pull the unit. Doing so may cause accidents, such as falling or toppling down, thus resulting in injury, product malfunctioning, or product damage.
- Do not place objects that are susceptible to moisture directly beneath the indoor or outdoor units. Under certain conditions, condensation on the main unit or refrigerant pipes, air filter dirt or drain blockage may cause dripping, resulting in fouling or failure of the object concerned.
- After prolonged use, check the unit stand and its mounts for damage. If they are left in a damaged condition, the unit may fall and cause injury.
- To avoid injury, do not touch the air inlet or aluminium fins of the indoor or outdoor units.
- The appliance is not intended for use by unattended young children or infirm persons. Impairment of bodily functions and harm to health may result.
- Children should be supervised to ensure that they do not play with the unit or its remote controller. Accidental operation by a child may result in impairment of bodily functions and harm health.
- Avoid impacts to the indoor and outdoor units, or otherwise product damage may result.
- Do not place flammable items, such as spray cans, within 1m of the air outlet. The spray cans may explode as a result of hot air from the indoor or outdoor units.
- Be careful not to let pets urinate on the air conditioner. Urination on the air conditioner may result in electric shock or fire.
- Do not wash the air conditioner with water, as this may result in electric shock or fire.
- Do not place water containers (vases, etc.) above the unit, as this may result in electric shock or fire hazards if they should topple over.
- Do not insert the batteries in the wrong polarity (+/-) orientation as this may result in short circuiting, fire, or battery leakage.

- To avoid oxygen depletion, ensure that the room is adequately ventilated if equipment such as a burner is used together with the air conditioner.
- Before cleaning, be sure to stop unit operation and turn off the circuit breaker. Otherwise, an electric shock and injury may result.
- Only connect the air conditioner to the specified power supply circuit. Power supplies other than the one specified may result in electric shock, overheating and fires.
- Arrange the drain hose to ensure smooth drainage. Imperfect drainage may cause wetting of the building, furniture, etc.
- Do not place objects in direct proximity of the outdoor unit and do not let leaves and other debris accumulate around the unit. Leaves are a hotbed for small animals which can enter the unit. Once inside the unit, such animals can cause malfunctions, smoke or fire if they come into contact with electrical parts.
- Do not place objects around the indoor unit. Doing so may have an adverse influence on the performance, product quality, and life of the air conditioner.
- This appliance is not intended to be used by persons with reduced physical, sensory or mental capabilities, or with lack of operation knowledge, unless they have been given supervision or instruction concerning the appliance use by person responsible for their safety. Keep out of children's reach to ensure that they do not play with the appliance.

Read before Operation

Name of Parts 1

■ Indoor Unit

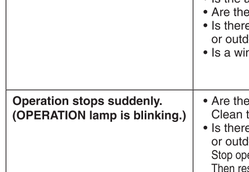


1. Front panel
2. Air inlet
3. Air filter
4. Model Name Plate
5. Indoor temperature sensor:
   - Detects the air temperature around the unit.
6. Display
7. Air outlet
8. Louvres (vertical blades):
   - The louvres are inside of the air outlet.
9. Flaps (horizontal blades)
10. Signal receiver:
    - When the unit receives a signal, you will hear a beep sound.

Case	Sound type
Operation start	beep-beep
Settings changed	beep
Operation stop	long beep

11. OPERATION lamp (green)
12. TIMER lamp (orange)
13. Set temperature/ Error code display
14. Air inlet (back and side)
15. Outdoor temperature sensor (back)
16. Refrigerant pipes and inter-unit wire
17. Drain hose
18. Earth terminal (inside)
19. Model Name Plate
20. Air outlet

■ Outdoor Unit



Appearance of the indoor/outdoor unit may differ between different models.

Care

Care and Cleaning 1

⚠ CAUTION

- Before cleaning, be sure to stop the operation and turn off the circuit breaker.
- Do not touch the aluminium fins of the indoor unit. If you touch those parts, this may cause an injury.
- When removing or attaching the front panel, stand on a solid, stable base and take care not to fall.
- When removing or attaching the front panel, support the panel securely with your hand to prevent it from falling.

Units

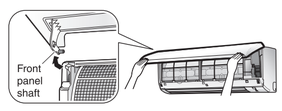
■ Indoor unit and remote controller

1. **Wipe them with a dry soft cloth.**

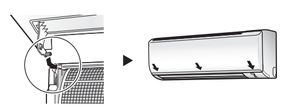
■ Front panel

1. **Open the front panel.**
   - Hold the front panel by the indentations in the unit and open the front panel.

2. **Remove the front panel.**
   1) Slide the front panel to either the left or right and pull it toward you to disengage one of the front panel shafts.
   2) Disengage the front panel shaft on the other side in the same manner.
   3) After disengaging both front panel shafts, pull the front panel toward yourself and remove it.



3. **Clean the front panel.**
   - Wipe it with a soft damp cloth.
   - Only neutral detergent may be used.
   - In case of washing the panel with water, wipe it with a dry soft cloth, and let it dry in the shade after washing.
4. **Attach the front panel.**
   1) Align the front panel shaft on the left and right of the front panel with the grooves, then push them all the way in.
   2) Close the front panel slowly.
   3) Press the front panel at both sides and the centre.
   - After cleaning, make sure that the front panel is securely fixed.



NOTE

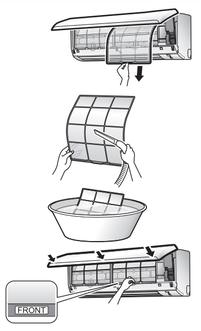
For cleaning, do not use any of the following:

- Water hotter than 40°C
- Volatile liquid such as benzene, petrol and thinner
- Polishing compounds
- Rough materials such as a scrubbing brush

Care

Care and Cleaning 2

Air filter



1. **Pull out the air filters.**
   - Open the front panel.
   - Push the filter tab at the centre of each air filter a little upwards, then pull it down.
2. **Wash the air filters with water or clean them with a vacuum cleaner.**
   - If the dust does not come off easily, wash them with neutral detergent thinned with lukewarm water, then let them dry in the shade.
   - It is recommended to clean the air filters every 2 weeks.
3. **Reattach the filters and close the front panel.**
   - Insert the filters into slots of the front grille. Close the front panel slowly and push the panel at the 3 points.

Troubleshooting

Troubleshooting 1

These cases are not problems.

The following cases are not air conditioner troubles but have some reasons. You may just continue using it.

Case	Explanation
Operation does not start soon. • When "ON/OFF" button was pressed soon after operation was stopped. • When the mode was reselected.	• This is to protect the air conditioner. You should wait for about 3 minutes.
Air does not come out.	• If the operation is started when the airflow setting is "Auto", the SMELL PROOF operation starts running to prevent unpleasant odour inside the indoor unit. Wait for about 1 minute.
The flaps do not start swinging immediately.	• The air conditioner is adjusting the position of the flaps. The flaps will start moving soon.
Operation stopped suddenly. (OPERATION lamp is on.)	• To protect the system, the air conditioner may stop operating after sudden large voltage fluctuations. It automatically resumes operation in about 3 minutes. Voltage range protection: 160V-265V
A sound is heard.	■**A sound like flowing water** • This sound is generated because the refrigerant in the air conditioner is flowing. • This is a pumping sound of the water in the air conditioner and can be heard when the water is pumped out from the air conditioner during COOL operation. ■**Blowing sound** • This sound is generated when the flow of the refrigerant in the air conditioner is switched over. ■**Ticking sound** • This sound is generated when the cabinet and frame of the air conditioner slightly expand or shrink as a result of temperature changes. ■**Clopping sound** • This sound is heard from the inside of the air conditioner when the exhaust fan is activated while the room doors are closed. Open the window or turn off the exhaust fan.
The outdoor unit emits water or steam.	■**In COOL operation** • Moisture in the air condenses into water on the cool surface of the outdoor unit piping and drips.
Mist comes out of the indoor unit.	• This happens when the air in the room is cooled into mist by the cold airflow during COOL operation.

Troubleshooting

Troubleshooting 2

Case	Explanation
The indoor unit gives out odour.	• The room odour absorbed in the unit is discharged with the airflow. We recommend you to have the indoor unit cleaned. Please consult your service centre.
The outdoor fan rotates while the air conditioner is not in operation.	■**Immediately after the air conditioner is stopped:** • The outdoor unit fan continues rotating for about another 1 minute to protect the system. ■**While the air conditioner is not in operation:** • When the outdoor temperature is high, the outdoor unit fan may start rotating to protect the system.

Check again.

Please check again before requesting repairs.

Case	Explanation
The air conditioner does not operate. (OPERATION lamp is off.)	• Has the circuit breaker been tripped or the fuse blown? • Is there a power failure? • Is the timer setting correct?
The room does not cool down.	• Is the airflow rate setting appropriate? If the airflow rate setting is too low, increase it. • Is the set temperature appropriate? • Is the adjustment of the airflow direction appropriate? • Are the air filters dirty? • Is there anything blocking the air inlet or air outlet of the indoor unit or outdoor unit? • Is a window or door open?
Operation stops suddenly. (OPERATION lamp is blinking.)	• Are the air filters dirty? Clean the air filters. • Is there anything blocking the air inlet or air outlet of the indoor unit or outdoor unit? Stop operation and after turning off the circuit breaker, remove the obstruction. Then restart operation. If the OPERATION lamp is still blinking, check the error code and consult your service centre. • If the lamp stop blinking after the above steps, there is no malfunction.
An abnormal functioning happens during operation.	• The air conditioner may malfunction with lightning or radio waves. Turn off the circuit breaker, turn it on again and try operating the air conditioner .

Troubleshooting

Troubleshooting 3

Call your service centre immediately.

⚠ WARNING

■When an abnormality (such as a burning smell) occurs, stop operation and turn off the circuit breaker.
Continued operation in an abnormal condition may result in problems, electric shock or fire.
Consult your service centre.

■Do not attempt to repair or modify the air conditioner by yourself.
Incorrect work may result in electric shock or fire.
Consult your service centre.

If one of the following symptoms takes place, call your service centre immediately.

- **The power cord is abnormally hot or damaged.**
- **An abnormal sound is heard during operation.**
- **The circuit breaker, a fuse, or the earth leakage circuit breaker cuts off the operation frequently.**
- **A switch or a button often fails to work properly.**
- **There is a burning smell.**
- **Water leaks from the indoor unit.**

▶ Turn off the circuit breaker and call your service centre.

■After a power failure The air conditioner automatically resumes operation in about 3 minutes. You should just wait for a while.	■Lightning If there is a risk lightning could strike in the neighbourhood, stop operation and turn off the circuit breaker to protect the system.

Disposal requirements

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.

Troubleshooting

Troubleshooting 4

The 7-Segment display on the unit can display relevant error code from the indoor unit.

	CODE	MEANING
SYSTEM	00	NORMAL
	UA	INDOOR-OUTDOOR UNIT COMBINATION FAULT
	U0	REFRIGERANT SHORTAGE
	U2	DROP VOLTAGE OR MAIN CIRCUIT OVERVOLTAGE
	U4	FAILURE OF TRANSMISSION (BETWEEN INDOOR UNIT AND OUTDOOR UNIT)
INDOOR UNIT	A1	INDOOR PCB DEFECTIVENESS
	A5	FREEZE-UP PROTECTOR
	A6	FAN MOTOR FAULT
	C4	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	C9	FAULTY SUCTION AIR TEMPERATURE SENSOR
	Er	NO COMMUNICATION BETWEEN MAIN CONTROLLER AND WiFi PCB
OUTDOOR UNIT	E1	CIRCUIT BOARD FAULT
	E5	OL STARTED
	E6	FAULTY COMPRESSOR START UP
	E7	DC FAN MOTOR FAULT
	E8	OVERCURRENT INPUT
	F3	HIGH TEMPERATURE DISCHARGE PIPE CONTROL
	F6	HIGH PRESSURE CONTROL (IN COOLING)
	F8	OPERATION HALT DUE TO COMPRESSOR INTERNAL TEMPERATURE ABNORMALITY
	H0	SENSOR FAULT
	H6	OPERATION HALT DUE TO FAULTY POSITION DETECTION SENSOR
	H8	DC CURRENT SENSOR FAULT
	H9	FAULTY SUCTION AIR TEMPERATURE SENSOR
	J3	FAULTY DISCHARGE PIPE TEMPERATURE SENSOR
	J6	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	L3	ELECTRICAL PARTS HEAT FAULT
	L4	HIGH TEMPERATURE AT INVERTER CIRCUIT HEATSINK
	L5	OUTPUT OVERCURRENT
	P4	FAULTY INVERTER CIRCUIT HEATSINK TEMPERATURE SENSOR

DAIKIN INDUSTRIES, LTD.
Head office:
Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan
Tokyo office:
JR Shinagawa East Bldg., 2-18-1, Konan,
Minato-ku, Tokyo, 108-0075 Japan
http://www.daikin.com

DAIKIN

DAIKIN AIR CONDITIONER 3P650120-1 M21P060

INSTALLATION MANUAL

R32 Split Series INVERTER

Safety Precautions

Read the precautions in this manual carefully before operating the unit. | This appliance is filled with R32.

- 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 follow 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 an earth connection.	⃠	Never attempt.

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

⚠ WARNING

- Ask your dealer or qualified personnel to carry out installation work. Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shock or fire.
- Install the air conditioner in accordance with the instructions in this installation manual. Improper installation may result in water leakage, electric 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 shock or fire.
- Install the air conditioner on a foundation strong enough to hold 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 the instructions in this installation manual. Be sure to use a dedicated power supply circuit only. Insufficient power supply and improper workmanship may result in electric shock or fire.
- Use a cable of suitable length. Do not use tapped wires or an extension lead, as this may cause overheating, electric shock 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 and connecting the wiring between the indoor and outdoor units, position the wires so that the electrical wiring box cover can be securely fastened. Improper positioning of the electrical wiring box cover may result in electric shock, fire or overheating terminals.
- If refrigerant gas leaks during installation, ventilate the area immediately. Toxic gas may be produced if the refrigerant comes into contact with fire. ❗
- After completing installation, check for refrigerant gas leakage. Toxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker. ❗
- When installing or relocating the air conditioner, do not let any other substances besides R32, such as air, enter the refrigerant circuit. The presence of air or foreign matter in the refrigerant circuit causes an abnormal pressure rise, which may result in equipment damage and even injury.
- During installation, attach the refrigerant piping securely before operating the compressor. If the refrigerant pipes are not attached and the stop valve is open when the compressor is operated, air will be sucked in, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- During pump down, stop the compressor before removing the refrigerant piping. If the compressor is still operating and the stop valve is open during pump down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- 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 shock. ⏚
- Be sure to install an earth leakage circuit breaker. Failure to install an earth leakage circuit breaker may result in electric shock or fire.
- Do not pump down when the refrigerant has leaked, otherwise the compressor may be damaged. ❗

⚠ CAUTION

- Do not install the air conditioner at any place where there is a 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 the piping to prevent condensation. Improper drain piping may result in indoor water leakage and property damage.
- Tighten the flare nut as specified, such as with a torque wrench. If the flare nut is too tight, it may crack after prolonged use, causing refrigerant leakage.
- Take adequate steps to prevent the outdoor unit being used as a shelter by small animals. If small animals or birds come into contact with electrical parts, this can cause malfunctions, smoke or fire. Please instruct the customer to always keep the area around the unit clean.
- The refrigerant circuit temperature will be high, therefore the inter-unit wire must be kept away from copper pipes that are not thermally insulated.

RKN007

ACCESSORIES Ⓐ~Ⓔ

Ⓐ Mounting plate	1	
Ⓑ Mounting plate fixing screw M4 × 25L	7	
Ⓒ Indoor unit fixing screw M4 × 12L	2	
Ⓓ Operation/Installation Manual	1	
Ⓔ Wi-Fi Manual (Pamphlet)	1	

Precautions for Selecting a Location

- Before choosing the installation site, obtain user approval.

Indoor unit

The indoor unit should be positioned in a place where:

1) the restrictions on the installation requirements specified in "**Indoor/Outdoor Installation Diagram**" are met,
2) both the air inlet and air outlet are unobstructed,
3) the unit is not exposed to direct sunlight,
4) the unit is away from sources of heat or steam,
5) there is no source of machine oil vapour (this may shorten the indoor unit service life),
6) cool air is circulated throughout the room,
7) the unit is at least 1m away from any television or radio set (the unit may cause interference with the picture or sound),
8) the unit can be installed at the recommended height (1.8m),
9) no laundry equipment is nearby.

Outdoor unit

The outdoor unit should be positioned in a place where:

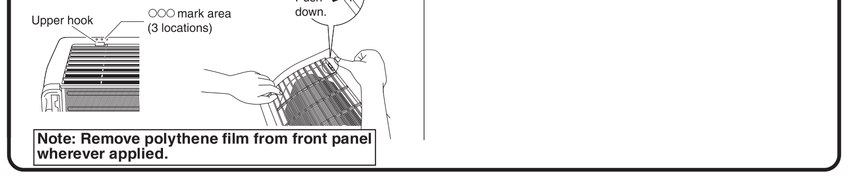
1) the restrictions on installation specified in "**Outdoor Unit Installation Diagram**" are met,
2) drain water causes no trouble or problem in particular,
3) both air inlet and outlet have clear paths of air (they should be free of snow in snowy districts),
4) the unit is in a clear path of air but not directly exposed to rain, strong winds, or direct sunlight,
5) there is no fear of inflammable gas leakage,
6) the unit is not directly exposed to salt, sulfidized gases, or machine oil vapour (these may shorten the service life of the outdoor unit),
7) operating sound or hot airflow does not cause trouble to neighbours,
8) the unit is at least 3m away from any television or radio antenna.

Outdoor Unit Installation Space Requirements

⚠ CAUTION

When carrying the outdoor unit during installation, wear gloves to avoid injury.

- Position the unit on a horizontal surface. Any tilt in the unit (front to back, right to left) should be 3° or less to the horizontal.
- Where a wall or other obstacle is in the path of the outdoor unit's intake or exhaust airflow, follow the installation space requirements below.
- For any of the below installation patterns, the wall height on the outlet side should be 1200mm or less.



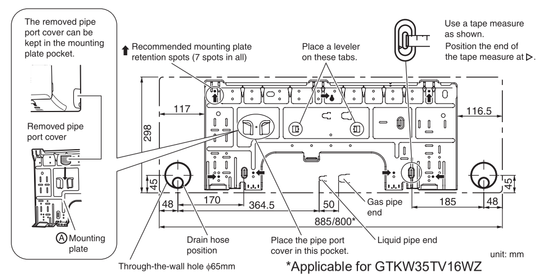
*Applicable for RKWG35TV16WZ unit: mm

Indoor Unit

1. 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 plate is completely level, and mark the drilling points on the wall.
  2) Secure the mounting plate to the wall with screws.

Recommended mountingplate retention spots and dimensions



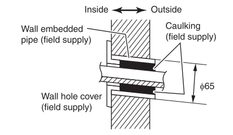
*Applicable for GTKW35TV16WZ

2. Drilling a wall hole and installing wall embedded pipe

⚠ WARNING

For metal frame or metal board walls, be sure to use a wall embedded pipe and wall hole cover in the feed-through hole to prevent possible heat, electrical shock, or fire.

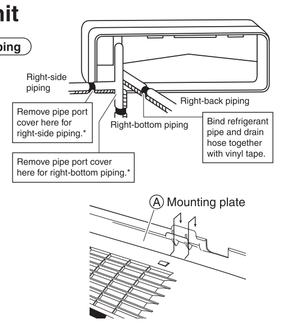
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.
  1) Drill a feed-through hole with a 65mm diameter through the wall at a downward angle toward the outside.
  2) Insert a wall embedded pipe into the hole.
  3) Insert a wall hole cover into wall pipe.
  4) After completing refrigerant piping, wiring, and drain piping, caulk pipe hole gap with putty.



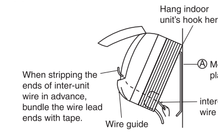
3. Installing the indoor unit

Right-Side, Right-Back, or Right-Bottom Piping

1) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
   * Caulk the gap between the pipe and the front grille with putty.
2) Pass the drain hose and refrigerant pipes through the wall hole, then set the indoor unit on the Ⓐ mounting plate hooks.
3) Open the front grille, then open the service lid. (Refer to Installation Tips.)

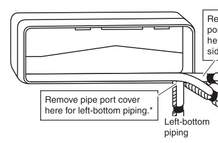


4) Pass the inter-unit wire from the outdoor unit through the feed-through wall hole and then through the back of the indoor unit. Pull them through the front side. Bend the ends of cable tie wires upward for easier work in advance. (If the inter-unit wire ends are to be stripped first, bundle the wire lead ends with adhesive tape.)
5) Press the bottom frame of the indoor unit with both hands to set it on the Ⓐ mounting plate hooks. Make sure the wire leads do not catch on the edge of the indoor unit.



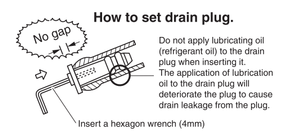
Left-Side, Left-Back, or Left Bottom Piping

1) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
   * Caulk the gap between the pipe and the front grille with putty.

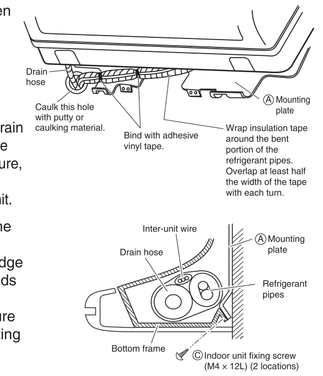


2) Be sure to connect the drain hose to the drain port in place of a drain plug.
3) Shape the refrigerant pipes.

How to set drain plug.

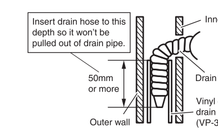


4) Pass drain hose and refrigerant pipes through the wall hole, then position the indoor unit on the Ⓐ mounting plate hooks.
5) Pull in the inter-unit wire.
6) Connect the refrigerant pipes.
7) Wrap the refrigerant pipes and drain hose together with insulation tape (field supply) as shown in the figure, in case of setting the drain hose through the back of the indoor unit.
8) While exercising care so that the inter-unit wire does not catch indoor unit, press the bottom edge of the indoor unit with both hands until it is firmly caught by the Ⓐ mounting plate hooks. Secure the indoor unit to the Ⓐ mounting plate with the Ⓒ indoor unit fixing screws (M4 × 12L).



Wall Embedded Piping

Follow the instructions given under left-side, left-back, or left bottom piping.
- Insert the drain hose to this depth so it won't be pulled out of the drain pipe.

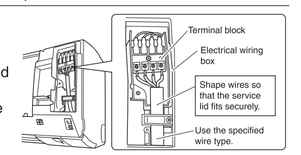


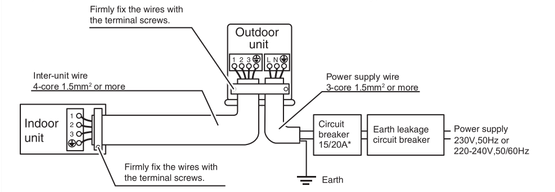
4. Wiring

⚠ WARNING

- Do not use tapped wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block.) Doing so may cause electric shock or fire.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

1) Strip wire ends (15mm).
2) Match wire colours with terminal numbers on the indoor and outdoor unit's terminal blocks and firmly secure the wires in the corresponding terminals with the screws.
3) Connect the earth wire to the corresponding terminals. Attach the earth wire so that it is not connected to the fan motor connector.
4) Pull the wires lightly to make sure they are securely connected, then secure them with the wire retainer.
5) Shape the wires so that the service lid fits securely, then close service lid.



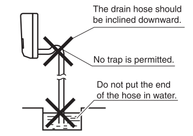


- A voltage stabilizer is not needed : 160V-265V Protection against fluctuation

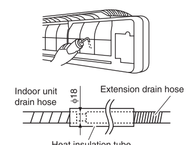
*Applicable for GTKW50TV16VZ/GTKW60TV16UZ

5. Drain piping

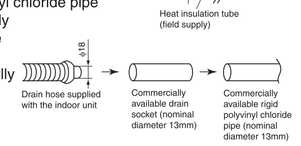
1) Connect the drain hose, as described right.



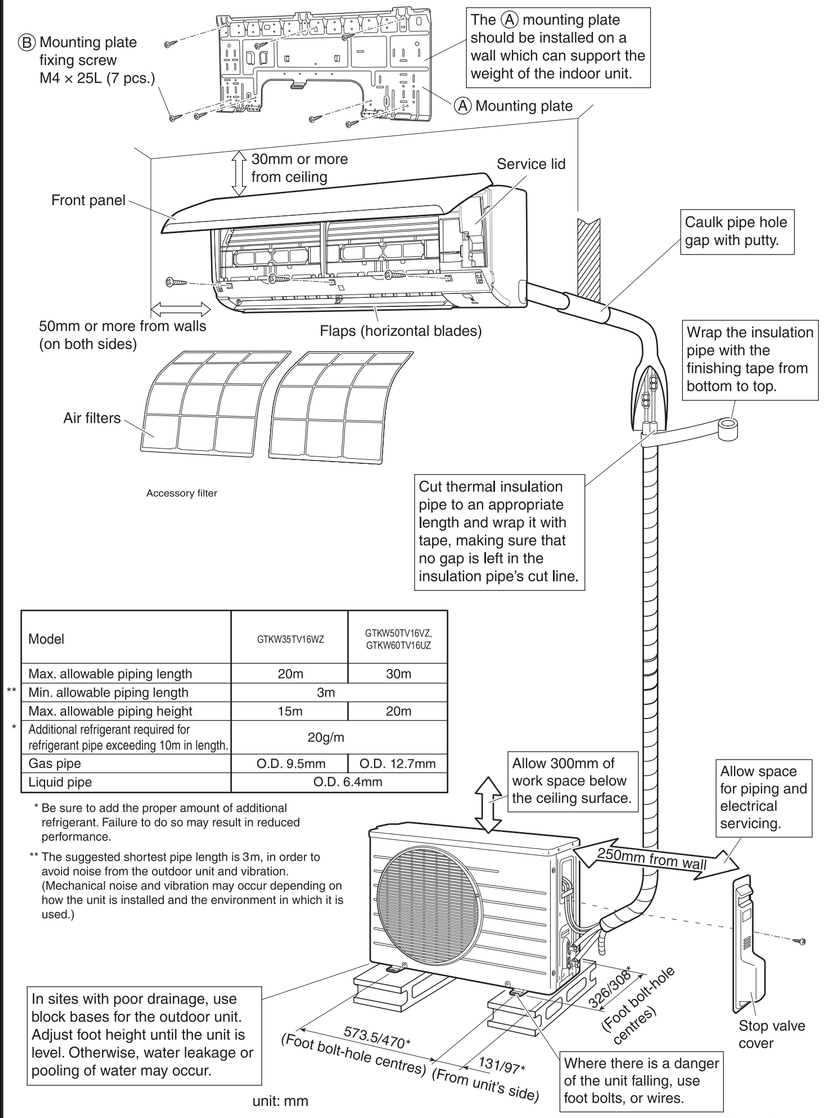
2) Remove the air filters and pour some water into the drain pan to check the water flows smoothly.
3) When drain hose requires extension, obtain an extension hose commercially available. Be sure to thermally insulate the indoor section of the extension hose.



4) When connecting a rigid polyvinyl chloride pipe (nominal diameter 13mm) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (nominal diameter 13mm) as a joint.



Indoor/Outdoor Unit Installation Diagram



Model	GTKW35TV16WZ	GTKW50TV16VZ, GTKW60TV16UZ
Max. allowable piping length	20m	30m
** Min. allowable piping length	3m	
Max. allowable piping height	15m	20m
* Additional refrigerant required for refrigerant pipe exceeding 10m in length.	20g/m	
Gas pipe	O.D. 9.5mm	O.D. 12.7mm
Liquid pipe	O.D. 6.4mm	

* Be sure to add the proper amount of additional refrigerant. Failure to do so may result in reduced performance.

** The suggested shortest pipe length is 3m, in order to avoid noise from the outdoor unit and vibration. (Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.)

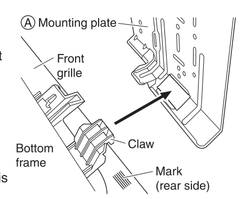
Installation Tips

■ Installing and Removing the indoor unit.

⚠ CAUTION

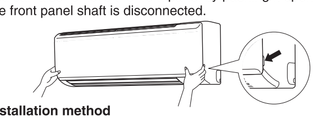
Do not hold the midsection of the bottom of the front grille when carrying the indoor unit.

- **Installation method**
  Hook the claws of the bottom frame to the Ⓐ mounting plate. If the claws are difficult to hook, remove the front grille.
- **Removal method**
  Push up the marked area (at the lower part of the front grille) to release the claws. If it is difficult to release, remove the front grille.

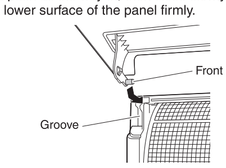


■ Removing and installing the front panel.

- **Removal method**
  Hold the front panel by the indentations in the main unit and open the panel. Slide the front panel sideways to disengage the front panel shaft.
  Then pull the front panel toward you to remove it.
  You can also remove the front panel by pushing it open until the front panel shaft is disconnected.



- **Installation method**
  Align the front panel shaft of the front panel with the grooves, and push all the way in, then close slowly. Push the centre of the lower surface of the panel firmly.



■ Removing and installing the front grille.

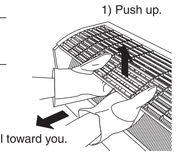
- **Removal method**
  1) Remove the front panel and air filters.
  2) Remove the flap (horizontal blade).
  3) Remove the 3 screws from the front grille.
  4) In front of the ○○○ mark of the front grille, there are 3 upper hooks. Lightly pull the front grille toward you with one hand, and push down on the hooks with the fingers of your other hand.

Note: Remove polythene film from front panel wherever applied.

When there is insufficient work space because the unit is close to ceiling

⚠ CAUTION

Be sure to wear protection gloves.



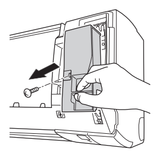
Place both hands under the centre of the front grille, and while pushing up, pull it toward you.

- **Installation method**
  1) Install the front grille and firmly engage the upper hooks (3 locations).
  2) Install 3 screws of the front grille.
  3) Install the air filters and then mount the front panel.

■ Opening the service lid.

The service lid is removable.

- **Opening method**
  1) Remove the service lid screw.
  2) Pull out the service lid diagonally down in the direction of the arrow.
  3) Pull down.



Outdoor Unit

1. Installing the outdoor unit

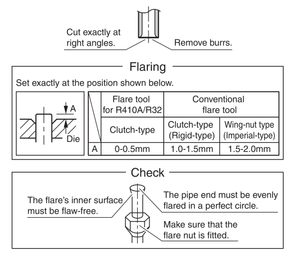
- When installing the outdoor unit, refer to "**Precautions for Selecting a Location**" and the "**Outdoor Unit Installation Diagram**".

2. Flaring the pipe end

⚠ WARNING

Incomplete flaring may result refrigerant gas leakage.

1) Cut the pipe end with a pipe cutter.
2) Remove burrs with the cut surface facing downward, so that the fillings do not enter the pipe.
3) Put the flare nut on the pipe.
4) Flare the pipe.
5) Check that the flaring has been done correctly.



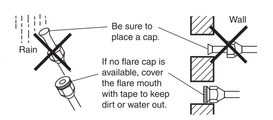
3. Refrigerant piping

1) To prevent gas leakage, apply refrigeration oil to the inner surface of the flare.
2) Align the centres of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.
   • Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and escaping gas.

	Piping size	Flare nut tightening torque	Valve cap tightening torque	Service port cap tightening torque
Gas side	O.D.9.5mm	25-31 N•m (255-316 kgf•cm)	21-25 N•m (214-255 kgf•cm)	10.8-14.7N•m (110-150kgf•cm)
Gas side	O. D.12.7mm	35-43N•m (357-439kgf•cm)	25-31N•m (255-316kgf•cm)	
Liquid side	O. D.6.4mm	15-19N•m (153-194kgf•cm)	21-25N•m (214-255kgf•cm)	

Cautions on Pipe Handling

1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.

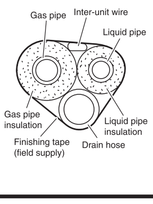


Selection of Copper and Heat Insulation materials

When using commercial copper pipes and fittings, observe the following:
1) Insulation material : Polyethylene foam
   Heat transfer rate : 0.041 to 0.052W/m²K (0.035 to 0.045kcal/m²h°C)
2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

	Piping size	Minimum bend radius	Piping thickness	Thermal insulation size	Thermal insulation thickness
Gas side	O.D. 9.5mm	30mm or more	Thickness 0.7mm (C1220T-O)	I.D. 12-15mm	10mm
Gas side	O.D. 12.7mm	40mm or more		I.D. 14-16mm	
Liquid side	O.D. 6.4mm	30mm or more	Thickness 0.6mm (C1220T-O)	I.D. 8-10mm	

- Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

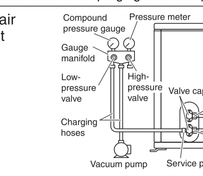


4. Purging air and checking gas leakage

⚠ WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- If refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- To prevent air pollution, a vacuum pump should be used for air purging wherever possible.

- If using additional refrigerant, purge the air from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench to the specified tightening torque.



1) Connect projection side (on which pin is pressed) of charging hose (which comes from gauge manifold) to gas stop valve's service port.
2) Fully open gauge manifold's low-pressure valve (Lo) and completely close its high-pressure valve (Hi). (High-pressure valve will require no further operation.)
3) Begin vacuum pumping and make sure that the compound pressure gauge reads –0.1MPa (–76cmHg) *1.
4) Close the gauge manifold's low-pressure valve (Lo) and stop vacuum pumping. (Maintain this condition for a few minutes to make sure that the compound pressure gauge pointer does not swing back.) *2.
5) Remove the valve caps from the liquid stop value and gas stop valve.
6) Turn the liquid stop valve's rod 90° counter-clockwise with a hexagonal wrench to open valve. Close it after 5 seconds, and check for gas leakage. Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods. After the check is complete, wipe all soapy water off.
7) Disconnect charging hose from the gas stop valve's service port, then fully open the liquid and gas stop valves. (Do not attempt to turn the valve rod further than it can go.)
8) Tighten the valve caps and service port caps for the liquid and gas stop valves with a torque wrench to the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 15m	More than 15m
Run time	At least 10 min.	At least 15 min.

*2. If the compound pressure gauge pointer swings back, the refrigerant may have water content or there may be a loose pipe joint. Check all pipe joints and retighten nuts as needed, then repeat steps 2) through 4).

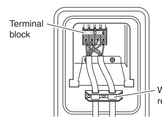
5. Wiring

⚠ WARNING

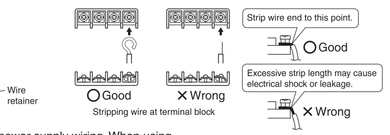
Never use short cables for connecting end of conductor to each other.

- For inter-unit wiring, refer to "**4. Wiring**" in the section "**Indoor Unit**".

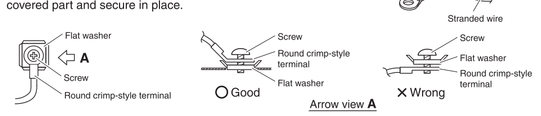
- Regarding the inter-unit wire and power supply wire.



- When connecting the inter-unit wire to the terminal block using a single core wire, be sure to curl the end of the lead. Improper work may cause heat and fire.



- Precautions to be taken for power supply wiring. When using stranded wires, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.



6. Drain work

- If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet.

Trial Operation and Testing

1. Trial operation and testing

- Check that the inter-unit wire is correctly connected.
- Trial operation should be carried out in COOL operation.

1-1 Measure the supply voltage and make sure that it is within the specified range.

1-2 Select the lowest programmable temperature.

1-3 Carry out the trial operation following the instructions in the operation manual to ensure that all functions and parts, such as the movement of the flaps, are working properly.
- To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.

1-4 After trial operation is complete, set the temperature to a normal level (26°C to 28°C).
- When operating the air conditioner in COOL operation in winter, set it to the trial operation mode using the following method.
  1) Press "ON/OFF" button to turn on the system.
  2) Press both of "TEMP" button and "MODE" button at the same time.
  3) Press "TEMP" button, select " ↑ " , and press "MODE" button for confirmation.
  - Trial operation will stop automatically after about 30 minutes. To stop the operation, press "ON/OFF" button.
  - Some of the functions cannot be used in the trial operation mode.
- The air conditioner draws a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is turned on again.

2. Items to Check

Test Items	Symptom	Check
Indoor and outdoor units are installed securely.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining line is properly installed.	Water leakage	
System is properly earthed.	Electrical leakage	
Only specified wires are used for all wiring, and all wires are connected correctly.	No operation or burn damage	
Indoor or outdoor unit's air intake or exhaust has clear path of air.	Incomplete cooling function	
Stop valves are opened.	Incomplete cooling function	
Indoor unit properly receives remote controller commands.	No operation	

Pump Down Operation

⚠ WARNING

- **Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.**
- **When performing a pump down, turn off the compressor before detaching the refrigerant pipes. (If the refrigerant pipes are detached when the compressor is operating and the stop valves are open, air will be drawn in leading to abnormally high pressure in the refrigeration cycle. This may result in rupturing and bodily injury.)**

In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

1) Remove the valve cap from the liquid stop valve and gas stop valve.
2) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
3) After 2 to 3 minutes, close the gas stop valve and stop forced cooling operation.
4) Attach the valve cap once procedures are complete.