TOSHIBA

*AIR CONDITIONER (SPLIT TYPE)*

# Installation Manual

R32

1115350142

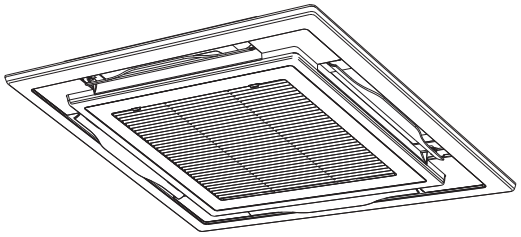
## Indoor Unit

For commercial use

**Model name:**

4-way Cassette type

# RAV-GM901UTP-E



English

**Original instruction**

Please read this Installation Manual carefully before installing the Air Conditioner.
- This Manual describes the installation method of the indoor unit.
- For installation of the outdoor unit, follow the Installation Manual attached to the outdoor unit.
- For precaution for safety, follow the Installation Manual attached to the outdoor unit.

**ADOPTION OF R32 REFRIGERANT**

This Air Conditioner has adopted a refrigerant HFC (R32) which does not destroy the ozone layer. Be sure to check the refrigerant type for outdoor unit to be combined, and then install it.

**Product information of ecodesign requirements. (Regulation (EU) 2016/2281)**
http://ecodesign.toshiba-airconditioning.eu/en

# Contents

Thank you for purchasing this Toshiba air conditioner.
Please read carefully through these instructions that contain important information which complies with the Machinery Directive (Directive 2006/42/EC), and ensure that you understand them.
After completing the installation work, hand over this Installation Manual as well as the Owner's Manual provided to the user, and ask the user to keep them in a safe place for future reference.

**Generic Denomination: Air Conditioner**

**Definition of Qualified Installer or Qualified Service Person**
The air conditioner must be installed, maintained, repaired and removed by a qualified installer or qualified service person. When any of these jobs is to be done, ask a qualified installer or qualified service person to do them for you.
A qualified installer or qualified service person is an agent who has the qualifications and knowledge described in the following table.

| Agent | Qualifications and knowledge which the agent must have |
|---|---|
| Qualified installer | • The qualified installer is a person who installs, maintains, relocates and removes the air conditioners made by Toshiba Carrier Corporation. He or she has been trained to install, maintain, relocate and remove the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations.<br>• The qualified installer who is allowed to do the electrical work involved in installation, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.<br>• The qualified installer who is allowed to do the refrigerant handling and piping work involved in installation, relocation and removal has the qualifications pertaining to this refrigerant handling and piping work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to refrigerant handling and piping work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.<br>• The qualified installer who is allowed to work at heights has been trained in matters relating to working at heights with the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. |
| Qualified service person | • The qualified service person is a person who installs, repairs, maintains, relocates and removes the air conditioners made by Toshiba Carrier Corporation. He or she has been trained to install, repair, maintain, relocate and remove the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations.<br>• The qualified service person who is allowed to do the electrical work involved in installation, repair, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.<br>• The qualified service person who is allowed to do the refrigerant handling and piping work involved in installation, repair, relocation and removal has the qualifications pertaining to this refrigerant handling and piping work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to refrigerant handling and piping work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.<br>• The qualified service person who is allowed to work at heights has been trained in matters relating to working at heights with the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. |



**Definition of Protective Gear**
When the air conditioner is to be transported, installed, maintained, repaired or removed, wear protective gloves and 'safety' work clothing.
In addition to such normal protective gear, wear the protective gear described below when undertaking the special work detailed in the following table.
Failure to wear the proper protective gear is dangerous because you will be more susceptible to injury, burns, electric shocks and other injuries.

| Work undertaken | Protective gear worn |
|---|---|
| All types of work | Protective gloves<br>'Safety' working clothing |
| Electrical-related work | Gloves to provide protection for electricians and from heat<br>Insulating shoes<br>Clothing to provide protection from electric shock |
| Work done at heights (50 cm or more) | Helmets for use in industry |
| Transportation of heavy objects | Shoes with additional protective toe cap |
| Repair of outdoor unit | Gloves to provide protection for electricians and from heat |

These safety cautions describe important matters concerning safety to prevent injury to users or other people and damages to property. Please read through this manual after understanding the contents below (meanings of indications), and be sure to follow the description.

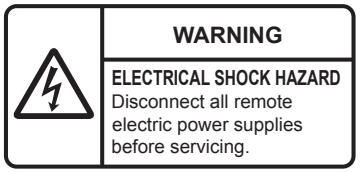
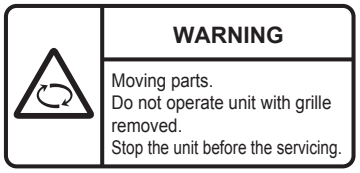
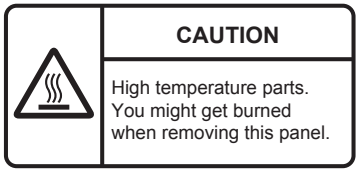
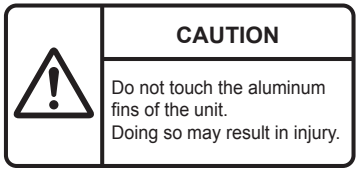
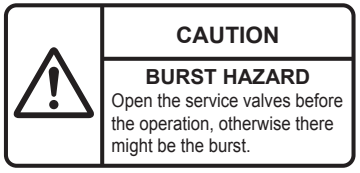
| Indication | Meaning of Indication |
|---|---|
| ⚠ **WARNING** | Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (*1) or loss of life if the product is handled improperly. |
| ⚠ **CAUTION** | Text set off in this manner indicates that failure to adhere to the directions in the caution could result in slight injury (*2) or damage (*3) to property if the product is handled improperly. |

*1: Serious bodily harm indicates loss of eyesight, injury, burns, electric shock, bone fracture, poisoning, and other injuries which leave aftereffect and require hospitalization or long-term treatment as an outpatient.
*2: Slight injury indicates injury, burns, electric shock, and other injuries which do not require hospitalization or longterm treatment as an outpatient.
*3: Damage to property indicates damage extending to buildings, household effects, domestic livestock, and pets.

**MEANINGS OF SYMBOLS DISPLAYED ON THE UNIT**

| | | |
|---|---|---|
|  | **WARNING**<br>(Risk of fire) | This mark is for R32 refrigerant only. Refrigerant type is written on nameplate of outdoor unit.<br>In case that refrigerant type is R32, this unit uses a flammable refrigerant.<br>If refrigerant leaks and comes in contact with fire or heating part, it will create harmful gas and there is risk of fire. |
|  | Read the OWNER'S MANUAL carefully before operation. | |
|  | Service personnel are required to carefully read the OWNER'S MANUAL and INSTALLATION MANUAL before operation. | |
|  | Further information is available in the OWNER'S MANUAL, INSTALLATION MANUAL, and the like. | |

## ■ Warning indications on the air conditioner unit

| Warning indication | Description |
|---|---|
|  | **WARNING**<br><br>**ELECTRICAL SHOCK HAZARD**<br>Disconnect all remote electric power supplies before servicing. |
|  | **WARNING**<br><br>**Moving parts.**<br>Do not operate unit with grille removed.<br>Stop the unit before the servicing. |
|  | **CAUTION**<br><br>High temperature parts.<br>You might get burned when removing this panel. |
|  | **CAUTION**<br><br>Do not touch the aluminium fins of the unit.<br>Doing so may result in injury. |
|  | **CAUTION**<br><br>**BURST HAZARD**<br>Open the service valves before the operation, otherwise there might be the burst. |



# 1 Precautions for safety

The manufacturer shall not assume any liability for the damage caused by not observing the description of this manual.

## ⚠ WARNING

### General

- Before starting to install the air conditioner, read through the Installation Manual carefully, and follow its instructions to install the air conditioner.
- Only a qualified installer or service person is allowed to do installation work. Inappropriate installation may result in water leakage, electric shock or fire.
- Do not use any refrigerant different from the one specified for complement or replacement. Otherwise, abnormally high pressure may be generated in the refrigeration cycle, which may result in a failure or explosion of the product or an injury to your body.
- Before opening the intake grille of the indoor unit or service panel of the outdoor unit, set the circuit breaker to the OFF position. Failure to set the circuit breaker to the OFF position may result in electric shocks through contact with the interior parts. Only a qualified installer(*1) or qualified service person(*1) is allowed to remove the intake grille of the indoor unit or service panel of the outdoor unit and do the work required.
- Before carrying out the installation, maintenance, repair or removal work, set the circuit breaker to the OFF position. Otherwise, electric shocks may result.
- Place a “Work in progress” sign near the circuit breaker while the installation, maintenance, repair or removal work is being carried out. There is a danger of electric shocks if the circuit breaker is set to ON by mistake.
- Only a qualified installer(*1) or qualified service person(*1) is allowed to undertake work at heights using a stand of 50 cm or more or to remove the intake grille of the indoor unit to undertake work.

- Wear protective gloves and safety work clothing during installation, servicing and removal.
- Do not touch the aluminium fin of the unit. You may injure yourself if you do so. If the fin must be touched for some reason, first put on protective gloves and safety work clothing, and then proceed.
- Do not climb onto or place objects on top of the outdoor unit. You may fall or the objects may fall off of the outdoor unit and result in injury.
- When work is performed at heights, use a ladder which complies with the ISO 14122 standard, and follow the procedure in the ladder's instructions. Also wear a helmet for use in industry as protective gear to undertake the work.
- Before cleaning the filter or other parts of the outdoor unit, set the circuit breaker to OFF without fail, and place a "Work in progress" sign near the circuit breaker before proceeding with the work.
- Before working at heights, put a sign in place so that no-one will approach the work location, before proceeding with the work. Parts and other objects may fall from above, possibly injuring a person below. While carrying out the work, wear a helmet for protection from falling objects.
- Do not use the refrigerant other than R32.
  For the refrigerant type, check the outdoor unit to be combined.
- The refrigerant used by this air conditioner, follow to the outdoor unit.
- The air conditioner must be transported in stable condition.
  If any part of the product is broken, contact the dealer.
- When the air conditioner must be transported by hand, carry it by two or more people.
- Do not move or repair any unit by yourself. There is high voltage inside the unit. You may get electric shock when removing the cover and main unit.
- This appliance is intended to be used by expert or trained users in shops, in light industry, or for commercial use by lay persons.



**Selection of installation location**

- When the air conditioner is installed in a small room, provide appropriate measures to ensure that the concentration of refrigerant leakage occur in the room does not exceed the critical level.
- Do not install in a location where flammable gas leaks are possible. If the gas leak and accumulate around the unit, it may ignite and cause a fire.
- To transport the air conditioner, wear shoes with additional protective toe caps.
- To transport the air conditioner, do not take hold of the bands around the packing carton. You may injure yourself if the bands should break.
- Install the indoor unit at least 2.5 m above the floor level since otherwise the users may injure themselves or receive electric shocks if they poke their fingers or other objects into the indoor unit while the air conditioner is running.
- Do not place any combustion appliance in a place where it is directly exposed to the wind of air conditioner, otherwise it may cause imperfect combustion.

**Installation**

- When the indoor unit is to be suspended, the designated hanging bolts (M10 or W3/8) and nuts (M10 or W3/8) must be used.
- Install the air conditioner securely in a location where the base can sustain the weight adequately. If the strength is not enough, the unit may fall down resulting in injury.
- Follow the instructions in the Installation Manual to install the air conditioner. Failure to follow these instructions may cause the product to fall down or topple over or give rise to noise, vibration, water leakage or other trouble.
- Carry out the specified installation work to guard against the possibility of high winds and earthquake. If the air conditioner is not installed appropriately, a unit may topple over or fall down, causing an accident.

- If refrigerant gas has leaked during the installation work, ventilate the room immediately. If the leaked refrigerant gas comes in contact with fire, noxious gas may generate.
- Use forklift to carry in the air conditioner units and use winch or hoist at installation of them.

**Refrigerant piping**

- Install the refrigerant pipe securely during the installation work before operating the air conditioner. If the compressor is operated with the valve open and without refrigerant pipe, the compressor sucks air and the refrigeration cycles is over pressurized, which may cause a injury.
- Tighten the fl are nut with a torque wrench in the specified manner. Excessive tighten of the fl are nut may cause a crack in the fl are nut after a long period, which may result in refrigerant leakage.
- After the installation work, confirm that refrigerant gas does not leak. If refrigerant gas leaks into the room and fl ows near a fire source, such as a cooking range, noxious gas may be generated.
- When the air conditioner has been installed or relocated, follow the instructions in the Installation Manual and purge the air completely so that no gases other than the refrigerant will be mixed in the refrigerating cycle. Failure to purge the air completely may cause the air conditioner to malfunction
- Nitrogen gas must be used for the airtight test.
- The charge hose must be connected in such a way that it is not slack.

**Electrical wiring**

- Only a qualified installer(*1) or qualified service person(*1) is allowed to carry out the electrical work of the air conditioner. Under no circumstances must this work be done by an unqualified individual since failure to carry out the work properly may result in electric shocks and/or electrical leaks.
- To connect the electrical wires, repair the electrical parts or undertake other electrical jobs, wear gloves to provide protection for electricians and from heat, insulating shoes and clothing to provide protection from electric shocks. Failure to wear this protective gear may result in electric shocks.
- Use wiring that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may give rise to electric shocks, electrical leakage, smoking and/or a fire.
- Connect earth wire. (Grounding work)
  Incomplete grounding causes an electric shock.
- Do not connect earth wires to gas pipes, water pipes, and lightning conductor or telephone earth wires.
- After completing the repair or relocation work, check that the earth wires are connected properly.
- Install a circuit breaker that meets the specifications in the installation manual and the stipulations in the local regulations and laws.
- Install the circuit breaker where it can be easily accessed by the agent.
- To install the circuit breaker outdoors, install one which is designed to be used outdoors.
- Under no circumstances the power wire must not be extended. Connection trouble in the places where the wire is extended may give rise to smoking and/or a fire.
- Electrical wiring work shall be conducted according to law and regulation in the community and installation manual. Failure to do so may result in electrocution or short circuit.

**Test run**

- Before operating the air conditioner after having completed the work, check that the electrical control box cover of the indoor unit and service panel of the outdoor unit are closed, and set the circuit breaker to the ON position. You may receive an electric shock if the power is turned on without first conducting these checks.
- If there is any kind of trouble (such as an error display has appeared, smell of burning, abnormal sounds, the air conditioner fails to cool or heat or water is leaking) has occurred in the air conditioner, do not touch the air conditioner yourself but set the circuit breaker to the OFF position, and contact a qualified service person. Take steps to ensure that the power will not be turned on (by marking “out of service” near the circuit breaker, for instance) until qualified service person arrives. Continuing to use the air conditioner in the trouble status may cause mechanical problems to escalate or result in electric shocks or other trouble.
- After the work has finished, use an insulation tester set (500V Megger) to check the resistance is 1 MΩ or more between the charge section and the non-charge metal section (Earth section). If the resistance value is low, a disaster such as a leak or electric shock is caused at user’s side.
- Upon completion of the installation work, check for refrigerant leaks and check the insulation resistance and water drainage. Then conduct a test run to check that the air conditioner is operating properly.

**Explanations given to user**

- Upon completion of the installation work, tell the user where the circuit breaker is located. If the user does not know where the circuit breaker is, he or she will not be able to turn it off in the event that trouble has occurred in the air conditioner.
- If the fan grille is damaged, do not approach the outdoor unit but set the circuit breaker to the OFF position, and contact a qualified service person(*1) to have the repairs done. Do not set the circuit breaker to the ON position until the repairs are completed.
- After the installation work, follow the Owner’s Manual to explain to the customer how to use and maintain the unit.

**Relocation**

- Only a qualified installer(*1) or qualified service person(*1) is allowed to relocate the air conditioner. It is dangerous for the air conditioner to be relocated by an unqualified individual since a fire, electric shocks, injury, water leakage, noise and/or vibration may result.
- When carrying out the pump-down work shut down the compressor before disconnecting the refrigerant pipe. Disconnecting the refrigerant pipe with the service valve left open and the compressor still operating will cause air or other gas to be sucked in, raising the pressure inside the refrigeration cycle to an abnormally high level, and possibly resulting in rupture, injury or other trouble.

**⚠ CAUTION**

**This Air Conditioner has adopted a refrigerant HFC (R32) which does not destroy the ozone layer.**

- WAs the R32 refrigerant is easily affected by impurities such as moisture, oxidized film, oil, etc., due to the high pressure, be careful not to allow the moisture, dirt, existing refrigerant, refrigerating machine oil, etc., to get mixed up in the refrigeration cycle during the installation work.
- A special tool for the R32 refrigerant is required for installation.
- Use a new and clean piping materials for the connecting pipe so that moisture and dirt are not mixed together during the installation work.
- When using existing pipes, follow the installation manual enclosed with the outdoor unit.

(*1) Refer to the “Definition of Qualified Installer or Qualified Service Person.”

Merci d'avoir acheté ce climatiseur Toshiba.
Veuillez lire attentivement ces instructions qui contiennent des informations importantes qui sont conformes à la directive Machines (Directive 2006/42/EC), et assurez-vous de bien les comprendre.
Une fois l'installation terminée, confiez à l'utilisateur le présent manuel d'installation et le manuel du propriétaire et demandez-lui de les ranger, afin qu'il les ait à disposition en cas de besoin.

**Dénomination générique : Climatiseur**

**Définition d'un Installateur qualifié ou Technicien d'entretien qualifié**
Le climatiseur doit être installé, entretenu, réparé et enlevé par un installateur qualifié ou une personne d'entretien qualifiée. Lorsqu'une de ces opérations doit être effectuée, demandez à un installateur qualifié ou un technicien d'entretien qualifié de les exécuter pour vous.
Un installateur qualifié ou technicien d'entretien qualifié est un agent qui a les qualifications et connaissances décrites dans le tableau suivant.

| Agent | Qualifications et connaissances que cet agent doit posséder |
|---|---|
| Qualified installer | • L'installateur qualifié est une personne qui installe, entretient, déplace et enlève les climatiseurs fabriqués par Toshiba Carrier Corporation. Il ou elle a été formé pour installer, entretenir, déplacer et enlever les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes concernant de telles opérations par une ou des personnes qui ont été formées et a, par conséquent, acquis toutes les connaissances associées à ces opérations.<br>• L'installateur qualifié qui est autorisé à effectuer un travail électrique compris dans l'installation, le déplacement et l'enlèvement possède les qualifications nécessaires à ce travail électrique conformément aux réglementations et à la législation locales, et il ou elle est une personne qui a été formée pour les problèmes relatifs au travail électrique sur les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes dans de tels domaines par une ou des personnes qui ont été formées et possèdent, par conséquent, les connaissances relatives à ce travail.<br>• L'installateur qualifié qui est autorisé à manipuler du fluide frigorigène et à réaliser un travail de raccordement compris dans l'installation, le déplacement et l'enlèvement possède les qualifications nécessaires à cette manipulation de fluide frigorigène et de ce travail de raccordement conformément aux réglementations et à la législation locales, et il ou elle est une personne qui a été formée pour les problèmes relatifs à la manipulation de fluide frigorigène et de travail de raccordement sur les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes dans de tels domaines par une ou des personnes qui ont été formées et possèdent, par conséquent, les connaissances relatives à ce travail.<br>• L'installateur qualifié qui est autorisé à travailler en hauteur a été formé aux domaines relatifs au travail en hauteur avec les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes dans de tels domaines par une ou des personnes qui ont été formées et possède, par conséquent, toutes les connaissances requises pour ce travail. |
| Technicien d'entretien qualifié | • La personne d'entretien qualifiée est une personne qui installe, répare, entretient, déplace et enlève les climatiseurs fabriqués par Toshiba Carrier Corporation. Il ou elle a été formé pour installer, réparer, entretenir, déplacer et enlever les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes pour de telles opérations par une ou des personnes qui ont été formées et a, par conséquent, acquis toutes les connaissances associées à ces opérations.<br>• La personne d'entretien qualifiée qui est autorisée à effectuer un travail électrique compris dans l'installation, la réparation, le déplacement et l'enlèvement possède les qualifications nécessaires à ce travail électrique conformément aux réglementations et à la législation locales, et il ou elle est une personne qui a été formée pour les problèmes relatifs au travail électrique sur les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes dans de tels domaines par une ou des personnes qui ont été formées et possèdent, par conséquent, les connaissances relatives à ce travail.<br>• La personne d'entretien qualifiée qui est autorisée à manipuler du fluide frigorigène et à réaliser un travail de raccordement compris dans l'installation, la réparation, le déplacement et l'enlèvement possède les qualifications nécessaires à cette manipulation de fluide frigorigène et de ce travail de raccordement conformément aux réglementations et à la législation locales, et il ou elle est une personne qui a été formée pour les problèmes relatifs à la manipulation de fluide frigorigène et de travail de raccordement sur les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes dans de tels domaines par une ou des personnes qui ont été formées et possèdent, par conséquent, les connaissances relatives à ce travail.<br>• La personne d'entretien qualifiée qui est autorisée à travailler en hauteur a été formée aux domaines relatifs au travail en hauteur avec les climatiseurs fabriqués par Toshiba Carrier Corporation ou, alternativement, il ou elle a reçu des consignes dans de tels domaines par un ou des personnes qui ont été formées et possèdent, par conséquent, toutes les connaissances requises pour ce travail. |



**Définition de l'équipement de protection**
Lorsque le climatiseur doit être transporté, installé, entretenu, réparé ou enlevé, portez des gants de protection et des vêtements de travail de « sécurité ».
En plus de cette tenue de protection normale, portez la tenue de protection décrite ci-dessous lorsque vous entreprenez les travaux spéciaux détaillés dans le tableau suivant.
Ne pas porter la tenue de protection adéquate est dangereux car vous serez plus susceptible d'être blessé, brûlé, de subir une décharge électrique ou d'autres blessures.

| Travaux entrepris | Equipement de protection porté |
|---|---|
| Tous types de travaux | Gants de protection Vêtement de travail « de Sécurité » |
| Travaux liés à l'électricité | Gants pour fournir une protection contre les décharges électriques et la chaleur Chaussures isolantes Vêtement protégeant d'une décharge électrique |
| Travail effectué en hauteur (50 cm minimum) | Casques utilisés dans l'industrie |
| Transport d'objets lourds | Chaussures avec des bouts renforcés de protection |
| Réparation de l'unité extérieure | Gants pour fournir une protection contre les décharges électriques et la chaleur |

Ces précautions relatives à la sécurité décrivent les thèmes importants ayant trait à la sécurité pour éviter que les utilisateurs ou toute autre personne ne se blessent, ainsi que tout dommage matériel. Veuillez lire attentivement ce manuel après avoir bien compris ce qui est expliqué dans les contenus ci-dessous (significations des indications) et assurez-vous de bien suivre la description.

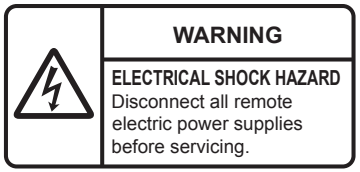
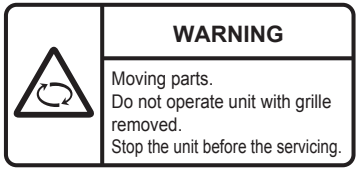
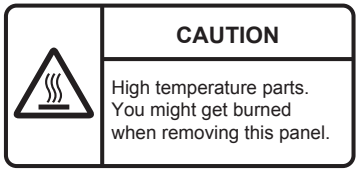
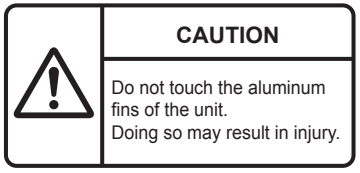
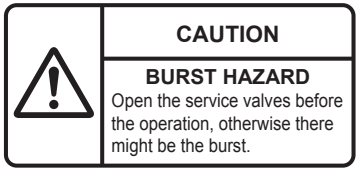
| Indication | Signification de l'indication |
|---|---|
| ⚠ AVERTISSEMENT | Le texte rédigé de cette manière indique que le non-respect de ces directions d'avertissement pourrait entraîner de graves dommages physiques (*1) ou la mort si le produit venait à être manipulé de façon inadéquate. |
| ⚠ PRÉCAUTION | Le texte rédigé de cette manière indique que le non-respect de ces directions de précaution pourraient entraîner des blessures légères (*2) ou des dommages (*3) matériels si le produit venait à être manipulé de façon inadéquate. |

*1: Le dommage physique grave renvoie à la perte de la vue, aux blessures, aux brûlures, aux fractures, à l'empoisonnement et à toute autre blessure laissant des séquelles et nécessitant une hospitalisation ou un traitement sur le long terme en tant que patient ambulatoire.
*2: La blessure légère renvoie aux blessures, aux brûlures, à un choc électrique et à toute autre blessure ne nécessitant pas une hospitalisation ou un traitement à long terme en tant que patient ambulatoire.
*3: Les dommages matériels renvoient à des dommages étendus aux bâtiments, aux biens domestiques, au bétail domestique et aux animaux de compagnie.

**SIGNIFICATION DES SYMBOLES AFFICHÉS SUR L'UNITÉ**

| | | |
|---|---|---|
|  | **AVERTISSEMENT** (Risque d'incendie) | Cette marque est pour le réfrigérant R32 uniquement. Le type de réfrigérant est écrit sur la plaque de l'unité extérieure. Si ce type de réfrigérant est le R32, l'unité utilise un réfrigérant inflammable. S'il y a des fuites de réfrigérant et que du fluide entre en contact avec une flamme ou des éléments de chauffe, cela pourra entraîner des gaz nocifs et un risque d'incendie. |
|  | Lisez attentivement le MANUEL DU PROPRIÉTAIRE avant la mise en marche. | |
|  | Le personnel de service doit lire attentivement le MANUEL DU PROPRIÉTAIRE et le MANUEL D'INSTALLATION avant la mise en marche. | |
|  | De plus amples informations sont disponibles dans le MANUEL DU PROPRIÉTAIRE, le MANUEL D'INSTALLATION et autres manuels similaires. | |

## ■ Avertissements apposés sur le climatiseur

| Indication d'avertissement | Description |
|---|---|
|  | **AVERTISSEMENT**<br><br>**RISQUE DE DECHARGE ELECTRIQUE**<br>Débranchez toutes les alimentations électriques distantes avant l'entretien. |
|  | **AVERTISSEMENT**<br><br>Pièces mobiles.<br>Ne faites pas fonctionner l'unité avec la grille déposée.<br>Arrêtez l'unité avant l'entretien. |
|  | **PRÉCAUTION**<br><br>Pièces à haute température.<br>Vous pourriez vous brûler en déposant ce panneau. |
|  | **PRÉCAUTION**<br><br>Ne touchez pas les ailettes en aluminium de l'unité.<br>Vous pourriez vous blesser. |
|  | **PRÉCAUTION**<br><br>**RISQUE D'EXPLOSION**<br>Ouvrez les soupapes de service avant l'opération, sinon un éclatement pourrait se produire. |

# 1 Précautions relatives à la sécurité

Le fabricant ne peut être tenu responsable pour tout dommage causé par le non respect des instructions et descriptions de ce manuel.

## ⚠ AVERTISSEMENT

### Généralités

- Avant d'installer le climatiseur, lisez attentivement le Manuel d'installation et suivez les instructions pour installer le climatiseur.
- Seul un installateur qualifié ou une personne d'entretien est autorisé à procéder à l'installation. Une installation inadéquate peut se solder par une fuite d'eau, une électrocution ou un incendie
- N'utilisez aucun autre réfrigérant que celui spécifié pour tout rajout ou remplacement. Sinon, une haute pression anormale pourrait être générée dans le circuit de réfrigération, qui pourrait entraîner une panne ou une explosion du produit ou même des blessures corporelles.
- Avant d'ouvrir la grille d'entrée d'air de l'unité intérieure ou du panneau de service de l'unité extérieure, réglez le disjoncteur sur la position OFF. Ne pas régler le disjoncteur sur la position OFF peut donner lieu à des chocs électriques par le biais d'un contact avec les pièces intérieures. Seul un installateur qualifié(*1) ou une personne d'entretien qualifiée(*1) est autorisé à enlever la grille d'entrée d'air de l'unité intérieure ou le panneau de service de l'unité extérieure et à effectuer le travail requis.
- Avant de procéder à l'installation, à l'entretien, à la réparation ou à la dépose, réglez le coupe-circuit en position OFF. Dans le cas contraire, cela peut entraîner des chocs électriques.
- Placez un panneau indicateur « Travail en cours » à proximité du coupe-circuit pendant l'installation, l'entretien, la réparation ou la dépose. Un danger de décharge électrique est possible si le coupe-circuit est réglé sur ON par erreur.
- Seul un installateur qualifié(*1) ou une personne d'entretien qualifiée(*1) est autorisé à entreprendre un travail en hauteur à l'aide d'un pied de 50 cm minimum pour déposer la grille d'entrée d'air de l'unité intérieure pour entreprendre le travail.
- Portez des gants de protection ainsi que des vêtements de travail de sécurité pendant l'installation, l'entretien et la dépose.

- Ne touchez pas la palme en aluminium de l'unité. Vous risquez de vous blesser dans le cas contraire. Si vous devez toucher la palme pour une raison ou une autre, mettez d'abord des gants de protection et des vêtements de travail de sécurité, ensuite, procédez à l'opération.
- Ne grimpez pas ou ne placez pas d'objets sur le dessus de l'unité extérieure. Vous ou les objets pourriez tomber de l'unité extérieure et ainsi vous blesser.
- Lors de la réalisation d'un travail en hauteur, utilisez une échelle conforme à la norme ISO 14122 et suivez la procédure associée aux instructions de l'échelle. Portez également un casque de protection pour une utilisation dans l'industrie comme tenue de protection pour entreprendre le travail.
- Avant le nettoyage du filtre ou d'autres pièces de l'unité extérieure, réglez le coupe-circuit sur OFF sans faute, et placez un panneau indicateur « Travail en cours » à proximité du coupe-circuit avec de commencer le travail.
- Avant de travailler en hauteur, placez un panneau indicateur afin que personne ne s'approche du lieu de travail. Des pièces et d'autres objets risquent de tomber du haut, pouvant blesser une personne se trouvant en dessous. Pendant toute la durée de la tâche, portez un casque, afin d'être protégé en cas de chute d'objets.
- Le fluide frigorigène utilisé par ce climatiseur s'écoule dans l'unité extérieure.
- N'utilisez pas d'autre réfrigérant que le R32.
  En ce qui concerne le type de réfrigérant, vérifiez l'unité extérieure à combiner.
- Le climatiseur doit être transporté dans des conditions stables. Si une pièce était endommagée, contactez le revendeur.
- Si le climatiseur doit être transporté à la main, faites appel à plusieurs personnes.
- Ne déplacez ni ne réparez l'unité vous-même. L'intérieur de l'unité est sous haute tension. Vous risqueriez une décharge électrique en enlevant le couvercle et l'unité principale.
- Cet appareil est destiné aux utilisateurs spécialisés ou formés dans les magasins, l'industrie légère ou pour un usage commercial par les personnes non spécialisées.



**Sélection du lieu d'installation**

- Si le climatiseur est installé dans une petite pièce, prenez les mesures qui s'imposent pour que, en cas de fuite, la teneur en réfrigérant ne dépasse pas le seuil critique.
- N'installez pas cet appareil dans un endroit où des fuites de gaz inflammable sont possibles. En cas de fuite du gaz et d'accumulation à proximité du climatiseur, un incendie peut se déclarer.
- Lors du transport du climatiseur, portez des chaussures à coquilles de protection supplémentaires.
- Lors du transport du climatiseur, n'agrippez pas les bandes du carton d'emballage. Vous risquez de vous blesser si les bandes se brisent.
- Installez l'unité intérieure à au moins 2,5 m au-dessus du niveau du sol, dans le cas contraire, les utilisateurs peuvent se blesser ou recevoir des chocs électriques s'ils frappent de leurs doigts ou d'autres objets dans l'unité intérieure alors que le climatiseur fonctionne.
- Ne placez aucun appareil à combustion dans un endroit exposé directement au souffl e du climatiseur, faute de quoi sa combustion risquerait d'être défectueuse.

**Installation**

- Lorsque l'unité intérieure doit être suspendue, les boulons (M10 ou W3/8) et les écrous (M10 ou W3/8) de suspension désignés doivent être utilisés.
- Installez soigneusement le climatiseur sur une base capable de le supporter. Si l'endroit n'est pas assez résistant, l'unité peut tomber et provoquer des blessures.
- Suivez les instructions du Manuel d'installation pour installer le climatiseur. Le non-respect de ces instructions peut entraîner la chute ou le basculement de l'appareil, voire engendrer du bruit, des vibrations, une fuite d'eau, etc.
- Effectuez l'installation spécifiée pour protéger le climatiseur contre un tremblement de terre ou des vents violents. S'il n'est pas correctement monté, le climatiseur risque de tomber ou de basculer, ce qui peut entraîner un accident.

- Si le gaz réfrigérant a fui durant l'installation, aérez immédiatement
  la pièce. Si le gaz réfrigérant qui a fui entre en contact avec le feu, un gaz nocif peut se dégager.
- Utilisez un chariot élévateur pour porter le climatiseur. Pour le monter, utilisez un treuil ou un monte-charge.

**Tuyaux de réfrigérant**

- Fixez solidement le tuyau de réfrigérant pendant l'installation, avant de faire fonctionner le climatiseur. Si le compresseur est utilisé avec la vanne ouverte et sans que le tuyau de réfrigérant ne soit connecté, le compresseur aspire l'air et le circuit de réfrigération est alors en surpression. Dans ce cas, les tuyaux risquent de blesser quelqu'un.
- Serrez l'écrou évasé avec une clé dynamométrique de la manière spécifiée. Si vous appliquez un couple excessif, l'écrou risque, après un certain temps, de se casser et de provoquer une fuite de réfrigérant.
- Après l'installation, assurez-vous que le gaz réfrigérant ne fuit pas. Si le gaz réfrigérant fuit dans la pièce et s'écoule à proximité d'une source inflammable, telle qu'une cuisinière, un gaz nocif peut se dégager.
- Lorsque le climatiseur a été installé ou déplacé, suivez les instructions du Manuel d'installation et purgez la totalité de l'air de sorte qu'aucun gaz autre que le fl uide frigorigène ne soit mélangé dans le circuit de réfrigération. Ne pas purger complètement l'air peut entraîner un dysfonctionnement du climatiseur.
- De l'azote gazeux doit être utilisé pour le test d'étanchéité à l'air.
- Le tuyau de remplissage doit être raccordé de telle manière qu'il ne soit pas lâche.

**Raccordement électrique**

- Seul un installateur qualifié(*1) ou une personne d'entretien qualifiée(*1) est autorisé à réaliser le travail électrique sur le climatiseur. En aucun cas, ce travail ne doit être effectué par une personne non qualifiée étant donné que si le travail n'est pas correctement effectué, des décharges électriques et/ou des fuites électriques peuvent survenir.



- Lors du raccordement des câbles électriques, de la réparation des pièces électriques ou de l'exécution d'autres travaux électriques, portez des gants pour vous protéger du courant et de la chaleur, ainsi que des chaussures et des vêtements isolants pour vous protéger de chocs électriques. Ne pas porter cette tenue de protection peut entraîner des chocs électriques.
- Utilisez un câblage respectant les spécifications du Manuel d'installation et les dispositions des réglementations et de la législation locales. L'utilisation d'un câblage n'étant pas conforme aux spécifications peut donner lieu à des décharges électriques, une dispersion électrique, de la fumée et/ou un incendie.
- Branchez le fil de terre. (Mise à la terre)
  Toute mise à la terre incomplète provoque une électrocution.
- Ne raccordez pas les fils de terre à des conduites de gaz, des conduites d'eau, du parafoudre ou des fils de terre pour câbles téléphoniques.
- Après avoir terminé le travail de réparation ou de déplacement, assurez-vous que le fil de terre est correctement raccordé.
- Installez un coupe-circuit respectant les spécifications du manuel d'installation et les dispositions des réglementations et de la législation locales.
- Installez le coupe-circuit là où il peut facilement être accessible par l'agent.
- Lors de l'installation du coupe-circuit à l'extérieur, installez-en un qui soit conçu pour être utilisé à l'extérieur.
- Le câble d'alimentation ne doit en aucun cas présenter de rallonge. Des problèmes de raccordement dans des endroits où le câble présente une rallonge peuvent entraîner de la fumée et/ou un incendie.
- Le travail de câblage électrique doit être conduit conformément à la législation et à la réglementation locales et au manuel d'installation.
  Dans le cas contraire, une électrocution ou un court-circuit peut survenir.

### Essai de fonctionnement

- Avant de faire fonctionner le climatiseur après avoir terminé le travail, assurez-vous que le couvercle du boîtier de commandes électriques de l'unité intérieure et du panneau de service de l'unité extérieure sont fermés. Réglez ensuite le coupe-circuit sur la position ON. Vous pouvez recevoir une décharge électrique si l'alimentation est activée sans avoir d'abord effectué ces vérifications.
- En cas de problème au niveau du climatiseur (comme en cas d'erreur, d'odeur de brûlé ou de sons anormaux, lorsque le climatiseur ne parvient pas à refroidir ou à réchauffer l'air ou en cas de fuite d'eau), ne touchez pas le climatiseur vous-même et réglez le disjoncteur sur la position OFF, puis contactez une personne d'entretien qualifiée. Prenez des mesures pour garantir que l'alimentation ne sera pas branchée (en indiquant « hors service » près du disjoncteur, par exemple) jusqu'à ce que la personne d'entretien qualifiée arrive. Continuer à utiliser le climatiseur alors qu'il présente un problème peut entraîner des problèmes mécaniques ou donner lieu à des chocs électriques et autres pannes.
- Une fois le travail terminé, utilisez un contrôleur d'isolement (mégohmmètre de 500V) afin de vérifier que la résistance est de 1 MΩ minimum entre la section de charge et la section métallique sans charge (Section terre). Si la valeur de résistance est faible, une catastrophe telle qu'une fuite ou une décharge électrique se produit sur le côté utilisateur.
- A l'issue du travail d'installation, vérifiez qu'il n'y a pas de fuites de fl uide frigorigène et vérifiez la résistance d'isolation ainsi que l'évacuation d'eau. Ensuite, effectuez un essai de fonctionnement afin de vous assurer que le climatiseur fonctionne correctement.

### Explications données à l'utilisateur

- A l'issue du travail d'installation, dites à l'utilisateur où se trouve le coupe-circuit. Si l'utilisateur ne sait pas où se trouve le coupe-circuit, il ou elle ne sera pas capable de le désactiver au cas où un problème surviendrait au niveau du climatiseur.
- Si la grille du ventilateur est endommagée, n'approchez pas de l'unité extérieure et réglez le disjoncteur sur la position OFF, ensuite contactez une personne d'entretien qualifiée(*1) pour effectuer les réparations. Ne réglez pas le disjoncteur en position ON jusqu'à ce que les réparations soient terminées.
- Après le travail d'installation, reportez-vous au Mode d'emploi pour expliquer au client comment utiliser l'unité et effectuer son entretien.

### Réinstallation

- Seul un installateur qualifié(*1) ou une personne d'entretien qualifiée(*1) est autorisé à déplacer le climatiseur. Déplacer le climatiseur par une personne non qualifiée représente un danger étant donné qu'un incendie, une décharge électrique, des blessures, des fuites d'eau, des parasites et/ou des vibrations risquent de se produire.
- Lors de la réalisation du travail de pompage, coupez le compresseur avant de débrancher le tuyau de réfrigérant. Débrancher le tuyau de réfrigérant alors que la vanne d'entretien est restée ouverte et que le compresseur fonctionne encore peut entraîner une aspiration de l'air ou d'autre gaz, faisant augmenter la pression à l'intérieure du circuit de réfrigération à un niveau anormalement élevé, et pouvant donner lieu à un éclatement, un dommage ou d'autres problèmes.

### ⚠ PRÉCAUTION

**Ce climatiseur utilise un réfrigérant HFC (R32) qui ne détruit pas la couche d'ozone.**

- Comme le réfrigérant R32 est facilement affecté par des impuretés telles que de l'humidité, un film qui s'oxyde, de l'huile, etc. en raison de la pression élevée, veillez à empêcher l'humidité, la saleté, le réfrigérant existant, l'huile de la machine frigorifique, etc., se mélanger dans le cycle de réfrigération au cours de l'installation.
- Un outil spécial destiné au réfrigérant R32 est requis pour l'installation.
- Utilisez des matériaux de tuyauterie neufs et propres pour le tuyau de raccordement afin que l'humidité et la saleté ne se mélangent pas pendant l'installation.
- Lorsque vous utilisez des tuyaux existants, suivez le manuel d'installation fourni avec l'unité extérieure.

(*1) Reportez-vous à « Définition d'installateur qualifié ou personne d'entretient qualifiée ».

Vielen Dank, dass Sie sich für eine Klimaanlage von Toshiba entschieden haben.
Bitte lesen Sie diese Anleitung, die wichtige Informationen gemäß der Maschinenrichtlinie (Directive 2006/42/EC) enthält, aufmerksam und klären Sie eventuelle Fragen.
Geben Sie nach Abschluss der Installation dieses Installationshandbuch und die Bedienungsanleitung dem Benutzer und bitten Sie ihn, diese zu Informationszwecken an einem sicheren Ort aufzubewahren.

**Allgemeine Bezeichnung: Klimaanlage**

**Definition der Bezeichnungen Qualifizierter Installateur oder Qualifizierter Servicetechniker**
Die Klimaanlage muss von einem qualifizierten Installateur oder einem qualifizierten Servicetechniker installiert, gewartet, repariert und entsorgt werden. Wenn eine dieser Aufgaben erledigt werden muss, bitten Sie einen qualifizierten Installateur oder einen qualifizierten Servicetechniker, diese für Sie auszuführen.
Ein qualifizierter Installateur oder ein qualifizierter Servicetechniker ist ein Auftragnehmer, der über die Qualifikationen und das Fachwissen verfügt, die in der folgenden Tabelle genannt sind.

| Auftragnehmer | Qualifikationen und Fachwissen, über welche der Auftragnehmer verfügen muss |
|---|---|
| Qualifizierter Installateur | • Der Installationsfachmann ist eine Person, die Klimaanlagen der Toshiba Carrier Corporation einbaut, wartet, umzieht und ausbaut. Die Person ist im Einbau und in der Wartung sowie im Umzug und Ausbau von Klimaanlagen der Toshiba Carrier Corporation geschult oder wurde von einer geschulten Person oder geschulten Personen unterwiesen und verfügt aufgrund dessen über gründliche Kenntnisse, die sie zur Ausführung dieser Arbeiten befähigen.<br>• Der Installationsfachmann, dem es erlaubt ist, Elektroarbeiten im Zuge des Einbaus, Umzugs oder Ausbaus auszuführen, verfügt über die jeweils gesetzlich vorgeschriebene Qualifikation zur Ausführung von Elektroarbeiten und ist eine Person, die im Zusammenhang mit Elektroarbeiten an Klimaanlagen der Toshiba Carrier Corporation geschult ist oder in diesem Zusammenhang von einer geschulten Person oder geschulten Personen unterwiesen wurde, so dass sie über gründliche Kenntnisse verfügt, die sie zur Ausführung dieser Arbeiten befähigen.<br>• Der Installationsfachmann, dem es erlaubt ist, kältemittel- oder rohrtechnische Arbeiten im Zuge des Einbaus, Umzugs oder Ausbaus auszuführen, verfügt über die jeweils gesetzlich vorgeschriebene Qualifikation zur Ausführung von kältemittel- und rohrtechnischen Arbeiten und ist eine Person, die im Zusammenhang mit kältemittel- und rohrtechnischen Arbeiten an Klimaanlagen der Toshiba Carrier Corporation geschult ist oder in diesem Zusammenhang von einer geschulten Person oder geschulten Personen unterwiesen wurde, so dass sie über gründliche Kenntnisse verfügt, die sie zur Ausführung dieser Arbeiten befähigen.<br>• Der Installationsfachmann, dem es erlaubt ist, Arbeiten in der Höhe auszuführen, ist im Zusammenhang mit Arbeiten in der Höhe an Klimaanlagen der Toshiba Carrier Corporation geschult oder wurde in diesem Zusammenhang von einer geschulten Person oder geschulten Personen unterwiesen und verfügt aufgrund dessen über gründliche Kenntnisse, die ihn zur Ausführung dieser Arbeiten befähigen. |
| Qualifizierter Servicetechniker | • Der Kundendienstfachmann ist eine Person, die Klimaanlagen der Toshiba Carrier Corporation einbaut, repariert, wartet, umzieht und ausbaut. Die Person ist im Einbau, in der Reparatur und in der Wartung sowie im Umzug und Ausbau von Klimaanlagen der Toshiba Carrier Corporation geschult oder wurde von einer geschulten Person oder geschulten Personen unterwiesen und verfügt aufgrund dessen über gründliche Kenntnisse, die sie zur Ausführung dieser Arbeiten befähigen.<br>• Der Kundendienstfachmann, dem es erlaubt ist, Elektroarbeiten im Zuge des Einbaus, der Reparatur, des Umzugs oder Ausbaus auszuführen, verfügt über die jeweils gesetzlich vorgeschriebene Qualifikation zur Ausführung von Elektroarbeiten und ist eine Person, die im Zusammenhang mit Elektroarbeiten an Klimaanlagen der Toshiba Carrier Corporation geschult ist oder in diesem Zusammenhang von einer geschulten Person oder geschulten Personen unterwiesen wurde, so dass sie über gründliche Kenntnisse verfügt, die sie zur Ausführung dieser Arbeiten befähigen.<br>• Der Kundendienstfachmann, dem es erlaubt ist, kältemittel- oder rohrtechnische Arbeiten im Zuge des Einbaus, der Reparatur, des Umzugs oder Ausbaus auszuführen, verfügt über die jeweils gesetzlich vorgeschriebene Qualifikation zur Ausführung von kältemittel- und rohrtechnischen Arbeiten und ist eine Person, die im Zusammenhang mit kältemittel- und rohrtechnischen Arbeiten an Klimaanlagen der Toshiba Carrier Corporation geschult ist oder in diesem Zusammenhang von einer geschulten Person oder geschulten Personen unterwiesen wurde, so dass sie über gründliche Kenntnisse verfügt, die sie zur Ausführung dieser Arbeiten befähigen.<br>• Der Kundendienstfachmann, dem es erlaubt ist, Arbeiten in der Höhe auszuführen, ist im Zusammenhang mit Arbeiten in der Höhe an Klimaanlagen der Toshiba Carrier Corporation geschult oder wurde in diesem Zusammenhang von einer geschulten Person oder geschulten Personen unterwiesen und verfügt aufgrund dessen über gründliche Kenntnisse, die ihn zur Ausführung dieser Arbeiten befähigen. |



**Definitionen zur Schutzkleidung**
Wenn die Klimaanlage transportiert, installiert, gewartet, repariert oder entfernt wird, sollten Sie Schutzhandschuhe und sichere Arbeitskleidung tragen.
Neben dieser normalen Schutzausrüstung wird für die in der folgenden Tabelle aufgeführten Spezialarbeiten die jeweils genannte Schutzausrüstung benötigt.
Wenn Sie nicht die geeignete Schutzkleidung tragen, setzen Sie sich erhöhten Gefahren aus, da Sie sich eher Verletzungen, Verbrennungen, Stromschläge u. a. zuziehen.

| Arbeitsaufgabe | Zu tragende Schutzkleidung |
|---|---|
| Alle Arten von Arbeiten | Schutzhandschuhe Sicherheitsarbeitskleidung |
| Elektroarbeiten | Isolierhandschuhe zum Schutz vor Stromschlägen und hohen Temperaturen Isolierschuhe Schutzkleidung gegen Stromschläge |
| Arbeiten in der Höhe (50 cm und höher) | Industrie-Schutzhelme |
| Transport schwerer Gegenstände | Schuhe mit Zehenschutzkappen |
| Reparatur des Außengeräts | Isolierhandschuhe zum Schutz vor Stromschlägen und hohen Temperaturen |

Die Sicherheitshinweise enthalten wichtige Informationen zur Sicherheit, um Verletzungen der Benutzer und Dritter sowie Sachschäden zu vermeiden. Bitte lesen Sie zunächst die folgenden Informationen (Bedeutung von Symbolen), lesen Sie dann die Anleitung sorgfältig durch und befolgen Sie unbedingt die Anweisungen.

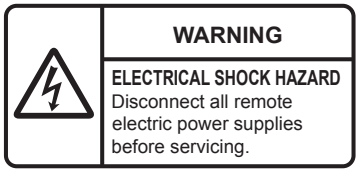
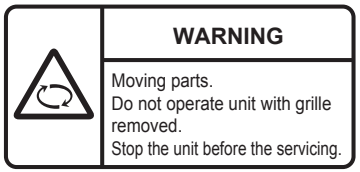
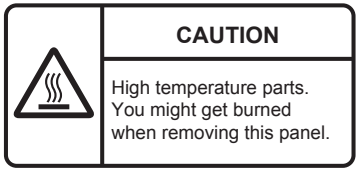
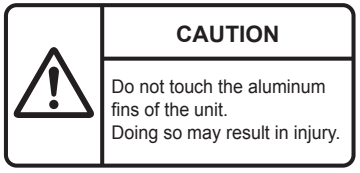
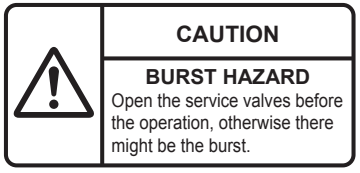
| Symbol | Bedeutung |
|---|---|
| ⚠ **WARNUNG** | Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (*1) or loss of life if the product is handled improperly. |
| ⚠ **VORSICHT** | Text set off in this manner indicates that failure to adhere to the directions in the caution could result in slight injury (*2) or damage (*3) to property if the product is handled improperly. |

*1: Schwere Verletzungen liegen vor bei Verlust von Sehvermögen, Verbrennungen, elektrischem Schlag, Knochenbrüchen, Vergiftungen und anderen Verletzungen, die langfristige Folgen haben und einen Krankenhausaufenthalt oder eine langfristige ambulante Behandlung erfordern.
*2: Leichte Verletzungen liegen vor bei Verbrennungen, elektrischem Schlag und sonstigen Verletzungen, die keinen Krankenhausaufenthalt und keine langfristige ambulante Behandlung erfordern.
*3: Sachschäden liegen vor bei Schäden an Gebäuden, Hausrat sowie Nutz- und Haustieren.

**BEDEUTUNG DER AM GERÄT ANGEZEIGTEN SYMBOLE**

| | | |
|---|---|---|
|  | **WARNUNG** (Feuergefahr) | Diese Kennzeichnung gilt nur für das Kältemittel R32. Der Kältemitteltyp ist auf dem Typenschild des Außengeräts angegeben.<br>Wird als Kältemitteltyp R32 angegeben, so nutzt dieses Gerät ein entflammbares Kältemittel.<br>Wenn Kältemittel austritt und mit offenem Feuer oder Heizelementen in Kontakt kommt, entstehen schädliche Gase und es besteht Feuergefahr. |
|  | Lesen Sie die BEDIENUNGSANLEITUNG vor der Inbetriebnahme des Geräts sorgfältig durch. | |
|  | Wartungspersonal muss vor dem Umgang mit dem Gerät sorgfältig die BEDIENUNGSANLEITUNG und die INSTALLATIONSANLEITUNG durchlesen. | |
|  | Weitere Informationen sind in der BEDIENUNGSANLEITUNG, INSTALLATIONSANLEITUNG usw. | |

## ■ Warnhinweise an der Klimaanlage

| Warnanzeige | Beschreibung |
|---|---|
|  | **WARNUNG**<br><br>**GEFAHR EINES ELEKTRISCHEN SCHLAGS**<br>Trennen Sie alle fernen Stromversorgungsquellen vom Netz, bevor Sie Wartungsarbeiten ausführen. |
|  | **WARNUNG**<br><br>Bewegliche Teile.<br>Bedienen Sie nicht das Gerät, wenn das Gitter entfernt wurde.<br>Stoppen Sie das Gerät, bevor Sie es warten. |
|  | **VORSICHT**<br><br>Teile mit hohen Temperaturen.<br>Es besteht die Gefahr, dass Sie sich verbrennen, wenn Sie diese Abdeckung entfernen. |
|  | **VORSICHT**<br><br>Die Aluminiumlamellen des Geräts nicht berühren. Dies kann zu Verletzungen führen. |
|  | **VORSICHT**<br><br>**EXPLOSIONSGEFAHR!**<br>Öffnen Sie vor dem Arbeitsgang die Versorgungsventile, da es anderenfalls zu einer Explosion kommen kann. |



# 1 Sicherheitshinweise

Der Hersteller haftet nicht für Schäden, die durch ein Missachten der in diesem Handbuch enthaltenen Hinweise verursacht werden.

## ⚠ WARNUNG

### Allgemeines

- Bevor Sie mit der Installation der Klimaanlage beginnen, lesen Sie das Installationshandbuch sorgfältig durch und befolgen Sie die darin enthaltenen Anweisungen zum Installieren der Klimaanlage.
- Die Installationsarbeiten dürfen nur von qualifiziertem Installations- oder Servicepersonal durchgeführt werden. Durch eine nicht fachgerechte Installation kann es zu Wasserschäden, Stromschlägen oder sogar zu Bränden kommen
- Verwenden Sie ausschließlich das zur Ergänzung oder als Ersatz angegebene Kühlmittel. Andernfalls kann im Kühlkreislauf ein abnormal hoher Druck entstehen, der eine Fehlfunktion oder Explosion des Produkts oder Verletzungen zur Folge haben kann.
- Bevor Sie das Einlassgitter des Innengerätes oder das Wartungspaneel des Außengeräts öffnen, stellen Sie den Schutzschalter auf die Position OFF (aus). Sollten Sie diesen Hinweis nicht beachten, kann es durch Kontakt mit den Innenteilen zu einem Stromschlag kommen. Nur ein qualifizierter Installateur(*1) oder ein qualifizierter Servicetechniker(*1) darf das Einlassgitter des Innengeräts oder das Wartungspaneel des Außengeräts entfernen und die erforderlichen Arbeiten ausführen.
- Bevor Sie mit den Installations-, Wartungs-, Reparatur- oder Deinstallationsarbeiten beginnen, schalten Sie den Hauptschalter in die Stellung AUS (OFF). Anderenfalls kann es zu elektrischen Schlägen kommen.
- Stellen Sie ein Warnschild in der Nähe des Hauptschalters auf, während die Installation, Wartung, Reparatur oder Demontage durchgeführt wird. Es besteht die Gefahr von Stromschlägen, wenn der Schutzschalter aus Versehen auf ON (ein) gestellt wird.
- Nur ein qualifizierter Installateur(*1) oder ein qualifizierter Servicetechniker(*1) darf Höhenarbeiten unter Verwendung eines 50 cm hohen oder noch höheren Ständers ausführen oder das Einlassgitter des Innengeräts entfernen und die erforderlichen Arbeiten ausführen.
- Tragen Sie bei Installation, Wartung und Entsorgung Schutzhandschuhe und Arbeitsschutzbekleidung.

- Die Aluminiumlamelle des Geräts nicht berühren. Anderenfalls können Sie sich verletzen. Wenn die Rippen aus einem bestimmten Grund berührt werden muss, ziehen Sie zuerst Schutzhandschuhe und Arbeitsschutzbekleidung an, bevor Sie diese Arbeiten ausführen.
- Klettern Sie nicht auf das Außengerät, und stellen Sie keine Gegenstände darauf ab. Anderenfalls können Sie abstürzen, oder Gegenstände können herunterfallen. In beiden Fällen besteht Verletzungsgefahr.
- Wenn Sie Höhenarbeiten ausführen, verwenden Sie eine Leiter gemäß ISO-Norm 14122 und befolgen Sie die in der Anleitung der Leiter aufgeführten Anweisungen. Tragen Sie als Schutzkleidung beim Ausführen der Arbeiten außerdem einen Industrie-Schutzhelm.
- Bevor Sie den Filter oder andere Teile des Außengeräts reinigen, stellen Sie unbedingt den Schutzschalter auf OFF (aus), und befestigen Sie ein Schild „Laufende Arbeiten“ neben dem Schutzschalter, bevor Sie die Arbeiten ausführen.
- Bevor Sie Höhenarbeiten ausführen, stellen Sie ein Warnschild auf, damit sich niemand dem Arbeitsbereich nähert. Teile und andere Gegenstände können von oben herunterfallen und u. U. unten befindliche Personen verletzen. Tragen Sie während der Arbeit einen Helm zum Schutz vor herabfallenden Objekten.
- Verwenden Sie kein anderes Kältemittel als R32.
  Prüfen Sie im Hinblick auf den Kältemitteltyp das Außengerät, mit dem es kombiniert werden soll.
- Folgen Sie bei dem Kühlmittel, das diese Klimaanlage verwendet, dem Außengerät.
- Die Klimaanlage muss in einem stabilen Zustand transportiert werden. Setzen Sie sich mit Ihrem Fachhändler in Verbindung, falls Sie feststellen sollten, dass ein Teil des Produkts defekt ist.
- Falls die Klimaanlage von Hand transportiert wird, muss von mindestens zwei Personen getragen werden.
- Versuchen Sie unter keinen Umständen, eines der Geräte selbst auszubauen bzw. instand zu setzen. Im Geräteinneren liegt Hochspannung an. Beim Ausbau von Abdeckung und Hauptgerät besteht elektrische Berührungsgefahr.
- Dieses Gerät soll von Sachverständigen oder geschulte Anwender verwendet werden in Geschäften, in der Leichtindustrie, oder für die kommerzielle Nutzung von Laien.



**Auswahl des Installationsortes**

- Wenn Sie die Klimaanlage in einem kleinen Raum installieren, treffen Sie entsprechende Vorkehrungen, damit es in dem Raum bei einem Leck nicht zu einer übermäßigen Konzentration von Kühlmitteldämpfen kommt.
- Nehmen Sie keine Installation an einem Ort vor, an dem der Austritt entfl ammbarer Gase möglich sein könnte. Wenn entfl ammbares Gas austritt und sich um das Gerät herum ansammelt, könnte es sich entzünden und einen Brand verursachen.
- Tragen Sie beim Transportieren der Klimaanlage Schuhe mit Zehenschutzkappen.
- Halten Sie die Klimaanlage beim Tragen nicht an den Bändern des Verpackungskartons fest. Anderenfalls können Sie sich verletzen, wenn die Bänder reißen.
- Installieren Sie das Innengerät mindestens 2,5 m über dem Boden, da sich Personen anderenfalls verletzen oder Stromschläge erleiden können, falls sie ihre Finger oder andere Gegenstände in das Innengerät stecken, während die Klimaanlage läuft.
- Stellen Sie keine Verbrennungsvorrichtung an Orten auf, wo sie direkt dem Wind der Klimaanlage ausgesetzt ist, da anderenfalls eine unvollständige Verbrennung die Folge ist.

**Installation**

- Wenn das Innengerät aufgehängt werden soll, müssen die angegebenen Hängeschrauben (M10 oder W3/8) und Muttern (M10 oder W3/8) verwendet werden.
- Installieren Sie die Klimaanlage sicher an einer Stelle, die für das Gewicht des Geräts geeignet ist. Ist der Boden nicht widerstandsfähig genug, kann das Gerät umkippen und Verletzungen verursachen.
- Installieren Sie die Klimaanlage entsprechend den Anweisungen im Installationshandbuch. Bei Missachtung dieser Anweisungen kann das Gerät hinunterfallen, umkippen oder Geräusche, Vibrationen, Wasseraustritte oder andere Probleme verursachen.

- Falls Sie in einem windanfälligen oder erdbebengefährdeten Gebiet leben, achten Sie bei der Installation auf eine entsprechende Auslegung der Befestigung. Wenn die Klimaanlage nicht ordnungsgemäß installiert wird, kann das Gerät umkippen oder hinunterfallen und so einen Unfall verursachen.
- Ist während der Installation Kühlmittel ausgetreten, lüften Sie den Raum umgehend. Kommen Kühlmitteldämpfe in Kontakt mit Feuer, können sich gesundheitsschädliche Gase bilden.
- Verwenden Sie für den Transport der Klimaanlage einen Gabelstapler sowie eine Winde oder einen Flaschenzug bei der Installation.

**Kühlmittelleitungen**

- Überprüfen Sie die sichere Installation der Kühlmittelleitung, bevor Sie die Klimaanlage in Betrieb nehmen. Falls der Kompressor bei geöffnetem Ventil und ohne Kühlmittelrohr betrieben wird, saugt er Luft ein, und der Gasdruck im Kühlkreislauf wird extrem hoch, was zu Verletzungen führen kann.
- Ziehen Sie die Bördelmutter mit einem Drehmomentschlüssel wie angegeben fest. Übermäßiges Festziehen der Bördelmutter kann nach längerer Zeit zu Rissen in der Bördelmutter führen, wodurch Kühlmittel auslaufen kann.
- Vergewissern Sie sich daher nach der Installation noch einmal, dass kein Kühlmittel austreten kann. Wenn Kühlmittelgase austreten und in einen Raum mit einem Herd oder Ofen gelangen, kann es bei einer offenen Flamme zur Bildung von gesundheitsschädlichen Gasen kommen.
- Wenn die Klimaanlage installiert oder umgesetzt wurde, führen Sie gemäß den Anweisungen im Installationshandbuch eine vollständige Luftspülung aus, so dass lediglich das Kühlmittel im Kühlkreislauf gemischt wird. Wird keine vollständige Luftspülung ausgeführt, können Fehlfunktionen der Klimaanlage auftreten.
- Für die Luftdichteprüfung muss Stickstoff verwendet werden.
- Der Zuleitungsschlauch muss so angeschlossen werden, dass er nicht durchhängt.



**Elektrische Verdrahtung**

- Nur ein qualifizierter Installateur(*1) oder ein qualifizierter Servicetechniker(*1) darf Elektroarbeiten an der Klimaanlage ausführen. Unter keinen Umständen dürfen diese Arbeiten von unqualifizierten Mitarbeitern ausgeführt werden, da eine nicht sachgemäße Ausführung der Arbeit zu elektrischen Schlägen und/oder Kriechströmen führen kann.
- Tragen Sie beim Anschließen von elektrischen Drähten, Reparieren von elektrischen Teilen oder Ausführen anderer Elektroarbeiten Isolierhandschuhe zum Schutz vor Stromschlägen und hohen Temperaturen, isolierendes Schuhwerk sowie Arbeitsschutzkleidung zum Schutz vor Stromschlägen. Falls keine Schutzkleidung getragen wird, kann es zu elektrischen Schlägen kommen.
- Beachten Sie beim Legen von elektrischen Leitungen die Spezifikationen im Installationshandbuch sowie die Bestimmungen der lokalen Gesetze und die Rechtsvorschriften. Bei Verwendung von Kabeln, die die Spezifikationen nicht erfüllen, kann es zu Stromschlägen, Kriechströmen, Rauchentwicklungen und/oder Bränden kommen.
- Schließen Sie den Erdungsdraht an. (Erdungsarbeiten) Ohne vorschriftsmäßige Erdung besteht Stromschlaggefahr.
- Schließen Sie die Erdungskabel nie an Gas- oder Wasserleitungen, Blitzableiter oder Erdungskabel von Telefonkabeln an.
- Prüfen Sie nach Abschluss der Reparatur- oder Umsetzungsarbeiten, ob die Erdungsleiter korrekt angeschlossen sind.
- Installieren Sie einen Schutzschalter, der die Spezifikationen im Installationshandbuch sowie die Bestimmungen der lokalen Gesetze und die Rechtsvorschriften erfüllt.
- Bringen Sie den Schutzschalter an einem Ort an, wo er vom Bediener problemlos erreicht werden kann.
- Um den Schutzschalter außen zu installieren, müssen Sie einen Schutzschalter verwenden, der für den Außengebrauch entwickelt wurde.
- Das Stromkabel darf unter keinen Umständen durch ein Verlängerungskabel erweitert werden. Bei Anschlussproblemen des Kabels an den Verlängerungsstellen kann es zu Rauchentwicklungen und/oder Bränden kommen.
- Alle elektrischen Arbeiten sind nach geltender Vorschrift und unter Beachtung der Installationsanleitung auszuführen. Es besteht Stromschlag- und Kurzschlussgefahr.

**Testlauf**

- Stellen Sie vor der Inbetriebnahme der Klimaanlage sicher, dass die Abdeckung des Stromkastens am Raumgerät und das Wartungsbedienfeld des Außengeräts geschlossen sind und der Schutzschalter auf die Position ON (EIN) eingestellt ist. Sie können einen elektrischen Schlag erleiden, falls der Strom eingeschaltet wird, ohne dass Sie vorher diese Prüfungen durchgeführt haben.
- Falls Probleme mit der Klimaanlage auftreten (z. B. ein Fehler wird angezeigt, es riecht verbrannt, ungewöhnliche Geräusche sind zu hören, die Klimaanlage kühlt bzw. heizt nicht oder Wasser läuft aus), suchen Sie nicht selbst nach der Ursache, sondern stellen Sie den Schutzschalter auf die Position OFF (aus) und wenden Sie sich an einen Servicetechniker. Stellen Sie sicher, dass der Strom nicht wieder eingeschaltet wird (indem Sie beispielsweise den Schutzschalter durch „außer Betrieb“ kennzeichnen), bis ein qualifizierter Servicetechniker eintrifft. Die weitere Verwendung der Klimaanlage in fehlerhaftem Zustand kann zur Verschlimmerung der mechanischen Probleme oder zu elektrischen Schlägen und anderen Problemen führen.
- Prüfen Sie nach Beendigung der Arbeiten mit einem Isolationsmessgerät (500-V-Megger), ob der Isolationswiderstand zwischen spannungsführenden Leitern und spannungsfreien Metallteilen (Erdpotenzial) 1 MΩ oder mehr beträgt. Falls der Widerstandswert zu niedrig ist, können an der Benutzerseite Kriechströme oder Stromschläge verursacht werden.
- Stellen Sie nach Abschluss der Installationsarbeiten sicher, dass kein Kühlmittel ausläuft, und prüfen Sie Isolierwiderstand sowie Wasserableitung. Führen Sie danach einen Testlauf durch, um sicherzustellen, dass die Klimaanlage ordnungsgemäß funktioniert.

**Dem Benutzer mitzuteilende Informationen**

- Teilen Sie dem Benutzer nach Abschluss der Installationsarbeiten mit, wo sich der Schutzschalter befindet. Sollte der Benutzer nicht wissen, wo sich der Schutzschalter befindet, kann er diesen nicht ausschalten, falls Probleme mit der Klimaanlage auftreten.
- Wenn das Ventilatorgitter beschädigt ist, fassen Sie das Außengerät nicht an, sondern schalten Sie den Schutzschalter auf die Position OFF (aus) und rufen Sie einen Kundendienstfachmann(*1), um die Reparatur durchzuführen. Stellen Sie den Schutzschalter erst wieder auf die Position ON (ein), nachdem die Reparaturen abgeschlossen wurden.
- Nach Abschluss der Installationsarbeiten erläutern Sie dem Kunden die Verwendung und Wartung des Geräts entsprechend dem Benutzerhandbuch.

**Umsetzung**

- Nur ein qualifizierter Installateur(*1) oder ein qualifizierter Servicetechniker(*1) darf die Klimaanlage umsetzen. Es ist gefährlich, wenn die Klimaanlage durch einen nicht qualifizierten Benutzer umgesetzt wird, da es zu Bränden, elektrischen Schlägen, Verletzungen, Wasseraustritten, Geräuschen und/oder Vibrationen kommen kann.
- Schließen Sie beim Durchführen der Abpumparbeiten zuerst den Kompressor, bevor Sie das Kühlmittelrohr trennen. Wenn die Kältemittelleitung bei offenem Wartungsventil abgetrennt wird und der Kompressor noch läuft, werden Luft oder andere Gase angesaugt. Der Druck im Kältemittelkreislauf steigt, und es besteht die Gefahr eines Leitungsbruchs und dementsprechend die Gefahr von Verletzungen und anderen Störungen.

**⚠ VORSICHT**

**Dieses Klimagerät verwendet das FKW-Kältemittel R32, das die Ozonschicht nicht zerstört.**

- Da die Kältemittel R32 aufgrund des hohen Drucks leicht durch Verunreinigungen, wie Feuchtigkeit, einer Oxidationsschicht, Öl usw., beeinträchtigt werden, achten Sie darauf, dass Sie während der Installationsarbeiten keine Feuchtigkeit, Schmutz, vorhandenes Kältemittel, Kältemaschinenöl usw. in den Kältemittelkreislauf gelangen lassen.
- Zur Installation sind Spezialwerkzeuge für das Kältemittel R32 erforderlich.
- Verwenden Sie für die Anschlussrohre neues und sauberes Rohrleitungsmaterial, damit während der Installationsarbeiten keine Feuchtigkeit oder Schmutz in da Kältemittel gelangen.
- Befolgen Sie die Installationsanleitung im Lieferumfang des Außengeräts, wenn Sie vorhandene Rohrleitungen verwenden.

(*1) Siehe „Definition der Bezeichnungen Qualifizierter Qualifizierter Servicetechniker“.

Grazie per aver acquistato questo Toshiba condizionatore d'aria.
Si prega di leggere attentamente queste istruzioni perché contengono informazioni importanti sulla conformità alla direttiva Macchinari (Directive 2006/42/EC).
Al completamento dell'installazione, consegnare all'utente il presente Manuale di installazione e il Manuale d'uso e chiedere all'utente di conservarli in un luogo sicuro per eventuali consultazioni future.

**Denominazione generica: Condizionatore d'aria**

**Definizione di installatore qualificato o tecnico dell'assistenza qualificato**
Il condizionatore d'aria deve essere installato, sottoposto a manutenzione, riparato e rimosso da un installatore qualificato o da un tecnico dell'assistenza qualificato. Quando deve essere eseguito uno di questi lavori, rivolgersi a un installatore qualificato o a un tecnico dell'assistenza qualificato per svolgerli in propria vece.
Un installatore qualificato o un tecnico dell'assistenza qualificato è un agente che dispone delle qualifiche e dell'esperienza descritti nella tabella seguente.

| Agente | Qualifiche ed esperienza di cui deve disporre l'agente |
|---|---|
| Installatore qualificato | • L'installatore qualificato è una persona che installa, effettua la manutenzione, sposta e rimuove i condizionatori d'aria costruiti da Toshiba Carrier Corporation. Ha ricevuto la formazione necessaria per installare, manutenere, spostare e rimuovere i condizionatori d'aria costruiti da Toshiba Carrier Corporation o, in alternativa, è stato addestrato da uno o più individui in possesso della necessaria formazione, ed è pertanto idoneo a svolgere tali operazioni.<br>• L'installatore qualificato autorizzato a eseguire i lavori elettrici richiesti per l'installazione, il trasferimento e la rimozione del condizionatore d'aria possiede le qualifiche necessarie per svolgere tali compiti, come stabilito dalle leggi e dai regolamenti locali; è stato addestrato a lavorare sui condizionatori d'aria direttamente da Toshiba Carrier Corporation o da uno o più individui in possesso della necessaria formazione ed è pertanto idoneo a svolgere tale lavoro.<br>• L'installatore qualificato autorizzato a eseguire i lavori di gestione del refrigerante e di posa dei tubi richiesti per l'installazione, il trasferimento e la rimozione del condizionatore d'aria possiede le qualifiche necessarie per svolgere tali compiti, come stabilito dalle leggi e dai regolamenti locali; è stato addestrato a lavorare a svolgere i lavori di gestione del refrigerante e di posa dei tubi direttamente da Toshiba Carrier Corporation o da uno o più individui in possesso della necessaria formazione ed è pertanto idoneo a svolgere tale lavoro.<br>• L'installatore qualificato autorizzato a svolgere lavori in altezza ha ricevuto la formazione necessaria per effettuare tali lavori con i condizionatori d'aria costruiti da Toshiba Carrier Corporation o, in alternativa, è stato addestrato da uno o più individui in possesso della necessaria formazione, ed è pertanto idoneo a svolgere tali operazioni. |
| Qualified service person | • Il personale di assistenza qualificato è una persona che installa, ripara, effettua la manutenzione, sposta e rimuove i condizionatori d'aria costruiti da Toshiba Carrier Corporation. Ha ricevuto la formazione necessaria per installare, riparare, manutenere, spostare e rimuovere i condizionatori d'aria costruiti da Toshiba Carrier Corporation o, in alternativa, è stato addestrato da uno o più individui in possesso della necessaria formazione, ed è pertanto idoneo a svolgere tali operazioni.<br>• Il personale di assistenza qualificato autorizzato a eseguire i lavori elettrici richiesti per l'installazione, il trasferimento e la rimozione del condizionatore d'aria possiede le qualifiche necessarie per svolgere tali compiti, come stabilito dalle leggi e dai regolamenti locali; è stato addestrato a lavorare sui condizionatori d'aria direttamente da Toshiba Carrier Corporation o da uno o più individui in possesso della necessaria formazione ed è pertanto idoneo a svolgere tale lavoro.<br>• Il personale di assistenza qualificato autorizzato a eseguire i lavori di gestione del refrigerante e di posa dei tubi richiesti per l'installazione, la riparazione, il trasferimento e la rimozione del condizionatore d'aria possiede le qualifiche necessarie per svolgere tali compiti, come stabilito dalle leggi e dai regolamenti locali; è stato addestrato a lavorare a svolgere i lavori di gestione del refrigerante e di posa dei tubi direttamente da Toshiba Carrier Corporation o da uno o più individui in possesso della necessaria formazione ed è pertanto idoneo a svolgere tale lavoro.<br>• Il personale di assistenza qualificato autorizzato a svolgere lavori in altezza ha ricevuto la formazione necessaria per effettuare tali lavori con i condizionatori d'aria costruiti da Toshiba Carrier Corporation o, in alternativa, è stato addestrato da uno o più individui in possesso della necessaria formazione, ed è pertanto idoneo a svolgere tali operazioni. |



**Definizione di attrezzatura protettiva**
Prima di procedere alle operazioni di trasporto, installazione, manutenzione, riparazione o rimozione del condizionatore d'aria è necessario indossare sempre guanti e abbigliamento protettivi.
In aggiunta ai normali dispositivi di protezione, indossare i dispositivi di protezione descritti di seguito, prima di procedere all'esecuzione dei lavori speciali elencati nella tabella sottostante.
La mancata osservanza di questa indicazione espone l'operatore al rischio di lesioni, ustioni, elettrocuzione, ecc.

| Lavoro intrapreso | Attrezzatura protettiva indossata |
|---|---|
| Tutti i tipi di lavori | Guanti protettivi<br>Abbigliamento protettivo da lavoro |
| Lavoro su impianti elettrici | Guanti di protezione per elettricisti e resistenti al calore<br>Scarpe isolanti<br>Abbigliamento per la protezione da elettrocuzione |
| Lavori in altezza (50 cm o più) | Elmetti per uso industriale |
| Trasporto di oggetti pesanti | Scarpe con calotte protettive aggiuntive per le dita |
| Riparazione dell'unità esterna | Guanti di protezione per elettricisti e resistenti al calore |

Queste precauzioni di sicurezza descrivono importanti temi relativi alla sicurezza, per evitare lesioni personali agli utilizzatori o ad altre persone nonché danni materiali. Leggere questo manuale dopo aver ben compreso i contenuti seguenti (significato delle indicazioni) e assicurarsi di attenersi alla descrizione.

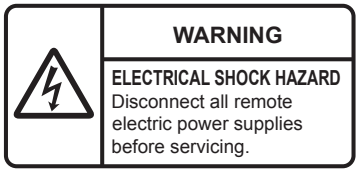
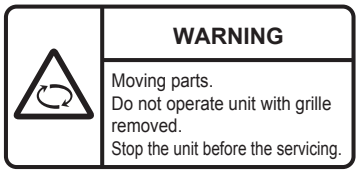
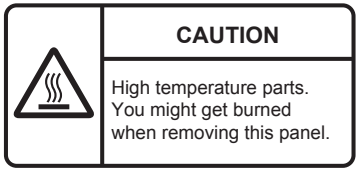
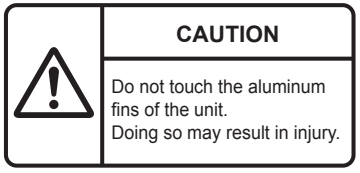
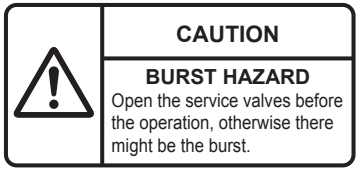
| Indicazione | Significato dell'indicazione |
|---|---|
| ⚠ **AVVERTENZA** | Il testo evidenziato in questo modo indica che la mancata osservanza delle istruzioni contenute nel messaggio di avvertimento potrebbe causare lesioni fisiche gravi (*1) o la perdita della vita se il prodotto viene maneggiato in modo improprio. |
| ⚠ **ATTENZIONE** | Il testo evidenziato in questo modo indica che la mancata osservanza delle istruzioni contenute nel messaggio di attenzione potrebbe causare lesioni lievi (*2) o danni materiali (*3) se il prodotto viene maneggiato in modo improprio. |

*1: Lesioni fisiche gravi indica perdita della vista, traumi, ustioni, scosse elettriche, fratture ossee, avvelenamento e altre lesioni che provocano conseguenze e richiedono ricovero ospedaliero o trattamento a lungo termine in ambulatorio.
*2: Lesioni lievi indica traumi, ustioni, scosse elettriche e altre lesioni che non richiedono ricovero ospedaliero o trattamento a lungo termine in ambulatorio.
*3: Danni materiali indica danni che si estendono a edifici, ambienti domestici, bestiame e animali da compagnia.

**SIGNIFICATO DEI SIMBOLI VISUALIZZATI SULL'UNITÀ**

| | | |
|---|---|---|
|  | **AVVERTENZA** (Rischio di incendio) | Questo contrassegno è solo per il refrigerante R32. Il tipo di refrigerante è indicato sulla targhetta dell'unità esterna.<br>Se il tipo di refrigerante è R32, questa unità utilizza un refrigerante infiammabile.Se si verifica una perdita e il refrigerante entra in contatto con fuoco o parti riscaldate, potrebbe produrre gas dannosi e provocare un rischio di incendio. |
|  | Leggere attentamente il MANUALE DEL PROPRIETARIO prima di utilizzare l'apparecchio. | |
|  | Il personale di assistenza è tenuto a leggere attentamente il MANUALE DEL PROPRIETARIO e IL MANUALE DI INSTALLAZIONE prima di utilizzare l'apparecchio. | |
|  | Ulteriori informazioni sono disponibili nel MANUALE DEL PROPRIETARIO, nel MANUALE DI INSTALLAZIONE e in materiali simili. | |

## ■ Indicazioni di avvertimento sul condizionatore d'aria

| Indicazione di avvertimento | Descrizione |
|---|---|
|  | **AVVERTENZA**<br><br>**PERICOLO DI SCOSSA ELETTRICA**<br>Scollegare tutte le fonti di alimentazione elettrica remote, prima di sottoporre a interventi di assistenza. |
|  | **AVVERTENZA**<br><br>**Moving parts.**<br>Do not operate unit with grille removed.<br>Stop the unit before the servicing. |
|  | **ATTENZIONE**<br><br>Parti mobili.<br>Non far funzionare l'unità con la griglia rimossa.<br>Arrestare l'unità prima di sottoporla ad assistenza. |
|  | **ATTENZIONE**<br><br>Parti ad alta temperatura.<br>Quando si rimuove questo pannello sussiste il pericolo di ustione. |
|  | **ATTENZIONE**<br><br>Non toccare le alette in alluminio dell'unità.<br>In caso contrario, si potrebbero provocare lesioni personali. |

# 1 Precauzioni per la sicurezza

Il produttore non si assume alcuna responsabilità per i danni causati dalla mancata osservazione delle descrizioni del presente manuale.

## ⚠ AVVERTENZA

### Generali

- Prima d'iniziare l'installazione del condizionatore si raccomanda di leggere con attenzione il manuale d'installazione e di osservarne scrupolosamente ogni istruzione ivi fornita.
- Solo un installatore qualifi cato o un tecnico dell'assistenza qualificato sono autorizzati a installare l'unità. Se l'installazione non è stata eseguita correttamente si possono infatti verificare perdite d'acqua, scosse elettriche o un incendio.
- Per rabbocchi o sostituzioni, non utilizzare refrigeranti diversi da quello indicato. In caso contrario nel ciclo di refrigerazione si può generare una pressione eccessiva, che può generare guasti, esplosione del prodotto o lesioni personali.
- Prima di aprire la griglia della presa d'aria dell'unità interna o il pannello di servizio dell'unità esterna, impostare l'interruttore automatico sulla posizione OFF (spento). La mancata impostazione dell'interruttore automatico sulla posizione OFF (spento) potrebbe provocare scosse elettriche attraverso il contatto con le parti interne. Solo un installatore qualificato(*1) o un tecnico dell'assistenza qualificato(*1) sono autorizzati a rimuovere la griglia della presa d'aria o il pannello di servizio dell'unità esterna e a svolgere il lavoro richiesto.
- Prima di effettuare i lavori di installazione, manutenzione, riparazione o rimozione, impostare l'interruttore sulla posizione OFF. In caso contrario, si potrebbero causare scosse elettriche.
- Sistemare un cartello con l'indicazione "Lavori in corso" in prossimità dell'interruttore automatico durante l'esecuzione di lavori di installazione, manutenzione, riparazione o rimozione. Qualora l'interruttore automatico sia impostato su ON (acceso) per errore, sussiste il pericolo di scosse elettriche
- Solo un installatore qualificato(*1) o un tecnico dell'assistenza qualificato(*1) sono autorizzati a svolgere lavori in altezza utilizzando un supporto di altezza pari o superiore a 50 cm per rimuovere la griglia della presa d'aria dell'unità interna al fine dello svolgimento dei lavori.
- Durante l'installazione, la manutenzione e la rimozione, indossare guanti di protezione e indumenti da lavoro di sicurezza.

- Non toccare l’aletta in alluminio dell’unità. In caso contrario, si potrebbero provocare lesioni personali. Qualora sia necessario toccare l’aletta per qualche motivo, indossare prima guanti di protezione e indumenti da lavoro di sicurezza, quindi procedere.
- Non salire né collocare oggetti sull’unità esterna. Si potrebbe cadere o gli oggetti potrebbero cadere dall’unità esterna e provocare lesioni personali.
- Quando si lavora in altezza, utilizzare una scala conforme allo standard ISO 14122, e attenersi alla procedura indicata nelle sue istruzioni. Inoltre, indossare un elmetto per uso industriale come attrezzatura di protezione per intraprendere il lavoro.
- Prima di pulire il filtro o altre parti dell’unità esterna, impostare l’interruttore sulla posizione OFF (spento) e sistemare un cartello con l’indicazione "Lavori in corso" in prossimità dell’interruttore, prima di iniziare il lavoro.
- Prima di lavorare in altezza, sistemare un cartello in modo che nessuno si avvicini alla sede dei lavori, prima di procedere con i lavori. Parti e altri oggetti potrebbero cadere dall’alto, con la possibilità di provocare lesioni personali a chi si trovi sotto. Mentre si effettuano i lavori, indossare un casco per proteggersi dalla caduta di oggetti.
- Non usare refrigeranti diversi da R32.
  Per il tipo di refrigerante, verificare l’unità esterna da combinare.
- Il refrigerante utilizzato da questo condizionatore d’aria, seguire l’unità esterna.
- Il condizionatore deve essere trasportato in condizioni stabili. Qualora una parte qualsiasi non sia integra si raccomanda di rivolgersi immediatamente al rivenditore.
- Se il condizionatore deve essere trasportato manualmente, l’operazione deve essere effettuata da due o più persone.
- Non tentare di spostare o riparare l’unità da soli. L’unità contiene componenti ad alta tensione. La rimozione del coperchio e dell’unità centrale potrebbe esporre al rischio di elettrocuzione.
- Il presente apparecchio deve essere utilizzato da utenti esperti o formati nei negozi, nel settore dell’illuminazione o per uso commerciale dai non addetti ai lavori.



**Selezione della sede di installazione**

- Se il condizionatore deve essere installato in un locale piccolo è necessario evitare che in caso di perdite il gas refrigerante raggiunga una concentrazione critica.
- Non installare le unità in un luogo soggetto a possibili fughe di gas infiammabili. Qualora dovessero raggiungere una concentrazione elevata attorno ad esse potrebbero infatti causare un incendio.
- Per trasportare il condizionatore d’aria, indossare scarpe con calotte protettive aggiuntive per le dita.
- Quando si trasporta il condizionatore d’aria, non afferrare le fascette che circondano la scatola di imballaggio. Qualora le fascette si rompano, si potrebbero subire lesioni personali.
- Installare l’unità interna ad almeno 2,5 metri di altezza dal pavimento, poiché, in caso contrario, gli utenti potrebbero subire lesioni personali o scosse elettriche qualora urtino con le dita o altri oggetti l’unità interna mentre il condizionatore d’aria è in funzione.
- Non collocare apparecchi a combustione di alcun genere in luoghi che siano direttamente esposti al fl usso d’aria prodotto dal condizionatore d’aria; in caso contrario, il condizionatore potrebbe provocare una combustione imperfetta.

**Installazione**

- Quando si deve montare in sospensione l’unità interna, è necessario utilizzare i bulloni di sospensione (M10 o W3/8) e i relativi dadi (M10 o W3/8) specificati.
- Il condizionatore deve essere installato in un punto in grado di sostenerne adeguatamente il peso. Qualora la resistenza non sia sufficiente, l’unità potrebbe cadere e provocare lesioni personali.
- Attenersi alle istruzioni nel Manuale di installazione per installare il condizionatore d’aria. La mancata osservanza di queste istruzioni potrebbe infatti causare la caduta o il ribaltamento delle unità, nonché divenire causa di rumore, vibrazioni, fuoriuscite d’acqua o altri problemi.

- Effettuare l'installazione considerando l'eventuale possibilità di vento forte o di terremoti. Se il condizionatore non è installato correttamente, un'unità può ribaltarsi o cadere, causando un incidente.
- Se durante l'installazione si verifica una fuga del gas refrigerante occorre ventilare subito l'ambiente. A contatto con fiamme libere il gas refrigerante s'incendia generando sostanze nocive.
- Utilizzare un carrello elevatore per trasportare le unità del condizionatore e per la loro installazione utilizzare un argano o un paranco.

**Tubi del liquido refrigerante**

- Installare il tubo del refrigerante stabilmente durante i lavori di installazione, prima di mettere in funzione il condizionatore d'aria. Se il compressore venisse messo in funzione con la valvola aperta e senza il tubo del refrigerante, il compressore aspirerebbe aria e il circuito di refrigerazione raggiungerebbe una pressione eccessiva, con la possibilità di causare lesioni personali.
- Serrare il dado svasato con una chiave torsiometrica come illustrato. Un serraggio eccessivo del dado svasato potrebbe causare delle spaccature nel lungo periodo, il che potrebbe provocare perdite di refrigerante.
- Una volta completata l'installazione è quindi di estrema importanza verificare che non vi siano perdite. Qualora si verifichi una perdita di gas refrigerante in una stanza e il gas entri in contatto con delle fiamme, ad esempio in una cucina, si potrebbero generare gas tossici.
- Quando il condizionatore d'aria è stato installato o trasferito, attenersi alle istruzioni nel Manuale di installazione e spurgare completamente l'aria in modo che nessun altro gas si mescoli al refrigerante nel circuito di refrigerazione. Qualora non si effettui lo spurgo completo dell'aria, si potrebbe provocare un malfunzionamento del condizionatore d'aria.
- Per la prova di tenuta dell'aria è necessario utilizzare gas di azoto.
- Il tubo flessibile di carico deve essere collegato in modo tale da non essere lasco.

**Cavi elettrici**

- Solo un installatore qualificato(*1) o un tecnico dell'assistenza qualificato(*1) sono autorizzati a eseguire i lavori sull'impianto elettrico per il condizionatore d'aria. In nessuna circostanza tali lavori devono essere effettuati da una persona non qualificata, poiché un'esecuzione non appropriata dei lavori potrebbe provocare scosse elettriche e/o dispersioni di corrente.
- Per collegare i cavi elettrici, riparare parti elettriche o iniziare altri tipi di lavori sull'impianto elettrico, indossare guanti di protezione per elettricisti e resistenti al calore, scarpe e indumenti isolanti, per fornire protezione contro le scosse elettriche. Qualora non si indossino queste attrezzature protettive, si potrebbero provocare scosse elettriche.
- Utilizzare cablaggi che soddisfino le specifiche nel Manuale di installazione e le direttive delle norme e nelle leggi locali. L'uso di cablaggi che non soddisfino le specifiche potrebbe provocare scosse elettriche, dispersioni di corrente, fumo e/o un incendio.
- Collegare il cavo di terra. (cablaggio di messa a terra)
  Una messa a terra incompleta può causare elettrocuzione.
- Non collegare i cavi di messa a terra a tubi del gas, tubi dell'acqua, conduttori dei parafulmini o a cavi di messa a terra per cablaggi telefonici.
- Dopo aver completato i lavori di riparazione o di trasferimento, verificare che i cavi elettrici di messa a terra siano collegati correttamente.
- Installare un interruttore automatico che soddisfile specifiche nel Manuale di installazione e le direttive delle norme e delle leggi locali.
- Installare l'interruttore automatico in una sede che sia facilmente accessibile dall'agente.
- Prima di installare l'interruttore automatico all'esterno, assicurarsi che sia progettato a tale scopo.
- Non utilizzare in alcuna circostanza prolunghe del cavo elettrico di alimentazione. Problemi di collegamento nelle sedi in cui si trovino prolunghe del cavo elettrico possono provocare fumo e/o un incendio.
- I lavori di cablaggio elettrico devono essere effettuati in conformità alle normative vigenti e al manuale di installazione. La mancata osservanza di questa indicazione espone al rischio di elettrocuzione o cortocircuito.

**Prova di funzionamento**

- Prima di avviare il condizionatore dopo averne completato l'installazione, verificare che il coperchio della scatola elettrica di controllo dell'unità interna e il pannello di servizio dell'unità esterna siano chiusi e che l'interruttore di sicurezza automatico sia inserito. Qualora si accenda l'unità senza aver prima eseguito questi controlli, si potrebbe subire una scossa elettrica.
- Se si nota il verificarsi di un problema di qualche tipo con il condizionatore d'aria (ad esempio è stata visualizzata un'indicazione di errore, si sente odore di bruciato, si sentono suoni anomali, il condizionatore non raffredda o non riscalda, oppure è presente una perdita d'acqua), non toccare da soli il condizionatore d'aria, ma impostare l'interruttore sulla posizione OFF (spento) e contattare un tecnico dell'assistenza qualificato. Adottare delle misure per assicurare che l'unità non venga accesa (ad esempio scrivendo "fuori servizio" in prossimità dell'interruttore automatico) fino all'arrivo di un tecnico dell'assistenza qualificato. L'uso continuato del condizionatore in questa condizione anomala potrebbe divenire causa di problemi meccanici, generare scosse elettriche o causare altri problemi.
- Al termine del lavoro di riparazione, utilizzare un tester di isolamento (megahometro tipo Megger da 500V) per verificare che la resistenza tra la sezione di carica e la sezione metallica di non carica (sezione di terra) sia pari o superiore a 1 MΩ. Qualora il valore di resistenza sia basso, potrebbe verificarsi un grave problema, quale una dispersione o una scossa elettrica, dal lato dell'utente.
- Al completamento del lavoro di installazione, controllare eventuali perdite di refrigerante e controllare la resistenza di isolamento e lo scarico dell'acqua. Quindi, eseguire un funzionamento di prova per controllare che il condizionatore d'aria funzioni correttamente.

**Spiegazioni fornite all'utentet**

- Al completamento del lavoro di installazione, comunicare all'utente dove sia situato l'interruttore automatico. Qualora l'utente non sappia dove si trovi l'interruttore automatico, non sarà in grado di disattivarlo, nell'eventualità che si verifichi un problema con il condizionatore d'aria.
- Se la griglia della ventola è danneggiata, non avvicinarsi all'unità esterna ma portare l'interruttore in posizione OFF (spento) e rivolgersi al personale di assistenza qualificato (*1) affinché provveda a effettuare le necessarie riparazioni. Non impostare l'interruttore automatico sulla posizione ON (acceso) finché non siano state completate le riparazioni.



- Al termine del lavoro di installazione, seguire il Manuale del proprietario per spiegare al cliente come utilizzare e sottoporre a manutenzione l'unità.

**Trasferimento**

- Solo un installatore qualificato(*1) o un tecnico dell'assistenza qualificato(*1) sono autorizzati a trasferire il condizionatore d'aria. È pericoloso far trasferire il condizionatore d'aria da una persona non qualificata, in quanto si potrebbero provocare incendi, scosse elettriche, lesioni personali, perdite d'acqua, rumori e/o vibrazioni.
- Quando si eseguono lavori di svuotamento del refrigerante (Pump-down), spegnere il compressore prima di scollegare il tubo del refrigerante. Eseguendo questo scollegamento con la valvola di
  servizio aperta e il compressore in funzione si causerebbe l'aspirazione dell'aria o di altri gas eventualmente presenti nell'atmosfera, elevando in tal modo la pressione interna al circuito refrigerante a un livello eccessivamente alto con possibili rotture, lesioni personali o problemi di funzionamento.

**⚠ ATTENZIONE**

**Questo condizionatore d'aria ha adottato il refrigerante HFC (R32) che non danneggia lo strato di ozono.**

- Dal momento che, a causa dell'alta pressione, il refrigerante R32 può essere facilmente interessato da impurità quali umidità, pellicola ossidata, olio e così via, durante l'installazione fare attenzione che umidità, sporcizia, refrigerante esistente, olio della macchina refrigerante ecc. non vengano miscelati nel ciclo di refrigerazione.
- Per l'installazione è necessario un utensile speciale per il refrigerante R32.
- Usare materiali di tubazioni nuovi e puliti per collegare il tubo in modo che umidità e sporcizia non vengano miscelati durante l'installazione.
- In caso di utilizzo di tubazioni esistenti, attenersi alle procedure descritte nel manuale di installazione in dotazione con l'unità esterna.

(*1) Consultare la "Definizione di installatore qualificato o tecnico dell'assistenza qualificato".

Gracias por haber adquirido este aparato de aire acondicionado Toshiba.
Lea atentamente estas instrucciones que contienen información importante de conformidad con la Directiva relativa a Máquinas (Directive 2006/42/EC) y asegúrese de que las entiende.
Tras completar el trabajo de instalación, entregue al usuario este “Manual de instalación” así como el “Manual del usuario” que se proporcionan, y pida al usuario que los guarde en un lugar seguro para que le sirvan de referencia en el futuro.

**Denominación genérica: Aire acondicionador**

**Definición de instalador cualificado o persona de servicio cualificada**
El aparato de aire acondicionado deberá ser instalado, mantenido, reparado y desechado por un instalador cualificado o por una persona de servicio cualificada. Cuando se tenga que hacer uno cualquiera de estos trabajos, solicite a un instalador cualificado o a una persona de servicio cualificada que le haga el trabajo solicitado.
Un instalador cualificado o una persona de servicio cualificada es un agente con las cualificaciones y conocimientos descritos en la siguiente tabla.

| Agente | Cualificaciones y conocimientos que debe tener el agente |
|---|---|
| Instalador cualificado | • El instalador cualificado es una persona que se dedica a la instalación, mantenimiento, traslado y retirada de los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation. Dicha persona habrá recibido formación relativa a la instalación, mantenimiento, traslado y retirada de aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruida en dichas operaciones por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichas operaciones.<br>• El instalador cualificado que esté autorizado para realizar los trabajos eléctricos propios de la instalación, traslado y retirada poseerá las cualificaciones relativas a dichos trabajos eléctricos, de conformidad con la legislación local vigente, y habrá recibido formación relativa a las tareas eléctricas a realizar en los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruido en dichas tareas por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichas operaciones.<br>• El instalador cualificado que esté autorizado para realizar los trabajos de canalización y manejo del refrigerante propios de la instalación, traslado y retirada poseerá las cualificaciones relativas a dichos trabajos de canalización y manejo del refrigerante, de conformidad con la legislación local vigente, y habrá recibido formación relativa a las tareas de canalización y uso del refrigerante a realizar en los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruido en dichas tareas por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichas operaciones.<br>• El instalador cualificado que esté autorizado para trabajar en alturas habrá recibido formación relativa a la realización de trabajos en altura con los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruido en dichas tareas por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichos trabajos. |
| Persona de servicio cualificada | • La persona de mantenimiento cualificado es una persona que se dedica a la instalación, reparación, mantenimiento, traslado y retirada de los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation. Dicha persona habrá recibido formación relativa a la instalación, reparación, mantenimiento, traslado y retirada de aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruida en dichas operaciones por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichas operaciones.<br>• La persona de mantenimiento cualificada que esté autorizada para realizar los trabajos eléctricos propios de la instalación, reparación, traslado y retirada poseerá las cualificaciones relativas a dichos trabajos eléctricos, de conformidad con la legislación local vigente, y habrá recibido formación relativa a las tareas eléctricas a realizar en los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruida en dichas tareas por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichas operaciones.<br>• La persona de mantenimiento cualificada que esté autorizada para realizar los trabajos de canalización y manejo del refrigerante propios de la instalación, reparación, traslado y retirada poseerá las cualificaciones relativas a dichos trabajos de canalización y manejo del refrigerante, de conformidad con la legislación local vigente, y habrá recibido formación relativa a las tareas de canalización y uso del refrigerante a realizar en los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruida en dichas tareas por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichas operaciones.<br>• La persona de mantenimiento cualificada que esté autorizada para trabajar en alturas habrá recibido formación relativa a la realización de trabajos en altura con los aparatos de aire acondicionado fabricados por Toshiba Carrier Corporation, o, de otro modo, habrá sido instruida en dichas tareas por otra u otras personas que hayan recibido formación en la materia y que por tanto posean amplios conocimientos relativos a dichos trabajos. |





**Definición del equipo de protección**
Cuando vaya a proceder al traslado, instalación, mantenimiento, reparación o retirada del aparato de aire acondicionado, utilice guantes protectores y ropa de trabajo de “seguridad”.
Además de este equipo protector habitual, utilice el equipo protector que se describe a continuación cuando emprenda las operaciones especiales que se detallan en la tabla siguiente.
De no utilizar el equipo protector adecuado, incurrirá en cierto riesgo personal ya que estará más expuesto a sufrir heridas, quemaduras, descargas eléctricas y demás lesiones.

| Reparación de la | Equipo de protección usado |
|---|---|
| Todo tipo de trabajos | Guantes de protección<br>Ropa de trabajo de “seguridad” |
| Trabajo relacionado con equipos eléctricos | Guantes para protegerse de las descargas eléctricas y de las altas temperaturas<br>Calzado aislante<br>Ropa que ofrezca protección contra descargas eléctricas |
| Trabajos en altura (50 cm o más) | Cascos de seguridad de uso industrial |
| Transporte de objetos pesados | Zapatos con protección adicional en las punteras |
| Reparación de la unidad exterior | Guantes para protegerse de las descargas eléctricas y de las altas temperaturas |

Estas precauciones de seguridad describen aspectos importantes para la seguridad a fin de evitar lesiones personales y daños en la propiedad. Lea atentamente este manual y asegúrese de comprender todo el contenido incluido a continuación (significado de las indicaciones) y siga las instrucciones de las descripciones.

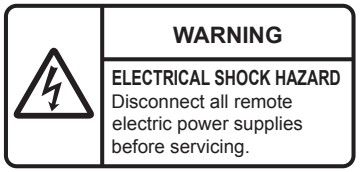
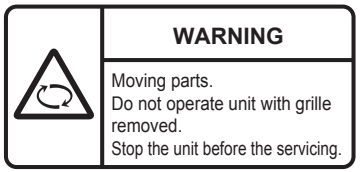
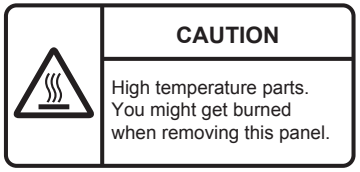
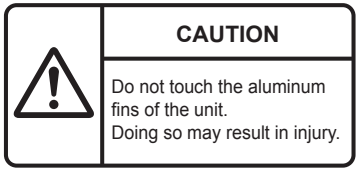
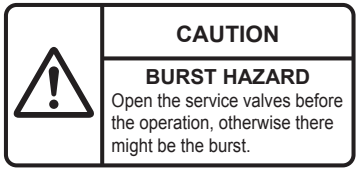
| Indicación | Significado de la indicación |
|---|---|
| ⚠ **ADVERTENCIAS** | El texto incluido de esta forma indica que si no se siguen las instrucciones de la advertencia podrían ocasionarse lesiones corporales graves (*1) o la muerte si el producto no se manipula de forma correcta. |
| ⚠ **PRECAUCIÓN** | El texto incluido de esta forma indica que si no se siguen las instrucciones de la precaución podrían ocasionarse lesiones leves (*2) o daños (*3) en la propiedad si el producto no se manipula de forma correcta. |

*1: Una lesión corporal grave implica pérdida de visión, lesiones, quemaduras, descarga eléctrica, fractura ósea, intoxicación y otras lesiones que causan secuelas y requieren hospitalización o tratamiento prolongado de seguimiento en ambulatorio.
*2: Una lesión leve implica lesión, quemaduras, descarga eléctrica y otras lesiones que no requieren hospitalización ni tratamiento prolongado de seguimiento en ambulatorio.
*3: Daño a la propiedad implica daños a los edificios, efectos domésticos, animales domésticos y mascotas.

**SIGNIFICADOS DE LOS SÍMBOLOS DE LA UNIDAD**

| | | |
|---|---|---|
|  | **ADVERTENCIAS**<br>(Riesgo de incendio) | Esta marca es solo para el refrigerante R32. El tipo de refrigerante se especifica en la placa de características de la unidad exterior.<br>Si el tipo de refrigerante es R32, esta unidad usa un refrigerante inflamable. Si el refrigerante gotea y entra en contacto con piezas en llamas o calientes, producirá gas nocivo y existe el riesgo de incendio. |
|  | Lea el MANUAL DEL PROPIETARIO atentamente antes de usar el sistema. | |
|  | El personal de mantenimiento deberá leer atentamente el MANUAL DEL PROPIETARIO y el MANUAL DE INSTALACIÓN antes de usar el sistema. | |
|  | Encontrará más información en el MANUAL DEL PROPIETARIO, el MANUAL DE INSTALACIÓN y cualquier otra documentación relacionada. | |

## ■ Advertencias en cuanto a la unidad de aire acondicionado

| Indicación de advertencia | Descripción |
|---|---|
|  | **ADVERTENCIAS**<br><br>**PELIGRO DE DESCARGA ELÉCTRICA**<br>Desconecte todos los suministros eléctricos remotos antes de hacer reparaciones. |
|  | **ADVERTENCIAS**<br><br>Piezas móviles.<br>No utilice la unidad con la rejilla retirada.<br>Pare la unidad antes de hacer reparaciones. |
|  | **PRECAUCIÓN**<br><br>Piezas de alta temperatura.<br>Al retirar este panel podría quemarse. |
|  | **PRECAUCIÓN**<br><br>No toque las aletas de aluminio del aparato.<br>De lo contrario, podrían producirse lesiones personales. |
|  | **PRECAUCIÓN**<br><br>**PELIGRO DE ROTURA**<br>Abra las válvulas de servicio antes de la operación, de lo contrario podrían producirse roturas. |



# 1 Precauciones de seguridad

El fabricante no se hará responsable de ningún daño producido por no seguir las descripciones de este manual.

## ⚠ ADVERTENCIAS

### Generalidades

- Antes de empezar a instalar el acondicionador de aire, lea atentamente el manual de instalación y siga sus instrucciones para instalarlo.
- Solo un instalador cualifi cado o una persona de mantenimiento cualificada tiene permiso para realizar los trabajos de instalación. La instalación incorrecta puede provocar fugas de agua, descargas eléctricas o incendios.
- No utilice ningún refrigerante aparte del que se especifi ca para complementar o sustituir. De lo contrario, se podría generar una presión anormalmente alta en el ciclo de refrigeración, lo que podría resultar en un fallo o explosión del producto así como en lesiones personales.
- Antes de abrir la rejilla de admisión de la unidad interior o el panel de servicio de la unidad exterior, ponga el disyuntor en la posición OFF. Si no se pone el disyuntor en la posición OFF se puede producir una descarga eléctrica al tomar las piezas interiores. Sólo un instalador cualifi cado(*1) o una persona de servicio cualificada(*1) tiene permitido retirar la rejilla de admisión de la unidad interior o el panel de servicio de la unidad exterior y hacer el trabajo necesario.
- Antes de realizar la instalación, el mantenimiento, la reparación o la desinstalación, coloque el disyuntor en la posición de apagado (OFF). De lo contrario se pueden producir descargas eléctricas.
- Ponga un aviso que diga “Trabajo en curso” cerca del disyuntor mientras se realiza el trabajo de instalación, mantenimiento, reparación o desecho. Si el disyuntor se pone en ON por error existe el peligro de que se produzcan descargas eléctricas.
- Sólo un instalador cualifi cado(*1) o una persona de servicio cualifi cada(*1) tiene permiso para realizar trabajos en lugares altos usando una base de 50 cm o más o para quitar la rejilla de admisión de la unidad interior para realizar otros trabajos.
- Póngase guantes de protección y ropa de trabajo segura durante la instalación, reparación y desecho.

- No toque las aletas de aluminio del aparato. Si lo hace puede lesionarse usted mismo. Si la aleta tiene que tocarse por alguna razón, póngase primero guantes de protección y ropa de trabajo segura, y luego empiece a trabajar.
- No se suba encima ni coloque objetos encima de la unidad exterior. Usted o los objetos pueden caerse de la unidad exterior y provocar lesiones.
- Cuando el trabajo se efectúe en lugares altos, use una escalera que cumpla con la norma ISO 14122, y siga las instrucciones de la escalera. Póngase también un casco de uso industrial como equipo de protección para hacer el trabajo.
- Antes de limpiar el fi ltro u otras partes de la unidad exterior, disconecte sin falta el disyuntor y ponga un aviso que diga “Trabajo en curso” cerca del mismo mientras se realiza el trabajo.
- Cuando trabaje en un lugar alto, antes de empezar a trabajar, ponga un aviso para que nadie se acerque al lugar de trabajo. Desde la parte superior podrían caer piezas y otros objetos que causarían lesiones a las personas situadas debajo. Mientras lleve a cabo el trabajo, póngase un casco para protegerse de los objetos que pudieran caer.
- No use otros refrigerantes que no sean del tipo R32.
  Para saber el tipo de refrigerante apropiado, compruebe la unidad exterior que se va a combinar.
- El refrigerante usado por este aparato de aire acondicionado es el mismo que el de la unidad exterior.
- El aparato de aire acondicionado deberá transportarse de forma que esté estable. Si alguna pieza del producto estuviera rota, póngase en contacto con el distribuidor.
- Cuando el aparato de aire acondicionado se deba transportar a mano, deben moverlo dos o más personas.
- No mueva ni repare ninguna unidad usted mismo. La unidad contiene alto voltaje en su interior. Podría recibir una descarga eléctrica al retirar la cubierta y la unidad principal.
- Este aparato está destinado a ser utilizado por usuarios expertos o formados en tiendas, industria ligera o para uso comercial por parte de personas no expertas.



**Selección del lugar de instalación**

- Si se instala el acondicionador de aire en una habitación pequeña, tome las medidas necesarias para asegurar que la concentración de refrigerante en la habitación no supere niveles perjudiciales en el caso de que se produzca una fuga.
- No instale el producto en lugares donde puedan existir fugas de gases infl amables. Si existiera una fuga y se acumulara gas alrededor de la unidad, podría encenderse y provocar un incendio.
- Cuando transporte el aparato de aire acondicionado, póngase zapatos con protección adicional en las punteras.
- Cuando transporte el aparato de aire acondicionado, no lo tome por las bandas de alrededor del cartón de embalaje. Usted podría lesionarse si se rompieran las bandas.
- Instale la unidad interior a 2,5 m como mínimo por encima del nivel del suelo, ya que de lo contrario los usuarios podrían lesionarse o recibir descargas eléctricas si meten sus dedos u otros objetos en la unidad interior mientras funciona el aparato de aire acondicionado.
- No ponga ningún aparato de combustión en un lugar expuesto directamente al aire procedente del aparato de aire acondicionado, de lo contrario, la combustión no sería perfecta.

**Instalación**

- Cuando la unidad interior vaya a instalarse suspendida deberán usarse los pernos para colgar (M10 ó W3/8) y las tuercas (M10 ó W3/8) que han sido designados.
- Instale de forma segura el aparato de aire acondicionado, sobre una base que pueda soportar adecuadamente su peso. Si la resistencia no es sufi ciente, la unidad puede caerse y causar lesiones.
- Siga las instrucciones del manual de instalación para instalar el aparato de aire acondicionado. Si no se cumplen estas instrucciones, el producto podría caerse o volcarse, así como producir ruido, vibraciones, fugas de agua u otras complicaciones.

- Lleve a cabo los trabajos de instalación especificados para proteger el aparato frente a la posibilidad de fuertes vientos y terremotos. Si el aparato de aire acondicionado no está instalado de forma apropiada, una unidad podría caerse o volcarse, lo que causaría un accidente.
- Si se producen fugas de gas refrigerante durante la instalación, ventile inmediatamente la habitación. Si el gas refrigerante liberado durante la fuga entrara en contacto con el fuego, pueden generarse gases tóxicos.
- Utilice una carretilla elevadora para mover las unidades de aire acondicionado y un cabestrante o una grúa para instalarlas.

**Tubería del refrigerante**

- Instale firmemente el tubo del refrigerante durante los trabajos de instalación antes de poner en funcionamiento el aparato de aire acondicionado. Si el compresor funciona con su válvula abierta y sin tubo de refrigerante, el compresor succionará aire y los ciclos de refrigeración tendrán una presión excesiva, lo que puede causar lesiones.
- Apriete la tuerca abocinada con una llave de ajuste dinamométrica como se indica. Un apriete excesivo de tuerca abocinada puede causar grietas en la misma después de pasar mucho tiempo, lo que podría causar fugas de refrigerante.
- Tras la instalación, asegúrese de que no existen fugas de gas refrigerante. Si se produce una fuga de gas refrigerante en la habitación y hay una fuente de fuego próxima, como una cocina, podría generarse gas nocivo.
- Cuando el aparato de aire acondicionado haya sido instalado o recolocado, siga las instrucciones del manual de instalación y purgue completamente el aire para que no se mezclen otros gases que no sean el refrigerante en el ciclo de refrigeración. Si el aire no se purga completamente puede que el aparato de aire acondicionado funcione mal.
- Para la prueba de hermeticidad al aire deberá usarse nitrógeno.
- La manguera de carga deberá conectarse de forma que no esté floja.



**Cableado eléctrico**

- Sólo un instalador cualificado(*1) o una persona de servicio cualificada(*1) tiene permitido realizar el trabajo eléctrico del aparato de aire acondicionado. Este trabajo no deberá hacerlo, bajo ninguna circunstancia, un individuo que no esté cualificado, porque si el trabajo se hace mal, existe el peligro de que se produzcan descargas eléctricas y/o fugas eléctricas.
- Cuando conecte los cables eléctricos, repare los componentes eléctricos o realice otros trabajos con equipos eléctricos, póngase guantes para protegerse de las descargas eléctricas y de las temperaturas altas, así como zapatos aislantes y ropa para protegerse contra las descargas eléctricas. Si no se pone este equipo de protección puede recibir descargas eléctricas.
- Use cables que cumplan con las especificaciones del manual de instalación y las estipulaciones de las normas y leyes locales. El uso de cables que no cumplen con las especificaciones puede dar origen a descargas eléctricas, fugas eléctricas, humo y/o incendios.
- Conecte el cable de tierra. (Masa)
  Si la unidad no está totalmente conectada al cable de tierra, podría producir descargas eléctricas.
- No conecte los cables de tierra a tubos de gas o agua, a pararrayos ni a cables de tierra para cables telefónicos.
- Después de completar el trabajo de reparación y recolocación, verifique que los cables de tierra estén bien conectados.
- Instale un disyuntor que cumpla con las especificaciones del manual de instalación y con las estipulaciones de las normas y las leyes locales.
- Instale el disyuntor donde el agente pueda tener acceso a él fácilmente.
- Cuando vaya a instalar el disyuntor en el exterior, elija uno diseñado para ser usado en exteriores.
- El cable de alimentación no deberá alargarse bajo ninguna circunstancia. Los problemas de conexión en lugares donde el cable se extienda pueden producir humo y/o un incendio.
- El cableado eléctrico deberá realizarse de conformidad con la legislación local vigente y el Manual de instalación. No se ser así, podría producirse una electrocución o un cortocircuito.

**Prueba de funcionamiento**

- Antes de utilizar el aparato de aire acondicionado después de completar el trabajo de instalación, verifique que las cubiertas de los cuadros eléctricos de la unidad interior y del panel de servicio de la unidad exterior estén cerradas, y ponga el disyuntor en la posición ON. Si conecta la alimentación sin realizar primero estas verificaciones puede recibir una descarga eléctrica.
- Si hubiera algún problema en el aparato de aire acondicionado (por ejemplo, cuando aparece un icono de error, hay olor a quemado, se oyen ruidos anormales, el aparato de aire acondicionado no refrigera ni calienta o hay fugas de agua), no lo toque:desconecte antes el disyuntor y póngase en contacto con una persona de servicio cualificada. Tome medidas (poniendo un aviso de “fuera de servicio” cerca del disyuntor, por ejemplo) para asegurar que la alimentación no se conecte antes de que llegue la persona de servicio cualificada. Si se continúa utilizando la unidad de aire acondicionado con la anomalía, los problemas mecánicos podrían generar otras complicaciones o provocar descargas eléctricas u otro tipo de problemas.
- Una vez realizados los trabajos previos, utilice un medidor de aislamiento (Megger de 500V) para comprobar que la resistencia entre la sección con carga y la sección metálica sin carga (sección de tierra) sea de 1 MΩ o más. Si el valor de la resistencia es bajo, esto se debe a un fallo como, por ejemplo, una fuga o una descarga eléctrica en el lado del usuario.
- Al completar el trabajo de instalación, verifique que no haya fugas de refrigerante, y también la resistencia del aislamiento y el drenaje de agua. Luego haga una prueba de funcionamiento para verificar si el aparato de aire acondicionado funciona correctamente.

**Explicaciones para dar al usuario**

- Al finalizar el trabajo de instalación dígale al usuario dónde esta situado el disyuntor. Si el usuario no sabe dónde está el disyuntor, él o ella no podrán desconectar la alimentación en el caso de que se produzca un fallo en el aparato de aire acondicionado.
- Si la rejilla del ventilador está dañada, no se dirija a la unidad exterior:desconecte el disyuntor y póngase en contacto con una persona de mantenimiento cualificada(*1) para que la repare. No ponga el disyuntor en la posición ON hasta después de terminar las reparaciones.



- Después de hacer el trabajo de instalación, siga las indicaciones del manual del propietario para explicar al cliente cómo usar y mantener la unidad.

**Recolocación**

- Sólo un instalador cualificado(*1) o una persona de servicio cualificada(*1) tiene permiso para recolocar el aparato de aire acondicionado. Es peligroso para el aparato de aire acondicionado que sea recolocado por un individuo no cualificado, porque se puede producir un incendio, descargas eléctricas, lesiones, fugas de agua, ruido y/o vibración.
- Cuando realice trabajos de bombeo de vacío, cierre el compresor antes de desconectar el tubo del refrigerante. Si se desconecta el tubo de refrigerante con la válvula de mantenimiento abierta y el compresor aún en marcha, se aspirará aire u otro gas, elevando la presión dentro del ciclo de refrigeración a niveles anómalamente altos, lo que podrá provocar roturas, lesiones u otros problemas.

## ⚠ PRECAUCIÓN

**Este aparato de aire acondicionado usa el refrigerante HFC (R32) que no es perjudicial para la capa de ozono.**

- El refrigerante R32 es muy sensible a la contaminación por impurezas como humedad, película de óxido, aceite, etc., propiciada por la alta presión; evite que la humedad, la suciedad, el refrigerante usado, el aceite de la máquina de refrigeración, etc., se mezclen en el ciclo de refrigeración durante el trabajo de instalación.
- Para la instalación se necesita una herramienta especial para el refrigerante R32.
- Use materiales limpios y nuevos para el tubo de conexión, de modo que ni la humedad ni la suciedad se mezclen durante el trabajo de instalación.
- Si se usan las tuberías existentes, siga el manual de instalación que se entrega con la unidad exterior.

(*1) Consulte la “Definición de instalador cualificado o persona de servicio cualificada”.

Obrigado por ter adquirido este ar condicionado Toshiba.
Leia estas instruções com cuidado, pois contêm informação importante que cumpre a Directiva Máquinas (Directive 2006/42/EC), e assegure-se de que as entende.
Depois de concluir o trabalho de instalação, entregue este Manual de Instalação e o Manual do Proprietário fornecido ao utilizador, e peça ao utilizador para guardá-los num lugar seguro para futuras consultas.

**Denominação Genérica: Ar Condicionado**

**Definição de Instalador Qualificado ou de Técnico de Assistência Qualificado**
O ar condicionado deve ser instalado, mantido, reparado e eliminado por um instalador qualificado ou um técnico de assistência qualificado. Quando for necessário efectuar qualquer um destes trabalhos, peça a um instalador qualificado ou a um técnico de assistência qualificado para efectuar estes trabalhos.
Um instalador qualificado ou um técnico de assistência qualificado é um agente com as qualificações e os conhecimentos descritos na seguinte tabela.

| Agente | Qualificações e conhecimentos necessários do agente |
|---|---|
| Instalador qualificado | • O instalador qualificado é uma pessoa que instala, dá manutenção a, muda de lugar e remove os ares condicionados fabricados pela Toshiba Carrier Corporation. Esta pessoa deve ter formação para instalar, dar manutenção a, mudar de lugar e remover ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, deve ter sido instruída nessas operações por parte de indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com estas operações.<br>• O instalador qualificado que tem permissão para levar a cabo as ligações eléctricas envolvidas na instalação, deslocação e remoção tem as qualificações necessárias para realizar essas tarefas conforme estipulado pelas leis e regulamentos locais, sendo uma pessoa que fez formação nas matérias relacionadas com trabalho eléctrico nos ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, que foi instruída nessas matérias por parte de indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com este trabalho.<br>• O instalador qualificado que tem permissão para realizar as tarefas de manuseamento do refrigerante e de instalação das tubagens envolvidas na instalação, deslocação e remoção dos aparelhos tem as qualificações necessárias para o manuseamento do refrigerante e a instalação das tubagens conforme estipulado pelas leis e regulamentos locais, sendo uma pessoa que fez formação nas matérias relacionadas com o manuseamento de refrigerante e a instalação de tubagens nos ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, que foi instruída nessas matérias por parte de indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com estas tarefas<br>• O instalador qualificado, a quem é permitido trabalhar em altura, foi formado em matérias relacionadas com o trabalho em altura com ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, foi instruído nessas matérias por indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com este trabalho. |
| Qualified service person | • O técnico de assistência qualificado é uma pessoa que instala, repara, dá manutenção a, muda de lugar e remove os ares condicionados fabricados pela Toshiba Carrier Corporation. Esta pessoa deve ter formação para instalar, reparar, dar manutenção a, mudar de lugar e remover ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, deve ter sido instruído nessas operações por parte de indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com estas operações.<br>• O técnico de assistência qualificado que tem permissão para levar a cabo as ligações eléctricas envolvidas na instalação, reparação, deslocação e remoção tem as qualificações necessárias para realizar essas tarefas conforme estipulado pelas leis e regulamentos locais, sendo uma pessoa que fez formação nas matérias relacionadas com trabalho eléctrico nos ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, que foi instruída nessas matérias por parte de indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com este trabalho.<br>• O técnico de assistência qualificado que tem permissão para realizar as tarefas de manuseamento do refrigerante e de instalação das tubagens envolvidas na instalação, reparação, deslocação e remoção dos aparelhos tem as qualificações necessárias para o manuseamento do refrigerante e a instalação das tubagens conforme estipulado pelas leis e regulamentos locais, sendo uma pessoa que fez formação nas matérias relacionadas com o manuseamento de refrigerante e a instalação de tubagens nos ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, que foi instruída nessas matérias por parte de indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com estas tarefas.<br>• O técnico de assistência qualificado, a quem é permitido trabalhar em altura, foi formado em matérias relacionadas com o trabalho em altura com ares condicionados fabricados pela Toshiba Carrier Corporation ou, como alternativa, foi instruído nessas matérias por indivíduos com a formação devida e, portanto, que adquiriram todo o conhecimento relacionado com este trabalho. |



**Definição do Equipamento de Protecção**
Aquando do transporte, instalação, manutenção, reparação ou remoção do ar condicionado, use luvas e vestuário de protecção.
Além do equipamento de protecção normal, use o equipamento de protecção descrito abaixo, se levar a cabo os trabalhos especiais detalhados na seguinte tabela.
É perigoso não usar o equipamento de protecção adequado porque fica mais susceptível a sofrer lesões, queimaduras, choques eléctricos e outros ferimentos.

| Trabalho efectuado | Equipamento de protecção usado |
|---|---|
| Todos os tipos de trabalhos | Luvas de protecção<br>Vestuário de protecção |
| Trabalho eléctrico | Luvas para proteger electricistas e calor Sapatos isoladores<br>Vestuário que proteja contra choques eléctricos |
| Trabalhos em altura (50 cm ou mais) | Capacetes industriais |
| Transporte de objectos pesados | Sapatos com protecção adicional para os dedos dos pés |
| Reparação da unidade exterior | Luvas para proteger electricistas e calor |

Estas medidas de segurança descrevem contextos importantes relacionados com a segurança para evitar lesões nos utilizadores ou outros indivíduos e danos materiais. Leia atentamente este manual, após compreender o conteúdo apresentado a seguir (significados das indicações) e certifique-se de que entende a descrição.

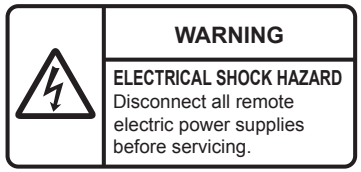
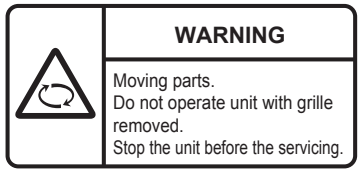
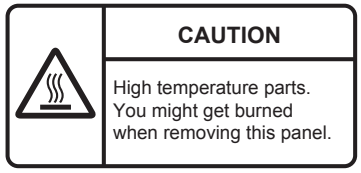
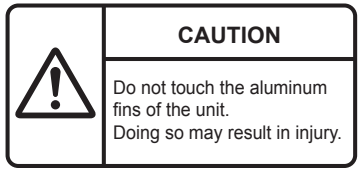
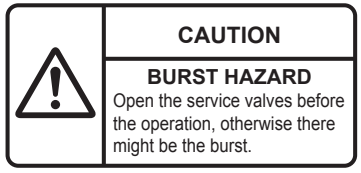
| Indicação | Significado da indicação |
|---|---|
| ⚠ ADVERTÊNCIAS | O texto estabelecido desta maneira indica que o não cumprimento das orientações constantes do aviso podem ter como consequência lesão corporal grave (*1) ou perda de vida, caso o produto seja manuseado incorretamente. |
| ⚠ PRECAUÇÃO | O texto estabelecido desta maneira indica que o não cumprimento das orientações constantes da chamada de atenção podem ter como consequência ferimentos ligeiros (*2) ou danos (*3) materiais, caso o produto seja manuseado incorretamente. |

*1: Lesão corporal grave inclui perda de visão, ferimentos, queimaduras, choque elétrico, fratura óssea, envenenamento e outros ferimentos que deixam sequelas e implicam hospitalização ou tratamento prolongado em ambulatório.
*2: Ferimento ligeiro inclui ferimento, queimaduras, choque elétrico e outros ferimentos que não necessitam de hospitalização ou tratamento prolongado em ambulatório.
*3: Danos materiais inclui danos a edifícios, objetos de uso doméstico, gado doméstico e animais domésticos.

**SIGNIFICADOS DOS SÍMBOLOS APRESENTADOS NA UNIDADE**

| | | |
|---|---|---|
|  | **ADVERTÊNCIAS** (Risco de incêndio) | Esta marca destina-se apenas ao refrigerante R32. O tipo de refrigerante encontra-se inscrito na chapa de nome da unidade exterior.<br>No caso de o tipo de refrigerante ser o R32, esta unidade utiliza um refrigerante inflamável.<br>Caso ocorram fugas de refrigerante e este entre em contacto com fogo ou com peça quente, será criado gás nocivo e existe perigo de incêndio. |
|  | Leia atentamente o MANUAL DO PROPRIETÁRIO, antes da operação. | |
|  | É necessário recorrer a técnicos de assistência para ler atentamente o MANUAL DO PROPRIETÁRIO e o MANUAL DE INSTALAÇÃO antes da operação. | |
|  | Está disponível mais informação no MANUAL DO PROPRIETÁRIO e no MANUAL DE INSTALAÇÃO e documentação similar. | |

## ■ Indicações de aviso sobre o ar condicionado

| Indicação de aviso | Descrição |
|---|---|
|  | **ADVERTÊNCIAS**<br><br>**PERIGO DE CHOQUE ELÉCTRICO**<br>Desligue todas as fontes de alimentação eléctrica remotas antes de uma operação de assistência. |
|  | **ADVERTÊNCIAS**<br><br>Peças rotativas.<br>Não utilize a unidade com a grelha retirada.<br>Pare a unidade antes de uma operação de assistência. |
|  | **PRECAUÇÃO**<br><br>Peças com elevadas temperaturas.<br>Pode queimar-se quando retirar este painel. |
|  | **PRECAUÇÃO**<br><br>Não toque nas barbatanas de alumínio da unidade.<br>Caso contrário, poderá ferir-se. |
|  | **PRECAUÇÃO**<br><br>**PERIGO DE EXPLOSÃO**<br>Abra as válvulas de serviço antes de utilizar o equipamento, caso contrário, pode ocorrer uma explosão. |

# 1 Precauções de segurança

O fabricante não assumirá nenhuma responsabilidade por danos causados pela não observação das descrições dadas neste manual.

## ⚠ ADVERTÊNCIAS

### Geral

- Antes de instalar o ar condicionado, leia cuidadosamente o Manual de Instalação e siga as instruções fornecidas para instalar o ar condicionado.
- Apenas um instalador qualificado ou um técnico de assistência qualificado pode efectuar o trabalho de instalação. A instalação incorrecta pode provocar fugas de água, choques eléctricos ou incêndio.
- Não utilize um refrigerante diferente do especificado para complementação ou substituição. Caso contrário, uma pressão anormalmente alta pode ser gerada no ciclo de refrigeração, o que pode resultar numa falha ou explosão do produto ou em ferimentos pessoais.
- Antes de abrir a grelha de entrada da unidade interior ou painel de serviço da unidade exterior, coloque o disjuntor eléctrico na posição OFF. A não colocação do disjuntor eléctrico na posição OFF pode provocar choques eléctricos devido ao contacto com as peças internas. Apenas um instalador qualificado(*1) ou um técnico de assistência qualificado(*1) pode retirar a grelha de entrada da unidade interior ou o painel de serviço da unidade exterior e efectuar os trabalhos necessários.
- Antes de efectuar o trabalho de instalação, manutenção, reparação ou de eliminação, coloque o disjuntor eléctrico na posição OFF. Caso contrário, podem ocorrer choques eléctricos.
- Coloque um sinal “Trabalho em progresso” junto ao disjuntor eléctrico durante a realização de trabalhos de instalação, manutenção, reparação ou eliminação. Existe um perigo de choques eléctricos se colocar o disjuntor eléctrico na posição ON por engano.
- Apenas um instalador qualificado(*1) ou um técnico de assistência qualificado(*1) pode efectuar o trabalho em altura com um suporte de 50 cm ou mais, ou retirar a grelha de entrada da unidade interior para efectuar o trabalho.
- Use luvas de protecção e vestuário de trabalho de segurança durante a instalação, a assistência e a eliminação.

- Não toque na barbatana de alumínio da unidade. Pode ferir-se, se o fizer. Se for necessário tocar na palheta por algum motivo, coloque primeiro as luvas de protecção e o vestuário de trabalho de segurança e, em seguida, prossiga.
- Não suba para nem coloque objectos sobre a unidade exterior. Pode cair ou os objectos podem cair da unidade exterior e provocar ferimentos.
- Quando trabalhar em altura, utilize uma escada em conformidade com a norma ISO 14122 e efectue o procedimento descrito nas instruções da escada. Use também um capacete industrial como equipamento de protecção para efectuar o trabalho.
- Antes de limpar o filtro ou outras peças da unidade exterior, não se esqueça de colocar o disjuntor eléctrico na posição OFF e um sinal “Trabalho em progresso” junto ao disjuntor eléctrico antes de continuar o trabalho.
- Antes de trabalhar em altura, coloque um sinal no local para que ninguém se aproxime do local de trabalho antes de continuar com o trabalho. As peças e outros objectos podem cair da parte superior, ferindo possivelmente uma pessoa que esteja por baixo. Enquanto realiza o trabalho, utilize um capacete para protecção contra a queda de objectos.
- Não utilize qualquer outra refrigerante que são seja o R32. Para confirmar o tipo de refrigerante, verifique a unidade exterior a ser associada.
- O refrigerante utilizado por este ar condicionado é o indicado na unidade exterior.
- O aparelho de ar condicionado deve ser transportado numa condição estável. Se encontrar qualquer parte do produto quebrada, contacte o seu revendedor.
- Se o aparelho de ar condicionado tiver que ser transportado manualmente, duas ou mais pessoas devem carregá-lo.
- Não mova ou repare qualquer unidade. Há tensão alta no interior da unidade. Pode sofrer um choque eléctrico quando retirar a tampa e a unidade principal.
- Este aparelho foi feito para ser utilizado por peritos ou utilizadores treinados, nas lojas, na indústria leve ou para utilização comercial por pessoas leigas.



**Selecção do local de instalação**

- Quando o aparelho de ar condicionado for instalado em um ambiente pequeno, providencie medidas apropriadas para assegurar que a concentração de fuga do refrigerante que possa ocorrer no ambiente não exceda o nível crítico.
- Não instale num local onde gases infl amáveis possam vazar. Se algum gás vazar e acumular-se ao redor da unidade, o mesmo pode infl amar e causar um incêndio.
- Para transportar o ar condicionado, use sapatos com protecções adicionais para os dedos dos pés.
- Para transportar o ar condicionado, não segure nas faixas existentes à volta da embalagem de cartão. Pode ferir-se, se as faixas se partirem.
- Instale a unidade interior a pelo menos 2,5 m acima do nível do chão, caso contrário, os utilizadores podem ferir-se ou sofrerem choques eléctricos se tocarem com os dedos ou outros objectos na unidade interior com o ar condicionado em funcionamento.
- Não coloque nenhum aparelho de combustão num local exposto directamente ao vento do ar condicionado, caso contrário, pode provocar uma combustão imperfeita.

**Instalação**

- Quando suspender a unidade interior, tem de utilizar as porcas (M10 ou W3/8) e os parafusos de fixação (M10 ou W3/8).
- Instale o aparelho de ar condicionado firmemente num lugar onde a base possa suportar o peso adequadamente. Se a força não for suficiente, a unidade pode cair e provocar lesões.
- Siga as instruções fornecidas no Manual de Instalação para instalar o ar condicionado. O incumprimento destas instruções pode provocar a queda do produto ou produzir ruído, vibração, vazamento de água ou outros problemas.
- Realize o trabalho de instalação especificado para a protecção adequada contra a possibilidade de ventos fortes e terramotos. Se o aparelho de ar condicionado não for instalado adequadamente, uma unidade pode tombar ou cair, provocando um acidente.

- Se o gás refrigerante vazar durante o trabalho de instalação, ventile o ambiente imediatamente. Se o gás refrigerante vazado entrar em contacto com fogo, poderá ser gerado um gás nocivo.
- Utilize uma empilhadora para transportar as unidades do aparelho de ar condicionado e utilize um guincho ou guindaste para sua instalação.

**Tubagem do refrigerante**

- Instale correctamente o tubo de refrigeração durante a instalação antes de colocar o ar condicionado em funcionamento. Se operar o compressor com a válvula aberta e sem o tubo de refrigerante, o compressor suga o ar e os ciclos de refrigeração ficam sobrepressurizados, esta situação pode provocar uma lesão.
- Aperte a porca de alargamento com uma chave dinamométrica e da forma especificada. O aperto excessivo da porca de alargamento pode provocar uma racha na porca de alargamento após um longo período, que pode resultar na fuga de refrigerante.
- Após o trabalho de instalação, confirme que não haja nenhuma fuga do gás refrigerante. Se houver uma fuga de gás refrigerante para o compartimento que entre em contacto com uma chama, por exemplo, no caso de um fogão, poderá gerar gás tóxico.
- Quando instalar ou mudar o ar condicionado, siga as instruções fornecidas no Manual de Instalação e elimine o ar completamente para que nenhum gás para além do refrigerante seja misturado no ciclo de refrigeração. A não eliminação completa do ar pode provocar uma avaria no ar condicionado.
- Tem de utilizar gás de nitrogénio para o teste de impermeabilidade.
- Tem de ligar o tubo de carga para que não exista nenhuma folga.

**Cablagem eléctrica**

- Apenas um instalador qualificado(*1) ou um técnico de assistência qualificado(*1) pode efectuar o trabalho eléctrico do ar condicionado. Este trabalho não deve ser efectuado por uma pessoa não qualificada em nenhuma circunstância porque um trabalho executado incorrectamente pode resultar em choques eléctricos e/ou fugas eléctricas.
- Para conectar os cabos eléctricos, reparar peças eléctricas ou efectuar outros trabalhos eléctricos, utilize luvas para protecção de electricistas e calor, sapatos isoladores e vestuário para a protecção contra choques eléctricos. A não utilização deste equipamento de protecção pode resultar em choques eléctricos.
- Utilize cablagens que cumpram as especificações fornecidas no Manual de Instalação e as condições nas leis e regulamentos locais. A utilização de cablagens que não cumpram as especificações pode originar choques eléctricos, fugas eléctricas, fumo e/ou um incêndio.
- Conecte o cabo de terra. (fio de terra)
  Se a ligação à terra ficar incompleta, podem ocorrer choques eléctricos.
- Não conecte os cabos de terra a tubos de gás, tubos de água, pára-raios ou fios de terra de telefone.
- Depois de concluir o trabalho de reparação ou mudança, verifique se os fios de terra estão ligados correctamente.
- Instale um disjuntor eléctrico que cumpra as especificações fornecidas no manual de instalação e as condições nas leis e regulamentos locais.
- Instale o disjuntor eléctrico num local de fácil acesso ao agente.
- Quando instalar um disjuntor eléctrico no exterior, instale um disjuntor concebido para utilizar no exterior.
- Não deve estender o cabo de alimentação em nenhuma circunstância. O problema da ligação em locais em que o cabo é ampliado pode originar fumo e/ou um incêndio.
- O trabalho de ligação de cabos e fios eléctricos deve ser feito em conformidade com as leis e regulamentos da comunidade em questão e com o manual de instalação.
  Se assim não for, o resultado pode ser electrocussão ou curto-circuito.

**Teste de funcionamento**

- Antes de utilizar o ar condicionado após a conclusão do trabalho, verifique se a tampa da caixa de controlo eléctrico da unidade interior e o painel de serviço da unidade exterior estão fechados e, em seguida, coloque o disjuntor de circuito na posição ON. Pode sofrer um choque eléctrico se ligar a corrente eléctrica sem efectuar primeiro estas verificações.
- Quando detectar algum tipo de problema (como, por exemplo, quando aparecer uma indicação de erro, cheiro a queimado, sons anormais, o ar condicionado não arrefecer ou aquecer, ou existir uma fuga de água) no aparelho de ar condicionado, não toque no ar condicionado, mas coloque o disjuntor eléctrico na posição desligada (OFF) e contacte um técnico de assistência qualificado. Tome as medidas necessárias para garantir que a corrente eléctrica não será ligada (através da colocação do aviso "fora de serviço" junto ao disjuntor de serviço, por exemplo) até chegar o técnico de assistência qualificado. Se continuar a utilizar o ar condicionado com problemas, pode aumentar a ocorrência de problemas mecânicos e provocar choques eléctricos ou outros problemas.
- Terminados os trabalhos, utilize um aparelho de testes de isolamento (megaohmímetro de 500V) para assegurar que a resistência é de 1 MΩ ou mais entre a secção de carga e a secção metálica sem carga (secção de terra). Se o valor da resistência for baixo, ocorre uma fuga ou um choque eléctrico no lado do utilizador.
- Depois de concluir o trabalho de instalação, verifique se existem fugas de refrigerante, a resistência do isolamento e a drenagem de água. Realize um teste para verificar se o ar condicionado está a funcionar correctamente.

**Explicações fornecidas ao utilizador**

- Depois de concluir o trabalho de instalação, indique o local de instalação do disjuntor eléctrico ao utilizador. Se o utilizador não souber a localização do disjuntor eléctrico, não será capaz de o desligar no caso de ocorrer um problema no ar condicionado.
- Se a grelha da ventoinha estiver danificada, não se aproxime da unidade exterior, mas coloque o disjuntor na posição desligada (OFF) e contacte um técnico de assistência qualificado(*1) para proceder à reparação. Não coloque o disjuntor eléctrico na posição ON até ao fim das reparações.



- Depois de concluir o trabalho de instalação, utilize o Manual do Proprietário para explicar ao cliente como utilizar e manter a unidade.

**Mudança**

- Apenas um instalador qualificado(*1) ou um técnico de assistência qualificado(*1) pode mudar o ar condicionado. É perigoso o ar condicionado ser mudado por uma pessoa não qualificada porque pode ocorrer um incêndio, choques eléctricos, lesões, fugas de água, ruídos e/ou vibrações.
- Quando efectuar o trabalho de bombagem, encerre o compressor antes de desligar o tubo de refrigerante. Se desconectar o tubo do refrigerante com a válvula de serviço ainda aberta e o compressor ainda em funcionamento, faz com que o ar ou outros gases sejam aspirados, aumentando a pressão interna do ciclo de refrigeração para um nível anormalmente elevado, podendo causar a ruptura, lesões ou outros problemas.

## ⚠ PRECAUÇÃO

**Este aparelho de ar condicionado adotou um refrigerante HFC (R32) que não destrói a camada de ozono.**

- Dado que o refrigerante R32 é facilmente suscetível a impurezas como humidade, membranas oxidadas, óleos, etc., devido à alta pressão, tenha o cuidado de não permitir que a humidade, sujidade, refrigerante existente, óleo de refrigeração, etc. se misturem no ciclo de refrigeração durante os trabalhos de instalação.
- Para a instalação, é necessária a utilização de uma ferramenta especial para o refrigerante R32.
- Utilize materiais de tubagem novos e limpos para o tubo de ligação
  de forma a que a humidade e a sujidade não se misturem com o trabalho de instalação.
- Ao utilizar os tubos existentes, siga o manual de instalação incluído na unidade exterior.

(*1) Consulte a "Definição de Instalador Qualificado ou de Técnico de Assistência Qualificado".

Hartelijk dank voor uw aankoop van deze Toshiba-airconditioner.
Lees deze instructies zorgvuldig. Ze bevatten informatie die voldoet aan de richtlijn voor Machines (Directive 2006/42/EC). Zorg dat u de instructies begrijpt.
Geef na het installeren deze Installatiehandleiding en tevens de bijgeleverde Gebruiksaanwijzing aan de klant/gebruiker en vraag hem/haar de documentatie ter referentie op een veilige plaats te bewaren.

**Algemene beschrijving: Airconditioner**

**Definitie van bevoegd installateur of bevoegd onderhoudsmonteur**
De airconditioner moet worden geïnstalleerd, onderhouden, gerepareerd en uiteindelijk weggedaan door een bevoegd installateur of bevoegd onderhoudsmonteur. Wanneer een van deze taken verricht moet worden, verzoekt u dan een bevoegd installateur of bevoegd onderhoudsmonteur om dit voor u te doen.
Een bevoegd installateur of bevoegd onderhoudsmonteur is een persoon die beschikt over de kennis en bevoegdheden die staan vermeld in de volgende tabel.

| Persoon | Kennis en bevoegdheden waarover de persoon moet beschikken |
|---|---|
| Bevoegd installateur | • De bevoegde installateur is een persoon die door Toshiba Carrier Corporation gemaakte airconditioners installeert, onderhoudt, verplaatst en verwijderd. Hij of zij is opgeleid om door Toshiba Carrier Corporation gemaakte airconditioners te installeren, onderhouden, verplaatsen en te verwijderen. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor deze taken.<br>• De bevoegde installateur die bevoegd is om het elektrische gedeelte van de installatie, verplaatsing en verwijdering op zich te nemen beschikt over de kwalificaties voor deze elektrische werkzaamheden zoals voorzien in plaatselijke wetten en regelgeving. Deze persoon is opgeleid voor werkzaamheden aan het elektrische systeem van de airconditioners gemaakt door Toshiba Carrier Corporation. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor dit soort werk.<br>• De bevoegde installateur die bevoegd is om het koel- en leidingenwerk van de installatie, verplaatsing en verwijdering op zich te nemen beschikt over de kwalificaties voor deze koel- en leidingenwerkzaamheden zoals voorzien in plaatselijke wetten en regelgeving. Deze persoon is opgeleid voor koel- en leidingenwerkzaamheden aan de airconditioners gemaakt door Toshiba Carrier Corporation. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor dit soort werk.<br>• De bevoegde installateur die bevoegd is om op hoogte te werken is opgeleid om op hoogten te werken met airconditioners gemaakt door Toshiba Carrier Corporation. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor dit soort werk |
| Bevoegd onderhouds-monteur | • De bevoegde onderhoudspersoon is een persoon die door Toshiba Carrier Corporation gemaakte airconditioners installeert, repareert, onderhoudt, verplaatst en verwijderd. Hij of zij is opgeleid om door Toshiba Carrier Corporation gemaakte airconditioners te installeren, repareren, onderhouden, verplaatsen en te verwijderen. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor deze taken.<br>• De bevoegde onderhoudspersoon die bevoegd is om het elektrische gedeelte van de installatie, reparatie, verplaatsing en verwijdering op zich te nemen beschikt over de kwalificaties voor deze elektrische werkzaamheden zoals voorzien in plaatselijke wetten en regelgeving. Deze persoon is opgeleid voor werkzaamheden aan het elektrische systeem van de airconditioners gemaakt door Toshiba Carrier Corporation. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor dit soort werk.<br>• De bevoegde installateur die bevoegd is om het koel- en leidingenwerk van de installatie, reparatie, verplaatsing en verwijdering op zich te nemen beschikt over de kwalificaties voor deze koel- en leidingenwerkzaamheden zoals voorzien in plaatselijke wetten en regelgeving. Deze persoon is opgeleid voor koel- en leidingenwerkzaamheden aan de airconditioners gemaakt door Toshiba Carrier Corporation. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor dit soort werk.<br>• De bevoegde onderhoudspersoon die bevoegd is om op hoogte te werken is opgeleid om op hoogten te werken met airconditioners gemaakt door Toshiba Carrier Corporation. Deze persoon kan ook iemand zijn die in dergelijke taken is geïnstrueerd door een persoon of personen die zijn opgeleid en is dus goed op de hoogte van de kennis voor dit soort werk. |





**Definitie van beschermende kleding**
Wanneer de airconditioner wordt vervoerd, geïnstalleerd, onderhouden, gerepareerd of verwijderd, draag beschermende handschoenen en veiligheidswerkkleding.
Draag naast dergelijke normale beschermende kleding de hieronder beschreven beschermende uitrusting bij het uitvoeren van speciale taken zoals aangegeven in de volgende tabel.
Niet dragen van de juiste beschermende uitrusting is gevaarlijk omdat u dan meer blootstaat aan letsel, brandwonden, elektrische schokken en andere verwondingen.

| Te verrichten werkzaamheden | Beschermende kleding |
|---|---|
| Alle soorten werk | Werkhandschoenen<br>Veiligheidswerkkleding |
| Elektrische werkzaamheden | Handschoenen die bescherming bieden tegen hitte en elektriciteit<br>Isolerende schoenen<br>Beschermende kleding tegen elektrische schokken |
| Werk uitgevoerd op hoogte (50 cm of meer) | Veiligheidshelm voor industrieel gebruik |
| Vervoer van zware voorwerpen | Schoenen met verstevigde neuzen |
| Reparatie van buiteneenheden | Handschoenen die bescherming bieden tegen hitte en elektriciteit |

Deze veiligheidsvoorschriften betreffen belangrijke maatregelen met betrekking tot veiligheid om letsels bij gebruikers en anderen en schade aan eigendommen te voorkomen. Zorg ervoor dat u de onderstaande informatie (betekenis van aanduidingen) begrijpt voor u deze handleiding leest en volg altijd de beschrijvingen.

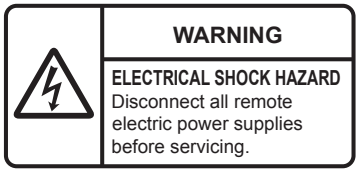
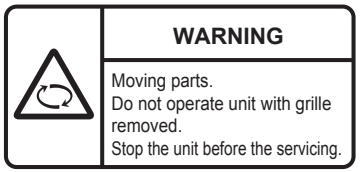
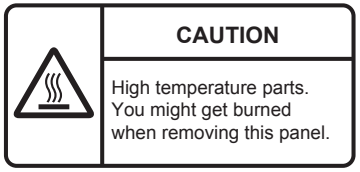
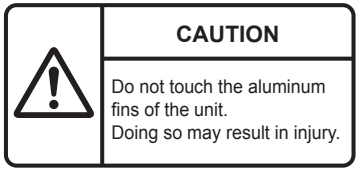
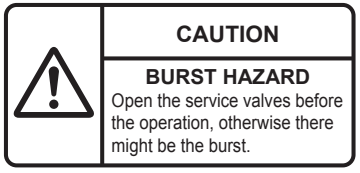
| Aanduiding | Betekenis van de aanduiding |
|---|---|
| ⚠ WAARSCHUWING | Als u de richtlijnen in teksten die op deze manier worden aangeduid niet in acht neemt, kan dit leiden tot ernstige letsels (*1) of de dood als het product foutief wordt gebruikt. |
| ⚠ VOORZICHTIG | Als u de richtlijnen in teksten die op deze manier worden aangeduid niet in acht neemt, kan dit leiden tot geringe letsels (*2) of schade (*3) aan eigendommen als het product foutief wordt gebruikt. |

*1: Ernstige letsels zijn onder meer blindheid, verwondingen, brandwonden, elektrische schokken, botbreuk, vergiftiging en andere letsels die blijvende gevolgen hebben en hospitalisatie of een langdurige behandeling buiten het ziekenhuis vereisen.
*2: Geringe letsels zijn onder meer verwondingen, brandwonden, elektrische schokken en andere letsels die geen hospitalisatie of een langdurige behandeling buiten het ziekenhuis vereisen.
*3: Schade aan eigendommen betekent onder meer schade aan gebouwen, voorwerpen in huis, levende have in huis en huisdieren.

**BETEKENIS VAN SYMBOLEN WEERGEGEVEN OP DE UNIT**

| | | |
|---|---|---|
|  | **WAARSCHUWING** (gevaar voor brand) | Deze markering is alleen van toepassing voor R32-koelmiddel. Het koelmiddeltype staat vermeld op het naamplaatje van de buitenunit.<br>Als het koelmiddeltype R32 is, maakt dit apparaat gebruik van een ontvlambaar koelmiddel.<br>Als er koelmiddel lekt en in contact komt met vuur of een verwarmingsonderdeel, ontstaat er giftig gas en is er brandgevaar. |
|  | Lees de GEBRUIKSAANWIJZING grondig voor u het apparaat in gebruik neemt. | |
|  | Onderhoudsmonteurs moeten de GEBRUIKSAANWIJZING en de INSTALLATIEHANDLEIDING lezen vóór bediening. | |
|  | Meer informatie vindt u in de GEBRUIKSAANWIJZING, INSTALLATIEHANDLEIDING enz. | |

## ■ Waarschuwingsaanduidingen op de airconditioner

| Waarschuwingsaanduiding | Desa Beschrijving cription |
|---|---|
|  | **WAARSCHUWING**<br><br>**GEVAAR VOOR ELEKTRISCHE SCHOK**<br>Verbreek alle externe stroomvoorzieningsaansluitingen alvorens enig onderhoud te verrichten. |
|  | **WAARSCHUWING**<br><br>Bewegende delen.<br>Schakel het apparaat niet in wanneer het voorrooster is verwijderd.<br>Stop de werking van het apparaat alvorens enig onderhoud te verrichten. |
|  | **VOORZICHTIG**<br><br>Delen met hoge temperaturen.<br>Bij het verwijderen van dit paneel is bestaan de kans dat u zich brandt. |
|  | **VOORZICHTIG**<br><br>De aluminium vinnen van de unit niet aanraken. Dat zou tot ernstige verwondingen kunnen leiden. |
|  | **VOORZICHTIG**<br><br>**GEVAAR VOOR UITBARSTING**<br>Open voor enige ingreep eerst de veiligheidskleppen, anders kan er een uitbarsting volgen. |



# 1 Voorzorgen voor de veiligheid

De fabrikant is niet aansprakelijk voor schade ten gevolge van het niet opvolgen van aanwijzingen in deze handleiding.

## ⚠ WAARSCHUWING

### Algemeen

- Alvorens u begint met het installeren van de airconditioner, moet u de installatiehandleiding aandachtig doorlezen. Volg beslist alle gegeven aanwijzingen voor het installeren van de airconditioner op.
- Het installeren mag alleen door een gekwalifi ceerde installateur of onderhoudsmonteur worden uitgevoerd. Een foute installatie resulteert mogelijk in waterlekkage, elektrische schokken of brand
- Gebruik voor het bijvullen of vervangen geen ander koelmiddel dan het gespecifi ceerde middel. Er wordt anders namelijk mogelijk abnormale hoge druk in de koelcyclus opgebouwd met een onjuiste werking, ontploffi ng of lichamelijk letsel als gevolg.
- Voordat u het inlaatrooster van de binneneenheid of het onderhoudspaneel van de buiteneenheid opent, zet u eerst de stroomonderbreker in de OFF-stand. Als u verzuimt de stroomonderbreker in de OFF-stand te zetten, loopt u de kans op een elektrische schok bij aanraken van de inwendige onderdelen. Alleen een bevoegd installateur(*1) of een bevoegd onderhoudsmonteur(*1) mag het inlaatrooster van de binneneenheid of het onderhoudspaneel van de buiteneenheid verwijderen en het vereiste werk verrichten.
- Alvorens u begint met installeren, onderhoud, reparaties of het verwijderen, zet u eerst de circuitonderbreker in de OFF-stand. Anders loopt u de kans een elektrische schok te krijg en.
- Plaats een bordje “werk in uitvoering” bij de stroomonderbreker tijdens het installeren, onderhoud, reparatiewerk of werk voor afdanken van het apparaat. Als iemand per vergissing de stroomonderbreker in de ON-stand zet, loopt u de kans een elektrische schok te krijgen
- Alleen een bevoegd installateur(*1) of een bevoegd onderhoudsmonteur(*1) mag werkzaamheden op hoogte verrichten met een trapje van 50 cm of meer, of het inlaatrooster van de binneneenheid verwijderen om daarbinnen werk te verrichten.
- Draag tijdens het installeren, onderhoud en afdanken van het apparaat altijd werkhandschoenen en veiligheidskleding.

- De aluminium vin van de unit niet aanraken. Anders zou u zich er aan kunnen verwonden. Als het nodig is de koelvin aan te raken, trekt u eerst werkhandschoenen en beschermende kleding aan en begint u dan pas met het werk.
- •Plaats nooit voorwerpen op de buiteneenheid en klim er niet bovenop. U zou er af kunnen vallen of een voorwerp kan van de buiteneenheid af vallen en letsel veroorzaken.
- Gebruik voor het werken op hoogte een ladder die voldoet aan de ISO 14122-norm en volg de aanwijzingen in de handleiding van de ladder. Draag tevens een helm voor industrieel gebruik ter bescherming voordat u aan het werk gaat.
- Voor schoonmaken van het fi lter of andere onderdelen van de buiteneenheid zet u altijd eerst de stroomonderbreker in de OFF-stand en plaatst u een bordje “werk in uitvoering” bij de stroomonderbreker voordat u aan het werk gaat.
- Bij het werken op hoogte dient u voordat u start een waarschuwingsbord te plaatsen zodat niemand uw werkplek te dicht nadert. Anders zouden voorbijgangers gewond kunnen raken door vallende onderdelen en andere voorwerpen. Draag tijdens het uitvoeren een helm ter bescherming tegen mogelijk vallende onderdelen.
- Gebruik geen ander koelmiddel dan R32.
  Controleer voor het koelmiddeltype de te combineren buitenunit.
- Volg naar de buitenunit voor het koelmiddel gebruikt door deze airconditioner.
- De airconditioner moet stabiel worden getransporteerd. Neem direct contact op met de plaats van aankoop indien onderdelen beschadigd zijn.
- Draag de airconditioner altijd met minimaal 2 personen indien deze met de hand moet worden verplaatst.
- Verplaats of herstel het apparaat niet zelf. De binnenkant van de unit staat onder hoge spanning. U kunt bij het verwijderen van het deksel en de hoofdunit een elektrische schok krijgen.
- Dit apparaat is bedoeld voor gebruik door deskundige of ervaren gebruikers in winkels, in de lichte industrie of voor commercieel gebruik door een leek.



**Keuze van de installatieplaats**

- Indien de airconditioner in een kleine ruimte wordt geplaatst, neem dan maatregelen om te verzekeren dat lekkend koelmiddel in de ruimte niet de limiet kan overschrijden.
- Installeer niet op plaatsen waar ontvlambaar gas kan lekken. Lekkend gas zou namelijk rond de unit op kunnen hopen, worden ontstoken en brand veroorzaken.
- Bij het vervoeren van de airconditioner dient u schoeisel met verstevigde neuzen te dragen.
- Bij het vervoeren van de airconditioner mag u die niet optillen aan de banden rond de verpakkingsdoos. Als de banden zouden breken, loopt u de kans op verwondingen.
- Installeer de binneneenheid tenminste 2,5 m boven de vloer, anders zouden gebruikers letsel of een elektrische schok kunnen oplopen als ze hun vingers of iets anders in de binneneenheid steken terwijl de airconditioner werkt.
- Zet geen verbrandingsapparaat op een plaats waar het in de directe luchtstroom van de airconditioner staat, anders kan er onvolledige verbranding plaatsvinden.

**Installeren**

- Wanneer de binneneenheid moet worden opgehangen, gebruikt u de daarvoor bestemde ophangbouten (M10 of W3/8) en moeren (M10 of W3/8).
- Installeer de airconditioner goed op een plaats die stevig genoeg voor het gewicht van de unit is. Als het ophangpunt niet stevig genoeg is, kan het apparaat vallen, hetgeen letsel kan veroorzaken.Bij het installeren van de airconditioner volgt u de aanwijzingen in de installatiehandleiding. De unit zou kunnen vallen, kantelen of extra ruis, trillingen, waterlekkage en andere problemen veroorzaken indien u deze aanwijzingen niet opvolgt.
- Voer de vereiste installatie-werkzaamheden uit ter bescherming tegen wind, storm en aardbevingen. De airconditioner kan vallen en ernstige ongelukken veroorzaken indien deze fout is geïnstalleerd.

- Ventileer de ruimte direct indien er tijdens het installeren koelmiddel lekt. Indien lekkend koelmiddel in contact met vuur komt, komt mogelijk giftig gas vrij.
- Gebruik een vorkheftruck voor het verplaatsen van de airconditioner-units en een takel of dergelijk geschikt voorwerp voor het installeren.

**Koelmiddelleiding**

- Monteer tijdens de installatiewerkzaamheden de koelmiddelleiding nauwkeurig voordat de airconditioner wordt bediend. Als de compressor wordt bediend met de klep open en zonder koelmiddelbuis, zuigt de compressor lucht aan en ontstaat er overdruk in het koelsysteem, hetgeen kan leiden tot verwondingen.
- Draai de fl ensmoer met een momentsleutel aan op de voorgeschreven manier. Als de fl ensmoer al te krachtig wordt aangedraaid, kan de moer een tijd later barsten, waardoor koelmiddel kan gaan lekken.
- Controleer na het installeren dat er geen koelmiddel lekt. Wanneer ontsnapt gasvormig koelmiddel in de buurt of in contact komt met open vuur, zoals bij een gasfornuis, kunnen giftige gassen worden gevormd.
- Na het installeren of verplaatsen van de airconditioner volgt u de aanwijzingen in de installatiehandleiding voor het volledig ontluchten van de leidingen, zodat er in het koelsysteem geen ander gas overblijft dan alleen het koelmiddel. Bij onvolledig ontluchten kan de airconditioner niet goed functioneren.
- Gebruik stikstofgas voor de test op luchtdichtheid.
- De oplaadslang moet zo worden aangesloten dat deze niet slap hangt.

**Elektrische bedrading**

- Alleen een bevoegd installateur(*1) of een bevoegd onderhoudsmonteur(*1) mag elektrische werkzaamheden aan de airconditioner verrichten. Onder geen voorwaarde mag dit werk worden verricht door een onbevoegde, aangezien fouten of vergissingen kunnen leiden tot elektrische schokken en/of kortsluiting of lekstroom.



- Bij het aansluiten van de stroomdraden, het repareren van elektrische onderdelen of het verrichten van andere elektrische werkzaamheden dient u handschoenen ter bescherming tegen hitte en isolerend schoeisel en beschermende kleding ter bescherming tegen elektrische schokken te dragen. Als u dergelijke beschermende kleding niet draagt, loopt u de kans op elektrische schokken.
- Gebruik bedrading die voldoet aan de specifi caties in de installatiehandleiding en de ter plaatse geldende voorschriften en wetten. Het gebruik van bedrading die niet voldoet aan de specifi caties kan resulteren in elektrische schokken, kortsluiting en lekstroom, rookontwikkeling en/of brandgevaar.
- Verbind een aardedraad. (aardaansluitingen) Onvolledige aarding kan elektrische schokken veroorzaken.
- Sluit aardedraden niet aan op gasleidingen, waterleidingen, bliksemafl eiders of aardkabels voor telefoons.
- Na het voltooien van de verplaatsing of het reparatiewerk dient u te controleren of de aardleidingen naar behoren zijn aangesloten.
- Installeer een stroomonderbreker die voldoet aan de specificaties in de installatiehandleiding en de ter plaatse geldende voorschriften en wetten.
- Installeer de stroomonderbreker op een plaats waar die goed toegankelijk is voor de gebruiker.
- Als u de circuitonderbreker buitenshuis aanbrengt, let dan goed op dat het een specifi ek voor buitengebruik geschikt type is.
- Onder geen voorwaarde mag het netsnoer worden verlengd. Aansluitproblemen op een plaats waar het netsnoer is verlengd kunnen leiden tot rookontwikkeling en/of brandgevaar.
- Werkzaamheden met elektrische bedrading moeten altijd worden uitgevoerd in overeenstemming met de plaatselijke regelgeving, wetten en de installatiehandleiding. Doet u dit niet, dan kan dat leiden tot elektrocutie of kortsluiting.

**Testen**

- Nadat u de werkzaamheden hebt voltooid dient u voor het inschakelen van de airconditioner eerst te controleren of de afdekking van de elektrabox van de binnenunit en het onderhoudspaneel van de buitenunit zijn gesloten en de circuitonderbreker op ON (in de AAN-stand) is gezet. Als u de stroom inschakelt zonder eerst deze punten te controleren, kunt u een elektrische schok krijgen.
- Indien er iets mis is met de airconditioner (wanneer u een foutmelding ziet of een brandlucht ruikt, vreemde geluiden hoort of wanneer de airconditioner niet koelt of verwarmt, of wanneer er water uit lekt), raak dan de airconditioner niet aan maar zet de circuitonderbreker in de UIT-stand en neem contact op met een bevoegd onderhoudsmonteur. Neem de nodige maatregelen om te voorkomen dat het apparaat wordt ingeschakeld (schrijf bijvoorbeeld “defect” dichtbij de stroomonderbreker e.d.) totdat de bevoegde onderhoudsmonteur arriveert. Het voortzetten van het gebruik van de airconditioner terwijl er iets mis mee is, kan leiden tot ernstige mechanische defecten, elektrische schokken en andere problemen
- Gebruik na beëindiging van het werk een isolatietester (500V Megger) om te controleren of de weerstand 1 MΩ of meer is tussen het stroomgedeelte en het metalen niet-stroomgedeelte (aardingsgedeelte). Als de weerstandswaarde te gering is, kan er kortsluiting, lekstroom of een elektrische schok optreden aan de gebruikerskant.
- Na voltooiing van het installatiewerk controleert u of er geen koelmiddel lekt, of de waterafvoer in orde is en controleert u de weerstand van de isolatie. Vervolgens laat u de airconditioner proefdraaien, om te zien of het apparaat goed werkt.

**Uitleg aan de gebruiker**

- Na voltooiing van het installatiewerk vertelt u de gebruiker waar de stroomonderbreker zich bevindt. Als de gebruiker niet weet waar de stroomonderbreker zit, kan hij of zij de airconditioner niet uitschakelen wanneer er zich een storing voordoet in de werking.



- Indien het ventilatorrooster is beschadigd, raak dan de buitenunit niet aan maar zet de circuitonderbreker in de UIT-stand en verzoek een bevoegd onderhoudsmonteur(*1) om reparatie. Zet de stroomonderbreker niet terug in de ON-stand totdat alle vereiste reparaties zijn voltooid.
- Na voltooiing van het installatiewerk vertelt u aan de hand van de gebruikershandleiding de gebruiker hoe het apparaat te bedienen en te onderhouden.

**Elders opstellen**

- Alleen een bevoegd installateur(*1) of een bevoegd onderhoudsmonteur(*1) mag de airconditioner verplaatsen. Het is gevaarlijk als een onbevoegde de airconditioner verplaatst, aangezien dat kan leiden tot gevaar voor brand, elektrische schokken, verwondingen, waterlekkage, bijgeluiden en/of trillingen.
- Bij uitvoeren van werkzaamheden wanneer de pomp gestopt is, schakelt u eerst de compressor uit voordat u de koelmiddelbuis losmaakt. Wanneer u de koelmiddelleiding loskoppelt met de onderhoudsklep open en de compressor in bedrijf, wordt lucht en gas opgezogen waardoor de druk binnen de koelcyclus te hoog oploopt, wat mogelijk kan leiden tot barsten, letsel of andere problemen.

## ⚠ VOORZICHTIG

**In deze airconditioner wordt HFC-koelmiddel (R32) gebruikt. Dit koelmiddel beschadigt de ozonlaag niet.**

- Aangezien het R32-koelmiddel gemakkelijk verontreinigd raakt door vocht, een geoxideerde fi lmlaag, olie, enz. door de hoge druk, moet u erop letten dat er geen vocht, vuil, oud koelmiddel, koelmachineolie, enz. in de koelcyclus terechtkomt tijdens de installatiewerkzaamheden.
- Voor de installatie is speciaal gereedschap voor R32-koelmiddel vereist.
- Gebruik nieuw en schoon leidingmateriaal voor de aansluitingsleiding zodat er geen vocht en vuil in terechtkomt tijdens de installatiewerkzaamheden.
- Wanneer u bestaande leidingen gebruikt, volg dan de installatiehandleiding die bij de buitenunit wordt geleverd.

(*1) Zie de “Defi nitie van bevoegd installateur of bevoegd onderhoudsmonteur”.

Σας ευχαριστούμε για την αγορά αυτού του κλιμαηστικού Toshiba.
Δοβάστε προσεκτικά συτές Τις οδηγίες που περιλαμβάνουν σημαντικές πληροφορίες που συμμορφνονται με την Οδηγα σχετικά με τα μηχανήματα (Directve 2006/42/EC) και βεβαωθυπ ότι ης κατανοείτε.
Μετά την ολοκλήρωση της εργασίας εγκατάστασης, παραδώστε το παρόν Εγχειρίδιο Εγκατάστασης καθώς και το παρεχόμενο Εγχειρίδιο Κατόχου στο χρήστη, και υποδείξτε στο χρήστη να το διατηρεί σε ασφαλές σημείο για μελλοντική παραπομπή.

**Γενικός Χαρακτηρισμός: Κλιματιστική μονάδα**

**Ορισμός Εξειδικευμένου Εγκοταστάτη ή Εξειδικευμένου Τεχνικού Σέρβις**
Απαιτείται εγκατάσταση, συντήρηση, επισκευή και απόρριψη του κλιματιστικού από εξειδικευμένο εγκοταστάτη ή εξειδικευμένο τεχνικό σέρβις. Οταν απαιτείται εκτέλεση οποιοσδήποτε από τις συγκεκριμένες εργασίες, αναθέστε την εκτέλεσή της σε εξειδικευμένο εγκαταστάτη ή εξειδικευμένο τεχνικό σέρβις.
Ο εξειδικευμένος εγκαταστάτης ή εξειδικευμένος τεχνικός είναι εκπρόσωπος ο οποίος διαθέτει τα προσόντα και τις γνώσεις που περιγράφονται στον παρακάτω πίνακα.

| Αντιπρόσωπος | Προσόντα και γνώσεις τα οποία απαιτείται να διαθέτει ο αντιπρόσωπος |
|---|---|
| Εξειδικευμένος εγκαταστάτης | • Ο εξειδικευμένος εγκαταστάτης είναι ένα άτομο που πραγματοποιεί εργασίες εγκατάστασης, συντήρησης, αλλαγής θέσης και αφαίρεσης των κλιματιστικών που κατασκευάζει η Toshiba Carrier Corporation. Το άτομο αυτό έχει εκπαιδευτεί στην εγκατάσταση, συντήρηση, αλλαγή θέσης και αφαίρεση των κλιματιστικών που κατασκευάζει η Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και είναι επομένως πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες.<br>• Ο εξειδικευμένος εγκαταστάτης που επιτρέπεται να κάνει τις ηλεκτρικές εργασίες που σχετίζονται με την εγκατάσταση, αλλαγή θέσης και αφαίρεση, διαθέτει τα προσόντα που σχετίζονται με αυτές τις ηλεκτρικές εργασίες όπως ορίζεται από τους τοπικούς νόμους και κανονισμούς, και είναι άτομο που έχει εκπαιδευτεί σε θέματα που σχετίζονται με τις ηλεκτρικές εργασίες σε κλιματιστικά που κατασκευάζονται από την Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και, επομένως, είναι πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες.<br>• Ο εξειδικευμένος εγκαταστάτης που επιτρέπεται να χειρίζεται το ψυκτικό και να εκτελεί τις εργασίες σωλήνωσης που σχετίζονται με την εγκατάσταση, αλλαγή θέσης και αφαίρεση, διαθέτει τα προσόντα που σχετίζονται με αυτές τις εργασίες χειρισμού του ψυκτικού και τις εργασίες σωλήνωσης όπως ορίζεται από τους τοπικούς νόμους και κανονισμούς, και είναι άτομο που έχει εκπαιδευτεί σε θέματα που σχετίζονται με τις εργασίες χειρισμού του ψυκτικού και τις εργασίες σωλήνωσης σε κλιματιστικά που κατασκευάζονται από την Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και, επομένως, είναι πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες.<br>• Ο εξειδικευμένος εγκαταστάτης που επιτρέπεται να εργάζεται σε ύψη έχει εκπαιδευτεί σε θέματα που σχετίζονται με τις εργασίες σε ύψη με κλιματιστικά που κατασκευάζονται από την Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και, επομένως, είναι πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες. |
| Εξειδικευμένος τεχνικός σέρβις | • Ο εξειδικευμένος τεχνικός επισκευών είναι ένα άτομο που πραγματοποιεί εργασίες εγκατάστασης, επισκευής, συντήρησης, αλλαγής θέσης και αφαίρεσης των κλιματιστικών που κατασκευάζει η Toshiba Carrier Corporation. Το άτομο αυτό έχει εκπαιδευτεί στην εγκατάσταση, επισκευή, συντήρηση, αλλαγή θέσης και αφαίρεση των κλιματιστικών που κατασκευάζει η Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και είναι επομένως πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες.<br>• Ο εξειδικευμένος τεχνικός επισκευών που επιτρέπεται να κάνει τις ηλεκτρικές εργασίες που σχετίζονται με την εγκατάσταση, επισκευή, αλλαγή θέσης και αφαίρεση, διαθέτει τα προσόντα που σχετίζονται με αυτές τις ηλεκτρικές εργασίες όπως ορίζεται από τους τοπικούς νόμους και κανονισμούς, και είναι άτομο που έχει εκπαιδευτεί σε θέματα που σχετίζονται με τις ηλεκτρικές εργασίες σε κλιματιστικά που κατασκευάζονται από την Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και, επομένως, είναι πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες.<br>• Ο εξειδικευμένος τεχνικός επισκευών που επιτρέπεται να χειρίζεται το ψυκτικό και να εκτελεί τις εργασίες σωλήνωσης που σχετίζονται με την εγκατάσταση, επισκευή, αλλαγή θέσης και αφαίρεση, διαθέτει τα προσόντα που σχετίζονται με αυτές τις εργασίες χειρισμού του ψυκτικού και τις εργασίες σωλήνωσης όπως ορίζεται από τους τοπικούς νόμους και κανονισμούς, και είναι άτομο που έχει εκπαιδευτεί σε θέματα που σχετίζονται με τις εργασίες χειρισμού του ψυκτικού και τις εργασίες σωλήνωσης σε κλιματιστικά που κατασκευάζονται από την Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και, επομένως, είναι πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες.<br>• Ο εξειδικευμένος τεχνικός επισκευών που επιτρέπεται να εργάζεται σε ύψη έχει εκπαιδευτεί σε θέματα που σχετίζονται με τις εργασίες σε ύψη με κλιματιστικά που κατασκευάζονται από την Toshiba Carrier Corporation ή, εναλλακτικά, έχει διδαχθεί αυτές τις εργασίες από άτομα που έχουν εκπαιδευτεί και, επομένως, είναι πλήρως εξοικειωμένος με τις γνώσεις που σχετίζονται με αυτές τις εργασίες. |



**Ορισμός εξοπλισμού προστασίας**
Όταν πραγματοποιείται μεταφορά, εγκατάσταση, συντήρηση, επισκευή ή αφαίρεση του κλιματιστικού, να φοράτε προστατευτικά γάντια και ρουχισμό εργασίας ασφαλείας'.
Επιπλέον του συνήθους εξοπλισμού προστασίας, να φοράτε τον εξοπλισμό προστασίας που περιγράφεται παρακάτω κατά την ανάληψη των ειδικών εργασιών που αναφέρονται αναλυτικά στον παρακάτω πίνακα.
Αν παραλείψετε να φορέσετε το σωστό προστατευτικό εξοπλισμό, θέτετε τον εαυτό σας σε κίνδυνο καθώς θα είστε πιο ευάλωτοι σε τραυματισμούς, εγκαύματα, ηλεκτροπληξίες και άλλους τραυματισμούς.

| ΕΚΤελούμενη εργασία | Χρήση εξοπλισμού προστασίας |
|---|---|
| Κάθε τύπος εργασίας | Γάντια προστασίας<br>Ρουχισμός εργασίας 'ασφαλείας' |
| ου ορί | Γάντια προστασίας από ηλεκτροπληξία και θερμότητα<br>Μονωμένα παπούτσια<br>Ρουχισμός που παρέχει προστασία από ηλεκτροπληξία |
| Εργασία σε ύψη (50 cm ή περισσότερο) | Κράνη βιομηχανικής χρήσης |
| Μεταφορά βαρέων αντικειμένων | Υποδήματα με πρόσθετη προστασία των άκρων των ποδιών |
| Επισκευή εξωτερικής μονάδας | Γάντια προστασίας από ηλεκτροπληξία και θερμότητα |

Οι παρούσες προφυλάξεις ασφαλείας περιγράφουν σημαντικά ζητήματα για την αποτροπή τραυματισμών χρηστών ή άλλων ατόμων και υλικών ζημιών. Διαβάστε προσεκτικά το παρόν εγχειρίδιο αφού κατανοήσετε το παρακάτω περιεχόμενο (σημασία των ενδείξεων) και τηρήστε τις περιγραφές.

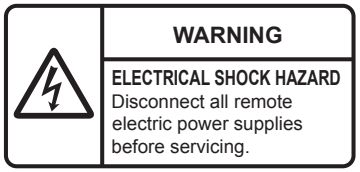
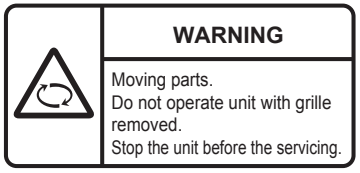
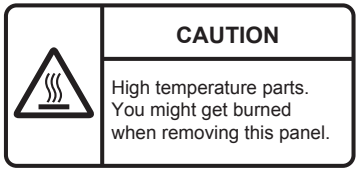
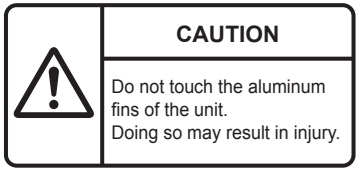
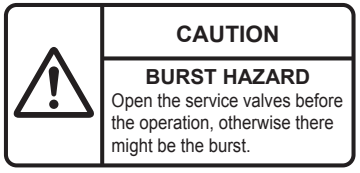
| Ένδειξη | Σημασία ένδειξης |
|---|---|
| ⚠ ΠΡΟΕΙΔΟΠΟΙΗΣΗ | Το κείμενο που ορίζεται με αυτόν τον τρόπο υποδεικνύει ότι η αποτυχία τήρησης των οδηγιών της προειδοποίησης ενδέχεται να προκαλέσει σοβαρή σωματική βλάβη (*1) ή απώλεια της ζωής σε περίπτωση ακατάλληλης χρήσης του προϊόντος. |
| ⚠ ΠΡΟΣΟΧΗ | Το κείμενο που ορίζεται με αυτόν τον τρόπο υποδεικνύει ότι η αποτυχία τήρησης της οδηγίας προσοχής ενδέχεται να προκαλέσει ελαφριά σωματική βλάβη (*2) ή υλική ζημιά (*3) σε περίπτωση ακατάλληλης χρήσης του προϊόντος. |

*1: Η σοβαρή σωματική βλάβη υποδηλώνει απώλεια όρασης, τραυματισμό, εγκαύματα, ηλεκτροπληξία, κάταγμα, δηλητηρίαση και άλλες σωματικές βλάβες οι οποίες έχουν μετέπειτα επιπτώσεις και για τις οποίες απαιτείται νοσηλεία ή μακροχρόνια εξωνοσοκομειακή περίθαλψη.
*2: Η ελαφριά σωματική βλάβη υποδηλώνει τραυματισμό, εγκαύματα, ηλεκτροπληξία και άλλες σωματικές βλάβες για τις οποίες δεν απαιτείται νοσηλεία ή μακροχρόνια εξωνοσοκομειακή περίθαλψη.
*3: Η υλική ζημιά υποδηλώνει ζημιά σε κτήρια, οικοσκευές, οικόσιτα ζώα και κατοικίδια.

**ΣΗΜΑΣΙΕΣ ΤΩΝ ΣΥΜΒΟΛΩΝ ΠΟΥ ΕΜΦΑΝΙΖΟΝΤΑΙ ΣΤΗ ΜΟΝΑΔΑ**

| | | |
|---|---|---|
|  | **ΠΡΟΕΙΔΟΠΟΙΗΣΗ** (Κίνδυνος πυρκαγιάς) | Αυτή η ένδειξη αφορά μόνο το ψυκτικό R32. Ο τύπος του ψυκτικού αναγράφεται στην πινακίδα προδιαγραφών της εξωτερικής μονάδας.<br>Εάν ο τύπος ψυκτικού είναι R32, τότε αυτή η μονάδα χρησιμοποιεί ένα εύφλεκτο ψυκτικό.<br>Αν το ψυκτικό διαρρεύσει και έρθει σε επαφή με φωτιά ή θερμαινόμενο τμήμα, θα παραχθούν επιβλαβή αέρια και υπάρχει κίνδυνος πυρκαγιάς. |
|  | Διαβάστε το ΕΓΧΕΙΡΙΔΙΟ ΚΑΤΟΧΟΥ προσεκτικά πριν από τη λειτουργία. | |
|  | Το προσωπικό σέρβις πρέπει να διαβάσει προσεκτικά το ΕΓΧΕΙΡΙΔΙΟ ΚΑΤΟΧΟΥ και το ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ πριν από τον χειρισμό. | |
|  | Για περισσότερες πληροφορίες, ανατρέξτε στο ΕΓΧΕΙΡΙΔΙΟ ΚΑΤΟΧΟΥ, το ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ και παρόμοια έγγραφα τεκμηρίωσης. | |

## ■ Προειδοποιητικές ενδείξεις στην κλιματιστική μονάδα

| Προειδοποιητική ένδειξη | Περιγραφή |
|---|---|
|  | **ΠΡΟΕΙΔΟΠΟΙΗΣΗ**<br>**ΚΙΝΔΥΝΟΣ ΗΛΕΚΤΡΟΠΛΗΞΙΑΣ**<br>Αποσυνδέστε όλες τις απομακρυσμένες παροχές ηλεκτρικής τροφοδοσίας πριν από τη διενέργεια σέρβις. |
|  | **ΠΡΟΕΙΔΟΠΟΙΗΣΗ**<br>Κινούμενα μέρη.<br>Μην θέσετε τη μονάδα σε λειτουργία, εάν έχετε αφαιρέσει τη γρίλια.<br>Διακόψτε τη λειτουργία της μονάδας πριν από τη διενέργεια σέρβις. |
|  | **ΠΡΟΣΟΧΗ**<br>Μέρη με υψηλή θερμοκρασία.<br>Ενδέχεται να υποστείτε έγκαυμα κατά την αφαίρεση αυτού του πίνακα. |
|  | **ΠΡΟΣΟΧΗ**<br>Μην ακουμπάτε τα πτερύγια αλουμινίου της μονάδας.<br>Η μη συμμόρφωση ενδέχεται να προκαλέσει τραυματισμό. |
|  | **ΠΡΟΣΟΧΗ**<br>**ΚΙΝΔΥΝΟΣ ΕΚΡΗΞΗΣ**<br>Ανοίξτε τις βαλβίδες σέρβις πριν από τη λειτουργία, διαφορετικά ενδέχεται να προκληθει έκρηξη. |



# 1 Προφυλάξεις ασφαλείας

Ο κατασκευαστής δεν αναλαμβάνει ευθύνη για τυχόν βλάβες ήθελε προκληθούν από αμέλεια συμμόρφωσης με τα όσα περιγράφονται στο παρόν εγχειρίδιο.

## ⚠ ΠΡΟΕΙΔΟΠΟΙΗΣΗ

### Γενικά

- Πριν ξεκινήσετε με την εγκατάσταση του κλιματιστικού, διαβάστε με προσοχή το Εγχειρίδιο εγκατάστασης και ακολουθήστε τις οδηγίες για την εγκατάσταση του κλιματιστικού.
- Οι εργασίες εγκατάστασης επιτρέπεται να πραγματοποιηθούν μόνο από εξειδικευμένο εγκαταστάτη ή εξειδικευμένο τεχνικό σέρβις. Η λανθασμένη εγκατάσταση μπορεί να οδηγήσει σε διαρροές νερού, ηλεκτροπληξία ή πυρκαγιά.
- Μην χρησιμοποιείτε ψυκτικό άλλο από το προβλεπόμενο, για συμπλήρωση ή αντικατάσταση. Διαφορετικά, ενδέχεται να αναπτυχθεί αντικανονικά υψηλή πίεση στον ψυκτικό κύκλο, κάτι που ενδέχεται να επιφέρει βλάβη του προϊόντος ή έκρηξη ή σωματικό τραυματισμό σας
- Πριν ανοίξετε τη γρίλια εισαγωγής της εσωτερικής μονάδας ή του πίνακα σέρβις της εξωτερικής μονάδας, θέστε τον αυτόματο διακόπτη κυκλώματος στη θέση OFF. Εάν δεν θέσετε τον αυτόματο διακόπτη κυκλώματος στη θέση OFF ενδέχεται να προκληθεί ηλεκτροπληξία λόγω τυχαίας επαφής με τα εξαρτήματα στο εσωτερικό της μονάδας. Η αφαίρεση της γρίλιας εισαγωγής της εσωτερικής μονάδας ή του πίνακα σέρβις της εξωτερικής μονάδας και η εκτέλεση των απαιτούμενων εργασιών, επιτρέπεται μόνον από εξειδικευμένο εγκαταστάτη(*1) ή εξειδικευμένο τεχνικό σέρβις (*1).
- Πριν από την εκτέλεση εργασιών εγκατάστασης, συντήρησης, επισκευών ή αφαίρεσης, θέστε τον αυτόματο διακόπτη κυκλώματος στη θέση OFF. Διαφορετικά, ενδέχεται να προκληθεί ηλεκτροπληξία.
- Αναρτήστε πινακίδα με την ένδειξη “Εκτελούνται εργασίες” κοντά στον αυτόματο διακόπτη κυκλώματος ενόσω εκτελούνται εργασίες εγκατάστασης, συντήρησης, επισκευής ή απόρριψης. Υπάρχει κίνδυνος πρόκλησης ηλεκτροπληξίας, εάν ο αυτόματος διακόπτης κυκλώματος τεθεί στη θέση ON τυχαία.
- Μόνον εξειδικευμένος εγκαταστάτης (*1) ή εξειδικευμένος τεχνικός σέρβις(*1) επιτρέπεται να αναλαμβάνει την εκτέλεση εργασιών σε υψηλά σημεία χρησιμοποιώντας βάση ύψους 50 cm ή υψηλότερη ή να αφαιρεί τη γρίλια εισαγωγής της εσωτερικής μονάδας για την εκτέλεση εργασιών.
- Να φοράτε γάντια προστασίας και ρουχισμό για την ασφάλεια κατά την εργασία, όταν εκτελείτε εργασίες εγκατάστασης, σέρβις και απόρριψης.

- Μην αγγίζετε τα αλουμινένια πτερύγια της μονάδας. Ενδέχεται να τραυματιστείτε εάν το πράξετε. Εάν απαιτείται να αγγίξετε το πτερύγιο για οποιοδήποτε λόγο, φορέστε πρώτα γάντια προστασίας και ρουχισμό για την ασφάλεια κατά την εργασία και τότε μόνον προχωρήστε.
- Μην ανεβαίνετε πάνω στην εξωτερική μονάδα και μην τοποθετείτε αντικείμενα πάνω σε αυτήν. Ενδέχεται να πέσετε εσείς ή τα αντικείμενα και να προκληθεί τραυματισμός.
- Όταν εκτελείται εργασία σε ύψος, χρησιμοποιείστε σκάλα σύμφωνη με το πρότυπο ISO 14122, και ακολουθήστε τη διαδικασία η οποία αναφέρεται στις οδηγίες της σκάλας. Να φοράτε επίσης, κράνος βιομηχανικής χρήσης ως εξοπλισμό προστασίας πριν από την εκτέλεση της εργασίας.
- Πριν από τον καθαρισμό του φίλτρου ή άλλων μερών της εξωτερικής μονάδας, τοποθετήστε οπωσδήποτε τον αυτόματο διακόπτη στο OFF, και τοποθετήστε μία πινακίδα “Εκτελούνται εργασίες” κοντά στον αυτόματο διακόπτη προτού προχωρήσετε με την εργασία.
- Πριν από εργασία σε μεγάλο ύψος, τοποθετήστε μία πινακίδα έτσι ώστε κανείς να μην πλησιάσει το χώρο εργασίας, προτού προχωρήσετε με την εργασία σας. Εξαρτήματα και άλλα αντικείμενα ενδέχεται να υποστούν πτώση, τραυματίζοντας ενδεχομένως κάποιο άτομο το οποίο βρίσκεται από κάτω. Κατά την εκτέλεση των εργασιών, να φοράτε κράνος για την προστασία σας έναντι πτώσης αντικειμένων.
- Μην χρησιμοποιήσετε άλλο ψυκτικό εκτός από τα R32.
  Για τον τύπο του ψυκτικού, ελέγξτε την εξωτερική μονάδα που θα χρησιμοποιηθεί.
- Το ψυκτικό υγρό το οποίο χρησιμοποιείται στο συγκεκριμένο κλιματιστικό ρέει στην εξωτερική μονάδα.
- Το κλιματιστικό μηχάνημα θα πρέπει να μεταφέρεται σε συνθήκες ευστάθειας. Εάν οποιοδήποτε κομμάτι του προϊόντος είναι σπασμένο, επικοινωνήστε με τον αντιπρόσωπο.
- Όταν είναι απαραίτητο το κλιματιστικό να μεταφερθεί με τα χέρια, θα πρέπει να το μεταφέρουν δύο ή περισσότερα άτομα.
- Μη μετακινείτε ή επισκευάζετε οποιαδήποτε μονάδα μόνοι σας. Υπάρχει υψηλή τάση στο εσωτερικό της μονάδας. Μπορεί να σας προκαλέσει ηλεκτροπληξία όταν αφαιρέσετε το κάλυμμα και την κεντρική μονάδα.
- Η συσκευή αυτή προορίζεται για χρήση από έμπειρους ή εκπαιδευμένους χρήστες σε καταστήματα, στην ελαφριά βιομηχανία ή για εμπορική χρήση από ανειδίκευτα άτομα.



## Επιλογή θέσης εγκατάστασης

- Όταν το κλιματιστικό είναι τοποθετημένο σε μικρό δωμάτιο, λάβετε τα κατάλληλα μέτρα προκειμένου να εξασφαλιστεί ότι η συγκέντρωση διαρροής ψυκτικού στο δωμάτιο δεν υπερβαίνει το κρίσιμο επίπεδο.
- Μην τοποθετείτε το μηχάνημα σε χώρο όπου υπάρχει πιθανότητα διαρροών εύφλεκτων αερίων. Εάν διαρρέει αέριο το οποίο και συσσωρεύεται γύρω από τη μονάδα, υπάρχει κίνδυνος να αναφλεγεί και να προκληθεί πυρκαγιά.
- Για να μεταφέρετε το κλιματιστικό μηχάνημα, να φοράτε υποδήματα με μεταλλικά καλύμματα στις μύτες.
- Για να μεταφέρετε το κλιματιστικό μηχάνημα, μην το κρατάτε από τα τσέρκια που υπάρχουν γύρω από το χαρτοκιβώτιο της συσκευασίας του. Ενδέχεται να τραυματιστείτε, εάν οι ταινίες σπάσουν.
- Εγκαταστήστε την εσωτερική μονάδα σε ύψος 2,5 m τουλάχιστον πάνω από το δάπεδο, διότι διαφορετικά οι χρήστες ενδέχεται να τραυματιστούν ή να υποστούν ηλεκτροπληξία σε περίπτωση που εισάγουν τα δάκτυλά τους ή άλλα αντικείμενα στο εσωτερικό της εσωτερικής μονάδας ενώ το κλιματιστικό βρίσκεται σε λειτουργία.
- Μην τοποθετείτε συσκευή καύσης σε σημείο το οποίο εκτίθεται απευθείας στη ροή αέρα του κλιματιστικού, ενδέχεται να προκληθεί ατελής καύση.

## Εγκατάσταση

- Όταν η εσωτερική μονάδα προορίζεται για ανάρτηση, απαιτείται η χρήση των κοχλιών ανάρτησης (M10 ή W3/8) και των περικοχλίων (M10 ή W3/8) αποκλειστικής χρήσης.
- Εγκαταστήστε το κλιματιστικό μηχάνημα με ασφάλεια, σε σημείο όπου η βάση του να μπορεί να στηρίξει επαρκώς το βάρος του. Εάν τα σημεία αυτά δεν διαθέτουν επαρκή αντοχή, η μονάδα ενδέχεται να υποστεί πτώση και να προκαλέσει τραυματισμό.
- Ακολουθήστε τις οδηγίες που αναγράφονται στο Εγχειρίδιο Εγκατάστασης για να εγκαταστήσετε το κλιματιστικό. Αμέλεια συμμόρφωσης με αυτές τις οδηγίες μπορεί να προκαλέσει πτώση ή ανατροπή του προϊόντος ή να αναπτύσσονται θόρυβος, κραδασμοί, διαρροή νερού ή άλλα προβλήματα.
- Πραγματοποιήστε την προβλεπόμενη εργασία εγκατάστασης έτσι ώστε ο εξοπλισμός να αντέχει σε πιθανούς ισχυρούς ανέμους ή σεισμό. Εάν το κλιματιστικό μηχάνημα δεν εγκατασταθεί σωστά, μπορεί κάποια μονάδα να ανατραπεί ή να πέσει από ύψος, με αποτέλεσμα την πρόκληση ατυχήματος.

- Σε περίπτωση διαρροής του ψυκτικού αερίου κατά τη διάρκεια των εργασιών εγκατάστασης, αερίστε τον χώρο αμέσως. Εάν το ψυκτικό αέριο που διαρρέει έρθει σε επαφή με φωτιά, υπάρχει η πιθανότητα έκλυσης δύσοσμου αερίου.
- Χρησιμοποιείστε περονοφόρο ανυψωτικό μηχάνημα για να μεταφέρετε τα τμήματα του κλιματιστικού μηχανήματος και χρησιμοποιείστε βαρούλκο ή παλάγκο για την εγκατάστασή τους.

**Σωλήνωση ψυκτικού**

- Εγκαταστήστε το σωλήνα ψυκτικού με ασφάλεια στη διάρκεια της εργασίας εγκατάστασης πριν θέσετε σε λειτουργία το κλιματιστικό. Εάν ο συμπιεστής λειτουργήσει με τη βαλβίδα ανοιχτή και χωρίς σωλήνα ψυκτικού υγρού, ο συμπιεστής αναρροφά αέρα και ο κύκλος ψύξης υπερσυμπιέζεται, πράγμα το οποίο ενδέχεται να προκαλέσει τραυματισμό.
- Σφίξτε το ρακόρ με ένα ροπόκλειδο ακολουθώντας τον καθορισμένο τρόπο. Τυχόν υπερβολικό σφίξιμο του ρακόρ ενδέχεται να προκαλέσει ράγισμα του ρακόρ μετά από μακρό χρονικό διάστημα, πράγμα το οποίο ενδέχεται να καταλήξει σε διαρροή ψυκτικού υγρού.
- Μετά τις εργασίες εγκατάστασης, βεβαιωθείτε ότι δεν υπάρχει διαρροή του ψυκτικού αερίου. Τυχόν διαρροή του ψυκτικού αερίου στο χώρο και κίνησή του κοντά σε πηγή φωτιάς, όπως εστία κουζίνας, ενδέχεται να δημιουργήσει επιβλαβείς αναθυμιάσεις.
- Μόλις ολοκληρωθεί η εγκατάσταση ή η αλλαγή θέσης του κλιματιστικού, ακολουθήστε τις οδηγίες που αναγράφονται στο Εγχειρίδιο Εγκατάστασης για πλήρη εξαέρωση, ώστε στον κύκλο ψύξης να μην αναμιγνύονται άλλα αέρια εκτός του ψυκτικού υγρού. Εάν δεν πραγματοποιήσετε πλήρη εξαέρωση, ενδέχεται να προκληθεί δυσλειτουργία του κλιματιστικού.
- Απαιτείται η χρήση αερίου αζώτου για τη δοκιμή στεγανότητας.
- Ο σωλήνας πλήρωσης πρέπει να συνδεθεί με τρόπο ώστε να μην παρουσιάζει χαλαρότητα.

**Ηλεκτρική καλωδίωση**

- Η εκτέλεση των ηλεκτρολογικών εργασιών στο κλιματιστικό επιτρέπεται μόνον από εξειδικευμένο εγκαταστάτη(*1) ή εξειδικευμένο τεχνικό σέρβις(*1). Σε καμία περίπτωση δεν επιτρέπεται η εκτέλεση των εν λόγω εργασιών από ανειδίκευτο άτομο, επειδή τυχόν μη κατάλληλη εκτέλεση των εργασιών ενδέχεται να καταλήξει σε ηλεκτροπληξία ή/και διαρροές ρεύματος.
- Για να συνδέσετε τα καλώδια ρεύματος, την επισκευή ηλεκτρολογικών μερών ή άλλες εργασίες ηλεκτρολογικής φύσης, να φοράτε μονωτικά γάντια (ηλεκτρολόγου) και προστασίας από τη θερμότητα, μονωτικά υποδήματα και ενδυμασία για προστασία έναντι ηλεκτροπληξίας. Η μη χρήση του συγκεκριμένου εξοπλισμού προστασίας ενδέχεται να καταλήξει σε ηλεκτροπληξία.
- Να χρησιμοποιείτε καλωδιώσεις οι οποίες πληρούν τις προδιαγραφές του Εγχειριδίου Εγκατάστασης και τις απαιτήσεις των τοπικών κανονισμών και νομοθεσίας. Η χρήση καλωδιώσεων οι οποίες δεν πληρούν τις προδιαγραφές ενδέχεται να προκαλέσει ηλεκτροπληξία, διαρροές ρεύματος, καπνό ή/και πυρκαγιά.
- Συνδέστε το καλώδιο γείωσης. (εργασία γείωσης)
  Η ελλιπής γείωση θα προκαλέσει ηλεκτροπληξία.
- Μη συνδέετε τα καλώδια γείωσης με σωλήνες φυσικού αερίου, σωλήνες νερού και την κάθοδο του αντικεραυνικού συστήματος ή τους αγωγούς γείωσης του τηλεφώνου.
- Μετά την ολοκλήρωση της εργασίας επισκευής ή μετεγκατάστασης, βεβαιωθείτε ότι οι αγωγοί γείωσης έχουν συνδεθεί σωστά.
- Φροντίστε για την εγκατάσταση αυτόματου διακόπτη κυκλώματος ο οποίος πληροί τις προδιαγραφές του Εγχειριδίου Εγκατάστασης και τις απαιτήσεις των τοπικών κανονισμών και νομοθεσίας.
- Εγκαταστήστε τον αυτόματο διακόπτη κυκλώματος σε σημείο όπου θα διευκολύνεται η πρόσβασή του από τον αντιπρόσωπο.
- Για την εγκατάσταση του αυτόματου διακόπτη κυκλώματος σε εξωτερικό χώρο, χρησιμοποιήστε ένα διακόπτη κατάλληλου τύπου για εξωτερική χρήση.
- Σε καμία περίπτωση δεν πρέπει να κάνετε προέκταση του καλωδίου ρεύματος. Τυχόν ελαττωματική σύνδεση στα σημεία προέκτασης των αγωγών μπορεί να προκαλέσει καπνό και/ή πυρκαγιά.
- Οι εργασίες ηλεκτρικής καλωδίωσης πρέπει να εκτελούνται σύμφωνα με τους νόμους και κανονισμούς της κοινότητας και το εγχειρίδιο εγκατάστασης.
  Διαφορετικά μπορεί να προκληθεί ηλεκτροπληξία ή βραχυκύκλωμα.

## Δοκιμαστική λειτουργία

- Μόλις ολοκληρωθούν οι εργασίες και πριν θέσετε το κλιματιστικό σε λειτουργία, βεβαιωθείτε ότι το κάλυμμα του ηλεκτρικού κουτιού της εσωτερικής μονάδας και ο πίνακας σέρβις της εξωτερικής μονάδας είναι κλειστά και θέστε τον αυτόματο διακόπτη κυκλώματος στη θέση ON. Εάν δεν πραγματοποιήσετε αυτούς τους ελέγχους, ενδέχεται να υποστείτε ηλεκτροπληξία σε περίπτωση που ενεργοποιηθεί η τροφοδοσία.
- Εάν παρουσιαστεί κάποιο πρόβλημα στο κλιματιστικό μηχάνημα (όπως εμφάνιση ένδειξης σφάλματος, οσμή καμένου, ασυνήθιστοι θόρυβοι, το κλιματιστικό μηχάνημα δεν ψύχει ή δε θερμαίνει ή υπάρχει διαρροή νερού), μην αγγίζετε το ίδιο το κλιματιστικό μηχάνημα αλλά κλείστε τον αυτόματο διακόπτη (στο OFF) και επικοινωνήστε με εξειδικευμένο τεχνικό. Λάβετε μέτρα, ώστε να μην είναι εφικτή η ενεργοποίηση της παροχής ρεύματος (αναρτώντας μια πινακίδα με την ένδειξη “εκτός λειτουργίας” κοντά στον αυτόματο διακόπτη κυκλώματος, για παράδειγμα), έως ότου να φθάσει ο εξειδικευμένος τεχνικός σέρβις. Εάν συνεχίζετε να χρησιμοποιείτε το κλιματιστικό μηχάνημα παρόλο που παρουσιάζει πρόβλημα, ενδέχεται τα μηχανικά προβλήματά του να επιδεινωθούν ή να προκληθεί ηλεκτροπληξία κλπ.
- Μετά την ολοκλήρωση της εργασίας, χρησιμοποιείστε δοκιμαστικό όργανο μόνωσης (500V Megger) για να βεβαιωθείτε ότι η αντίσταση είναι 1 MΩ ή περισσότερο μεταξύ του φορτισμένου τμήματος και του μεταλλικού τμήματος που δε βρίσκεται υπό φορτίο (του γειωμένου τμήματος). Εάν η τιμή αντίστασης είναι χαμηλή, θα προκληθεί σοβαρή ζημιά στην πλευρά του χρήστη, όπως διαρροή ρεύματος ή ηλεκτροπληξία.
- Μόλις ολοκληρωθούν οι εργασίες εγκατάστασης, ελέγξτε για διαρροές ψυκτικού υγρού, την αντίσταση μόνωσης και την αποστράγγιση νερού. Στη συνέχεια, εκτελέστε δοκιμαστική λειτουργία ώστε να ελεγχθεί ότι το κλιματιστικό λειτουργεί κανονικά.

## Επεξηγήσεις που παρέχονται στο χρήστη

- Μόλις ολοκληρωθούν οι εργασίες εγκατάστασης, ενημερώστε το χρήστη για τη θέση του αυτόματου διακόπτη κυκλώματος. Εάν ο χρήστης δεν γνωρίζει που βρίσκεται ο αυτόματος διακόπτης κυκλώματος, δεν θα μπορεί να τον απενεργοποιήσει σε περίπτωση που παρουσιαστεί κάποιο πρόβλημα στο κλιματιστικό.
- Εάν υπάρχει βλάβη στη σχάρα του ανεμιστήρα, μην πλησιάζετε στην εξωτερική μονάδα. Βάλτε τον αυτόματο διακόπτη στο OFF και επικοινωνήστε με εξειδικευμένο τεχνικό(*1) για την επισκευή του μηχανήματος. Μην θέσετε τον αυτόματο διακόπτη κυκλώματος στη θέση ON, εάν δεν ολοκληρωθούν οι επισκευές.



- Μόλις ολοκληρωθούν οι εργασίες εγκατάστασης, ακολουθήστε τις οδηγίες που αναγράφονται στο εγχειρίδιο κατόχου, για να εξηγήσετε στον πελάτη τον τρόπο χρήσης και συντήρησης της μονάδας.

## Αλλαγή θέσης

- Η μεταφορά του κλιματιστικού σε άλλη θέση επιτρέπεται μόνον από εξειδικευμένο εγκαταστάτη(*1) ή εξειδικευμένο τεχνικό σέρβις(*1). Σε περίπτωση εγκατάστασης του κλιματιστικού από ανειδίκευτο άτομο, υπάρχει μεγάλος κίνδυνος να προκληθεί πυρκαγιά, ηλεκτροπληξία, τραυματισμός, διαρροή νερού, θόρυβος ή/και κραδασμοί.
- Κατά την εργασία περισυλλογής ψυκτικού υγρού, διακόψτε τη λειτουργία του συμπιεστή πριν από την αποσύνδεση του σωλήνα ψυκτικού υγρού. Η αποσύνδεση του σωλήνα ψυκτικού ενώ η βαλβίδα συντήρησης είναι ανοικτή και ο συμπιεστής λειτουργεί, θα προκαλέσει την αναρρόφηση αέρα ή άλλου αερίου, την αύξηση της πίεσης στο εσωτερικό του κύκλου ψύξης σε μη φυσιολογικά υψηλά επίπεδα και μπορεί πιθανώς να προκληθεί ρήξη, τραυματισμός ή άλλη βλάβη.

## ⚠ ΠΡΟΣΟΧΗ

**Αυτό το κλιματιστικό χρησιμοποιεί ψυκτικό HFC (R32) το οποίο δεν καταστρέφει το στρώμα του όζοντος.**

- Επειδή το ψυκτικό R32 επηρεάζεται εύκολα από ρύπους, όπως υγρασία, οξείδωση, έλαια κ.λπ., λόγω της υψηλής πίεσης, προσέχετε να μην αναμειχθεί υγρασία, ακαθαρσίες, υπάρχον ψυκτικό, ψυκτικό έλαιο κ.λπ. στον κύκλο ψύξης κατά την εργασία εγκατάστασης.
- Για την εγκατάσταση απαιτείται ειδικό εργαλείο για το ψυκτικό R32.
- Χρησιμοποιήστε καινούργια και καθαρά υλικά σωληνώσεων για τον σωλήνα σύνδεσης, ώστε να αποτραπεί η ανάμειξη υγρασίας και ακαθαρσιών κατά την εργασία εγκατάστασης.
- Αν χρησιμοποιήσετε υπάρχοντες σωλήνες, ακολουθήστε τις οδηγίες στο εγχειρίδιο εγκατάστασης που συνοδεύει την εξωτερική μονάδα.

(*1) Ανατρέξτε στην ενότητα “Ορισμός Εξειδικευμένου Εγκαταστάτη ή Εξειδικευμένου Τεχνικού Σέρβις”.

Благодарим вас за то, что приобрели кондиционер Toshiba.
Внимательно прочтите данные инструкции, так как в них содержится важная информация, соответствующая директиве Оборудование (Directive 2006/42/EC), и убедитесь, что они вам ПОНЯТНЫ. После завершения установки передайте пользователю это Руководство по установке и входящее в Комплект Руководство пользователя и попросите пользователя хранить эти материалы в надежном месте для использования в будущем.

**Общее обозначение: Кондиционер Воздуха**

**Определение квалифицированного монтажника или квалифицированного специалиста по обслуживанию**
Этот Кондиционер должен устанавливаться, обслуживаться, ремонтироваться и демонтироваться квалифицированным монтажником или квалифицированным специалистом по обслуживанию. Каждый раз, Когда вам нужно будет проделать какую-либо из этих операций, обращайтесь к квалифицированному монтажнику или специалисту по обслуживанию.
Квалифицированный монтажНИК ИЛИ квалифицированный специалист по обслуживанию — это лицо, имеющее квалификацию и знания, указанные в следующей таблице.

| Лицо | Необходимые квалификация и знание |
|---|---|
| Квалифицированный монтажник | • Квалифицированный монтажник — это лицо, которое устанавливает, обслуживает, перемещает и демонтирует кондиционеры производства компании Toshiba Carrier Corporation. Он или она прошел обучение по вопросам установки, технического обслуживания, переустановки и демонтажа кондиционеров производства компании Toshiba Carrier Corporation, ИЛИ же был научен таким действиям лицом или лицами, получившими необходимое обучение, и поэтому детально знаком со всем, что относится к указанным действиям.<br>• Квалифицированный монтажник, допущенный к выполнению необходимых электротехнических работ при установке, переустановке и демонтаже, имеет соответствующую этим работам квалификацию, предусмотренную местным законодательством и нормативами, и представляет собой лицо, обученное вопросам электротехнического характера, связанным с кондиционерами производства компании Toshiba Carrier Corporation, или же он был научен таким вопросам лицом или лицами, прошедшими необходимую подготовку, и поэтому детально знаком со всем, что относится к такой работе.<br>• Квалифицированный монтажник, допущенный к выполнению необходимых работ по прокладке трубок хладагента и обращению с хладагентом при установке, переустановке и демонтаже, имеет соответствующую этим работам квалификацию, предусмотренную местным законодательством и нормативами, и представляет собой Лицо, обученное вопросам прокладки трубок Хладагента и обращению с хладагентом, связанным с кондиционерами производства компании Toshiba Carrier Corporation, или же он был научен таким вопросам лицом или лицами, прошедшими необходимую подготовку, и поэтому детально знаком со всем, что относится к такой работе.<br>• Квалифицированный монтажник, допущенный к выполнению высотных работ, был обучен по вопросам, связанным с работой на высоте с кондиционерами производства Toshiba Carrier Corporation, или же получил указания по данному вопросу от лица или лиц, которые были этому обучены, и поэтому детально знаком со всем, что относится к такой работе. |
| Квалифицированный специалист по обслуживанию | • ККвалифицированный специалист по обслуживанию — это лицо, которое устанавливает, ремонтирует, обслуживает, перемещает и демонтирует кондиционеры производства компании Toshiba Carrier Corporation. Он или она прошел обучение по вопросам установки, ремонта, технического обслуживания, переустановки и демонтажа кондиционеров производства компании Toshiba Carrier Corporation, или же был обучен таким действиям лицом или лицами, Получившими необходимое обучение, и поэтому детально знаком со всем, что относится к указанным действиям.<br>• Квалифицированный специалист по обслуживанию, допущенный к выполнению необходимых электротехнических работ при установке, ремонте, переустановке и демонтаже, имеет соответствующую этим работам квалификацию, предусмотренную местным законодательством и нормативами, и представляет собой лицо, обученное вопросам электротехнического характера, связанным с кондиционерами производства компании Toshiba Carrier Corporation, или же он был обучен таким вопросам лицом или лицами, прошедшими необходимую подготовку, и поэтому детально знаком со всем, что относится к такой работе.<br>• Квалифицированный специалист по обслуживанию, допущенный к выполнению необходимых работ по прокладке трубок хладагента и обращению с хладагентом при установке, ремонте, переустановке и демонтаже, имеет соответствующую этим работам квалификацию, предусмотренную местным законодательством и нормативами, и представляет собой лицо, обученное вопросам прокладки трубок хладагента и обращению с хладагентом, связанным с рами производства компании Toshiba Carrier Corporation, ИЛИ же он был обучен таким вопросам лицом или лицами, прошедшими необходимую подготовку, и поэтому детально знаком со всем, что относится к такой работе.<br>• Квалифицированный специалист по обслуживанию, допущенный к выполнению ВЫСОТНЫХ работ, был обучен по вопросам, связанным с работой на высоте с кондиционерами производства Toshiba Carrier Corporation, или же получил указания по данному вопросу от лица ИЛИ ЛИЦ, которые были этому обучены, и поэтому детально знаком со всем, что относится к такой работе. |





**Определение средств индивидуальной защиты**
При перевозке, установке, техническом обслуживании, ремонте или демонтаже кондиционера следует носить защитные рукавицы и спецодежду.
В дополнение к обычным средствам индивидуальной защиты нужно пользоваться средствами Индивидуальной защиты, указанными ниже, при выполнении специальных работ, перечисленных в следующей таблице.
Если не использовать надлежащие средства индивидуальной защиты, возрастает опасность получить травму, ожоги, удар электрическим током или другие повреждения.

| Выполняемая работа | Необходимые средства индивидуальной защиты |
|---|---|
| Все типы работы | Защитные рукавицы<br>Защитная рабочая спецодежда |
| Работы, связанные с электричеством | Перчатки для электриков, теплозащитные рукавицы<br>Изоляционные ботинки Одежда, обеспечивающая защиту от удара электрическим током |
| Работы, ВЫПОЛНяемые на Высоте (50 см или выше) | Промышленная каска |
| Переноска тяжелых предметов | Ботинки с дополнительным защитным носком |
| Ремонт наружных блоков | Перчатки для электриков, теплозащитные рукавицы |

Данные меры предосторожности описывают важные правила безопасности для предотвращения травм пользователей и других людей, а также повреждения имущества. Внимательно ознакомьтесь с данным руководством после уяснения содержимого ниже (значения обозначений) и соблюдайте предписания.

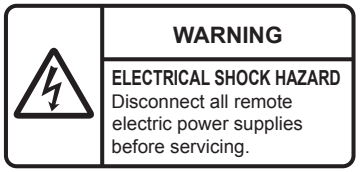
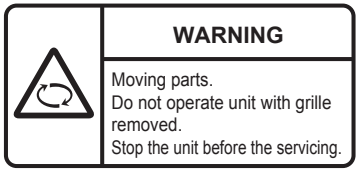
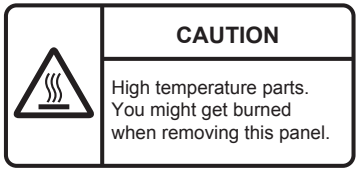
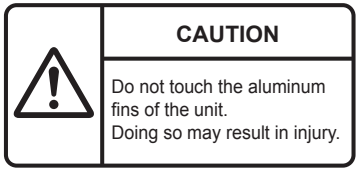
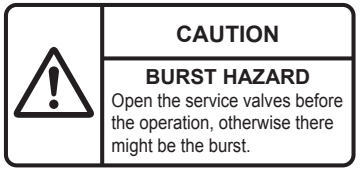
| обозначения | Значение |
|---|---|
| ⚠ ПРЕДУПРЕЖДЕНИЕ | Обозначенный таким образом текст указывает, что невыполнение предписаний в разделе "Предупреждение" может привести к серьезным травмам (*1) или летальному исходу при неправильном использовании изделия. |
| ⚠ ВНИМАНИЕ | Обозначенный таким образом текст указывает, что невыполнение предписаний в разделе “Внимание” может привести к легким травмам (*2) или повреждению имущества (*3) при неправильном использовании изделия. |

*1: К серьезным травмам относятся потеря зрения, телесные ранения, ожоги, поражение электрическим током, переломы, отравления и другие травмы, которые имеют серьезные последствия, требуют госпитализации или длительного лечения.
*2: К легким травмам относятся телесные повреждения, ожоги, поражение электрическим током и другие травмы, которые не требуют госпитализации или длительного лечения.
*3: К повреждениям имущества относятся повреждения зданий, личных вещей, инвентаря и травмы домашних животных.

**ЗНАЧЕНИЯ СИМВОЛОВ, ОТОБРАЖАЕМЫХ НА БЛОКЕ**

| | | |
|---|---|---|
|  | **ПРЕДУПРЕЖДЕНИЕ**<br>(Угроза возгорания) | Данная отметка предназначена только для хладагента R32. Тип хладагента указан в паспортной табличке на наружном блоке.<br>Хладагент R32 является легковоспламеняющимся хладагентом.<br>При утечке хладагента и контакта с огнем или нагретой поверхностью образуется токсичный газ и создается угроза возгорания. |
|  | Специалисты по обслуживанию обязаны внимательно ознакомиться с РУКОВОДСТВОМ ПО ЭКСПЛУАТАЦИИ И РУКОВОДСТВОМ ПО УСТАНОВКЕ перед выполнением работ. | |
|  | Дополнительную информацию см. В РУКОВОДСТВЕ ПО ЭКСПЛУАТАЦИИ, РУКОВОДСТВЕ ПО УСТАНОВКЕ и др. | |
|  | Για περισσότερες πληροφορίες, ανατρέξτε στο ΕΓΧΕΙΡΙΔΙΟ ΚΑΤΟΧΟΥ, το ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ και παρόμοια έγγραφα τεκμηρίωσης. | |

## ■ Предостерегающие указания на кондиционере

| Предупреждающий символ | Описание |
|---|---|
|  | ПРЕДУПРЕЖДЕНИ<br><br>ОПАСНОСТЬ ПОРАЖЕНИЯ ЭЛЕКТРИЧЕСКИМ ТОКОМ<br>Перед выполнением обслуживания нужно отключить все внешние Источники электроэнергии. |
|  | ПРЕДУПРЕЖДЕНИ<br><br>Движущиеся части.<br>Запрещается работать на устройстве при движущейся решетке.<br>Перед обслуживанием устройство нужно остановить. |
|  | ВНИМАНИЕ<br><br>Горячие детали.<br>При снятии этой панели можно получить ожог. |
|  | ВНИМАНИЕ<br><br>Не касайтесь алюминиевого оребрения на устройстве.<br>Это может привести к травме. |
|  | ВНИМАНИЕ<br><br>ОПАСНОСТЬ РАЗРЫВА<br>Откройте клапаны обслуживания перед началом работы, иначе может произойти разрыв. |



# 1 Правила техники безопасности

Производитель не несет ответственности за ущерб, вызванный несоблюдением инструкций, приведенных в данном руководстве.

## ⚠ ПРЕДУПРЕЖДЕНИ

### Общие меры предосторожности

- Прежде чем приступить к установке кондиционера, внимательно прочтите Руководство по установке и в процессе работы соблюдайте Изложенные в нем инструкции.
- Выполнение работы по установке разрешается только квалифицированному монтажнику или квалифицированному специалисту по обслуживанию. Неправильная установка может привести кутечке воды, поражению электрическим током или воспламенению.
- Запрещается использовать для пополнения или замены хладагент, Отличный от указанного. В противном случае в контуре охлаждения Может образоваться аномально высокое давление, что может привести к поломке или взрыву изделия, а также вызвать травмы.
- Прежде чем снимать решетку на воздухозаборнике внутреннего блока или на служебной панели наружного блока, установленного вне помещения, установите сетевой выключатель в положение OFF (ВЫКЛ). Если сетевой выключатель не установить в положение OFF (ВЫКЛ), можно получить удар электрическим током при контакте с внутренними узлами кондиционера. Снимать решетку воздухозаборника на устройствах, установленных в помещении и вне его, разрешается только квалифицированным монтажникам(*1) или квалифицированным специалистам по обслуживанию(*1).
- Перед выполнением работ по установке, техническому обслуживанию, ремонту или демонтажу необходимо перевести сетевой выключатель в положение OFF (ВЫКЛ). В противном случае может произойти поражение электрическим током.
- На время выполнения работ по установке, обслуживанию, ремонту или перемещению Кондиционера рядом с сетевым выключателем следует Поместить знак “Ведутся работы”. Если кто-либо по ошибке установит выключатель в положение ON (ВКЛ), возможно поражение работающего электрическим током.

- Только квалифицированному монтажнику(*1) или квалифицированному специалисту по обслуживанию (1) разрешается производить работы на высоте с использованием подставки высотой 50 см или выше для того, чтобы снять решетку воздухозаборника внутреннего блока для выполнения работ.
- При ремонте, обслуживании и перемещении следует пользоваться защитными рукавицами и спецодеждой
- Не прикасайтесь к алюминиевому оребрению на устройстве. В противном случае можно получить травму. Если нужно зачем-либо коснуться оребрения, сначала наденьте защитные рукавицы и спецодежду, а затем продолжайте работу.
- Запрещается залезать или класть какие-либо предметы на верхнюю часть наружного блока. Вы можете упасть, или же эти предметы могут свалиться с наружного блока и причинить травму.
- При работе на высоте необходимо пользоваться лестницей, Отвечающей требованиям стандарта ISO 14122, и следовать указаниям, содержащимся в инструкции по работе с лестницами. При выполнении работ также нужно надевать каску принятого в промышленности образца.
- Перед очисткой фильтров или других узлов наружного блока нужно надежно установить сетевой выключатель в положение OFF (выкл) и до начала работ выставить рядом с ним знак “Ведутся работы".
- До начала выполнения высотных работ нужно выставить предупреждающий знак, чтобы никто не приближался к зоне проведения работ. Сверху могут упасть детали или другие предметы, и нанести травму людям, находящимся внизу. Во время выполнения работы необходимо надеть каску для защиты головы от падающих предметов.
- Не используйте хладагенты, отличные от R32.
  Чтобы узнать тип хладагента, проверьте наружный блок для объединения.
- В данном кондиционере используется тот же хладагент, что и в наружном блоке.
- При перевозке кондиционер должен находиться в устойчивом положении. В случае повреждения какой-либо части изделия обратитесь к дилеру.
- Переноску кондиционера должны осуществлять не менее двух человек.
- Не перемещайте и не выполняйте ремонт устройств самостоятельно. Внутри устройства находятся компоненты под высоким напряжением. Снятие крышки или основного устройства может привести к поражению электрическим током.



- Это устройство предназначено для использования специалистом или обученными пользователями в магазинах, на предприятиях легкой промышленности или для коммерческого использования непрофессионалами.

## Выбор места установки

- При установке кондиционера в небольшом помещении необходимо принять надлежащие меры, чтобы не допустить превышения предельной концентрации хладагента даже в случае его утечки.
- Запрещается устанавливать изделие в месте, где возможны утечки горючего газа. В случае утечки газа и концентрации его вокруг блока газ может воспламениться и стать причиной пожара.
- При транспортировке кондиционера необходимо надевать ботинки с дополнительным защитным носком.
- При транспортировке кондиционера не беритесь за обвязку вокруг картонной упаковки. Если обвязка лопнет, вы можете получить травму.
- В помещении кондиционер следует устанавливать на высоте не менее 2,5 м от пола, так как в противном случае пользователи могут получить удар электрическим током или травмировать себя, если их пальцы или другие предметы попадут внутрь работающего кондиционера.
- Нельзя устанавливать какие-либо отопительные приборы в местах, где на них будет непосредственно попадать воздушный поток от Кондиционера, так как это может приводить к неполному сгоранию.

## Установка

- Для подвешивания внутреннего блока нужно использовать специально предназначенные для этого подвесные болты (M10 или W3/8) и гайки (M10 или W3/8).
- Кондиционер следует надежно устанавливать в месте, способном выдержать его вес. Если прочности недостаточно, то блок может упасть, нанеся травму.
- При установке кондиционера следуйте указаниям руководства по установке. Несоблюдение этих инструкций может привести к падению или опрокидыванию изделия, появлению шума, вибрации, утечки воды и другим поломкам.

- При установке примите меры для защиты от сильного ветра и землетрясений. В случае ненадлежащей установки кондиционера блок может упасть или опрокинуться и стать причиной несчастного случая.
- В случае утечки хладагента во время монтажных работ, немедленно проветрите помещение. При контакте хладагента с огнем может образоваться токсичный газ.
- Перевозить блоки кондиционера следует с помощью вилочного погрузчика, а поднимать на месте установки с помощью подъемника или лебедки.

**Трубопровод хладагента**

- Перед началом эксплуатации кондиционера надежно смонтируйте и закрепите трубопровод. Если кондиционер работает с открытым клапаном и без трубопровода, компрессор засасывает воздух и в контуре охлаждения давление поднимается выше нормы, что может привести к его разрыву или травмированию окружающих.
- Затягивайте конусную гайку динамометрическим ключом с заданным моментом. Чрезмерная затяжка конусной гайки может привести к тому, что со временем на ней образуется трещина, которая может привести к утечке хладагента.
- По окончании монтажных работ убедитесь в отсутствии утечек хладагента. Утечка хладагента и формирование его потока в непосредственной близости от источников огня, например, кухонной плиты, может приводить к образованию токсичного газа.
- При установке и переустановке кондиционера соблюдайте инструкции, приведенные в руководстве по установке, и выдувайте весь воздух из контура хладагента, чтобы в нем не могли смешиваться никакие другие газы, кроме хладагента. Если не удалить воздух полностью, это может привести к неисправностям в работе кондиционера.
- Для проверки на герметичность пользуйтесь азотом.
- Загрузочный шланг нужно подсоединять так, чтобы в нем нигде не было слабины.

**Электропроводка**

- Проводить электротехнические работы по установке кондиционера разрешается только квалифицированному монтажнику(*1) или квалифицированному специалисту по обслуживанию(*1). Ни при каких обстоятельствах эти работы нельзя поручать неквалифицированным лицам, иначе при неправильном выполнении работ возможны поражения электрическим током и/или утечка электроэнергии.



- При подключении электропроводки, ремонте электрических узлов или выполнении других электротехнических работ нужно носить защитные перчатки для электриков, теплозащитные рукавицы, изолирующие ботинки и одежду для защиты от поражения электрическим током. Если этого не сделать, возможно поражение электрическим током.
- Используйте электропроводку, которая отвечает техническим характеристикам, приведенным в данном руководстве по установке, а также местным нормативам и требованиям законодательства. Использование электропроводки, не отвечающей техническим требованиям, может привести к поражению электрическим током, утечкам электроэнергии, задымлению и/или пожару.
- Подключите провод заземления. (Работы по заземлению) Неполное заземление может вызвать поражение электрическим током.
- Не подсоединяйте провода заземления к газопроводным и водопроводным трубам, громоотводам и проводам заземления для телефонных проводов.
- По окончании ремонтных работ или работ по переустановке кондиционера убедитесь, что провода заземления правильно подсоединены.
- Пользуйтесь сетевыми выключателями, которые отвечают техническим характеристикам, приведенным в данном руководстве по установке, а также местным нормативам и требованиям законодательства.
- Устанавливать сетевой выключатель нужно так, чтобы обслуживающее лицо могло легко до него добраться.
- Для установки наружных автоматических выключателей нужно использовать такие их типы, которые предназначены для установки на открытом воздухе.
- Ни в коем случае не допускается наращивать электрические кабели. Нарушение соединения в местах сращивания может привести к задымлению и/или пожару.
- Работы по прокладке электропроводки должны выполняться в соответствии с законодательством и нормативами, принятыми в данной стране, и отвечать требованиям руководства по установке. В противном случае возможно поражение электрическим током или короткое замыкание.

**Пробный пуск**

- Перед тем как запускать кондиционер после окончания работ на нем, проверьте, что крышка электрического блока управления внутреннего блока и служебная панель наружного блока закрыты, и установите автоматический выключатель в положение ON (ВКЛ). Если этого не проверить, можно получить удар электрическим током.
- При обнаружении каких-либо неполадок в работе кондиционера (например, появилось сообщение об ошибке, запах гари, слышны странные звуки, кондиционер не охлаждает или не нагревает воздух, подтекает вода) не трогайте кондиционер, переведите его сетевой выключатель в положение OFF (ВЫКЛ) и вызовите квалифицированного специалиста по обслуживанию. До прибытия квалифицированного специалиста по обслуживанию позаботьтесь о том, чтобы электропитание кондиционера не могло быть случайно включено (например, поставьте знак “Не работает” рядом с сетевым выключателем). Продолжение эксплуатации неисправного кондиционера может привести к усугублению механических проблем и стать причиной поражения электрическим током и поломок.
- По окончании работ убедитесь при помощи устройства для проверки изоляции (мегомметр на 500В), что сопротивление между участком под напряжением и металлической секцией (заземлением) равно 1 MΩ или более. Если сопротивление мало, это значит, что на стороне пользователя произошла утечка электричества или пробой.
- По завершении установочных работ проверьте, нет ли утечек хладагента, проверьте сопротивление изоляции и слив воды. Затем проведите рабочее испытание, чтобы удостовериться в правильной работе кондиционера.

**Пояснения для пользователя**

- По завершении установочных работ покажите пользователю, где находится сетевой выключатель. Если пользователь не знает расположения сетевого выключателя, он не сможет выключить его в случае проблем с кондиционером.
- В случае повреждения решетки воздухозаборника не подходите к наружному блоку. Установите сетевой выключатель в положение OFF (ВЫКЛ) и вызовите квалифицированного специалиста по обслуживанию (*1) для ремонта. До окончания ремонта не возвращайте сетевой выключатель в положение ON (ВКЛ).
- По окончании установочных работ объясните заказчику, как эксплуатировать устройство и ухаживать за ним с помощью руководством по эксплуатации.

**Переустановка на другое место**

- Переустанавливать кондиционер разрешается только квалифицированному монтажнику(*1) или квалифицированному специалисту по обслуживанию(*1). В результате переустановки кондиционера неквалифицированным лицом возможны пожар, поражение электрическим током, травмы, утечка воды, шум и/или вибрация.
- При выполнении сливных работ нужно остановить компрессор до того, как отключать контур хладагента. Отсоединение трубы хладагента при открытом рабочем клапане и все еще работающем компрессоре приведет к подсосу воздуха или другого газа., в результате чего давление в холодильном цикле достигнет ненормально высокого уровня, что может привести к разрыву контура, травме и другим проблемам.

**⚠ ВНИМАНИЕ**

**В этом кондиционере используется хладагент на основе ХФУ (R32), не разрушающий озоновый слой.**

- Поскольку на хладагенты R32 сильно влияют такие загрязнения, как влага, оксидная пленка, масло и др. из-за высокого давления, во время установочных работ следите, чтобы влага, загрязнения, имеющийся хладагент, масло для холодильных машин и др. не смешивались в контуре охлаждения.
- В процессе установки требуется специальный инструмент для хладагента R32.
- Для соединительных труб используйте новые и чистые материалы, не допускающие попадания влаги и пыли во время установочных работ.
- При использовании имеющихся труб следуйте руководству по установке, прилагаемому к наружному блоку.

(*1) См. “Определение квалифицированного монтажника или квалифицированного специалиста по обслуживанию”.

Bu Toshiba klimayı satın aldığınız için teşekkür ederiz.
Lütfen Makine Direktifine (Directive 2006/42/EC) uygun olan ve önemli bilgiler içeren bu talimatları baştan sona dikkatle ve anlayarak okuyun.
Kurulum işini tamamladıktan sonra, bu Kurulum Kılavuzu'nu ve Kullanıcı Kılavuzu'nu kullanıcıya verin ve kullanıcıdan bu belgeleri gelecekte başvuru için güvenli bir yerde saklamalarını isteyin.

**Jenerik Adı: Klima**

**Kalifiye Montaj Elemanı veya kalifiye Servis Elemanı Tarifi**
Klima, kalifiye montaj elamani veya kalifiye servis elemanı tarafından monte edilmeli, bakımı yapılmalı, onarılmalı veya sökülmelidir. Bu işlerden herhangi birinin yapılması gerekiyorsa sizin için yapması için kalifiye montaj elemanı veya kalifiye servis elemanı çağırın.
Kalifiye montaj elemanı veya kalifiye servis elemanı aşağıdaki tabloda verilen niteliklere ve bilgiye sahip bir acentedir.

| Acenta | Acentanin sahip olması gerekli nitelikler ve bilgiler |
|---|---|
| Kalifiye montaj elemani | • Yetkili montajcı, Toshiba Carrier Corporation tarafından üretilen klimaların montaj, bakım, yer değiştirme ve söküm işlemlerini gerçekleştiren şahıstır. Bu şahıs Toshiba Carrier Corporation tarafından üretilen klimaların montaj, bakım, yer değiştirme ve söküm işlemlerini gerçekleştirecek sekilde eğitim almıştır ya da eğitim almış ve bu işlemlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir.<br>• Montaj, yer değiştirme ve söküm işlemlerinde her türlü elektrik işini yapan yetkili montaj personeli, bu elektrik işleri ile ilgili yerel kanun ve düzenlemeler tarafından şart koşulan niteliklere sahiptir ve Toshiba Carrier Corporation tarafından üretilen klimalar üzerinde gerçekleştirilen elektrik işleri konusunda eğitim almıştır ya da eğitim almış ve bu işlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir.<br>• Montaj, yer değiştirme ve söküm işlemlerinde her türlü soğutucu akışkan kullanımı ve boru tesisatı işini yapan yetkili montaj personeli, bu soğutucu akışkan kullanımı ve boru tesisatı işleri ile ilgili yerel kanun ve düzenlemeler tarafından şart koşulan niteliklere sahiptir ve Toshiba Carrier Corporation tarafından üretilen klimalar üzerinde gerçekleştirilen soğutucu akışkan kullanımı ve boru tesisatı işleri konusunda eğitim almıştır ya da eğitim almış ve bu işlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir.<br>• Yüksek montaj noktalarında çalışan yetkili montaj personeli, Toshiba Carrier Corporation tarafından üretilen klimalarla yüksek noktalarda çalışacak şekilde eğitim almıştır ya da eğitim almış ve bu işlemlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir. |
| Kalifiye servis elemanı | • Yetkili servis personeli, Toshiba Carrier Corporation tarafından üretilen klimaların montaj, onarım, bakım, yer değiştirme ve söküm işlemlerini gerçekleştiren şahıstır. Bu şahıs Toshiba Carrier Corporation tarafından üretilen klimaların montaj, onarım, bakım, yer değiştirme ve söküm işlemlerini gerçekleştirecek şekilde eğitim almıştır ya da eğitim almış ve bu işlemlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir.<br>• Montaj, onarım, yer değiştirme ve söküm işlemlerinde her türlü elektrik işini yapan yetkili servis personeli, bu elektrik işleri ile ilgili yerel kanun ve düzenlemeler tarafından şart koşulan niteliklere sahiptir ve Toshiba Carrier Corporation tarafından üretilen klimalar üzerinde gerçekleştirilen elektrik işleri konusunda eğitim almıştır ya da eğitim almış ve bu işlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir.<br>• Montaj, onarım, yer değiştirme ve söküm işlemlerinde her türlü soğutucu akışkan kullanımı ve boru tesisatı işini yapan yetkili servis personeli, bu soğutucu akışkan kullanımı ve boru tesisatı işleri ile ilgili yerel kanun ve düzenlemeler tarafından şart koşulan niteliklere sahiptir ve Toshiba Carrier Corporation tarafından üretilen klimalar üzerinde gerçekleştirilen soğutucu akışkan kullanımı ve boru tesisatı işleri konusunda eğitim almıştır ya da eğitim almış ve bu işlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir.<br>• Yüksek montaj noktalarında çalışan yetkili servis personeli, Toshiba Carrier Corporation tarafından üretilen klimalarla yüksek noktalarda çalışacak şekilde eğitim almıştır ya da eğitim almış ve bu işlemlerle ilgili bilgiye tamamen hakim olan bir şahıs ya da şahısların talimatları doğrultusunda bu işlemleri gerçekleştirmektedir. |



**Koruyucu Kıyafet Tarifi**
Klimanın taşınması, monte edilmesi, bakımının ve onarımının yapılması veya sökülmesi sırasında koruyucu eldivenler ile iş güvenliği" kıyafetlerini giyin.
Bu tür normal koruyucu kıyafetlere ek olarak, aşağıdaki tabloda açıklanan özel işleri gerçekleştirirken tabloda açıklanan koruyucu kıyafetleri giyin.
Doğru koruyucu kıyafetin kullanılmaması yaralanma, yanık, elektrik çarpması ve diğer yaralanmalara daha müsait olacağınız için tehlikelidir.

| Yapılan iş | Giyilecek koruyucu kıyafet |
|---|---|
| Her türlü iş | Koruyucu iş eldiveni<br>iş "Güvenliği" kıyafeti |
| Elektrik işleri | Elektrikçiler için, isiya karşı koruma sağlayan eldiven<br>Yalıtıcı ayakkabılar<br>Elektrik çarpmasına karşı koruma sağlayan kıyafet |
| Yüksekte yapılan işler (50 cm veya daha fazla) | Endüstri tipi baret |
| Ağır nesnelerin taşınması | Parmak ucu güçlendirilmiş ayakkabı |
| Dış ünite onarımı | Elektrikçiler için, isiya karşı koruma sağlayan eldiven |

Bu güvenlik uyarıları, kullanıcıların ve diğer insanların yaralanmasını ve maddi hasarları önlemek üzere güvenlikle ilgili önemli konuları ele alır. Lütfen bu kılavuzu, aşağıdaki içeriği anladıktan sonra okuyun (etiketlerin anlamı) ve açıklamalara uymaya dikkat edin.

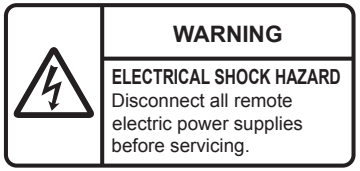
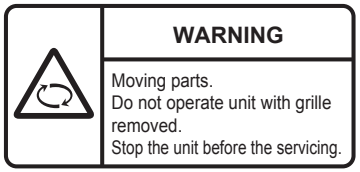
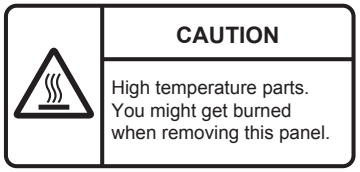
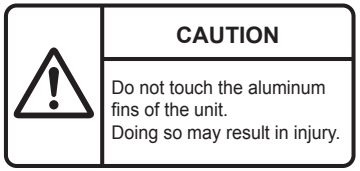
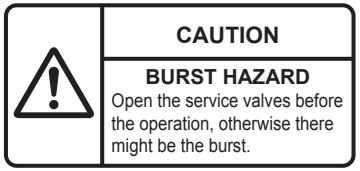
| Etiket | Etiketin açıklaması |
|---|---|
| ⚠ UYARI | Bu metin, uyarı etiketindeki talimatlara uyulmamasının ve ürünün doğru şekilde kullanılmasının ciddi yaralanmaya (*1) veya ölüme yol açabileceğini belirtir. |
| ⚠ DİKKAT | Bu metin, dikkat etiketindeki talimatlara uyulmamasının ve ürünün doğru şekilde kullanılmasının, hafif yaralanmaya (*2) veya maddi hasara (*3) yol açabileceğini belirtir. |

*1: iddi yaralanmalar görme kaybı, yaralanma, yanık, elektrik çarpması, kemik kırılması, zehirlenme ve de kalıcı etkisi olan, hastanede yatarak veya uzun süreli ayakta tedavi gerektiren diğer yaralanmalardır.
*2: Hafif yaralanmalar yaralanma, yanık, elektrik çarpması ve de hastanede yatarak veya uzun süreli ayakta tedavi gerektirmeyen yaralanmalardır.
*3: DMaddi hasarlar binalara, ev eşyalarına, çiftlik hayvanlarına ve evcil hayvanlara gelecek zararlardır.

**ÜNİTE ÜZERİNDEKİ SEMBOLLERİN ANLAMLARI**

| | | |
|---|---|---|
|  | **UYARI**<br>(Yangın riski) | Bu işaret sadece R32 soğutucu içindir. Soğutucu tipi dış ünitenin tip plakasında yazılıdır.<br>Soğutucu tipinin R32 olması durumunda, bu ünite bir yanıcı soğutucu kullanır. Soğutucu sızarsa ve alev veya isitma parçalarına temas ederse, zararlı gazlar açığa çıkar ve yangin riski oluşur. |
|  | Çalıştırmadan önce KULLANICI KILAVUZUNU dikkatle okuyun. | |
|  | Çalıştırmadan önce servis personelinin KULLANICI KILAVUZUNU ve MONTAJ KILAVUZUNU dikkatle okumuş olması gerekir. | |
|  | Daha fazla bilgi için bkz KULLANICI KILAVUZU, MONTAJ KILAVUZU vb. | |

## ■ Klima üzerindeki uyarı göstergeleri

| Uyarı etiketi | Açıklama |
|---|---|
|  | **UYARI**<br><br>**ELEKTRİK ÇARPMA TEHLİKESİ**<br>Servis/bakım yapmadan önce uzaktaki tüm elektrik güç kaynaklarını ayırın. |
|  | **UYARI**<br><br>Hareketli parçalar.<br>Izgara çıkarılmış durumda üniteyi çalıştırmayın.<br>Servis/bakım yapmadan önce üniteyi durdurun. |
|  | **DİKKAT**<br><br>Çok sıcak parçalar.<br>Bu paneli sökerken yanabilirsiniz. |
|  | **DİKKAT**<br><br>Ünitenin alüminyum kanatçıklarına dokunmayın.<br>Aksi takdirde yaralanmaya neden olabilir. |
|  | **DİKKAT**<br><br>**PATLAMA TEHLİKESİ**<br>Çalıştırmadan önce servis valflerini açın, aksi takdirde patlama olabilir |

“EEE yönetmeligine uygundur”

# 1 Güvenlik önlemleri

Üretici, bu kılavuzdaki açıklamaların incelenmemesinden kaynaklanan zararlardan sorumlu tutulamaz.

## ⚠ UYARI

### Genel

- Klimayı monte etmeye başlamadan önce Montaj Kılavuzu’nu baştan sona dikkatlice okuyun ve klimayı monte etmek için verilen talimatları takip edin.
- Montaj çalışmasını, yalnızca yetkili bir montaj veya servis uzmanı gerçekleştirebilir. Yanlış kurulum; su sızıntıları, elektrik çarpması veya yangınla sonuçlanabilir.
- Tamamlayıcı veya yedek olarak belirtilenden farklı bir soğutucu kullanmayın. Aksi takdirde, soğutma döngüsünde anormal yüksek basınç üretilebilir ve bu da ürünün arızalanmasıyla veya patlamasıyla ya da insanların yaralanmasıyla sonuçlanabilir.
- İç ünitenin emiş ızgarasını veya dış ünitenin servis panelini açmadan önce devre kesiciyi KAPALI konuma alın. Devre kesicinin KAPALI konuma alınmaması, iç parçalarla temas sonucu elektrik çarpmasına neden olabilir. İç ünitenin emiş ızgarası veya dış ünitenin servis paneli yalnızca kalifi ye montaj elemanı(*1) veya kalifi ye servisi elemanı(*1) tarafından sökülebilir ve gerekli işleri yapılabilir.
- Montaj, bakım, onarım veya sökme işlerini yapmadan önce devre kesiciyi mutlaka KAPALI konuma alın. Aksi takdirde elektrik çarpmasına neden olabilir.
- Montaj, bakım, onarım veya sökme işi yapılırken devre kesicinin yanına “Çalışma yapılıyor” işareti yerleştirin. Devre kesicinin yanlışlıkla AÇIK konuma alınması elektrik çarpma tehlikesine yol açar.
- 50 cm veya daha yüksek bir stand kullanarak yüksek yerlerde iş yapmaya veya iş yapmak üzere iç ünitenin emiş ızgarasını sökmeye yalnızca kalifi ye montaj elemanı(*1) veya kalifiye servisi elemanı(*1) yetkilidir.
- Montaj, servis/bakım ve sökme sırasında koruyucu iş eldiveni ve emniyet maksatlı iş elbisesi giyin.

- Ünitenin alüminyum kanatçığına dokunmayın. Dokunursanız yaralanabilirsiniz. Herhangi bir nedenle kanatçıklara dokunmak gerekirse önce koruyucu iş eldiveni ile emniyet maksatlı iş elbisesi giyin ve daha sonra devam edin.
- Dış ünitenin üzerine tırmanmayın ya da üzerine eşya koymayın. Düşme sonucu yaralanabilirsiniz ya da dış ünitenin üzerindeki eşyalar düşerek yaralanmaya neden olabilir.
- Yüksek yerlerde çalışırken ISO 14122 standardına uygun bir merdiven kullanın ve merdiven kullanma kılavuzundaki prosedürü takip edin. Ayrıca iş yapmak için koruyucu kıyafet olarak endüstri tipi baret takın.
- Dış ünitenin fi ltresini veya diğer parçalarını temizlemeden önce devre kesiciyi mutlaka KAPALI konuma alın ve işe başlamadan önce devre kesicinin yanına “Çalışma yapılıyor” işareti yerleştirin.
- Yüksek yerlerde çalışmadan önce, işe başlamadan önce çalışılan yere kimsenin yaklaşmaması için bir işaret yerleştirin. Parçalar ve diğer nesneler yukarıdan düşerek muhtemelen aşağıdaki birinin yaralanmasına neden olabilir. Çalışırken, düşen nesnelerden korunmak için kask takın.
- R32 dışında bir soğutucu kullanmayın.
  Soğutucu tipi için, birlikte kullanılan dış üniteye bakın.
- Bu klima tarafından kullanılan soğutucu, dış üniteye.
- Klima, sarsılmadan taşınmalıdır. Ürünün herhangi bir parçası kırıksa satıcınıza başvurun.
- Klimanın elle taşınması gerektiğinde, iki veya daha fazla kişi tarafından taşınmalıdır.
- Herhangi bir bölümü kendi başınıza taşımaya veya tamir etmeye çalışmayın. Ünite içinde yüksek gerilim mevcuttur. Kapağı ve ana üniteyi sökerken elektrik çarpmasına maruz kalabilirsiniz.
- Bu cihaz atölyeler, aydınlatma endüstrisi ve çiftliklerdeki uzman veya eğitimli kullanıcılar veya kullanım bilgisi olmayan kişilerce ticari kullanım amacıyla tasarlanmıştır.



**Montaj yerinin seçilmesi**

- Klima küçük bir odaya kurulduysa, odadaki soğutucu sızıntısı konsantrasyonunun kritik düzeyi aşmamasını sağlamak için gerekli önlemleri alın.
- Patlayıcı gaz kaçağı olabilecek yerlere monte etmeyin. Gaz kaçağı olursa veya ünitenin çevresinde gaz birikirse bu sırada ateşleyebilir ve yangın çıkmasına neden olabilir.
- Klimayı taşırken parmak ucu güçlendirilmiş ayakkabı giyin.
- Klimayı taşırken ambalaj kutusunun etrafındaki şeritleri çıkarmayın. Şeritler kırılırsa yaralanmanıza neden olabilir.
- Klima çalışırken kullanıcılar parmaklarını veya başka nesneleri iç üniteye sokmaları halinde yaralanabileceklerinden veya elektrik çarpmasına maruz kalabileceklerinden dolayı iç üniteyi zemin seviyesinden en az 2,5 m yukarı monte edin.
- Klimanın rüzgarına doğrudan maruz kalınan yerlere ısı üreten aygıtlar yerleştirmeyin aksi takdirde hatalı yanmaya neden olabilir.

**Kurulum**

- İç ünite askıya alınacaksa belirtilen askı cıvataları (M10 veya W3/8) ve somunları (M10 veya W3/8) kullanılmalıdır.
- Klimayı, tabanın ağırlığı yeterince kaldırabileceği bir yere sağlam bir şekilde kurun. Mukavemet yeterli değilse ünite düşerek yaralanmaya neden olabilir.
- Klimayı monte etmek için Montaj Kılavuzundaki talimatları takip edin. Bu talimatların takip edilmemesi ürünün düşmesine ya da devrilmesine veya gürültü, titreşim, su sızıntısı veya başka bir hasara neden olabilir.
- Sert rüzgar ve deprem olasılığına karşı korumak için kurulumu belirtildiği şekilde gerçekleştirin. Klima düzgün şekilde kurulmazsa, ünite devrilerek veya düşerek kazaya neden olabilir.
- Kurulum çalışması sırasında soğutucu gaz sızıntı yaptıysa, odayı hemen havalandırın. Sızan soğutucu gazın ateşle temas etmesi durumunda zehirli gaz oluşabilir.
- Klima ünitelerini taşımak için forklift ve bunların kurulumu için vinç veya kaldıraç kullanın.

**Soğutucu borusu**

- İKlimayı çalıştırmadan önce montaj sırasında soğutucu borusunu sağlam bir şekilde takın. Valf açık durumda soğutucu borusu olmadan kompresör çalışırsa kompresör havayı emer ve soğutma devresinde aşırı basınca yol açarak yaralanmaya neden olabilir.
- Havşa somununu tork anahtarıyla belirtilen şekilde sıkın. Havşa somununun fazla sıkılması uzun vadede havşa somununda çatlamaya yol açarak soğutucu kaçağına neden olabilir.
- Kurulum çalışmasından sonra soğutucu gazın sızıntı yapmadığını onaylayın. Odaya soğutucu gaz sızar ve fırın gibi ısı kaynaklarının yakınına akarsa zehirli gaz oluşabilir.
- Klima monte edilirken veya yeri değiştirilirken soğutucu devresine soğutucu haricinde başka gazların karışmasını engellemek için Montaj Kılavuzundaki talimatları takip ederek havayı tamamen boşaltın. Havanın tamamen boşaltılmaması klimanın arızalanmasına neden olabilir.
- Hava sızdırmazlık testi için nitrojen gazı kullanılmalıdır.
- Doldurma hortumu sarkmayacak şekilde bağlanmalıdır.

**Elektrik kablosu**

- Klimanın elektrik işleri yalnızca kalifi ye montaj elemanı(*1) veya kalifi ye servisi elemanı(*1) tarafından yapılabilir. İşin düzgün yapılmaması elektrik çarpmasına ve/veya elektrik kaçaklarına neden olabileceğinden dolayı bu iş asla kalifi ye olmayan kişilerce yapılmamalıdır.
- Elektrik kablolarını bağlamak, elektrikli parçaları onarmak veya diğer elektrik işlerini yapmak için, ısıya karşı koruma sağlayan eldiven, yalıtılmış ayakkabı ve elektrik çarpmalarına karşı koruma sağlayan kıyafet giyin. Bu koruyucu kıyafetlerin giyilmemesi elektrik çarpmasına neden olabilir.
- Montaj Kılavuzundaki teknik özellikleri karşılayan ve yerel yasalar ve yönetmeliklerin şart koştuğu kablolar kullanın. Teknik özellikleri karşılamayan kablo kullanılması elektrik çarpmasına, elektrik kaçağına, duman çıkmasına ve/veya yangına neden olabilir.
- Topraklama kablosunu bağlayın. (Topraklama işi) Yetersiz topraklama elektrik çarpmasına neden olur.
- Topraklama kablolarını gaz borularına, su borularına ve paratonerlere ya da telefon toprak hatlarına bağlamayın.
- Onarım veya yer değiştirme işini tamamladıktan sonra topraklama kablolarının düzgün bağlanıp bağlanmadığını kontrol edin.
- Montaj Kılavuzundaki teknik özellikleri karşılayan ve yerel yasalar ve yönetmeliklerin şart koştuğu bir devre kesici kullanın.
- Devre kesiciyi acenta tarafından kolayca erişilebilecek bir yere monte edin.
- Devre kesiciyi dış mekanlara monte ederken dış mekanlar için tasarlanmış olan bir devre kesici kullanın.
- Güç kablosu hiçbir şart altında uzatılmamalıdır. Kablonun uzatıldığı yerlerdeki bağlantı problemi duman çıkmasına ve/veya yangına neden olabilir.
- Elektrik kablo işleri toplumda ve montaj kılavuzunda yer alan yasa ve düzenlemelere göre gerçekleştirilmelidir. Aksi takdirde elektrik çarpması sonucu ölüm veya kısa devre meydana gelebilir.

**Test çalıştırması**

- İşi tamamladıktan sonra klimayı çalıştırmadan önce iç ünitenin elektrik kontrol kutusunun kapağı ile dış ünitenin servis panelinin kapalı olduğunu kontrol edin ve devre kesiciyi AÇIK konuma alın. Önce bu kontroller yapılmadan elektrik verilirse elektrik çarpmasına maruz kalabilirsiniz.
- Herhangi bir hasar (örn. hata mesajı görüntülenirse, yanık kokusu varsa, normal olmayan sesler geliyorsa, klima soğutma veya ısıtma yapmıyorsa ya da su sızıntısı varsa) varsa, klimaya dokunmayın ve devre kesiciyi KAPALI konuma alın, kalifi ye servis elemanı çağırın. Kalifi ye servis elemanı gelene dek elektrik verilmemesi için gerekli önlemleri alın (örneğin devre kesicinin yanına “servis dışı” işareti koyun). Klimanın sorunlu şekilde kullanılmaya devam edilmesi mekanik sorunların artmasına, elektrik çarpmasına veya diğer hasarlara neden olabilir.
- İşin tamamlanmasının ardından bir yalıtım test cihazı (500V Megger) kullanarak şarj bölümü ve şarj edilmeyen metal bölüm (topraklama bölümü) arasındaki direncin 1 MΩ veya daha fazla olup olmadığını kontrol edin. Direnç değeri düşükse kullanıcı tarafında elektrik kaçağı veya elektrik çarpması meydana gelebilir.
- Montaj işi tamamlandıktan sonra soğutucu kaçaklarını, yalıtım direncini ve su tahliyesini kontrol edin. Daha sonra klimanın düzgün çalıştığını kontrol etmek için bir test çalıştırması yapın.

**Kullanıcıya verilecek açıklamalar**

- Montaj işi tamamlandıktan sonra kullanıcıya devre kesicinin yerini gösterin. Kullanıcı devre kesicinin yerini bilmiyorsa klimada bir sorun meydana geldiğinde devre kesiciyi kapatamayacaktır.
- Fan ızgarası hasar görmüşse, dış üniteye yaklaşmayın, devre kesiciyi OFF (KAPALI) konuma getirin ve onarım işlemini gerçekleştirmesi için yetkili bir servis personeline(*1) haber verin. Onarım yapılana kadar devre kesiciyi ON (AÇIK) konuma almayın.
- Montaj işi tamamlandıktan sonra müşteriye ünitenin kullanımı ve bakımının nasıl yapılacağını Kullanım Kılavuzunu takip ederek açıklayın.



**Yer değiştirme**

- Klimanın yeri yalnızca kalifi ye montaj elemanı(*1) veya kalifiye servisi elemanı(*1) tarafından değiştirilebilir. Klimanın yerinin kalifi ye olmayan biri tarafından değiştirilmesi yangın, elektrik çarpması, yaralanma, su kaçağı, gürültü ve/veya titreşime neden olacağından dolayı tehlikelidir.
- Gaz toplama (pump-down) işi yaparken soğutucu borusunu sökmeden önce kompresörü kapatın. Servis valfi açık ve kompresör çalışıyorken soğutucu borusu bağlantısının kesilmesi hava veya başka bir gazın emilmesine neden olur, soğutma devresinin iç basıncını anormal yüksek bir seviyeye artırır ve parçalanma, yaralanma veya diğer sorunlara neden olabilir.

**⚠ DİKKAT**

**Bu klima, ozon tabakasına zarar vermeyen bir HFC soğutucu (R32) kullanır.**

- R32 soğutucu nem, oksidasyon fi lmi, yağ ve benzerinden kolayca etkilendiği için, montaj sırasında soğutma devresine nem, kir ve mevcut soğutucunun karışmamasına dikkat edin.
- Montajda R32 soğutucular için özel bir alet gereklidir.
- Montaj sırasında nem ve kir karışmaması için, bağlantı boruları için yeni ve temiz boru malzemeleri kullanın.
- Mevcut borular kullanılacaksa, dış üniteyle verilen montaj kılavuzuna bakın.

(*1) Bakınız: “Kalifi ye Montaj Elemanı veya Kalifi ye Servis Elemanı Tarifi ”.

# 2 Accessory parts

| Pipe | Q'ty | Shape | Usage |
|---|---|---|---|
| Installation Manual | 1 | This manual | (Hand over to customers)<br>(For other languages that do not appear in this Installation Manual, please refer to the enclosed CD-R.) |
| Owner's Manual | 1 |  | (Hand over to customers)<br>(For other languages that do not appear in this Installation Manual, please refer to the enclosed CD-R.) |
| CD-ROM | 1 | — | Owner's Manual and Installation Manual |
| Heat insulating pipe | 2 |  | For heat insulation of the pipe connecting section |
| Installation pattern | 1 | — | For checking of ceiling opening and the main unit position |
| Installation gauge | 2 |  | For positioning of the ceiling position<br>(To be used with the installation pattern) |
| Heat insulator | 1 |  | For heat insulation of drain connecting section |
| Washer | 4 |  | For hanging unit |
| Eccentric washer | 4 |  | For hanging-down unit |
| Hose band | 1 |  | For connecting drain pipe |
| Flexible hose | 1 |  | For drainage of drain water |
| Heat insulator | 1 |  | For sealing of wire connecting port |

## ■ Separate sold parts

The Ceiling panel and remote controller are sold separately. For the installation of these products, follow the Installation Manuals supplied with them.

# 3 Selection of installation place

## ⚠ WARNING

- **Install the air conditioner at enough strong place to withstand the weight of the unit.**
  If the strength is not enough, the unit may fall down resulting in injury.
- **Install the air conditioner at a height 2.5 m or more from the floor.**
  If you insert your hands or others directly into the unit while the air conditioner operates, it is dangerous because you may contact with revolving fan or active electricity.

## ⚠ CAUTION

- **Do not install the air conditioner in a location subject to a risk of exposure to a combustible gas.**
  If a combustible gas leaks and stays around the unit, a fire may occur.

**Upon approval of the customer, install the air conditioner in a place that satisfies the following conditions**

- Place where the unit can be installed horizontally.
- Place where a sufficient servicing space can be ensured for safety maintenance and check.
- Place where drained water will not cause any problem.

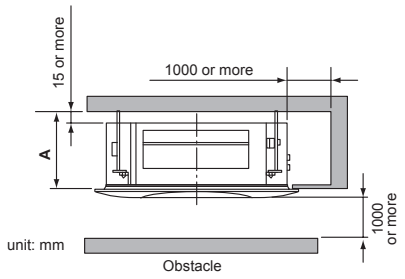
**Avoid installing in the following places**

- Place exposed to air with high salt content (seaside area), or place exposed to large quantities of sulfide gas (hot spring).
  (Should the unit be used in these places, special protective measures are needed.)
- A restaurant kitchen where a lot of oil is used or place near machines in a factory (Oil adhering to the heat exchanger and resin part (turbo fan) in the indoor unit may reduce the performance, generate mist or dew drop, or deform or damage resin parts.)
- Places where iron or other metal dust is present. If iron or other metal dust adheres to or collects on the interior of the air conditioner, it may spontaneously combust and start a fire.
- Place where organic solvent is used nearby.
- Place close to a machine generating high frequency.
- Place where the discharged air blows directly into the window of the neighbor house. (Outdoor unit)
- Place where noise of the outdoor unit is easily transmitted.
  (When install the outdoor unit on the boundary with the neighbor, pay due attention to the level of noise.)
- Place with poor ventilation. (Before air ducting work, check whether value of air volume, static pressure and duct resistance are correct.)
- Do not use the air conditioner for special purposes such as preserving food, precision instruments, or art objects, or where breeding animals or growing plants are kept. (This may degrade the quality of preserved materials.)
- Place where any of high-frequency appliances (including inverter devices, private power generators, medical equipment, and communication equipment) and inverter-type fluorescent light is installed.
  (A malfunction of the air conditioner, abnormal control, or problems due to noise to such appliances / equipment may occur.)
- When the wireless remote controller is used in a room equipped with an inverter-type fluorescent light or at a place exposed to direct sunlight, signals from the remote controller may not be received correctly.
- Place where organic solvent is used.
- Place near a door or window exposed to humid outside air (Dew dropping may form.).
- Place where special spray is used frequently.

## ■ Installation space

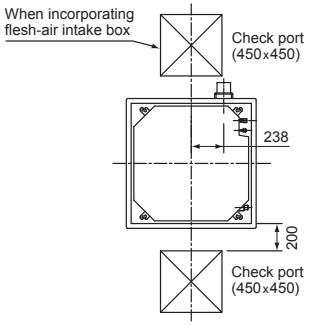
**Secure the specified space in the figure for installation and servicing.**

| Model | A mm |
|---|---|
| GM90 Type | 334 or more |




**▼ When incorporating fresh air intake box (sold separately)**

Provide an inspection opening at the outside-air intake box side.




## ■ Selection of installation place

In case of continued operation of the indoor unit under high-humidity conditions as described below, dew may condense and water may drop.
Especially, high-humidity atmosphere (dew point temperature : 23 °C or more) may generate dew inside the ceiling.

1. Unit is installed inside the ceiling with slated roof.
2. Unit is installed at a location using inside of the ceiling as fresh air take-in path.
3. Kitchen

## ◆ Advice

- Set a service check opening panel at right side of the unit (size: 450 × 450 mm or more) for piping, maintenance, and servicing.
- If installing a unit at such place, put insulating material (glass wool, etc.) additionally on all the positions of the indoor unit which come to contact with high-humidity atmosphere.

**REQUIREMENT**

**When the humidity inside the ceiling seems to be higher than 80%, attach a heat insulator to the side (top) surface of the indoor unit. (Use a heat insulator that is 10 mm or more thick.)**

## ■ Ceiling height

| Model | Possible installed ceiling height |
|---|---|
| GM90 Type | Up to 4.6 m |

When the height of the ceiling exceeds the distance of the item Standard / 4-way in Table as below, the hot air is difficult to reach the floor.
Therefore, it is necessary to change the setup value of the high ceiling switch or discharge direction.
The high-ceiling setting is also necessary when installing separately sold filters.

**REQUIREMENT**

- When using the air conditioner with 2-way / 3-way discharge system, a strong wind blows directly if the ceiling height is lower than the standard.
  Therefore, change the setting switch according to height of the ceiling.
- When using the high ceiling (1) or (3) with 4-way discharge system, the draft is apt to be felt due to drop of the discharge temperature.

**▼ Height list of ceiling possible to be installed**

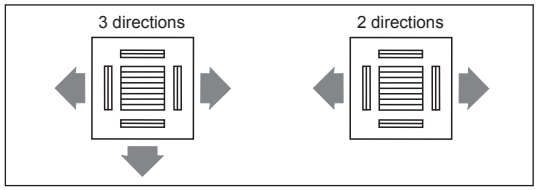
(Unit: mm)

| Model | GM90 | | | Setup of high ceiling |
|---|---|---|---|---|
| Discharge direction | 4-way | 3-way | 2-way | SET DATA |
| Standard (At shipment) | 3.9 | 4.2 | 4.5 | 0000 |
| High ceiling (1) | 4.2 | 4.4 | 4.6 | 0001 |
| High ceiling (3) | 4.5 | 4.6 | — | 0003 |

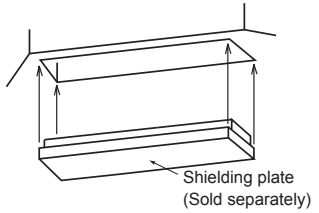
The lighting time of the filter sign (notification of filter cleaning) on the remote controller can be changed according to installation conditions.
When it is difficult to obtain satisfactory heating due to location place of the indoor unit or the structure of the room, the detection temperature of heating can be raised.

## ■ Discharge direction

As shown in the figure below, air discharge directions can be selected according to the shape of the room and the location of the indoor unit installation.




Use a shielding plate kit (sold separately) to change discharge directions.
Discharge directions are limited. Follow the Installation Manual supplied with the shielding plate kit.



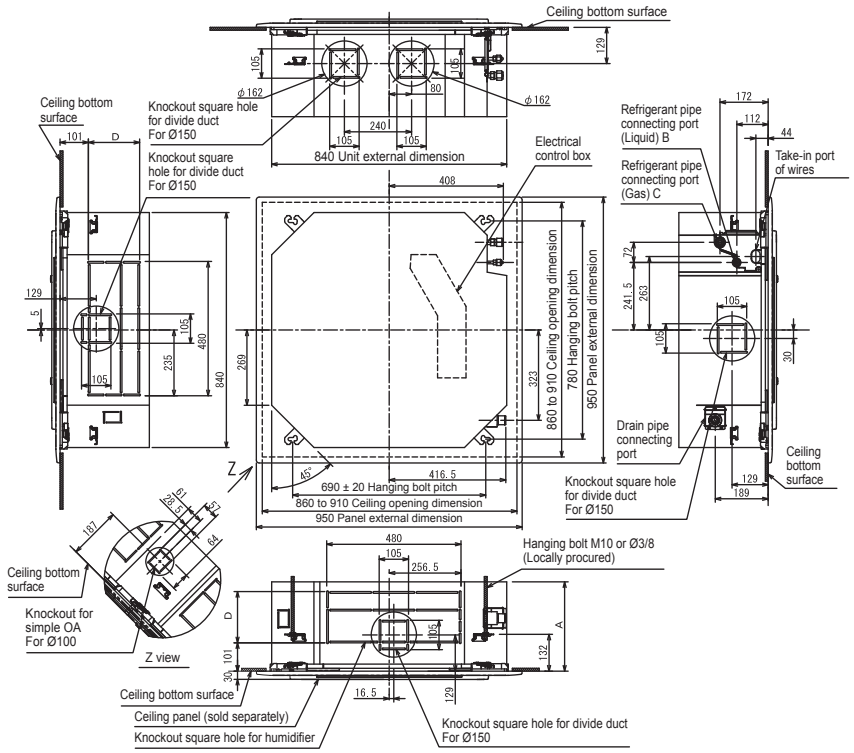
# 4 Installation

**REQUIREMENT**

Strictly comply with the following rules to prevent damage of the indoor units and human injury.
- Do not put a heavy article on the indoor unit. (Even units are packaged)
- Carry in the indoor unit as it is packaged if possible. If carrying in the indoor unit unpacked by necessity, be sure to use buffering cloth, etc. to not damage the unit.
- To move the indoor unit, hold the hooking metals (4 positions) only. Do not apply force to the other parts (refrigerant pipe, drain pan, foamed parts, or resin parts, etc.).
- Carry the package by two or more persons, and do not bundle it with plastic band at positions other than specified.

## ■ External view

**(Unit: mm)**




(mm)

| Model | A | B | C | D |
|---|---|---|---|---|
| GM90 Type | 319 | Ø9.5 | Ø15.9 | 183 |

## ■ Opening a ceiling and installation of hanging bolts

- Consider the piping / wiring before the unit is hung when determining the location of the indoor unit installation and orientation.
- After the location of the indoor unit installation has been determined, open the ceiling and install hanging bolts.
- The dimensions of the ceiling opening and hanging bolt pitches are given in the outline drawing and the attached installation pattern.
- When a ceiling already exists, lay the drain pipe, refrigerant pipe, indoor unit / outdoor unit connection wires, and remote controller wires to their connection locations before hanging the indoor unit.

Procure hanging bolts and nuts for installing the indoor unit (these are not supplied).

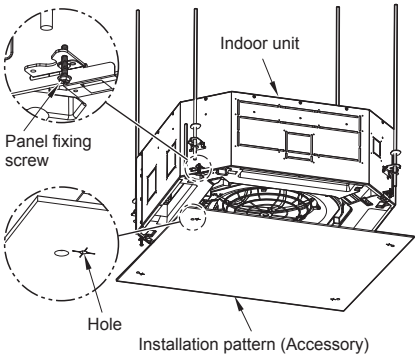
| | | |
|---|---|---|
| Hanging bolt | M10 or W3/8 | 4 pieces |
| Nut | M10 or W3/8 | 12 pieces |

### ◆ How to use the installation pattern (accessory)

The installation pattern is provided inside the packaging cap.

**<For existing ceiling>**
Use the installation pattern positioning a ceiling opening and hanging bolts.

**<For new ceiling>**
Use the installation pattern to position the ceiling opening when hanging a ceiling.
- After the hanging bolts have been installed, install the indoor unit.
- Hook the four holes in the installation pattern to the panel fixing screws of the indoor unit.
- When hanging a ceiling, open the ceiling along the outside dimensions of the installation pattern.




### ◆ Treatment of ceiling

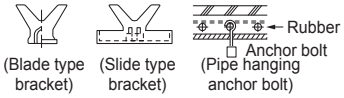
The ceiling differs according to structure of building. For details, consult your constructor or interior finish contractor.
In the process after the ceiling board has been removed, it is important to reinforce ceiling foundation (frame) and to keep horizontal level of installed ceiling correctly in order to prevent vibration of ceiling board.
1. Cut and remove the ceiling foundation.
2. Reinforce the cut surface of ceiling foundation, and add ceiling foundation for fixing the end of ceiling board.

### ◆ Installation of hanging bolt

Use M10 hanging bolts (4 pcs, locally procured).
Matching to the existing structure, set pitch according to size in the unit external view as shown below.

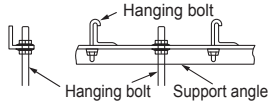
**New concrete slab**

Install the bolts with insert brackets or anchor bolts.



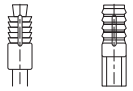

**Steel flame structure**

Use existing angles or install new support angles.

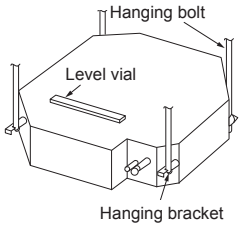



**Existing concrete slab**

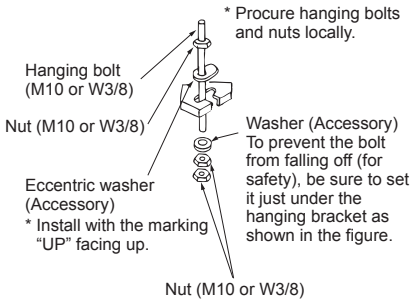
Use a hole-in anchors, hole-in plugs, or a hole-in bolts.

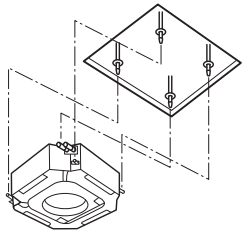


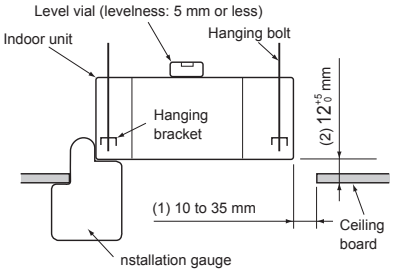
## ◆ TInstallation of ceiling opening and hanging bolt

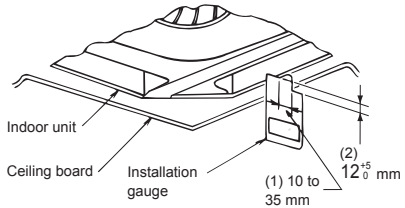



- Attach a nut (M10 or W3/8: not supplied) and the Ø34 washer (supplied) to each hanging bolt.
- Insert a washer on both sides of the T groove of the hanging bracket of the indoor unit, and hang the indoor unit.
- Check that the four sides of the indoor unit are level using a level vial (levelness: 5 mm or less).
- Detach the installation gauge (accessory) from the installation pattern.
- Using the installation gauge, check and adjust the positional relation between the indoor unit and the ceiling opening (1) (10 to 35 mm: 4 sides) and the hanging-up height (2) ($12^{+5}_{0}$ mm: 4 corners). (How to use the installation gauge is printed on the gauge.)



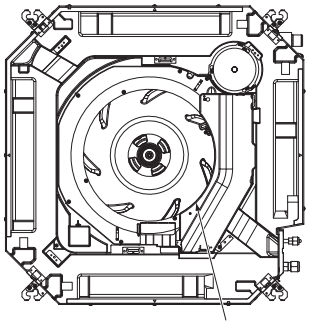






**REQUIREMENT**

Before installation of the indoor unit, be sure to remove the tape for transportation between the fan and the bell mouth. Running the unit without removing the tape may damage the fan motor.



Be sure to remove the tape for transportation between the fan and the bell mouth.

## ■ Installation of ceiling panel (Sold separately)

Install the ceiling panel according to Installation Manual attached with it after piping / wiring work has completed.
Check that installation of indoor unit and ceiling opening part is correct, and then install it.

**REQUIREMENT**

- Joint the connecting sections of ceiling panel, ceiling surface, ceiling panel and indoor unit closely. Any gap between them will cause air leakage and the generate condensation or water leakage.
- Remove the adjust corner caps at the four corners of the ceiling panel, and then install the ceiling panel onto the indoor unit.
- Make sure that the claws of the four adjust corner caps are securely fit.
  * Improper fitting of the claws may cause water leakage.

## ■ Installation of remote controller (Sold separately)

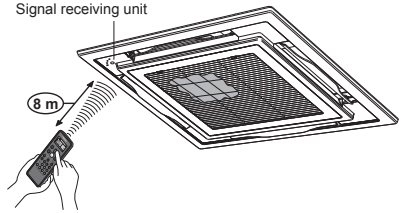
For installation of the wired remote controller, follow the Installation Manual attached with the remote controller.

- Pull out the remote controller cord together with the refrigerant pipe or drain pipe. Be sure to pass the remote controller cord through upper side of the refrigerant pipe and drain pipe.
- Do not leave the remote controller at a place exposed to the direct sunlight and near a stove

## ■ In case of wireless type

The sensor of indoor unit with wireless remote controller can receive a signal by distance within approx. 8 m. Based upon it, determine a place where the remote controller is operated and the installation place.

- Operate the remote controller, confirm that the indoor unit receives a signal surely, and then install it.
- Keep 1 m or more from the devices such as television, stereo, etc. (Disturbance of image or noise may generate.)
- To prevent a malfunction, select a place where is not influenced by a fluorescent light or direct sunlight.
- Two or more (Up to 6 units) indoor units with wireless type remote controller can be installed in the same room.



# 5 Drain piping

**⚠ CAUTION**

**Following the Installation Manual, perform the drain piping work so that water is properly drained, and apply a heat insulation so as not to cause a dew dropping.**
**Inappropriate piping work may result in water leakage in the room and wet of furniture.**

## ■ Piping / Heat insulating material

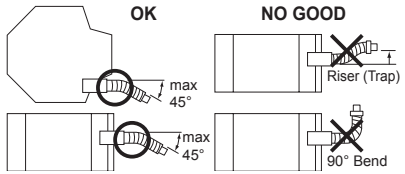
Require the following materials for piping and heat insulating at site.

| | |
|---|---|
| **Piping** | Hard vinyl chloride pipe VP25 (Outer dia. : Ø32 mm) |
| **Heat insulator** | Foam polyethylene : Thickness 10 mm or more |

## ■ Flexible hose

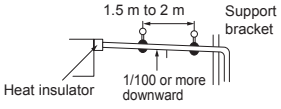
Use the attached flexible hose to adjust center discrepancy of the hard vinyl chloride pipe or to adjust the angle.

- Do not use the flexible hose as stretched, or do not deform it more extent than that in the following figure.
- Be sure to fix the soft end of the flexible hose with the attached hose band.
- Use the flexible hose on a horizontal level.

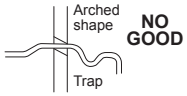



**REQUIREMENT**

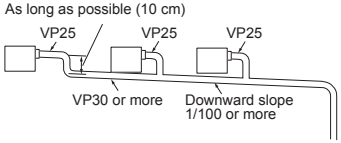
- Be sure to perform heat insulation of the drain pipes of the indoor unit.
- Never forget to perform heat insulation of the connecting part with the indoor unit.
  An incomplete heat insulation causes dew dropping.
- Set the drain pipe with downward slope (1/100 or more), and do not make swelling or trap on the piping. It may cause an abnormal sound.



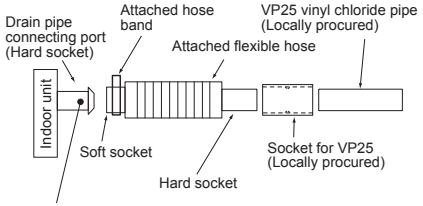

- For length of the traversing drain pipe, restrict to 20 m or less.
  In case of a long pipe, provide support brackets with interval of 1.5 to 2 m in order to prevent waving.



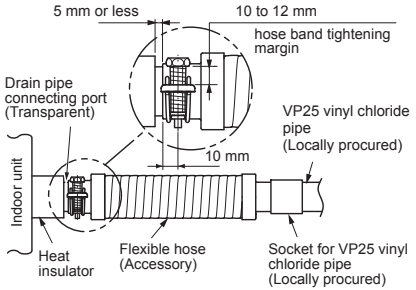

- Set the collective piping as shown in the below figure.




- Be sure not to apply force to the connecting part of the drain pipe.
- The hard vinyl-chloride pipe cannot be directly connected to the drain pipe connecting port of the indoor unit.
  For connection with the drain pipe connecting port, be sure to use / fix the attached flexible hose with the hose band, otherwise a damage or water leak is caused on the drain pipe connecting port.




**Adhesive inhibited :**
Use the attached flexible hose and hose band for connecting the drain hose to the clear drain socket.
If applying the adhesive, socket will be damaged and cause water leakage




## ■ Connecting drain pipe

- Connect a hard socket (locally procured) to the hard socket of the attached supplied flexible hose.
- Connect a drain pipe (locally procured) to the connected hard socket.

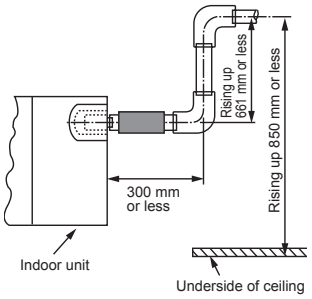
**REQUIREMENT**

- Connect hard vinyl chloride pipes securely using an adhesive for vinyl chloride to avoid water leakage.
- It takes some time until the adhesive is dried and hardened (refer to the manual of the adhesive).
  Do not apply stress to the joint with the drain pipe during this time period.

## ■ Drain up

When a down-gradient cannot be secured for the drainpipe, drain-up piping is possible.

- The height of the drain pipe must be 850 mm or less from the bottom of the ceiling.
- Take the drain pipe out of the drain pipe joint with the indoor unit in 300 mm or less, and bend up the pipe vertically.
- Immediately after the pipe is bent up vertically, lay the pipe making a down-gradient.
- Set downward grading immediately after raising up vertically.

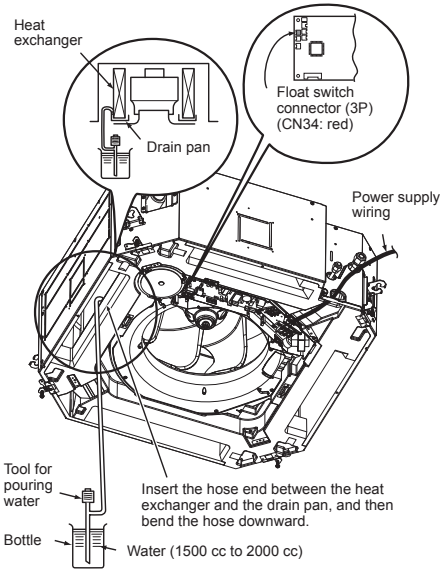



## ■ Check the draining

In the test run, check that water drain is properly performed and water does not leak from the connecting part of the pipes.
Be sure to check draining also when installed in heating period.
Using a pitcher or hose, pour water (1500 to 2000 cc) into the discharge port before installation of the ceiling panel.
Pour water gradually so that water does not spread on the motor of the drain pump.

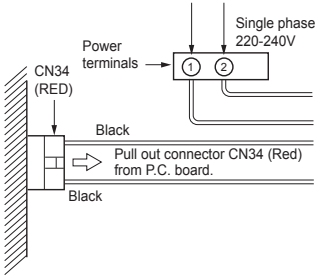
**⚠ CAUTION**

Pour water gently so that it does not spread around inside the indoor unit, which may cause a malfunction.



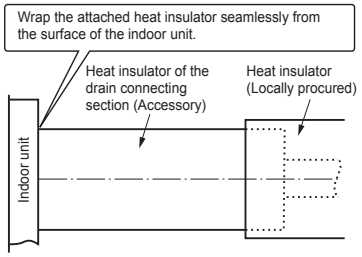

- After the electric work has finished, pour water during COOL mode operation.
- If the electric work has not yet finished, pull out the float switch connector (CN34 : Red) from the electrical control box, and check draining by plugging the single phase 220-240V power to the terminal blocks ① and ②.
  If doing so, the drain pump motor operates.
  (Never apply 220-240V to Ⓐ or Ⓑ, otherwise a trouble of P.C. board occurs.)

- Test water drain while checking the operation sound of the drain pump motor.
  (If the operation sound changes from continuous sound to intermittent sound, water is normally drained.)
  After the check, the drain pump motor runs, connecting the float switch connector.
  (In case of check by pulling out the float switch connector, be sure to return the connector to the original position.)




## ■ Perform heat insulating

- As shown in the figure, cover the flexible hose and hose band with the attached heat insulator up to the bottom of the indoor unit without gap.
- Cover the drain pipe seamlessly with a heat insulator locally procured so that it overlaps with the attached heat insulator of the drain connecting section.




* Direct the slits and seams of the heat insulator upward to avoid water leakage.

# 6 Refrigerant piping

### ⚠ CAUTION

When the refrigerant pipe is long, provide support brackets at intervals of 2.5 m to 3 m to clamp the refrigerant pipe. Otherwise, abnormal sound may be generated.

## ■ Permissible piping length and height difference

They vary depending on the outdoor unit. For details, refer to the Installation Manual attached to the outdoor unit.locally procured so that it overlaps with the attached heat insulator of the drain connecting section.

### ⚠ CAUTION

**IMPORTANT 4 POINTS FOR PIPING WORK**

1. Reusable mechanical connectors and flared joints are not allowed indoors. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be refabricated.
2. Tight connection (between pipes and unit)
3. Evacuate the air in the connecting pipes by using VACUUM PUMP.
4. Check the gas leakage. (Connected points)

## ■ Pipe size

| Model name | | GM90 type |
|---|---|---|
| Pipe size | Gas side | 15.9 mm |
| | Liquid side | 9.5 mm |

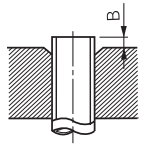
## ■ Connecting refrigerant piping

### Flaring

- Cut the pipe with a pipe cutter.
  Remove burrs completely.
  Remaining burrs may cause gas leakage.
- Insert a flare nut into the pipe, and flare the pipe.
  As the flaring sizes of R32 differ from those of refrigerant R22, the flare tools newly manufactured for R32 are recommended. However, the conventional tools can be used by adjusting projection margin of the copper pipe.

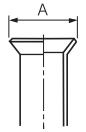
### Projection margin in flaring: B (Unit: mm)

| Outer dia. of copper pipe | Tool used | Conventional tool used |
|---|---|---|
| 6.4, 9.5 | 0.5 to 1.1 | 1.0 to 1.5 |
| 12.7, 15.9 | 0.5 to 1.1 | 1.5 to 2.0 |




### Flaring diameter size: A (Unit: mm)

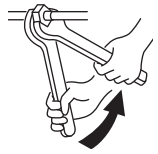
| Outer dia. of copper pipe | A $^{+0}_{-0.4}$ |
|---|---|
| 6.4 | 9.1 |
| 9.5 | 13.2 |
| 12.7 | 16.6 |
| 15.9 | 19.7 |




### ⚠ CAUTION

- Do not scratch the inner surface of the flared part when removing burrs.
- Flare processing under the condition of scratches on the inner surface of flare processing part will cause refrigerant gas leak.
- Check that the flared part is not scratche, deformed, stepped, or other problems, after flare processing.
- Do not apply refrigerating machine oil to the flare surface.

* In case of flaring with the conventional flare tool, pull it out approx. 0.5 mm more than that for R22 to adjust to the specified flare size. The copper pipe gauge is useful for adjusting projection margin size.
- The sealed gas was sealed at the atmospheric pressure so when the flare nut is removed, there will no “whooshing” sound: This is normal and is not indicative of trouble.
- Use two wrenches to connect the indoor unit pipe.



Work using double spanner

- Use the tightening torque levels as listed in the following table.

| Outer dia. of connecting pipe (mm) | Tightening torque (N•m) |
|---|---|
| 6.4 | 14 to 18 (1.4 to 1.8 kgf•m) |
| 9.5 | 34 to 42 (3.4 to 4.2 kgf•m) |
| 12.7 | 49 to 61 (4.9 to 6.1 kgf•m) |
| 15.9 | 63 to 77 (6.3 to 7.7 kgf•m) |

▼ **Tightening torque of flare pipe connections**
Incorrect connections may cause not only a gas leak, but also a trouble of the refrigeration cycle. Align the centres of the connecting pipes and tighten the flare nut as far as possible with your fingers. Then tighten the nut with a spanner and torque wrench as shown in the figure.

### ⚠ CAUTION

Tightening with an excessive torque may crack the nut depending on installation conditions.

## ■ Evacuation

Perform vacuuming from the charge port of valve of the outdoor unit by using a vacuum pump.
For details, follow to the Installation Manual attached to the outdoor unit.
- Do not use the refrigerant sealed in the outdoor unit for evacuation.

**REQUIREMENT**

For the tools such as charge hose, use those manufactured exclusively for R32.

### Refrigerant amount to be added

For addition of the refrigerant, add refrigerant “R32” referring to the attached Installation Manual of outdoor unit.
Use a scale to charge the refrigerant of specified amount.

**REQUIREMENT**

- Charging an excessive or too little amount of refrigerant causes a trouble of the compressor. Charge the refrigerant of specified amount.
- A personnel who charged the refrigerant should write down the pipe length and the added refrigerant amount in the F-GAS label of the outdoor unit. It is necessary to fix the compressor and refrigeration cycle malfunction.

### Open the valve fully

Open the valve of the outdoor unit fully. A 4 mm-hexagonal wrench is required for opening the valve. For details, refer to the Installation Manual attached to the outdoor unit.

### Gas leak check

Check with a leak detector or soap water whether gas leaks or not, from the pipe connecting section or cap of the valve.

**REQUIREMENT**

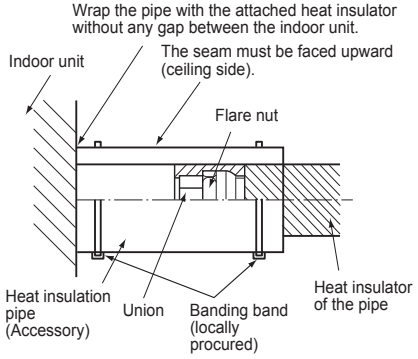
Use a leak detector manufactured exclusively for HFC refrigerant (R32, R134a, R410A, etc).

### Heat insulation process

Apply heat insulation for the pipes separately at liquid side and gas side.
- For the heat insulation to the pipes at gas side, use the material with heat-resisting temperature 120 °C or higher.
- To use the attached heat insulation pipe, apply the heat insulation to the pipe connecting section of the indoor unit securely without gap.

**REQUIREMENT**

- Apply the heat insulation to the pipe connecting section of the indoor unit securely up to the root without exposure of the pipe. (The pipe exposed to the outside causes water leak.)
- Wrap heat insulator with its slits facing up (ceiling side).




# 7 Electrical connection

### ⚠ WARNING

- **Use the specified wires for wiring connect the terminals. Securely fix them to prevent external forces applied to the terminals from affecting the terminals.**
  Incomplete connection or fixation may cause a fire or other trouble.
- **Connect earth wire. (grounding work)**
  Incomplete grounding cause an electric shock.
  Do not connect earth wires to gas pipes, water pipes, lightning conductor or telephone earth wires.
- **Connect earth wire. (grounding work)**
  Capacity shortage of power circuit or incomplete installation may cause an electric shock or a fire.

### ⚠ CAUTION

- For power supply specifications, follow the Installation Manual of outdoor unit.
- Do not connect 220 – 240V power to the terminal blocks ( Ⓐ, Ⓑ ) for control wiring.
  Otherwise, the system will fail.
- Do not damage or scratch the conductive core and inner insulator of power and system interconnection wires during peeling them.
- Perform the electric wiring so that it does not come to contact with the high-temperature part of the pipe.
  The coating may melt resulting in an accident.
- Do not turn on the power of the indoor unit until vacuuming of the refrigerant pipes completes.

## ■ System interconnection wires specifications

| | | |
|---|---|---|
| System interconnection wires* | 4 x 1.5 mm² or more (H07RN-F or 60245 IEC 66) | Up to 70 m |

*Number of wire x wire size

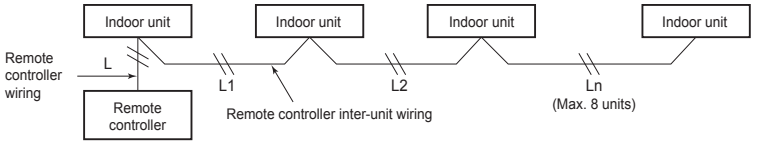
### Remote controller wiring

| | |
|---|---|
| Remote controller wiring, remote controller inter-unit wiring | Wire size: 2 × 0.5 to 2.0 mm² |

| | | |
|---|---|---|
| Total wire length of remote controller wiring and remote controller inter-unit wiring = L + L1 + L2 + … Ln | In case of wired type only | Up to 500 m |
| | In case of wireless type included | Up to 400 m |
| Total wire length of remote controller inter-unit wiring = L1 + L2 + … Ln | | Up to 200 m |

### ⚠ CAUTION

The remote controller wire and system interconnection wires cannot be parallel to contact each other and cannot be stored in the same conduits. If doing so, a trouble may be caused on the control system due to noise or other factor.

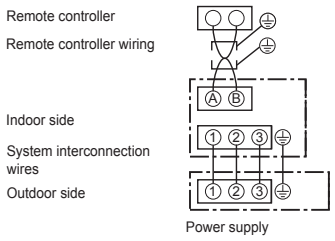


## ■ Wiring between indoor unit and outdoor unit

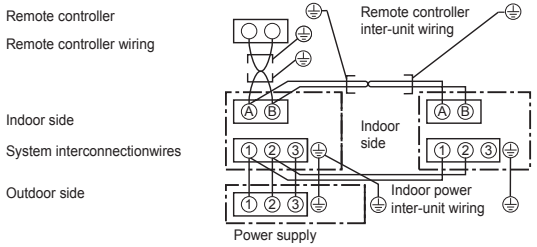
1. Figure below shows the wiring connections between the indoor and outdoor units and between the indoor units and remote controller. The wires indicated by the broken lines or dot-and-dash lines are provided at the locally.
2. Refer to the both indoor and outdoor unit wiring diagrams.
3. The power of the indoor unit is supplied from the outdoor unit.

### Wiring diagram

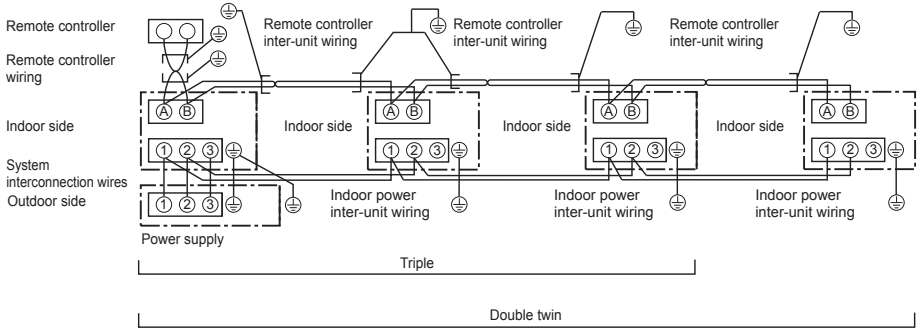
**Single system**




**Simultaneous twin system**




**Simultaneous triple and double twin system**




* Use 2-core shield wire (MVVS 0.5 to 2.0 mm$^2$ or more) for the remote controller wiring in the simultaneous twin, simultaneous triple and simultaneous double twin systems to prevent noise problems. Connect both ends of the shield wire to earth leads.

* Connect earth wires for each indoor unit in the simultaneous twin, simultaneous triple and simultaneous double twin systems.

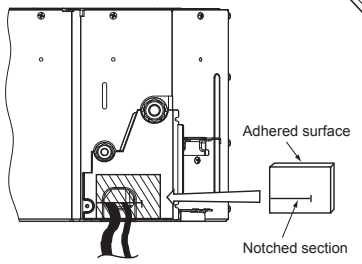
## ■ Wire connection

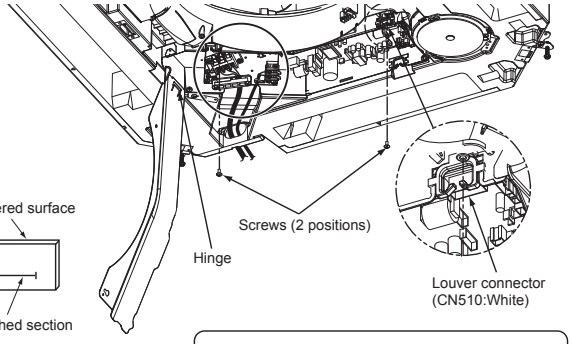
**REQUIREMENT**

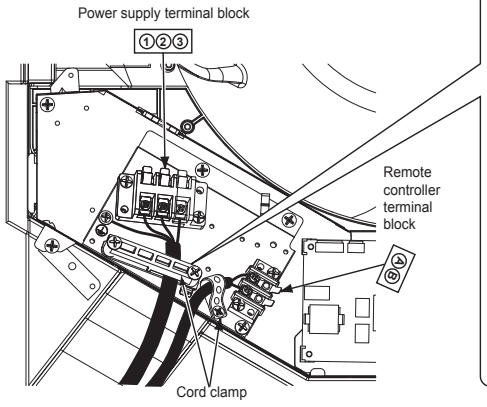
- Connect the wires matching the terminal numbers. Incorrect connection causes a trouble.
- Pass the wires through the bushing of wire connection holes of the indoor unit.
- Keep a margin (Approx. 100 mm) on a wire to hang down the electrical control box at servicing or other purpose.
- The low-voltage circuit is provided for the remote controller. (Do not connect the high-voltage circuit)

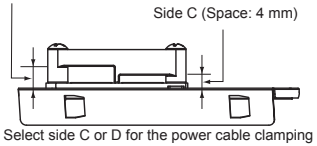
1. **Remove the cover of the electrical control box by taking off the mounting screws (2 positions) and pushing the hooking section. (The cover of the electrical control box remains hanged to the hinge.)**
2. **Connect the system interconnection wires and remote controller wire to the terminal block of the electrical control box.**
3. **Tighten the screws of the terminal block, and fix the wires with cord clamp attached to the electrical control box. (Do not apply tension to the connecting section of the terminal block.)**
4. **Using the attached heat insulation material, seal the pipe connecting port. Otherwise, dewing may be caused.**
5. **Mount the cover of the electrical control box without pinching wires.**

**▼ Heat insulation to wiring connecting port**



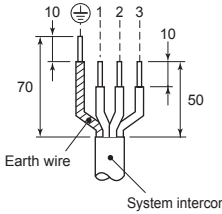



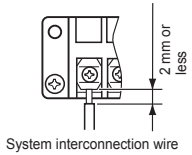

Select side C or D for the power cable clamping position referring to the following table according to the cable type and diameter.

* Cable clamp can be attached on either right or left side.

When twin system are connected, clamp two cables with one cable clamp.

| Wire type | Specification | Cable clamping position |
|---|---|---|
| Cabtyre cable | 3-core stranded wire 2.5 mm$^2$ | Side D |
| Cabtyre cable | 3-core stranded wire 1.5 mm$^2$ | Side C |



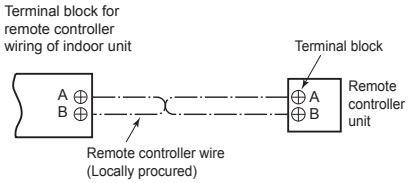




See the figure on the left for system interconnection wires to the terminal block.

## ■ Remote controller wiring

Strip off approx. 9 mm the wire to be connected.

**Wiring diagram**



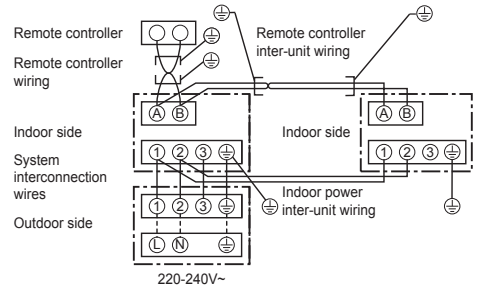

## ■ Wiring on the ceiling panel

As per the Installation Manual of the ceiling panel, connect the connector (20P: White) of the ceiling panel to the connector (CN510: White) onto the P.C. board within the electrical control box.

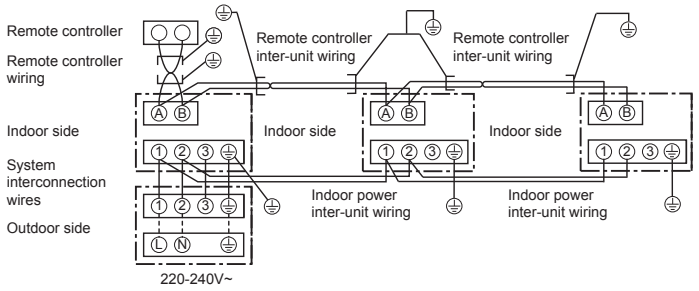
## ⚠ WARNING

**For the synchronous twin and synchronous triple systems, perform the following to conform to EMC standards.**

**▼ Synchronous twin system**




**▼ Synchronous triple system**



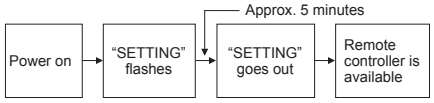

* Use 2-core shield wire (MVVS 0.5 to 2.0 mm² or more) for the remote controller wiring in the synchronous twin and synchronous triple systems to prevent noise problems. Be sure to connect both ends of the shield wire to the earth.

* Connect earth wire for each indoor unit in the synchronous twin and synchronous triple systems.

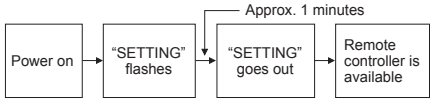
# 8 Applicable controls

**REQUIREMENT**

- When you use this air conditioner for the first time, it takes approx. 5 minutes until the remote controller becomes available after power-on. This is normal.
  **<When power is turned on for the first time after installation>**
  It takes **approx. 5 minutes** until the remote controller becomes available.




  **<When power is turned on for the second (or later) time>**
  It takes **approx. 1 minutes** until the remote controller becomes available.



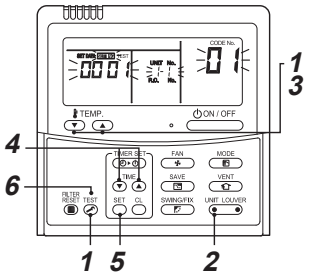

- Normal settings were made when the indoor unit was shipped from factory.
  Change the indoor unit settings as required.
- Use the wired remote controller to change the settings.
  * The settings cannot be changed using the wireless remote controller, sub remote controller, or remote-controller-less system (for central remote controller only). Therefore, install the wired remote controller to change the settings.

## ■ Basic procedure for changing settings

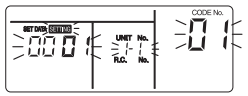
Change the settings while the air conditioner is not working. **(Stop the air conditioner before making settings.)**

### ⚠ CAUTION

Set only the CODE No. shown in the following table: Do NOT set any other CODE No.
If a CODE No. not listed is set, it may not be possible to operate the air conditioner or other trouble with the product may result.
* The displays appearing during the setting process differ from the ones for previous remote controllers (AMT31E). (There are more CODE No.)

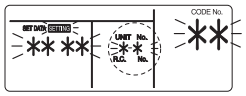



**1 Push and hold TEST button and "TEMP." ▼ button simultaneously for at least 4 seconds. After a while, the display flashes as shown in the figure. Confirm that the CODE No. is [01].**
- If the CODE No. is not [01], push TEST button to clear the display content, and repeat the procedure from the beginning. (No operation of the TEST remote controller is accepted for a while after button is pushed.)
  (While air conditioners are operated under the group control, "ALL" is displayed first. When UNIT. LOUVER is pushed, the indoor unit number displayed following "ALL" is the header unit.



(* Display content varies with the indoor unit model.)

**2 Each time UNIT. LOUVER button is pushed, indoor unit numbers in the control group change cyclically. Select the indoor unit to change settings for.**
The fan of the selected unit runs and the louvers start swinging. The indoor unit for change settings can be confirmed.



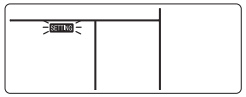
**3 Specify CODE No. [✱✱] with "TEMP." ▼ / ▲ buttons.**

**4 Select SET DATA [✱✱✱✱] with "TIME" ▼ / ▲ buttons.**

**5 Push SET button. When the display changes from flashing to lit, the setup is completed.**
- To change settings of another indoor unit, repeat from Procedure **2**.
- To change other settings of the selected indoor unit, repeat from Procedure ***3***.

Use CL button to clear the settings. To make settings after CL button was pushed, repeat from Procedure **2**.

**6 When settings have been completed, push TEST button to determine the settings.**
When TEST button is pushed, SETTING flashes and then the display content disappears and the air conditioner enters the normal stop mode.
(While SETTING is flashing, no operation of the remote controller is accepted.)

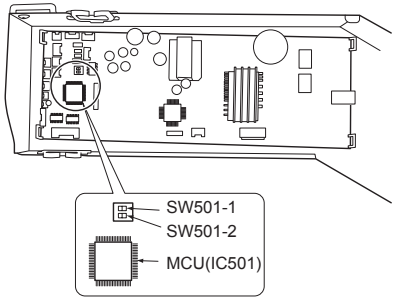


## ■ Installing indoor unit on high ceiling

When an indoor unit is installed on a ceiling higher than the standard height, make the high-ceiling setting for fan speed adjustment.
Follow to the basic operation procedure (***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6*** ).
- For the CODE No. in Procedure 3, specify [5d].
- Select the SET DATA for Procedure 4 from the "Height list of ceiling possible to be installed" table in this manual.

### ◆ Remote controller-less setting

Change the high-ceiling setting with the DIP switch on the receiver section P.C. board.
For details, refer to the manual of the wireless remote controller kit. The settings can also be changed with the switch on the indoor microcomputer P.C. board.
* Once the setting is changed, setting to 0001 or 0003 is possible, however setting to 0000 requires a setting data change to 0000 using the wired remote controller (separately sold) with the normal switch setting (factory default).




| SET DATA | SW501-1 | SW501-2 |
|---|---|---|
| **0000 (Factory default)** | OFF | OFF |
| **0001** | ON | OFF |
| **0003** | OFF | ON |

**To restore the factory defaults**
To return the DIP switch settings to the factory defaults, set SW501-1 and SW501-2 to OFF, connect a separately sold wired remote controller, and then set the data of CODE No. [5d] to "**0000**".

## ■ Filter sign setting

According to the installation condition, the filter sign term (Notification of filter cleaning) can be changed.
Follow to the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6*** ).

- For the CODE No. in Procedure ***3***, specify [01]
- For the [SET DATA] in Procedure ***4***, select the SET DATA of filter sign term from the following table.

| SET DATA | Filter sign term |
|---|---|
| **0000** | None |
| **0001** | 150 H |
| **0002** | 2500 H (Factory default) |
| **0003** | 5000 H |
| **0004** | 10000 H |

## ■ To secure better effect of heating

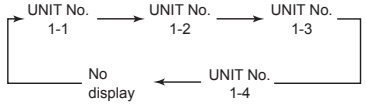
When it is difficult to obtain satisfactory heating due to installation place of the indoor unit or structure of the room, the detection temperature of heating can be raised. Also use a circulator or other device to circulate heat air near the ceiling.
Follow to the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6*** ).

- For the CODE No. in Procedure ***3***, specify [06].
- For the set data in Procedure ***4***, select the SET DATA of shift value of detection temperature to be set up from the following table.

| SET DATA | Detection temperature shift value |
|---|---|
| **0000** | No shift |
| **0001** | +1 °C |
| **0002** | +2 °C (Factory default) |
| **0003** | +3 °C |
| **0004** | +4 °C |
| **0005** | +5 °C |
| **0006** | +6 °C |

## ■ To select horizontal wind direction

1. Push TEST and "TEMP." ▼ buttons for at least four seconds when the air conditioner is not working.
   SETTING flashes.
   Indicates CODE No. [01].
2. Select an indoor unit to be set by pushing UNIT LOUVER button (left side of the button).
   Indoor unit number changes each time you push the button.




   The fan of the selected unit runs and the louvers start swinging.
3. Change the CODE No. to [45] with "TEMP." ▼ ▲ buttons.
4. Select wind direction setting with "TIME" ▼ ▲ buttons.

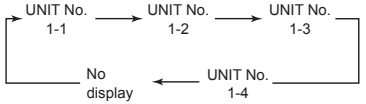
| Wind direction SET DATA | Wind direction setting |
|---|---|
| **0000** | Smudge reducing position (Air direction to reduce ceiling contamination) [Factory default] |
| **0002** | Cold draft position (Air direction to control cold air fall) |

5. Push SET button to check the setting.
   The display state changes from flashing to lighting, and the setting is fixed.
6. Push TEST button to check the setting.

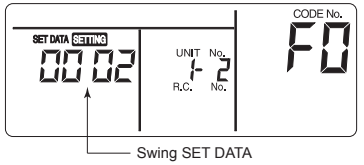
* When the cold draft position is selected, ceiling contamination is less reduced.

## ■ How to set up swing type

1. Push SWING/FIX button for at least four seconds when the air conditioner is not working.
   SETTING flashes.
   Indicates CODE No. [F0].
   SETTING flashes.
2. Select an indoor unit to be set by pushing UNIT LOUVER button (left side of the button).
   Each time you push the button, unit numbers change as follows:




   The fan of the selected unit runs and the louvers start swinging.
3. Select a swing type by pushing "TIME" ▼ ▲ buttons.



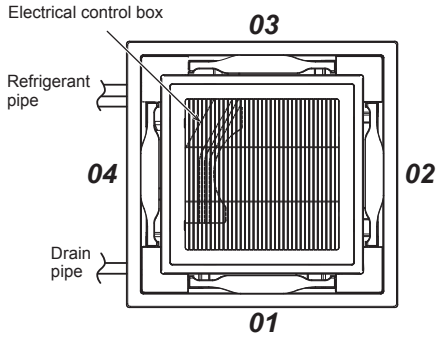

| Swing SET DATA | Swing of louvers |
|---|---|
| **0001** | Standard swing (Factory default) |
| **0002** | Dual swing |
| **0003** | Cycle swing |

### ⚠ CAUTION

Do not set the swing SET DATA to "**0000**".
(This setting may cause a failure of the louvers.)

- **About "Dual swing"**
  "Dual" means that louvers **01** and **03** are directed and swing in one direction and louvers **02** and **04** are directed and swing in the opposite direction. (When louvers **01** and **03** are directed downward, louvers **02** and **04** are directed horizontally.)

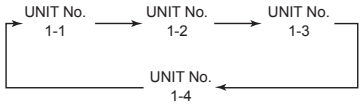
- **About "Cycle swing"**
  The four louvers swing independently at respective timings.



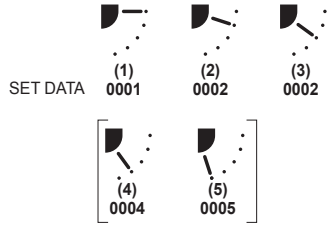

4. Push SET button.
5. Push TEST button to complete the setting.

## ■ How to set up louver lock (No swing)

1. Push UNIT LOUVER (right side of the button) for at least four seconds when the air conditioner is not working.
   SETTING flashes.
   Indicates CODE No. [F1].
   SETTING flashes.
2. Select an indoor unit to be set by pushing UNIT LOUVER (left side of the button).
   Each time you push the button, unit numbers change as follows:
   The fan of the selected unit runs and the louvers start swinging.

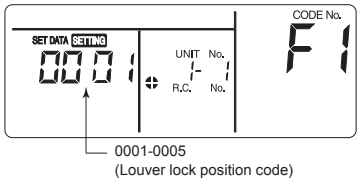



3. Select a louver you want to lock by pushing "TEMP." ▼ ▲ buttons.
4. Select the wind direction of the louver you do not want to swing by pushing "TIME" ▼ ▲ buttons.




* When (4) or (5) is selected, dew drop may occur during cooling mode.

5. Determine the setting by pushing SET button. When the setting has been determined, ✣ lights up.
6. Push TEST button to complete the setting.




## ■ How to cancel louver lock

Set the wind direction to "**0000**" of the louver lock setup procedure above.

SET DATA **0000**

- When the setting is canceled, ✣ goes out.
  **Other operations are the same as those in "How to set up louver lock (No swing)".**

## ■ Remote controller sensor

The temperature sensor of the indoor unit senses room temperature usually. Set the remote controller sensor to sense the temperature around the remote controller. Select items following the basic operation procedure (***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6*** ).

- Specify [32] for the CODE No. in Procedure ***3***.
- Select the following data for the SET DATA in Procedure ***4***.

| SET DATA | 0000 | 0001 |
|---|---|---|
| Remote controller sensor | Not used (factory default) | Used |

When 🌡 flashes, the remote controller sensor is defective.
Select the SET DATA [0000] (not used) or replace the remote controller.

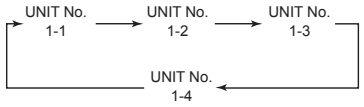
## ■ Power saving mode

**Performing settings of the power saving mode**

* When an outdoor unit is used, the power level is fixed to 75% regardless of the value on the display.

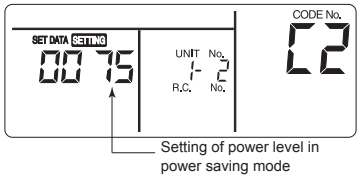
***1*** **Push SAVE button for 4 seconds or more when the air conditioner is not working.**
SETTING flashes.
Indicates CODE No. "C2."

***2*** **Select an indoor unit to be set by pushing UNIT LOUVER (left side of the button).**
Each time the button is pushed, unit numbers change as follows:




The fan of the selected unit runs.

***3*** **Adjust the power save setting by pushing TIME ▼ ▲ buttons.**
Each push of the button changes the power level by 1% within the range from 100% to 50%.
*The factory default is 75%.

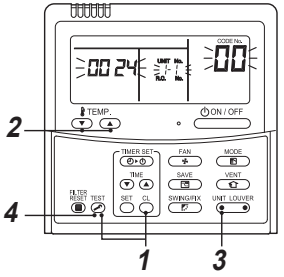



***4*** **Determine the setting by pushing SET button.**

***5*** **Push TEST button to complete the setting.**

## ■ Remote controller switch monitoring function

This function is available to call the service monitor mode from the remote controller during a test run to acquire temperatures of sensors of the remote controller, indoor unit, and outdoor unit.




***1*** **Push OK and TEST buttons simultaneously for at least 4 seconds to call the service monitor mode.**
The service monitor indicator lights up and the header indoor unit number is displayed first.
CODE No. 00 is also displayed.

***2*** **Pushing TEMP. ▼ ▲ buttons, select the number of sensor (CODE No.) to be monitored. (See the following table.)**

***3*** **Pushingthe UNIT LOUVER (left side of the button), select an indoor unit to be monitored. The sensor temperatures of indoor units and their outdoor unit in the control group are displayed.**

**4** **Push (TEST) button to return to the normal display.**

| Indoor unit data | |
|---|---|
| **CODE No.** | **Data name** |
| **01** | Room temperature (remote controller) |
| **02** | Indoor unit intake air temperature (TA) |
| **03** | Indoor unit heat exchanger (coil) temperature (TCJ) |
| **04** | Indoor unit heat exchanger (coil) temperature (TC) |
| **F3** | Indoor unit fan cumulative operating hours (x1h) |
| **F8** | Indoor unit discharge air temperature |

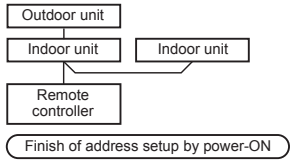
| Outdoor unit data | |
|---|---|
| **CODE No.** | **Data name** |
| **60** | Outdoor unit heat exchanger (coil) temperature (TE) |
| **61** | Outside air temperature (TO) |
| **62** | Compressor discharge temperature (TD) |
| **63** | Compressor suction temperature (TS) |
| **64** | — |
| **65** | Heatsink temperature (THS) |
| **6A** | Operating current (x1/10) |
| **F1** | Compressor cumulative operating hours (x100h) |

# ■ Group control

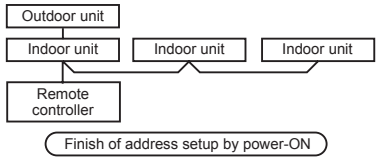
## Simultaneous twin, triple or double twin system

A combination with an outdoor unit allows simultaneous ON / OFF operation of the indoor units. The following system patterns are available.
- Two indoor units for the twin system
- Three indoor units for the triple system
- Four indoor units for the double-twin system

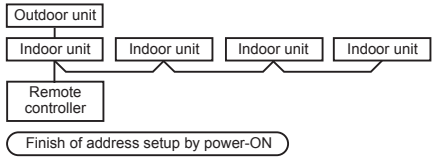
**▼ Twin system**




**▼ Triple system**




**▼ Double twin**



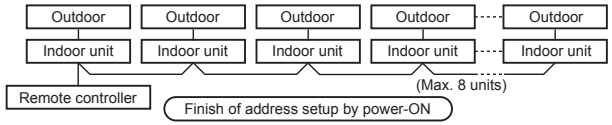

- For wiring procedure and wiring method, follow to the “Electrical connection” in this manual.
- When the power supply has been turned on, the automatic address setup starts and which indicates that address is being set up flashes on the display part.
  During setup of automatic address, the remote controller operation is not accepted.

**Required time up to the finish of automatic addressing is approx. 5 minutes.**

## Group control for system of multiple units

One remote controller can control maximum 8 indoor units as a group.

**▼ Group control in single system**



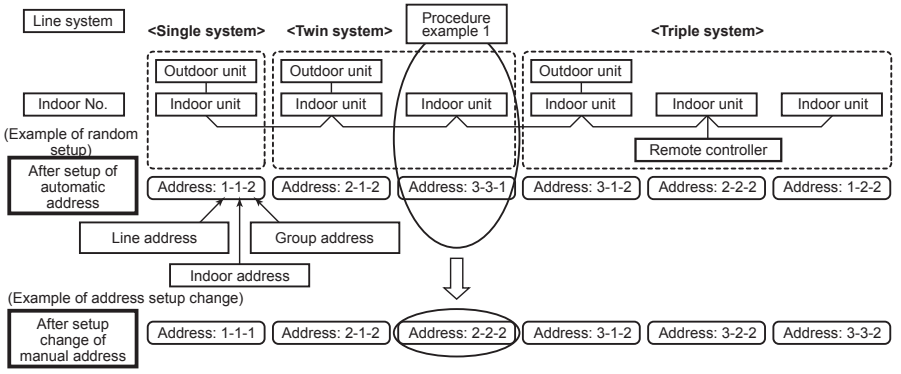

- For wiring procedure and wiring method of the individual line (Identical refrigerant line) system, follow to “Electrical connection”.
- Wiring between lines is performed in the following procedure.
  Connect the terminal block (A/B) of the indoor unit connected with a remote controller to the terminal blocks (A/B) of master indoor unit of follower indoor units by wiring the inter-unit wire of the remote controller.
- When the power supply has been turned on, the automatic address setup starts and which indicates that address is being set up flashes on the display part in about 3 minutes. During setup of automatic address, the remote controller operation is not accepted.

**Required time up to the finish of automatic addressing is approx. 5 minutes.**

**NOTE**

In some cases, it is necessary to change the address manually after setup of the automatic address according to the system configuration of the group control.
- The follow mentioned system configuration is a case when complex systems in which systems of the simultaneous twin and simultaneous triple unit is controlled as a group by a remote controller.

## (Example) Group control for complex system

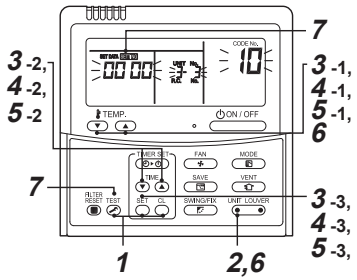



**The above address is set by the automatic addressing when the power is turned on. However, line addresses and indoor addresses are set randomly. For this reason, change the setting to match line addresses with indoor addresses.**

## [Procedure example]

**Manual address setup procedure**

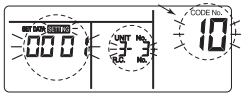
While the operation stops, change the setup.(Stop the operation of the unit.)




### 1

**Push SET + CL + TEST + buttons simultaneously for 4 seconds or more. After a while, the display part flashes as shown below. Check the displayed CODE No. is [10].**

- When the CODE No. is other than [**10**], push TEST button to erase the display and repeat procedure from the first step.
  (After pushing TEST button, operation of the remote controller is not accepted for approx. 1 minute.)
  (For a group control, No. of the firstly displayed indoor unit becomes the header unit.)



(* Display changes according to the model No. of indoor unit.)

### 2

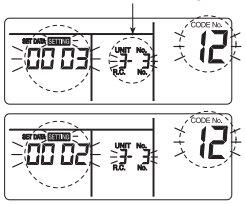
**Every time UNIT LOUVER button is pushed, the indoor UNIT No. in the group control is displayed in order. Select the indoor unit of which setup is changed.**

In this time, the position of the indoor unit of which setup is changed can be confirmed because fan of the selected indoor unit operate.

### 3

1. Specify CODE No. [**12**] with TEMP. ▼ / ▲ buttons.
   (CODE No. [**12**]: Line address)
2. Change the line address from [**3**] to [**2**] with TIME ▼ / ▲ buttons.
3. Push SET button.
   In this time, the setup finishes when the display changes from flashing to lighting.

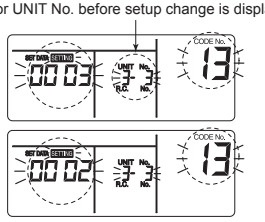
Indoor UNIT No. before setup change is displayed.



### 4

1. Specify CODE No. [**13**] with TEMP. ▼ / ▲ buttons.
   (CODE No. [**13**]: Line address)
2. Change the line address from [**3**] to [**2**] with TIME ▼ / ▲ buttons.
3. Push SET button.
   In this time, the setup finishes when the display changes from flashing to lighting.

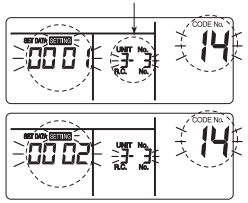
Indoor UNIT No. before setup change is displayed.



### 5

1. Specify CODE No. [**14**] with TEMP. ▼ / ▲ buttons.
   (CODE No. [**14**]: Line address)
2. Change the SET DATA from [**0001**] to [**0002**] TIME ▼ / ▲ buttons.
   (SET DATA [Header unit: **0001**] [Follower unit: **0002**])
3. Push SET button.
   In this time, the setup finishes when the display changes from flashing to lighting.

Indoor UNIT No. before setup change is displayed.



### 6

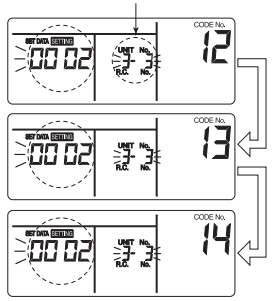
**If there is other indoor unit to be changed, repeat procedure *2* to *5* to change the setup.**

When the above setup has finished, push UNIT LOUVER to select the indoor UNIT No. before change of setup, specify CODE No. [**12**], [**13**], [**14**] in order with TEMP. ▼ / ▲ buttons, and then check the changed contents.

Address change check Before change:
[**3-3-1**] → After change: [**2-2-2**]

Pushing CL button clears the contents of which setup was changed.
(In this case, procedure from ***2*** is repeated.)

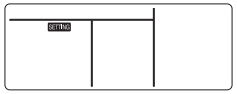
Indoor UNIT No. before setup change is displayed.



### 7

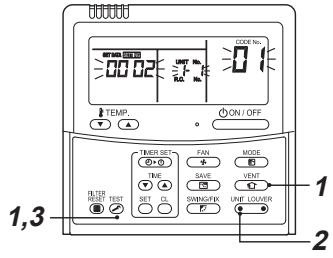
**After check of the changed contents, push TEST button. (Setup is determined.) When TEST button is pushed, the display disappears and the status becomes the usual stop status. (When TEST button is pushed the operation from the remote controller is not accepted for approx. 1 minute.)**

- If the operation from the remote controller is not accepted even 1 minute or more passed after pushing TEST button, it is considered that the address setup is incorrect.
  In this case, the automatic address must be again set up.
  Therefore repeat procedure of the setup change from the Procedure ***1***.

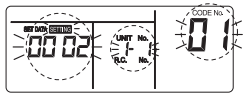


**To recognize the position of the corresponding indoor unit though the indoor UNIT No. is known**

Check the position during operation stop.
(Stop operation of the set.)



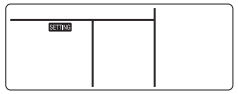

**1** **Push TEST + VENT + buttons simultaneously for 4 seconds or more.**
After a while, the display part flashes and the display appears as shown below.
In this time, the position can be checked because fan of the indoor unit operate.
- For the group control, the indoor UNIT No. is displayed as [ALL] and fans of all the indoor units in the group control operate.
  Check the displayed CODE No. is [**01**].
- When the CODE No. is other than [**01**], push TEST button to erase the display and repeat procedure from the first step.
  (After pushingh TEST button, operation of the remote controller is not accepted for approx. 1 minute.)




(* Display changes according to the model No. of indoor unit.)

**2** **In the group control, every time UNIT LOUVER button is pushed, the indoor UNIT No. in the group control is displayed in order.**
In this time, the position of the indoor unit can be confirmed because only fan of the selected indoor unit operate.
(For a group control, No. of the firstly displayed indoor unit becomes the header unit.)

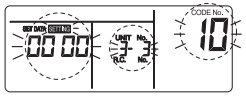
**3** **After confirmation, push TEST button to return the mode to the usual mode.**
When TEST button is pushed, the display disappears and the status becomes the usual stop status.
(When TEST button is pushed the operation from the remote controller is not accepted for approx. 1 minute.)



## ■ 8 °C operation

Pre-heating operation can be set for cold regions where room temperature drops to below zero.system

**1** **Push SET + CL + TEST buttons simultaneously for 4 seconds or more when the air conditioner is not working.**
After a while, the display part flashes as shown below. Check the Displayed CODE No. is [**10**].
- When the CODE No. is other than [**10**], push TEST button to erase the display and repeat procedure from the first step.
  (After pushing TEST button, operation of the remote controller is not accepted for approx. 1 minute.)




(* Display changes according to the model No. of indoor unit.)

**2** **Every time UNIT LOUVER button is pushed, the indoor unit No. in the group control is displayed in order. Select the indoor unit of which setup is changed. In this time, the position of the indoor unit of which setup is changed can be confirmed because fan of the selected indoor unit operate.**

**3** **Specify CODE No. [d1] TEMP. ▼ / ▲ buttons.**

**4** **Select SET DATA [0001] TIME ▼ / ▲ buttons.**

| SET DATA | 8 °C Operation setting |
|---|---|
| **0000** | Not used (factory default) |
| **0001** | 8 °C Operation setting |

**5** **Push SET button.**
**In this time, the setup finishes when the display changes from flashing to lighting.**

**6** **Push TEST button.(Setup is determined.)**
When TEST button is pushed, the display disappears and the status becomes the usual stop status. (When TEST button is pushed the operation from the remote controller is not accepted for approx. 1 minute.)

# 9 Test run

## ■ Before test run

- Before turning on the power supply, carry out the following procedure.
  1) By using 500V-megger, check that resistance of 1 MΩ or more exists between the terminal block 1 to 3 and the earth (grounding).
     If resistance of less than 1 MΩ is detected, do not run the unit.
  2) Check the valve of the outdoor unit being opened fully.
- To protect the compressor at activation time, leave power-ON for 12 hours or more before operating.

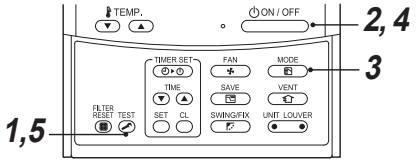
## ■ Execute a test run

Operate the unit with the wired remote controller as usual.
For the procedure of the operation, refer to the attached Owner's Manual.
A forced test run can be executed in the following procedure even if the operation stops by thermostat-OFF.
In order to prevent a serial operation, the forced test run is released after 60 minutes have passed and returns to the usual operation.

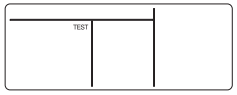
### ⚠ CAUTION

Do not use the forced test run for cases other than the test run because it applies an excessive load to the devices.

### Wired remote controller

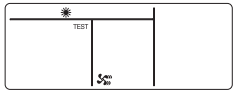



**1** **Push TEST button for 4 seconds or more. [TEST] is displayed on the display part and the selection of mode in the test mode is permitted.**



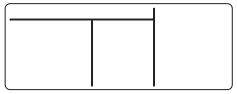

**2** **Push ON / OFF button.**

**3** **Select the operation mode with MODE button, [❄ Cool] or [☀ Heat].**
- Do not run the air conditioner in a mode other than [❄ Cool] or [☀ Heat].
- The temperature controlling function does not work during test run.
- The detection of error is performed as usual.




**4** **After the test run, push ON / OFF button to stop a test run.**
(Display part is same as procedure 1.)

**5** **Push TEST button to cancel (release from) the test run mode.**
([TEST] disappears on the display and the status returns to a normal.)



## ◆ Wireless remote controller (RBC-AX32U series)

### Test run (forced cooling operation)

**REQUIREMENT**

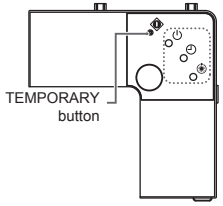
Finish the forced cooling operation in a short time because it applies excessive strength to the air conditioner.

**▼ How to perform forced cooling operation**

**1** **When TEMPORARY button is pushed for 10 seconds or more, "Pi!" sound is heard and the operation changes to a forced cooling operation. After approx. 3 minutes, a cooling operation starts forcedly.**
Check cool air starts blowing. If the operation does not start, check wiring again.

**2** **To stop a test operation, push TEMPORARY button once again (approx. 1 second).**

- Check wiring / piping of the indoor and outdoor units in forced cooling operation.



# 10 Maintenance

## ⚠ CAUTION

**Before maintenance, be sure to turn off the leakage breaker.**

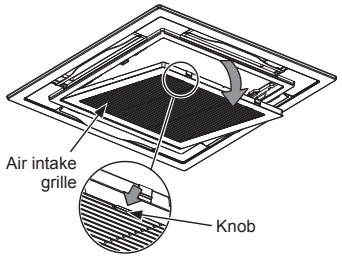
### Cleaning of air filter

- If ▦ is displayed on the remote controller, maintain the air filter.
- Clogging of the air filter reduce cooling / heating performance.

### Cleaning of panel and air filter

**Preparation :**

1. Turn off the air conditioner by the remote controller.
2. Open the air intake grille.
   - Slide the button of the air intake grille inward, and open the air intake grille slowly while holding it.

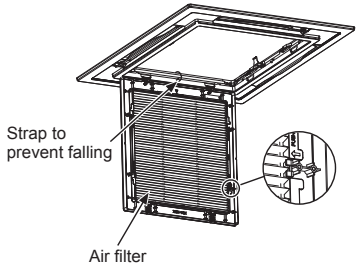



### Cleaning of air filters

If the air filters are not cleaned, it not only reduce the cooling a performance of air conditioner but causes a failure in the air conditioner such as water falling in drops.

**Preparation :**

1. Stop the operation by remote controller.
2. Dismount the air filter.



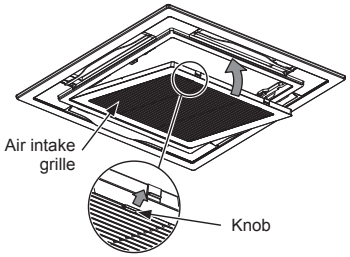

### Use a vacuum cleaner to remove dust from the filters or wash them with water.

- After rinsing the air filters with water, dry them in the shade.
- Set the air filter into the air conditioner.

### Clean the panel and air filter with water:

- Wipe down the panel and air filter with a sponge or towel moistened with a kitchen detergent. (Do not use any metallic brush for cleaning.)
- **Carefully rinse the panel and air filter to wash out the detergent.**
- **After rinsing the panel and air filter with water, dry it in the shade.**

1. Close the air intake grille.
   - Close the air intake grille, slide the knob outward, and fix the air intake grille securely.




2. Push FILTER RESET button.
   - "FILTER ▦ " disappears.

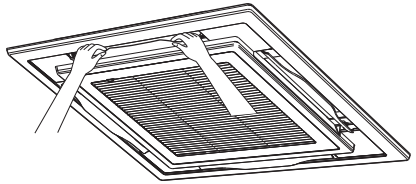
## ⚠ CAUTION

- Do not start the air conditioner while leaving the panel and air filter removed.
- Push the filter reset button.
  ( ▦ indication will be turn off.)

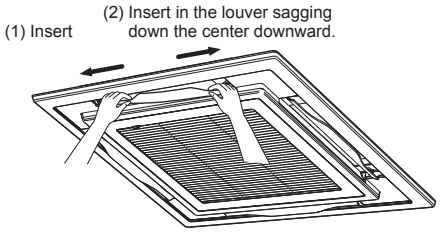
### Cleaning of discharge louver

The discharge louver can be removed to clean.

1. Remove the discharge louver.
   - Holding the both ends of the discharge louver, remove the louver sagging the center downward.



2. Cleaning with water
   - If the dirt is terrible, clean the louver by tepid water with neutral detergent or water.
3. Mount the discharge louver.
   - First push in one side of the louver, and then insert the other side sagging the center downward.




**Be careful to the direction of the louver when mounting.**
Mount the louver so that the side with the mark faces upward.

**REQUIREMENT**

**Be sure to clean the heat exchanger with pressurized water.**
If a commercially available detergent (strong alkaline or acid) cleaning agent is used, the surface treatment of the heat exchanger will be marred, which may degrade the self cleaning performance.
For details, contact the dealer.

**▼ Periodic Maintenance**

For environmental conservation, it is strongly recommended that the indoor and outdoor units of the air conditioner in use be cleaned and maintained regularly to ensure efficient operation of the air conditioner.
When the air conditioner is operated for a long time, periodic maintenance (once a year) is recommended.
Furthermore, regularly check the outdoor unit for rust and scratches, and remove them or apply rustproof treatment, if necessary.
As a general rule, when an indoor unit is operated for 8 hours or more daily, clean the indoor unit and outdoor unit at least once every 3 months. Ask a professional for this cleaning / maintenance work.
Such maintenance can extend the life of the product though it involves the owner's expense.
Failure to clean the indoor and outdoor units regularly will result in poor performance, freezing, water leakage, and even compressor failure.

**Inspection before maintenance**

Following inspection must be carried out by a qualified installer or qualified service person.

| Parts | Possible installed ceiling height |
|---|---|
| Heat exchanger | Access from inspection opening and remove the access panel. Examine the heat exchanger if there is any clogging or damages. |
| Fan motor | Access from inspection opening and check if any abnormal noise can be heard. |
| Fan | Access from inspection opening and remove the access panel. Examine the fan if there are any waggles, damages or adhesive dust. |
| Filter | Go to installed location and check if there are any stains or breaks on the filter. |
| Drain pan | Access from inspection opening and remove the access panel. Check if there is any clogging or drain water is polluted. |

**▼ Maintenance List**

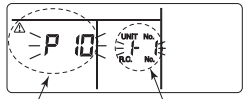
| Parts | Unit | Check (visual / auditory) | Maintenance |
|---|---|---|---|
| Heat exchanger | Indoor / outdoor | Dust / dirt clogging, scratches | Wash the heat exchanger when it is clogged. |
| Fan motor | Indoor / outdoor | Sound | Take appropriate measures when abnormal sound is generated. |
| Filter | Indoor | Dust / dirt, breakage | • Wash the filter with water when it is contaminated.<br>• Replace it when it is damaged. |
| Fan | Indoor | • Vibration, balance<br>• Dust / dirt, appearance | • Replace the fan when vibration or balance is terrible.<br>• Brush or wash the fan when it is contaminated. |
| Air intake / discharge grilles | Indoor / outdoor | Dust / dirt, scratches | Fix or replace them when they are deformed or damaged. |
| Drain pan | Indoor | Dust / dirt clogging, drain contamination | Clean the drain pan and check the downward slope for smooth drainage. |
| Ornamental panel, louvres | Indoor | Dust / dirt, scratches | Wash them when they are contaminated or apply repair coating. |
| Exterior | Outdoor | • Rust, peeling of insulator<br>• Peeling / lift of coat | Apply repair coating. |



# 11 Troubleshooting

## ■ Confirmation and check

When an error occurred in the air conditioner, an error code and indoor UNIT No. appear on the display part of the remote controller.
The error code is only displayed during the operation.
If the display disappears, operate the air conditioner according to the following "Confirmation of error log" for confirmation.

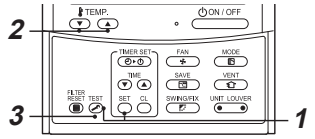



Error code

Indoor UNIT No. in which an error occurred

## ■ Confirmation of error log

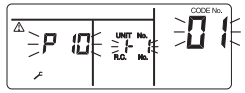
When an error occurred on the air conditioner, the error log can be confirmed with the following procedure.
(The error log is stored in memory up to 4 errors.)
The log can be confirmed from both operating status and stop status.




**1 When SET and TEST buttons are pushed simultaneously for 4 seconds or more, the following display appears.**

If 🔧 is displayed, the mode enters in the error log mode.

- [**01**: Order of error log] is displayed in CODE No..
- [Error code] is displayed in CHECK.
- [Indoor unit address in which an error occurred] is displayed in Unit No..




**2 Every pushing of TEMP. button used to set temperature, the error log stored in memory is displayed in order.**

The numbers in CODE No. indicate CODE No. [**01**] (latest) → [**04**] (oldest).

**REQUIREMENT**

Do not push CL button because all the error log of the indoor unit will be deleted.

**3 After confirmation, push TEST button to return to the usual display.**

## ■ Error codes and parts to be checked

| Wired remote controller display | Wireless remote controller Sensor block display of receiving unit | | Main defective parts | Judging device | Parts to be checked / error description | Air conditioner status |
|---|---|---|---|---|---|---|
| Indication | Operation Timer Ready GR GR OR | Flashing | | | | |
| E01 | ◎ ● ● | | No header remote controller | Remote controller | Incorrect remote controller setting --- The header remote controller has not been set (including two remote controllers). | * |
| | | | Remote controller communication error | | No signal can be received from the indoor unit. | |
| E02 | ◎ ● ● | | Remote controller transmission error | Remote controller | System interconnection wires, indoor P.C. board, remote controller --- No signal can be sent to the indoor unit. | * |
| E03 | ◎ ● ● | | Indoor unit-remote controller regular communication error | Indoor | Remote controller, network adapter, indoor P.C. board --- No data is received from the remote controller or network adapter. | Auto-reset |
| E04 | ● ● ◎ | | Indoor unit-outdoor unit serial | Indoor | System interconnection wires, indoor P.C. board, outdoor P.C. board --- Serial communication error between indoor unit and outdoor unit | Auto-reset |
| | | | IPDU-CDB communication error | | | |
| E08 | ◎ ● ● | | Duplicated indoor addresses ★ | Indoor | Indoor address setting error --- The same address as the self-address was detected. | Auto-reset |
| E09 | ◎ ● ● | | Duplicated header remote controllers | Remote controller | Remote controller address setting error --- Two remote controllers are set as header in the double-remote controller control. | * |
| | | | | | (* The header indoor unit stops raising alarm and follower indoor units continue to operate.) | |
| E10 | ◎ ● ● | | CPU-CPU communication error | Indoor | Indoor P.C. board --- Communication error between main MCU and motor microcomputer MCU | Auto-reset |
| E18 | ◎ ● ● | | Header unit follower unit regular communication error | Indoor | Indoor P.C. board --- Regular communication is not possible between header and follower indoor units or between twin header (main) and follower (sub) units. | Auto-reset |
| E31 | ● ● ◎ | | IPDU communication error | Outdoor | Communication error between IPDU and CDB | Entire stop |
| F01 | ◎ ◎ ● | ALT | Indoor unit heat exchanger sensor (TCJ) error | Indoor | Heat exchanger sensor (TCJ), indoor P.C. board --- Open-circuit or short-circuit of the heat exchanger sensor (TCJ) was detected. | Auto-reset |
| F02 | ◎ ● ● | ALT | Indoor unit heat exchanger sensor (TCJ) error | Indoor | Heat exchanger sensor (TC), indoor P.C. board --- Open-circuit or short-circuit of the heat exchanger sensor (TC) was detected. | Auto-reset |
| F04 | ◎ ◎ ○ | ALT | Outdoor unit discharge temp. sensor (TD) error | Outdoor | Outdoor temp. sensor (TD), outdoor P.C. board --- Open-circuit or short-circuit of the discharge temp. sensor was detected. | Entire stop |
| F06 | ◎ ◎ ○ | ALT | Outdoor unit temp. sensor (TE/TS) error | Outdoor | Outdoor temp. sensors (TE/TS), outdoor P.C. board --- Open-circuit or short-circuit of the heat exchanger temp. sensor was detected. | Entire stop |
| F07 | ◎ ◎ ○ | ALT | TL sensor error | Outdoor | TL sensor may be displaced, disconnected or short-circuited. | Entire stop |
| F08 | ◎ ◎ ○ | ALT | Outdoor unit outside air temp. sensor error | Outdoor | Outdoor temp. sensor (TO), outdoor P.C. board --- Open-circuit or short-circuit of the outdoor air temp. sensor was detected. | Operation continued |
| F10 | ◎ ◎ ● | ALT | Indoor unit room temp. sensor (TA) error | Indoor | Room temp. sensor (TA), indoor P.C. board --- Open-circuit or short-circuit of the room temp. sensor (TA) was detected. | Auto-reset |
| F12 | ◎ ◎ ○ | ALT | TS sensor error | Outdoor | TS sensor may be displaced, disconnected or short-circuited. | Entire stop |
| F13 | ◎ ◎ ○ | ALT | Heat sink sensor error | Outdoor | Abnormal temperature was detected by the temp. sensor of the IGBT heat sink. | Entire stop |
| F15 | ◎ ◎ ○ | ALT | Temp. sensor connection error | Outdoor | Temp. sensor (TE/TS) may be connected incorrectly. | Entire stop |
| F29 | ◎ ◎ ● | SIM | Indoor unit, other P.C. board error | Indoor | Indoor P.C. board --- EEPROM error | Auto-reset |

| Wired remote controller display | Wireless remote controller Sensor block display of receiving unit | | Main defective parts | Judging device | Parts to be checked / error description | Air conditioner status |
|---|---|---|---|---|---|---|
| Indication | Operation Timer Ready GR GR OR | Flashing | | | | |
| F31 | ◎ ◎ ○ | SIM | Outdoor unit P.C. board | Outdoor | Outdoor P.C. board ---- In the case of EEPROM error. | Entire stop |
| H01 | ● ◎ ● | | Outdoor unit compressor breakdown | Outdoor | Current detect circuit, power voltage --- Minimum frequency was reached in the current releasing control or short-circuit current (Idc) after direct excitation was detected | Entire stop |
| H02 | ● ◎ ● | | Outdoor unit compressor lock | Outdoor | Compressor circuit --- Compressor lock was detected. | Entire stop |
| H03 | ● ◎ ● | | Outdoor unit current detect circuit error | Outdoor | Current detect circuit, outdoor unit P.C. board --- Abnormal current was detected in AC-CT or a phase loss was detected. | Entire stop |
| H04 | ● ◎ ● | | Case thermostat operation | Outdoor | Malfunction of the case thermostat | Entire stop |
| H06 | ● ◎ ● | | Outdoor unit low-pressure system error | Outdoor | Current, high-pressure switch circuit, outdoor P.C. board --- Pressure sensor error was detected or low-pressure protective operation was activated. | Entire stop |
| L03 | ◎ ● ◎ | SIM | Duplicated indoor indoor units ★ | Indoor | Indoor address setting error --- There are two or more header units in the group. | Entire stop |
| L07 | ◎ ● ◎ | SIM | Group line in individual indoor unit ★ | Indoor | Indoor address setting error --- There is at least one group-connected indoor unit among individual indoor units. | Entire stop |
| L08 | ◎ ● ◎ | SIM | Indoor group address not set ★ | Indoor | Indoor address setting error --- Indoor address group has not been set. | Entire stop |
| L09 | ◎ ● ◎ | SIM | Indoor unit capacity not set | Indoor | Indoor unit capacity has not been set. | Entire stop |
| L10 | ◎ ○ ◎ | SIM | Outdoor unit P.C. board | Outdoor | In the case of outdoor P.C. board jumper wire (for service) setting errorm | Entire stop |
| L20 | ◎ ○ ◎ | SIM | LAN communication error | Network adapter central control | Address setting, central control remote controller, network adapter --- Duplication of address in central control communication | Auto-reset |
| L29 | ◎ ○ ◎ | SIM | Other outdoor unit | Outdoor | Other outdoor unit error | Entire stop |
| | | | | | 1) Communication error between IPDU MCU and CDB MCU | |
| | | | | | 2) Abnormal temperature was detected by the heat sink temp. sensor in IGBT. | |
| L30 | ◎ ○ ◎ | SIM | Abnormal external input into indoor unit (interlock) | Indoor | External devices, outdoor unit P.C. board --- Abnormal stop due to incorrect external input into CN80 | Entire stop |
| L31 | ◎ ○ ◎ | SIM | Phase sequence error, etc. | Outdoor | Power supply phase sequence, outdoor unit P.C. board --- Abnormal phase sequence of the 3-phase power supply | Operation continued (thermost at OFF) |
| P01 | ● ◎ ◎ | ALT | Indoor unit fan error | Indoor | Indoor fan motor, indoor P.C. board --- Indoor AC fan error (fan motor thermal relay activated) was detected. | Entire stop |
| P03 | ◎ ● ◎ | ALT | Outdoor unit discharge temp. error | Outdoor | An error was detected in the discharge temp. releasing control. | Entire stop |
| P04 | ◎ ● ◎ | ALT | Outdoor unit high-pressure system error | Outdoor | High-pressure switch --- The IOL was activated or an error was detected in the high-pressure releasing control using the TE. | Entire stop |
| P05 | ◎ ● ◎ | ALT | Open phase detected | Outdoor | The power wire may be connected incorrectly. Check open phase and voltages of the power supply. | Entire stop |
| P07 | ◎ ● ◎ | ALT | Heat sink overheat | Outdoor | Abnormal temperature was detected by the temp. sensor of the IGBT heat sink. | Entire stop |
| P10 | ● ◎ ◎ | ALT | Indoor unit water overflow detected | Indoor | Drain pipe, clogging of drainage, float switch circuit, indoor P.C. board --- Drainage is out of order or the float switch was activated. | Entire stop |
| P12 | ● ◎ ◎ | ALT | The fan error of the indoor unit | Indoor | Abnormal operation of the indoor fan motor, indoor P.C. board, or indoor DC fan (over current or lock, etc.) is detected. | Entire stop |

| Wired remote controller display | Wireless remote controller Sensor block display of receiving unit | | Main defective parts | Judging device | Parts to be checked / error description | Air conditioner status |
|---|---|---|---|---|---|---|
| Indication | Operation Timer Ready GR GR OR | Flashing | | | | |
| P15 | ◎ ● ◎ | ALT | Gas leakage detected | Outdoor | There may be gas leakage from the pipe or connecting part. Check for gas leakage. | Entire stop |
| P19 | ◎ ● ◎ | ALT | 4-way valve error | Outdoor (Indoor) | 4-way valve, indoor temp. sensors (TC/TCJ) --- An error was detected due to temperature drop of the indoor unit heat exchanger sensor when heating. | Auto-reset |
| P20 | ◎ ● ◎ | ALT | High-pressure protective operation | Outdoor | High-pressure protection | Entire stop |
| P22 | ◎ ● ◎ | ALT | Outdoor unit fan error | Outdoor | Outdoor unit fan motor, outdoor unit P.C. board --- An error (overcurrent, locking, etc.) was detected in the outdoor unit fan drive circuit. | Entire stop |
| P26 | ◎ ● ◎ | ALT | Outdoor unit inverter Idc activated | Outdoor | IGBT, outdoor unit P.C. board, inverter wiring, compressor --- Short-circuit protection for compressor drive circuit devices (G-Tr/IGBT) was activated. | Entire stop |
| P29 | ◎ ● ◎ | ALT | Outdoor unit position error | Outdoor | Outdoor unit P.C. board, high-pressure switch --- Compressor motor position error was detected. | Entire stop |
| P31 | ◎ ● ◎ | ALT | Other indoor unit error | Indoor | Another indoor unit in the group is raising an alarm. | Entire stop |
| | | | | | E03/L07/L03/L08 alarm check locations and error description | Auto-reset |

○ : Lighting ◎ : Flashing ● : OFF ★ : The air conditioner automatically enters the auto-address setting mode.
ALT: When two LEDs are flashing, they flash alternately. SIM: When two LEDs are flashing, they flash in synchronization. Receiving unit display OR: Orange GR: Green

# 12 Appendix

## Work instructions

The existing R22 and R410A piping can be reused for inverter R32 product installations.

### ⚠ WARNING

**Confirming the existence of scratches or dents on the existing pipes and confirming the reliability of the pipe strength are conventionally referred to the local site.**
**If the specified conditions can be cleared, it is possible to update existing R22 and R41 0A pipes to those for R32 models.**

## Basic conditions needed to reuse existing pipes

Check and observe the presence of three conditions in the refrigerant piping works.

1. **Dry** (There is no moisture inside of the pipes.)
2. **Clean** (There is no dust inside of the pipes.)
3. **Tight** (There are no refrigerant leaks.)

## Restrictions for use of existing pipes

**In the following cases, the existing pipes should not be reused as they are. Clean the existing pipes or exchange them with new pipes.**

1. When a scratch or dent is heavy, be sure to use new pipes for the refrigerant piping works.
2. When the existing pipe thickness is thinner than the specified “Pipe diameter and thickness,” be sure to use new pipes for the refrigerant piping works.
   - The operating pressure of refrigerant is high. If there is a scratch or dent on the pipe or a thinner pipe is used, the pressure strength may be inadequate, which may cause the pipe to break in the worst case.

*** Pipe diameter and thi ckness (mm)**

| Pipe outer diameter | | Ø6.4 | Ø9.5 | Ø12.7 | Ø15.9 |
|---|---|---|---|---|---|
| Thickness | R32, R410A | 0.8 | 0.8 | 0.8 | 1.0 |
| | R22 | | | | |

3. When the outdoor unit was left with the pipes disconnected, or the gas leaked from the pipes and the pipes were not repaired and refilled.
   - There is the possibility of rain water or air, including moisture, entering the pipe.
4. When refrigerant cannot be recovered using a refrigerant recovery unit.
   - There is the possibility that a large quantity of dirty oil or moisture remains inside the pipes.
5. When a commercially available dryer is attached to the existing pipes.
   - There is the possibility that copper green rust has been generated.
6. When the existing air conditioner is removed after refrigerant has been recovered.
   Check if the oil is judged to be clearly different from normal oil.
   - The refrigerator oil is copper rust green in color: There is the possibility that moisture has mixed with the oil and rust has been generated inside the pipe.
   - There is discolored oil, a large quantity of residue, or a bad smell.
   - A large quantity of shiny metal dust or other wear residue can be seen in the refrigerant oil.
7. When the air conditioner has a history of the compressor failing and being replaced.
   - When discolored oil, a large quantity of residue, shiny metal dust, or other wear residue or mixture of foreign matter is observed, trouble will occur.
8. When temporary installation and removal of the air conditioner are repeated such as when leased etc.
9. If the type of refrigerator oil of the existing air conditioner is other than the following oil (Mineral oil), Suniso, Freol-S, MS (Synthetic oil), alkyl benzene (HAB, Barrel-freeze), ester series, PVE only of ether series.
   - The winding-insulation of the compressor may deteriorate.

**NOTE**

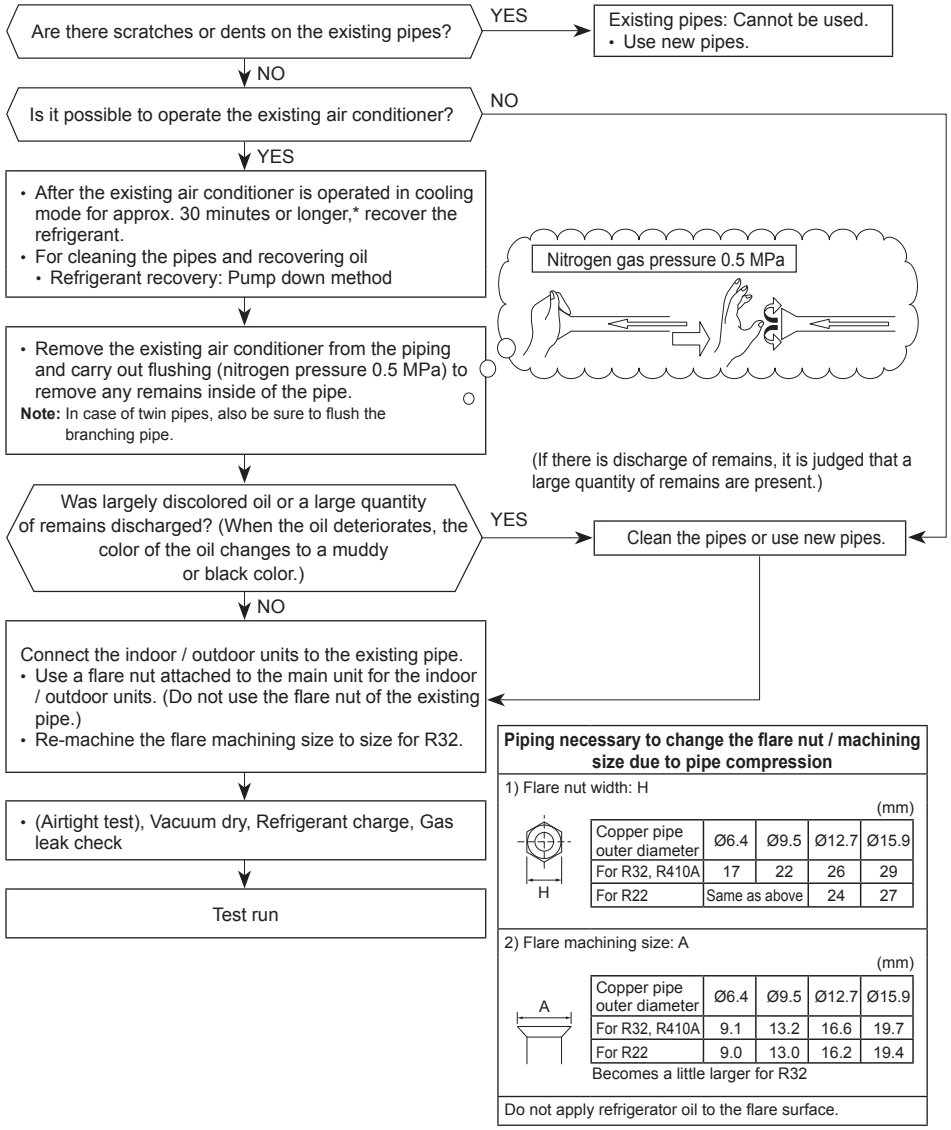
The above descriptions are results have been confirmed by our company and represent our views on our air conditioners, but do not guarantee the use of the existing pipes of air conditioners that have adopted R32 in other companies

## Curing of pipes

When removing and opening the indoor or outdoor unit for a long time, cure the pipes as follows:

- Otherwise rust may be generated when moisture or foreign matter due to condensation enters the pipes.
- The rust cannot be removed by cleaning, and new pipes are necessary.

| Placement location | Term | Curing manner |
|---|---|---|
| Outdoors | 1 month or more | Pinching |
| | Less than 1 month | Pinching or taping |
| Indoors | Every time | |




**Piping necessary to change the flare nut / machining size due to pipe compression**

1) Flare nut width: H

(mm)




| Copper pipe outer diameter | Ø6.4 | Ø9.5 | Ø12.7 | Ø15.9 |
|---|---|---|---|---|
| For R32, R410A | 17 | 22 | 26 | 29 |
| For R22 | Same as above | | 24 | 27 |

2) Flare machining size: A

(mm)




| Copper pipe outer diameter | Ø6.4 | Ø9.5 | Ø12.7 | Ø15.9 |
|---|---|---|---|---|
| For R32, R410A | 9.1 | 13.2 | 16.6 | 19.7 |
| For R22 | 9.0 | 13.0 | 16.2 | 19.4 |

Becomes a little larger for R32

Do not apply refrigerator oil to the flare surface.

MEMO

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