

Installation Manual for Split Air-to-Water Heat Pump System

Haier

AW042HUGHA
AW062HUGHA
AW082HUGHA
AW102HUGHA
AW10NHUGHA
AW122HVGHA
AW142HVGHA
AW162HVGHA
AW12NHVGHA
AW14NHVGHA
AW16NHVGHA

EN	INSTALLATION MANUAL
IT	MANUALE DI INSTALLAZIONE
FR	MANUEL D'INSTALLATION
DE	INSTALLATIONSANLEITUNG
ES	MANUAL DE INSTALACIÓN
PT	MANUAL DE INSTALAÇÃO
PL	INSTRUKCJA MONTAŻU
NL	INSTALLATIEHANDLEIDING
HU	TELEPÍTÉSI KÉZIKÖNYV

English

Italiano

Français

Deutsch

Español

Português

Język polski

Nederlands

Magyar

No. 0150579603

- This product must only be installed or serviced by qualified personnel.
- Please read this manual carefully before installation. This appliance is filled with R290.
- Keep this manual for future reference.
- This manual was originally written in English. All other versions are translations of the original.



UK
CA

Haier

Haier Industrial Park, Qianwangang Road, Eco-Tech Development Zone, Qingdao 266555, Shandong, China

EN EUROPEAN REGULATIONS CONFORMITY FOR THE MODELS:

CE

All the products are in conformity with the following European provision:

- Low Voltage Directive
- Electromagnetic Compatibility

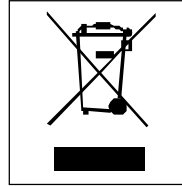
RoHS

The products are fulfilled with the requirements in the directive 2011/65/UE of the European parliament and of the council on the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment (EU RoHS Directive).

WEEE

In accordance with the directive 2012/19/UE of the European parliament, herewith we inform the consumer about the disposal requirements of the electrical and electronic products.

DISPOSAL REQUIREMENTS:



Your heat pump product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste. Do not try to dismantle the system yourself: the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other part must

be done by a qualified installer in accordance with relevant local and national legislation. Air conditioners must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information. Battery must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

IT CONFORMITÀ ALLE DIRETTIVE EUROPEE PER I MODELLI:

CE

Tutti i prodotti sono conformi alle seguenti normative europee:

- Direttiva Basso Voltaggio
- Direttiva Compatibilità elettromagnetica

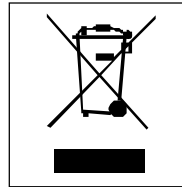
RoHS

Il prodotto è conforme alla normativa 2011/65/UE sulla restrizione d'uso di sostanze inquinanti negli apparecchi elettrici ed elettronici.

WEEE

Informativa al consumatore come previsto dalla normativa europea 2012/19/UE riguardante i rifiuti di apparecchiature elettriche ed elettroniche.

SPECIFICHE DI SMALTIMENTO:



Il prodotto o pompa di calore è contrassegnato con questo simbolo, ciò significa che i prodotti elettrici ed elettronici non possono essere smaltiti insieme ai rifiuti domestici non differenziati. Non cercare di demolire il sistema da soli: la demolizione dei sistemi di condizionamento, nonché il recupero del refrigerante, dell'olio e di qualsiasi altra parte devono essere

eseguiti da un installatore qualificato in conformità alla legislazione locale e nazionale vigente in materia. I climatizzatori devono essere trattati presso una struttura specializzata nel riutilizzo, riciclaggio e recupero dei materiali. Il corretto smaltimento del prodotto eviterà le possibili conseguenze negative all'ambiente e alla salute dell'uomo. Per maggiori informazioni contattare l'installatore o le autorità locali. Le batterie devono essere tolte dal telecomando e smaltite separatamente conformemente alla legislazione locale e nazionale vigente in materia.

FR CONFORMITÉ AUX DIRECTIVES EUROPÉENNES POUR LES MODÈLES:

CE

Tous les produits sont conformes aux directives européennes suivantes:

- Directive Basse tension
- Directive Compatibilité électromagnétique

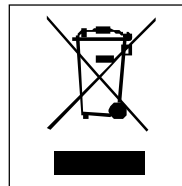
RoHS

L'appareil est conforme à la directive 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques.

DEEE (WEEE)

Information au consommateur comme le prévoit la directive européenne 2012/19/UE relative aux déchets d'équipements électriques et électroniques.

SPECIFICATIONS POUR L'ÉLIMINATION:



Ce pictogramme, apposé sur le climatiseur, signifie que les équipements électriques et électroniques ne peuvent pas être éliminés avec les déchets ménagers non triés. Ne pas essayer de démonter l'équipement soi-même: le démantèlement des systèmes de climatisation, ainsi que la récupération du frigorigène, de l'huile et de toute autre partie doivent

être effectués par un installateur qualifié conformément à la législation locale et nationale en vigueur en la matière. Les climatiseurs doivent être traités dans un centre spécialisé dans la réutilisation, le recyclage et la valorisation des matériaux. L'élimination correcte de ces appareils permet d'éviter les effets nocifs sur l'environnement et la santé humaine. Pour plus de renseignements contacter l'installateur ou les autorités locales. Les piles doivent être retirées de la télécommande et éliminées séparément, conformément à la législation locale et nationale en vigueur en la matière.



Points de collecte sur www.quefairedesdechets.fr
Privilégiez la réparation ou le don de votre appareil !

DE ÜBEREINSTIMMUNG MIT DEN EUROPÄISCHEN RICHTLINIEN FÜR DIE MODELLE:

CE

Alle Produkte erfüllen die folgenden europäischen Richtlinien:
- Niederspannungsrichtlinie
- EMV-Richtlinie

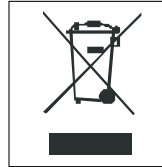
RoHS

Das Produkt erfüllt die Richtlinie 2011/65/UE zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten.

WEEE

Verbraucherinformation laut europäischer Richtlinie 2012/19/UE zu Elektro- und Elektronik-Altgeräten.

HINWEISE ZUR ENTSORGUNG:



Das Klimagerät ist mit diesem Symbol gekennzeichnet, das darauf hinweist, dass Elektro- und Elektronikgeräte getrennt vom Hausmüll entsorgt werden müssen. Verschrotten Sie die Anlage nicht selbst: die Verschrottung von Klimaanlage, sowie die Rückgewinnung

des Kältemittels, des Öls und aller sonstigen Teile müssen durch einen qualifizierten Installateur in Übereinstimmung mit den einschlägigen geltenden örtlichen und nationalen Vorschriften erfolgen. Die Klimageräte müssen bei einem Unternehmen entsorgt werden, das auf die Verwertung, das Recycling und die Rückgewinnung der Materialien spezialisiert ist. Die richtige Entsorgung des Produkts hilft negative Auswirkungen auf Umwelt und Gesundheit zu vermeiden. Für weitere Informationen wenden Sie sich bitte an den Installateur oder die örtlichen Behörden. Die Batterien müssen aus der Fernbedienung entfernt und in Übereinstimmung mit den einschlägigen geltenden örtlichen und nationalen Vorschriften getrennt entsorgt werden.

ES CONFORMIDAD EUROPEA DE LAS REGULACIONES PARA LOS MODELOS:

CE

Todos los productos están en conformidad con las siguientes Normativas Europeas:
- Bajo Voltaje directiva
- Compatibilidad electromagnética

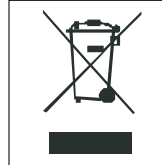
RoHS

Los productos cumplen los requisitos de la directiva 2011/65/UE del Parlamento Europeo y el consejo regulador Del uso de materiales peligrosos en equipamientos eléctricos Y electrónicos. (EU RoHS Directiva).

WEEE

De acuerdo con la directiva 2012/19/UE del Parlamento Europeo, Informa-mos al consumidor acerca del reciclaje de los productos Electrónicos y eléctricos.

REQUISITOS PARA LA ELIMINACIÓN:



Su acondicionador de aire está marcado con este símbolo. Esto significa que los productos eléctricos y electrónicos no deben mezclarse con el resto de residuos domésticos no clasificados. No intente desmontar el sistema usted mismo: El desmantelamiento del

acondicionador de aire, así como el tratamiento del refrigerante, aceite y otros componentes, debe ser efectuado por un instalador competente de acuerdo con las normas locales y nacionales aplicables. Los acondicionadores de aire deben ser tratados en instalaciones especializadas para su reutilización, reciclaje y recuperación. Al asegurarse de desechar este producto de la forma correcta, está contribuyendo a evitar posibles consecuencias negativas para el entorno y para la salud de las personas. Contacte, por favor, con el instalador o con las autoridades locales para obtener más información. Las pilas del control remoto deben extraerse y eliminarse por separado y de acuerdo con la normativa local y nacional aplicable.

PT CONFORMIDADE DE REGULAMENTAÇÕES EUROPEIAS PARA OS MODELOS:

CE

Todos os produtos estão em conformidade com as seguintes provisões europeias:
-Directiva de Baixa voltagem
-Compatibilidade Electromagnética

RoHS

Os produtos satisfazem os requisitos da directiva 2011/65/EU do Parlamento Europeu e do Conselho para a Restrição do Uso de Certas Substâncias Perigosas em Equipamentos Eléctricos e Electrónicos (EU, Directiva RoHS)

DEEE (WEEE)

De acordo com a directiva 2012/19/EU do Parlamento Europeu, informamos conjuntamente os consumidores sobre os requisitos de eliminação dos produtos eléctricos e electrónicos.

REQUISITOS DE ELIMINAÇÃO:



O seu produto de ar condicionado está marcado com este símbolo. Isto significa que os produtos eléctricos e electrónicos não devem ser misturados com os desperdícios domésticos não separados. Não tente desmontar o sistema por si próprio: a desmontagem do sistema de ar condicionado, tratamento do refrigerante, do óleo e de outras

partes deve ser feita por um instalador qualificado de acordo com a legislação relevante local e nacional. Ares condicionados devem ser tratados numa instalação especializada de tratamento para reutilização, reciclagem e recuperação. Ao assegurar que o produto é eliminado correctamente, estará a ajudar a prevenir potenciais consequências negativas para o ambiente e para a saúde humana. Por favor, contacte o instalador ou autoridade local para mais informações. A bateria deve ser removida do controlador remoto e eliminada separadamente de acordo com a legislação relevante local e nacional.

Haier

Haier Industrial Park, Qianwangang Road, Eco-Tech Development Zone, Qingdao 266555, Shandong, China

PL ZGODNOŚĆ MODELI Z PRZEPISAMI EUROPEJSKIMI

CE

Wszystkie wyroby spełniają wymagania następujących przepisów UE:

- Dyrektywa niskonapięciowa
- Kompatybilność elektromagnetyczna

RoHS

Urządzenia spełniają wymagania dyrektywy 2011/65/UE Parlamentu Europejskiego i Rady z dnia 27 stycznia 2003 r. w sprawie ograniczenia stosowania niektórych niebezpiecznych substancji w sprzęcie elektrycznym i elektronicznym (tzw. dyrektywy RoHS).

WEEE (zużyty sprzęt elektryczny i elektroniczny)

Zgodnie z dyrektywą 2012/19/UE, informujemy nabywcę urządzenia o szczególnych wymaganiach dotyczących utylizacji urządzeń po upływie ich zdolności do użytku.

WYMAGANIA DOTYCZĄCE UTYLIZACJI:



Pompa ciepła jest oznaczona tym symbolem. Oznacza to, że produkty elektryczne i elektroniczne nie mogą być mieszane z innymi nieposortowanymi odpadami użytku domowego. Nie próbuj samodzielnie demontować systemu: demontaż systemu pompy ciepła, obróbka czynnika chłodniczego, oleju i innych części muszą

być wykonane przez wykwalifikowanego instalatora zgodnie z odpowiednimi przepisami lokalnymi i krajowymi. Urządzenia te muszą być poddane obróbce w wyspecjalizowanym zakładzie przetwarzania w celu ponownego wykorzystania, recyklingu i odzysku. Aby zapewnić prawidłową utylizację tego produktu, należy zapobiec potencjalnym niekorzystnym skutkom dla środowiska naturalnego i ludzkiego zdrowia. Aby uzyskać więcej informacji, należy skontaktować się z instalatorem lub władzami lokalnymi.

Baterie należy wyjąć ze sterowników bezprzewodowych i oddać do utylizacji oddzielnie, w sposób regulowany przepisami samorządowymi i krajowymi.

NL EUROPESE REGELGEVING CONFORMITEIT VAN DE MODELLEN

CE

Alle producten zijn in overeenstemming met de volgende Europese bepaling:

- Lage spanning Richtlijn
- Elektromagnetische compatibiliteit

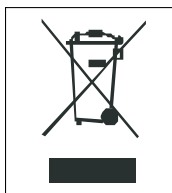
RoHS

De producten voldoen aan de eisen van richtlijn 2011/65/EU van het Europees Parlement en die van de Raad betreffende beperking met betrekking tot het gebruik van bepaalde gevaarlijke stoffen in elektrische en elektronische apparatuur (EU-RoHS-richtlijn).

WEEE

In overeenstemming met de richtlijn 2012/19/EU van het Europees Parlement informeren wij de klanten hierbij over de verwijderingsvereisten van elektrische en elektronische producten.

VERWIJDERINGSVOORSCHRIFTEN:



Dit symbool is op uw airco-product aangebracht. Dit houdt in dat elektrische en elektronische producten niet gemengd mogen worden met ongesorteerd huishoudelijk afval. Probeer het systeem niet zelf te ontmantelen: het ontmantelen van het airconditioningsysteem, de behandeling van het koelmiddel, van de olie en van andere onderdelen moet door een bevoegde installateur

worden gedaan in overeenstemming met de relevante lokale en nationale wetgeving. Airconditioners moeten worden behandeld in een gespecialiseerd behandelingsbedrijf voor hergebruik, recycling en terugwinning. Door ervoor te zorgen dat dit product correct wordt verwijderd, voorkomt u mogelijke negatieve gevolgen voor het milieu en de volksgezondheid. Neem contact op met de monteur of de plaatselijke autoriteiten voor meer informatie. De batterij moet uit de afstandsbediening worden verwijderd en apart worden afgevoerd in overeenstemming met de relevante lokale en nationale wetgeving.

HU EURÓPAI SZABÁLYOZÁSI MEGFELELŐSÉG A MODELLEKRŐL

CE

Minden termék megfelel az alábbi európai előírásoknak:

- Kisfeszültségű Irányelv
- Elektromágneses Kompatibilitás

RoHS

A termékek megfelelnek a 2011/65/EU Európai parlamenti és tanácsi irányelv követelményeinek az Egyes Veszélyes Anyagok Elektromos és Elektronikus Berendezésekben való felhasználásának Korlátozásáról (EU RoHS-Irányelv)

WEEE (zużyty sprzęt elektryczny i elektroniczny)

Az Európai Parlament 2012/19/EU irányelvének megfelelően ezúton tájékoztatjuk a fogyasztót az elektromos és elektronikus termékek ártalmatlanítási követelményeiről.

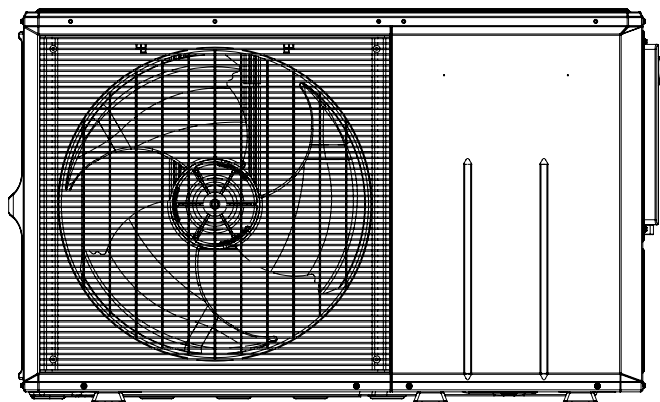
ÁRTALMATLANÍTÁSI KÖVETELMÉNYEK:



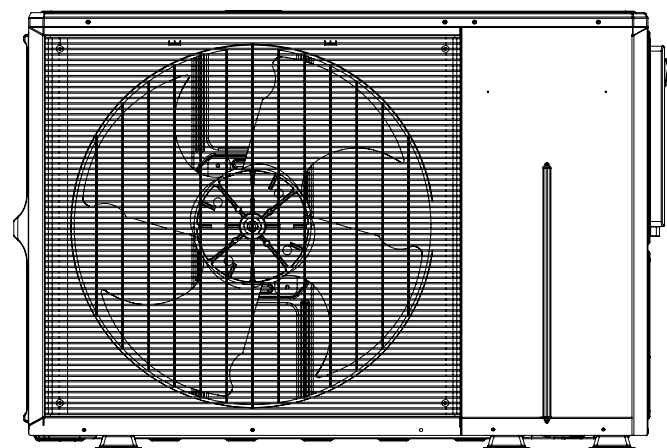
Az Ön légkondicionáló terméke evvel a szimbólumal van megjelölve. Ez azt jelenti, hogy az elektromos és elektronikus termékeket nem szabad válogatás nélküli háztartási hulladékkal összekeverni. Ne próbálja meg saját maga szétszerelni a rendszert:

a légkondicionáló rendszer szétszerelését, a hűtőközeg, az olaj és egyéb alkatrészek kezelését szakképzett szerelőnek kell elvégeznie a vonatkozó helyi és nemzeti jogszabályoknak megfelelően. A légkondicionálókat speciális kezelő létesítményben kell kezelni újrafelhasználás, újrahaznosítás és újjaépítés céljából. A termék megfelelő ártalmatlanításának biztosításával segít megelőzni a környezetre és az emberi egészségre gyakorolt lehetséges negatív következményeket. További információért forduljon a telepítőhöz vagy a helyi hatósághoz. Az elemet ki kell venni a távirányítóból, és a vonatkozó helyi és nemzeti jogszabályoknak megfelelően külön kell ártalmatlanítani.

Installation Manual for Split Air-to-Water Heat Pump System



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- This product must only be installed or serviced by qualified personnel.
- Please read this manual carefully before installation. This appliance is filled with R290.
- Keep this manual for future reference.

Original instructions



UK
CA

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Warning

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- The appliances are not intended to be operated by means of an external timer or separate remote-control system.
- Keep the appliance and its cord out of reach of children less than 8 years.
- Disconnect the appliance from its power source during maintenance service and when replacing parts.
- If the disconnection is not foreseen, a disconnection with a locking system in the isolated position shall be provided.
- This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.
- We recommend that this appliance be installed properly by qualified installation technicians in accordance with the installation instructions provided with the unit.
- The appliance shall be installed in accordance with national wiring regulations.
- Wiring must be done by a qualified electrician. All the wiring must comply with the local electrical codes.
- Means for disconnection, such as circuit breaker, which can provide full disconnection in all poles, must be incorporated in the fixed wiring in accordance with the wiring rules. Use an ELB (Electric Leakage Breaker). If not used, it will cause an electric shock or a fire. Details of type and rating of fuses, or rating of circuit breakers / ELB is detailed in below part.
- The method of connection of the appliance to the electrical supply and interconnection of separate components is detailed in below part. The wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord is detailed in below part. The cord of the H07RN-F type or the electrically equivalent type must be used for power connection and interconnection between outdoor unit and indoor unit. The size of the cord is detailed in below part.
- The information of dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures is detailed in below part.

Definitions

Notice: Specifications in this manual are subject to change without notice in order that HAIER may bring the latest innovations to their customers.

Whilst every effort is made to ensure that all specifications are correct, printing errors are beyond HAIER*s control; HAIER cannot be held responsible for these errors.

Caution: This product shall not be mixed with general house waste at the end of its life and it shall be retired according to the appropriated local or national regulations in an environmentally correct way.

Due to the refrigerant, oil and other components contained in heat pump, its dismantling must be done by a professional installer according to the applicable regulations. Contact to the corresponding authorities for more information.

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Within the policy of continuous improvement of its products, Haier reserves the right to make changes at any time without prior notification and without being compelled to introducing them into products subsequently sold. This document may therefore have been subject to amendments during the life of the product.

HAIER makes every effort to offer correct, up-to-date documentation. Despite this, printing errors cannot be controlled by HAIER and are not its responsibility.

As a result, some of the images or data used to illustrate this document may not refer to specific models. No claims will be accepted based on the data, illustrations and descriptions included in this manual.

Safety

	Read the precautions in this manual carefully before operating the unit.		Warning; Risk of fire/Flammable materials. This appliance is filled with R290.
	Read the operator's manual .		Service indicator, read technical manual.

After reading this handbook, hand it over to those who will be using the unit.

The user of the unit should keep this manual at hand and make it available to those who will be performing repairs or relocating the unit. Also, make it available to the new user when the user changes hands.

1. Safety Precautions

1.1 General Guidelines

- ◆ The precautions described in this document cover very important topics related to safety, please read carefully.
- ◆ Only licensed electricians and water system installers should perform all electrical and water installation works, in accordance with local regulations.
- ◆ After completing the installation/repair work, make sure that the unit operates normally by carrying out test run operation.
- ◆ Instruct the customer how to operate and maintain the unit and explain the cautions to the customer.
- ◆ Keep this manual for future reference.

1.2 Meaning of Warnings and Symbols

	WARNING Indicates a situation that could result in death or serious injury.
	CAUTION Indicates a situation that could result in minor or moderate injury. It may also be used to alert against unsafe practices.
 	This symbol with white background indicates item that must be PROHIBITED.
  	This symbol with black background indicates item that must be carried out.

1.3 Safety Measures for Workers

 WARNING	
	For electrical work, must ensure to follow the local regulations, wiring standards and installation manual.
	For water circuit installation work, must ensure to follow the relevant European and national regulations and local plumbing and building regulation codes.
	Do not store the units near sources of fire, such as open flames, gas appliances, or electric heaters.
	Must ship and store the units in upright conditions and dry area.
	Must disconnect the power cable from the socket prior to disassembling equipment for repair to avoid electrical shocks. Never touch electrically charged sections of the equipment if power supply is necessary for repair or circuit inspection.

	Do not contact with discharged refrigerant gas during repair as it can cause frostbite.
	Must ensure complete evacuation of the refrigerant gas in a well-ventilated place before disconnecting the suction or discharge pipe of the compressor at the welded section. In case of gas remaining inside the compressor, disconnection of the pipe can lead to discharge of refrigerant gas or refrigerating machine oil, which may cause injury.
	Must ensure good ventilation if refrigerant gas leaks during repair as refrigerant gas may generate toxic gases when it contacts flames.
	Must discharge the capacitor completely prior to repair to avoid electrical shocks as it supplies high-voltage electricity to the outdoor unit's electrical components.
	Do not plug in or unplug the power cable to turn the air conditioner on or off as it may cause an electrical shock or fire.
	Must wear a safety helmet, gloves, and a safety belt to prevent falls when working in high places (more than 2 m or 6.5 ft).
	Must use exclusively designed pipes, flare nuts, and tools for R32, R410A and R290 refrigerant models to avoid serious accidents like damage to the refrigerant cycle or equipment failure.
	Do not mix air or any gas other than the specified refrigerant (R32, R410A, R290) in the refrigerant system to avoid excessively high pressure that could result in equipment damage and injury.

 CAUTION	
	Do not repair electrical components with wet hands to avoid electrical shocks.
	Do not clean the units with water; it can cause electrical shocks.
	Must ensure proper grounding when working in a humid or wet place to avoid electrical shocks.
	Must switch off the power and unplug the cable when cleaning the equipment. The internal fan rotates at a high speed, and may cause injury.
	Must use appropriate tools for repairs to avoid injury.
	Must ensure the refrigerating cycle section has cooled down enough before conducting repair work to avoid burns.
	Must conduct welding work in a well-ventilated place to avoid oxygen deficiency.

Safety

1.4 Safety Warnings for Users

 WARNING	
	Do not store the units near sources of fire, such as open flames, gas appliances, or electric heaters.
	Only use the parts in the spare parts list for the specific model and appropriate tools when performing repairs. Modifying the equipment is strictly prohibited as it can lead to electrical shocks, excessive heat or fire.
	Replace power cables and lead wires if they show signs of damage or deterioration or it may cause electrical shocks, excessive heat or fire.
	Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances. This can cause electrical shocks, excessive heat or fire.
	Must ensure to use an exclusive power circuit for the equipment. Follow local technical standards, internal wiring regulations and the installation instruction manual when conducting electrical work. Improper electrical work or insufficient power circuit capacity can cause electrical shocks or fire.
	Must use the specified cable for wiring between the indoor and outdoor units and ensure the connections are secure and the cable is routed properly to avoid any force pulling at the connection terminals. Improper connections can lead to excessive heat or fire.
	Must ensure the terminal cover doesn't lift or dismount due to the cable during wiring. If the cover isn't mounted correctly, it can cause electrical shocks, excessive heat or fire.
	Do not damage or modify the power cable as it can cause electrical shocks or fire. Do not place heavy items on the power cable, or heating or pulling the cable.
	Only use the specified refrigerant (R32, R410A, R290) in the refrigerant system. If air enters into the system, it can result in high pressure, causing equipment damage and injury.
	Must locate and repair the leak first before recharging the refrigerant if refrigerant gas leaks. Ensure there are no leaks after recharging. If leaks can't be located and repair work needs to be halted, pump-down and close the service valve to prevent refrigerant gas from leaking into the room. While refrigerant gas is harmless, it may produce toxic gases upon contact with flames.
	Must ensure the new installation site can support the weight of the equipment when relocating the equipment. If not properly installed or the site lacks sufficient strength, the equipment can fall and cause injury.
	Must ensure the power cable plug is clean and securely inserted into the power outlet. A dirty or loose plug can cause electrical shocks or fire.
	Must ensure the dispose of old batteries from the remote controller to prevent children from swallowing them. If a child does swallow a battery, seek immediate medical attention.

 CAUTION	
	A leakage breaker may be required depending on installation site conditions to prevent electrical shocks.
	Do not install the equipment in an area where combustible gas leaks may occur as this can cause a fire.
	Must confirm that parts and wires are properly mounted and connected, and that connections at soldered or crimped terminals are secure. Improper installation or connections can cause excessive heat, fire or electrical shocks.
	Must ensure to replace corroded installation platforms or frames as it can cause the unit to fall and result in injury.
	Must ensure proper earthing/grounding and repair if necessary. Improper earthing/grounding can cause electrical shocks.
	Must measure insulation resistance after repair and ensure that the resistance is 1 MΩ or above. Faulty insulation can cause an electrical shock.
	Must check the drainage of the indoor unit after repair. Faulty drainage can cause water damage to furniture and flooring.
	Do not tilt the unit when removing it. Water inside the unit may spill and damage furniture or flooring.

2. Precaution for using R290 Refrigerant

Please pay attention to the following points:

 WARNING	
	Do not mix any different refrigerants within a system.
	Well trained and certified personnel are required for operating, maintaining, repairing, and recovering the flammable refrigerants, and also for conducting any operation, servicing and maintenance on a system or relevant parts of the units.
	Do not store any of the parts of refrigeration circuit or pipes near sources of fire, such as open flames, gas appliances, or electric heaters.
	The alarms, mechanical ventilation and detectors must be checked regularly by users or the authorized dealer at least once a year based on the national rules to ensure correct operation.
	It is necessary to keep a logbook and record all outcomes of these checks.
	Ventilation in occupied areas must be checked to make sure there are no any obstructions.

Safety

	Before a new refrigeration system is put into operation, the person in charge of system operation should ensure that the operating personnel are properly trained and certified and familiarized with the system's construction, supervision, operation and maintenance, safety precautions, and the properties and handling of the refrigerant used.
	For the trained and certified personnel, they must: 1. Well understand the legislation, regulations, and standards related to flammable refrigerants; 2. Own the knowledge and skills in managing flammable refrigerants, personal protective equipment, preventing refrigerant leaks, handling cylinders, charging, leak detection, recovery and disposal; 3. Be able to comprehend and apply national legislation, regulations and standards; 4. Keep continuous, regular and additional training to maintain these skills.
	Must protect the protection devices, refrigeration circuits, and fittings from potentially damaging environmental factors, such as the risk of water collection and freezing in relief pipes or the accumulation of dirt and debris.

 CAUTION	
Installation	
	Must follow all related national gas regulations, state municipal regulations and laws, and notify the relevant authorities as per all applicable rules.
	Must ensure that all mechanical connections are accessible for maintenance purposes.
	Must ensure that all ventilation openings are clear without any obstructions.
	Always reach out to local authorities for proper guidance.
Servicing	
● Service Personnel	
	Any certified individual working on or breaking into a refrigerant circuit should have a valid certificate from an industry-recognized assessment authority, confirming their ability to safely handle refrigerants per industry assessment specifications.
	Servicing should only be done as recommended by the equipment manufacturer. Maintenance and repairs requiring additional specialized personnel should be done under the supervision of a person competent in the use of flammable refrigerants.
	Servicing should be performed only as recommended by the equipment manufacturer.
	The system should be inspected, regularly monitored and maintained by a trained and certified service personnel employed by the user or responsible party.

	Must ensure no leak during refrigerant charge.
● Work	
	Must ensure conducting safety checks before starting work on systems that contain flammable refrigerants to minimize the risk of ignition.
	Must ensure to follow all related safety precautions before conducting work on the system when repairing the refrigeration system.
	Must ensure the work is conducted under controlled procedures to minimize the risk of a flammable gas or vapor being present.
	Avoid working in enclosed space and ensure a safety distance of at least 2 meters from any source, or establish a free space zone of at least 2 meters in radius.
	Must use suitable protective equipment per the actual situation.
	Must ensure to stay away from any flammable materials and heat-producing items.
● Confirming Refrigerant Existence	
	A suitable refrigerant detector should be used to check the area before and during work to identify potentially combustible environments.
	The leak detection equipment should be non-sparking, adequately sealed, or intrinsically safe.
	If a leak or spill occurs, ventilate the area immediately, stay upwind and avoid the spill/release.
	In the event of a leak or spill, inform individuals downwind of the leak/spill, isolate the immediate hazard area, and restrict unauthorized personnel.
● Fire Extinguisher Availability	
	If any heat-related work is to be done on the cooling equipment or any related parts, relevant fire extinguishing equipment should be accessible.
	Keep a dry powder or CO ₂ fire extinguisher close to the charging area.
● Avoid Ignition Sources	
	When working on a system, avoid using any ignition sources that could risk a fire or explosion.
	Keep all potential ignition sources, including smoking, sufficiently far from the installation, repair, removal, and disposal site where flammable refrigerant could be released.
	Check the area around the equipment before starting work to ensure that there are no flammable hazards or ignition risks (electrical sockets included).
	Must display "No Smoking" signs.
● Ventilated Area	
	Must ensure the area is open or adequately ventilated before opening the system or conducting any heat-related work.

	Ensure continuous ventilation throughout the work.
	Safely disperse any released refrigerant during ventilation, preferably expelling into the atmosphere outside.
● Checking for Refrigerating Equipment	
	When changing electrical components, must ensure they are suitable and meet the correct specifications.
	Must ensure to follow the guidelines provided by the manufacturer for maintenance and service.
	Must reach out to the manufacturer's technical support for help if there are any unsure points.
	When using flammable refrigerants during installation, please conduct below checks: 1. Must ensure ventilation equipment and outlets are not obstructed and are functioning properly. 2. Must check the secondary circuit for the presence of refrigerant if an indirect cooling circuit is being used. 3. Must ensure the equipment markings are legible and visible and correct any markings that are not legible. 4. Refrigeration pipes or components should not be exposed to corrosive substances unless they are made of corrosion-resistant materials or are properly protected.
● Checking for Electrical Devices	
	Maintenance and repairs of electrical components should include initial safety checks and component inspection procedures.
	Initial safety checks should include but not limited to: 1. Safe discharge of capacitors to prevent sparking. 2. No live electrical components or wiring exposed during system charging, recovery, or purging. 3. Continuity of earth bonding.
	Must follow the guidelines provided by the manufacturer for maintenance and service.
	Must reach out to the manufacturer's technical support for help if there are any unsure points.
	If a fault that could compromise safety is present, do not connect the electrical supply to the circuit until it is satisfactorily resolved.
	If the fault cannot be immediately corrected but operation must continue, implement a suitable temporary fix.
	The equipment owner must be informed of any issues so that all parties are aware.
Repairs to Sealed Components	
	Must disconnect all electrical supplies from the equipment before removing any sealed covers during repairs.

	Must ensure there is a permanent form of leak detection located at the most critical point to warn of potential hazards if it is necessary to have an electrical supply during servicing.
	Must pay special attention to ensure that working on electrical components will not change the casing in a way that impacts the level of protection, which includes cable damage, excessive connections, terminals not made to the original specification, seal damage, incorrect fitting of glands, etc.
	Must ensure that the equipment is securely mounted.
	Must check that seals or sealing materials have not degraded to the point that they can no longer prevent the entry of flammable atmospheres.
	Must ensure the replacement parts meet the manufacturer's specifications.
Note	The use of silicone sealant may affect the performance of some types of leak detection equipment. Intrinsically safe components do not need to be isolated before working on them.
Maintenance of Intrinsically Safe Components	
	Avoid adding any permanent inductive or capacitance loads to the circuit without verifying that this will not surpass the allowed voltage and current for the equipment in operation.
	Only intrinsically safe components can be serviced while powered on in an environment with a potential for combustion.
	Ensure that the testing equipment is correctly rated.
	Only replace components with parts explicitly recommended by the manufacturer. Utilizing non-specified parts could potentially lead to the ignition of refrigerant in the environment due to a leak. Must replace components with parts specified by the manufacturer. Any unspecified parts by manufacturer could potentially lead to the ignition of refrigerant in the environment due to a leak.
Cabling	
	Confirm that the cabling will not be exposed to wear, corrosion, extreme pressure, vibration, sharp edges or other damaging environmental conditions.
	Consider the impacts of aging or continuous vibration from compressors or fans during this check.
Detection of Combustible Refrigerants	
	Absolutely avoid the use of potential ignition sources when searching for or detecting refrigerant leaks.
	A halide torch (or any other detector that uses an open flame) should not be used.
Methods for Detecting Leaks	

	The following methods for detecting leaks are considered suitable for all types of refrigerant systems: 1. Leak detection should be conducted using equipment with a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0.25 times the maximum allowable pressure (>0.98MPa, max 3.90MPa). A universal sniffer, for instance. 2. Electronic leak detectors can be used for flammable refrigerants, but they may require recalibration for adequate sensitivity. (The calibration of detector should be done in an area free of refrigerant.) 3. Ensure the detector does not pose a risk of ignition and is compatible with the refrigerant being used. 4. The detector should be calibrated to the specific refrigerant used and set to a percentage of the refrigerant's Lower Flammable Limit (LFL), ensuring it doesn't exceed 25%. 5. Leak-detecting fluids, such as bubble or fluorescent method agents, can be used with most refrigerants. However, detergents with chlorine should be avoided as they can react with the refrigerant and corrode copper piping. 6. If a leak is suspected, eliminate any potential ignition sources. 7. If a leak requires brazing to repair, all refrigerant must be recovered from the system first. Must follow the related precautions to remove the refrigerant.
Removal and Evacuation	
	Conventional procedures should be followed when needing to access the refrigerant circuit for repairs or other purposes. Flammability factor must be taken into account, and follow below procedures: remove refrigerant ->purge the circuit with inert gas ->evacuate ->purge with inert gas ->open the circuit by cutting Brazing is prohibited.
	Recover the refrigerant charge into the appropriate recovery cylinders.
	Purge the system with Oxygen Free Nitrogen (OFN) to ensure safety.
	Repeat this process for several times as necessary.
	Compressed air or oxygen is prohibited for this task.
	The purging process involves filling the system with OFN until working pressure is achieved, venting to atmosphere, pulling down to a vacuum, and repeating until no refrigerant remains in the system. (Until the concentration of purge gas is 0.25 LFL or less by the leak detector). $0.25 \text{ LFL} = 0.525 \text{ Vol\%}$
	After the final OFN charge, vent the system down to atmospheric pressure before starting any work.
	This process is crucial if brazing on the pipework is needed.

	Must ensure the vacuum pump outlet is located away from any potential ignition sources and in a well-ventilated area.
Charging procedures	
	In addition to standard charging procedures, the following steps should be followed: 1. Prevent contamination of different refrigerants when using charging equipment. 2. Use the shortest possible hoses or lines to minimize the amount of refrigerant they can hold. 3. Store cylinders in the correct position as per their instructions. 4. Ground the refrigerating system before charging it with refrigerant. 5. Label the system once charging is complete (if not already). 6. Pay special attention not to overcharge the refrigerating system.
	Before recharging the system, pressure test it with OFN (refer to “ Removal and Evacuation ”).
	After charging, but before commissioning, perform a leak test on the system.
	Perform a follow-up leak test before leaving the site.
	Static electricity can build up and create a hazardous situation when charging and discharging refrigerant. To prevent fires or explosions, ground and bond containers and equipment before starting the process.
Decommissioning	
	Before beginning this process, the technician should be thoroughly familiar with the equipment and all its components.
	It is highly advised that all refrigerants should be safely collected.
	Do not reuse the collected refrigerant.

	Must ensure that the electricity is accessible before starting the task. 1. Learn about the equipment and how it operates. 2. Cut off the system's electrical power. 3. Prior to starting the process, confirm that: 1) If necessary, mechanical transport tools are ready for moving refrigerant cylinders; 2) all needed personal protection equipment and leak detectors are at hand and used properly; 3) the recovery process is constantly overseen by a qualified individual; 4) Recovery tools and cylinders meet the standard requirements. 4. Ensure that the cylinder is placed on the scales before the recovery begins. 5. Operate the recovery machine by following the guidelines. 6. Avoid overfilling cylinders. (Do not exceed 80% of the cylinder's volume). 7. Must ensure not exceeding the maximum operational pressure of the cylinder, even temporarily. 8. Once the cylinders have been correctly filled and the procedure is done, ensure that the cylinders and equipment are promptly removed from the location and all equipment isolation valves are closed.
	Charging or discharging the refrigerant might lead to static electricity accumulation, which can be hazardous. To prevent fire or explosion, neutralize static electricity during transfer by grounding and connecting containers and equipment before charging/discharging.
Labelling	
	Label the equipment to indicate that it has been decommissioned and emptied of refrigerant.
	The label should include the date and signature.
	Ensure that labels on the equipment state that it contains flammable refrigerant.
Recovery	
	It is advised that all refrigerants are safely removed when removing refrigerant from a system, either for servicing or decommissioning.
	Must ensure using suitable refrigerant recovery cylinders if transferring refrigerant into cylinders.
	Prepare the right amount of cylinders to contain the total system charge.
	All cylinders to be used should be assigned for the recovered refrigerant and labelled for that specific refrigerant (i.e., dedicated cylinders for refrigerant recovery).
	Cylinders should have a fully operational pressure relief valve and associated shut-off valves of good working conditions.
	Recovery cylinders should be evacuated and, if possible, cooled before recovery.

	The recovery equipment should be operational with a set of instructions about the device available and appropriate for flammable refrigerant recovery.
	Ensure the recovery equipment does not create potential ignition risks and is compatible with the refrigerant being used.
	Prepare a set of calibrated weighing scales of good working conditions.
	Hoses should have leak-free disconnected couplings of good working conditions.
	Before using the recovery machine, verify its operational state, proper maintenance, and that any related electrical components are sealed to prevent ignition if a refrigerant leak occurs. Contact the manufacturer if there are any uncertainties.
	
	Return the recovered refrigerant to the refrigerant supplier in the correct recovery cylinder, and arrange the relevant Waste Transfer Note.
	Refrigerants should not be mixed in recovery units, and especially not in cylinders.
	If compressors or compressor oils need to be removed, they should be evacuated to an acceptable level to ensure no flammable refrigerant remains in the lubricant.
	The evacuation process should be completed before returning the compressor to the suppliers.
	Only electrical heating to the compressor body should be used to accelerate this process.
	When draining oil from a system, it should be done safely.

INTRODUCTION

General information

Important note: Please, check, according to the model name, which is your heat pump type, how it is abbreviated and referred to in this instruction manual. This Installation and Operation Manual is only related to AW04/06/08/102HUGHA, AW12/14/162HVGHA, AW10NHUGHA, AW12/14/16NHVGHA units.

AW04/06/08/102HUGHA, AW12/14/162HVGHA are single-phase electrical models, AW10NHUGHA, AW12/14/16NHVGHA are three-phase electrical models, to fulfil central heating and cooling requirements for homes, offices, shops, etc...;

These appliances are distinguished for their high energy efficiency. They can be used as a single generator to assist the system, but also inside an integrated system (for example, with a heat pump - boiler - solar heating). They are engineering solutions that can be perfectly integrated with each other, which allow to attain maximum benefit from the various energy production systems on the basis of the respective efficiency parameters.

For the entire system to operate correctly, HAIER offers an "intelligent" system Manager capable of identifying the most economical energy source at a given time and therefore choose the right appliance to activate.

The entire range complies with the requirements of ErP Directive (2009/125/EC) and ELD (2010/30/EC). Various hydraulic, electric and electronic kits are available, which enable flexible use in all circumstances 4kW, 6kW, 8kW, 10kW, 12kW, 14kW and 16kW mono-phase inverter air/water heat pumps for winter and summer air conditioning.

The inlet pressure of the water system is greater than 0 bar and less than 3 bar.

And the outlet water temperature of the water system is 5°C to 80°C which include cooling and heating.

Accessories

AW04/06/08/102HUGHA, AW10NHUGHA

No.	Drawing	Name of parts	Quantity
1		Drainage elbow	9
2		Rubber cushion	6
3		Water filter	1
4		Specification	1

AW12/14/162HVGHA, AW12/14/16NHVGHA

No.	Drawing	Name of parts	Quantity
1		Drainage elbow	10
2		Rubber cushion	6
3		Water filter	1
4		Specification	1

Note: Accessories are placed on the machine packing pad.

Transportation and Lifting

Lifting

In front of the unit shipped from unpacking location as close as possible.

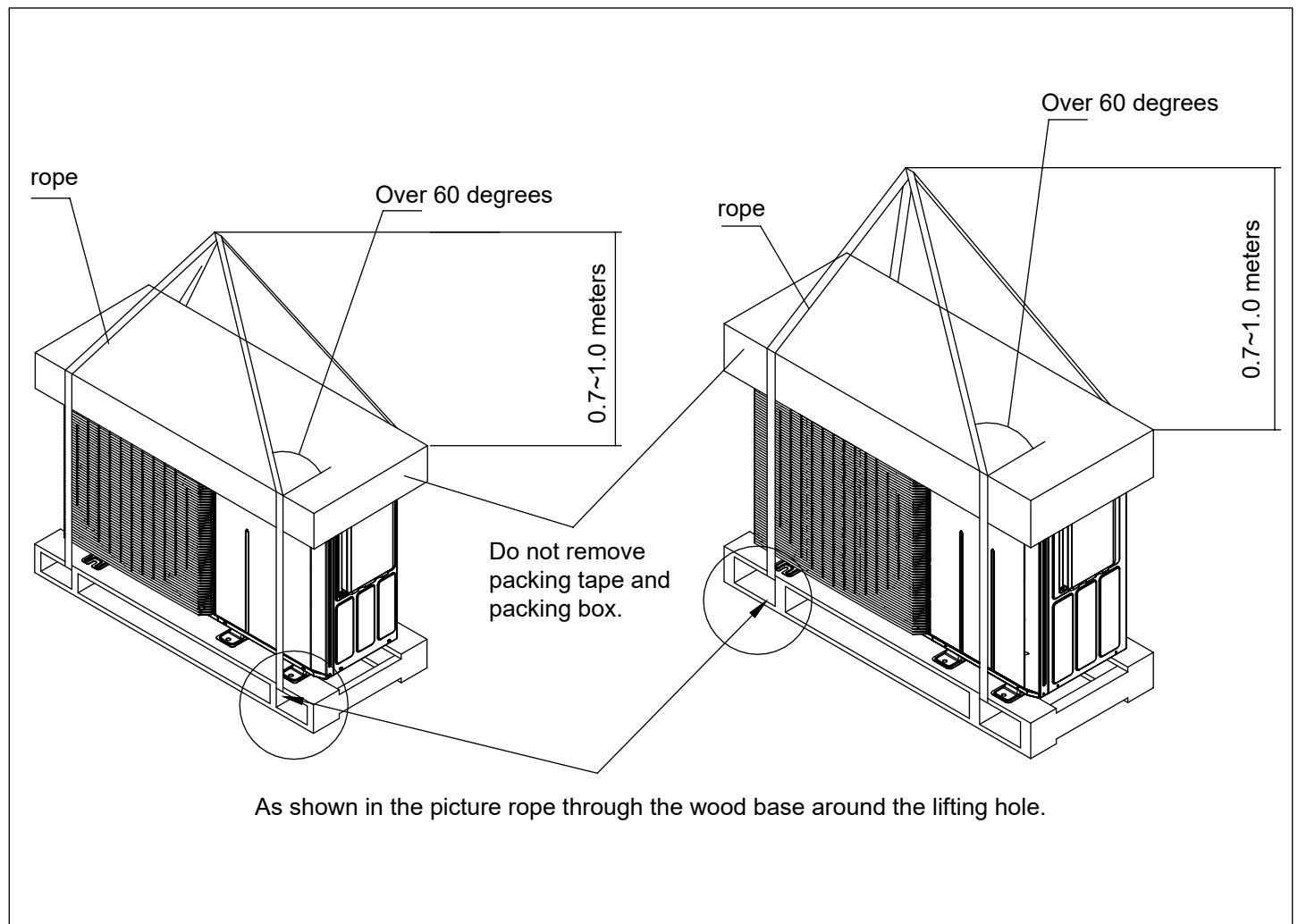
⚠ CAUTION

- Do not place anything on the device.
- Two ropes shall be used for lifting the outdoor unit.

Hoisting method

Hoisting to ensure that the level of outdoor machine, slowly lifting.

1. Removal of outer packing is strictly prohibited.
2. As shown by two ropes hoist with outdoor machine packaging.



⚠ CAUTION

- In order to ensure safety, maintain the level of lifting, slowly lifting.
- Do not lift the elevator to the packing and outer packing of the equipment.
- External protection should be used when lifting, such as cloth or cardboard.

Transportation and Lifting

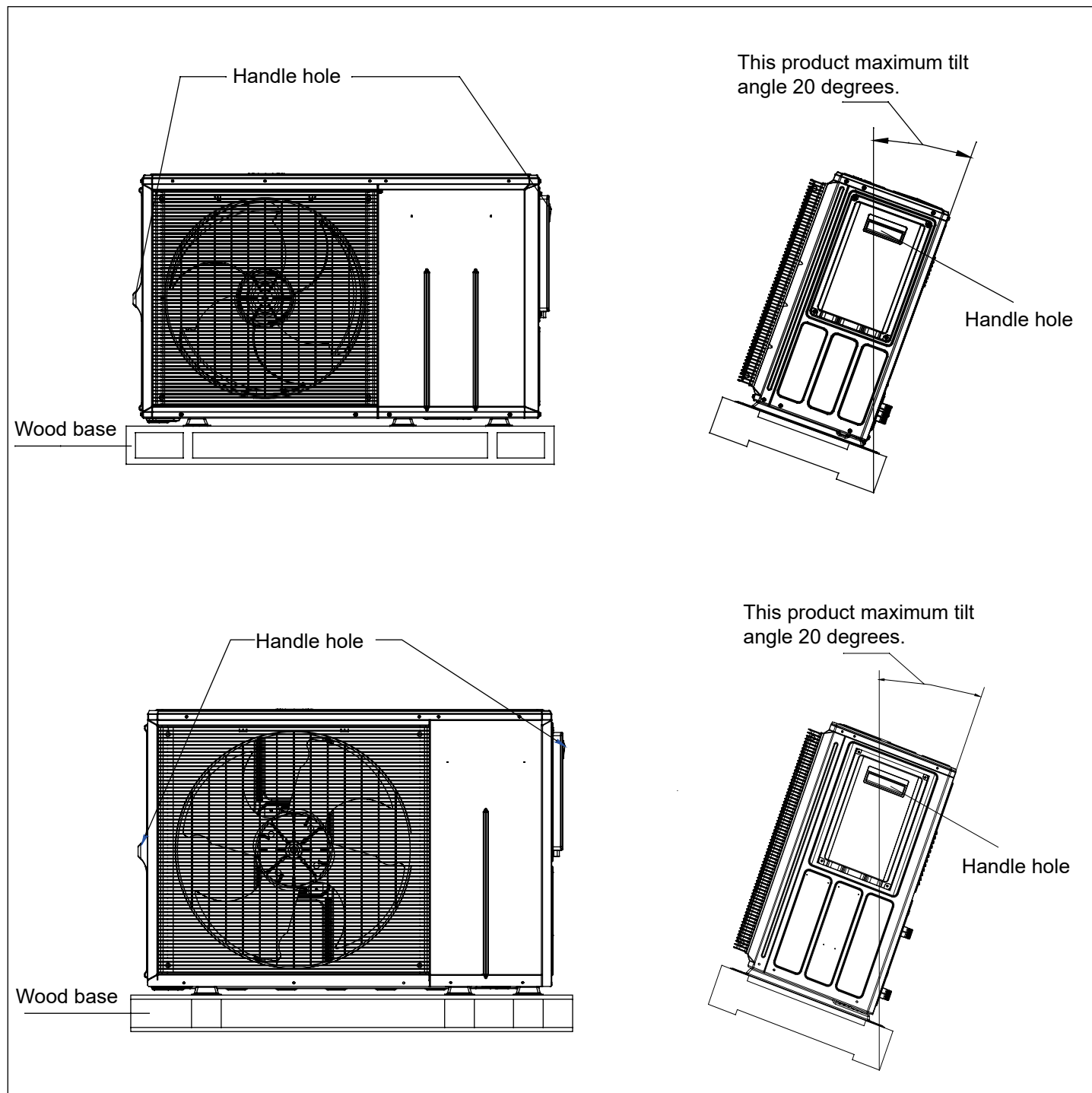
Manual handling

CAUTION

- In the installation and commissioning, the outdoor machine do not put any irrelevant material, to ensure that there is no debris inside the machine, or there may be a fire or accident.

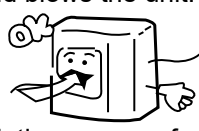
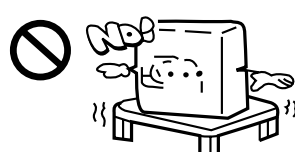
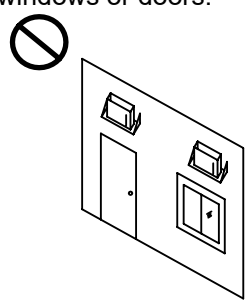
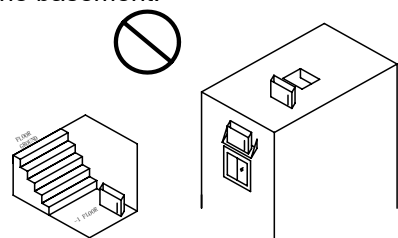
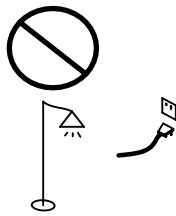
Pay attention to the following points when handling the equipment manually:

1. No demolition wood base.
2. In order to prevent the dumping of the outdoor machine, the center of gravity of the unit should be noted as shown in the figure.
3. Two or more people to carry out the outdoor machine.



Installation Instruction

(1) Installation place selection

The unit can't be installed in the place with inflammable gas. Or it will cause fire hazard. 	The unit should be installed at the place with good ventilation. No obstacle at the air inlet/outlet. And no strong wind blows the unit.  The installation space refers to the latter info.	The unit should be installed at the strong enough place. Or it will cause vibration and noise. 
The unit should be installed at the place where the cold/hot air or noise will not interfere the neighbours. 	• The place where the water can flow fluently. • The place where no other heat source will affect the unit. • Pay attention to the snow against clogging the outdoor. • In installation, install the anti-vibration rubber between the unit and the bracket.	• The unit can't be installed in the basement or at the below places. • The place where there is corrosive gas (spa area etc). • The place blowing salty air (seaside etc). • Exsits the strong coal smoke. • The place with high humidity. • The place where there is device emitting Hertzian waves. • The place where voltage changes greatly.
The unit shall not be installed above windows or doors. 	The unit shall not be installed near basement windows, skylights, ventilation system opening, and areas around the bottom of stairs going to the basement. 	Do not install the unit near electrical systems, outlets, lighting fixtures, or light switches. 

Important: To install the Heat pumps safely, carry out the Installation Risk Analysis with reference to EN 378 part 3.

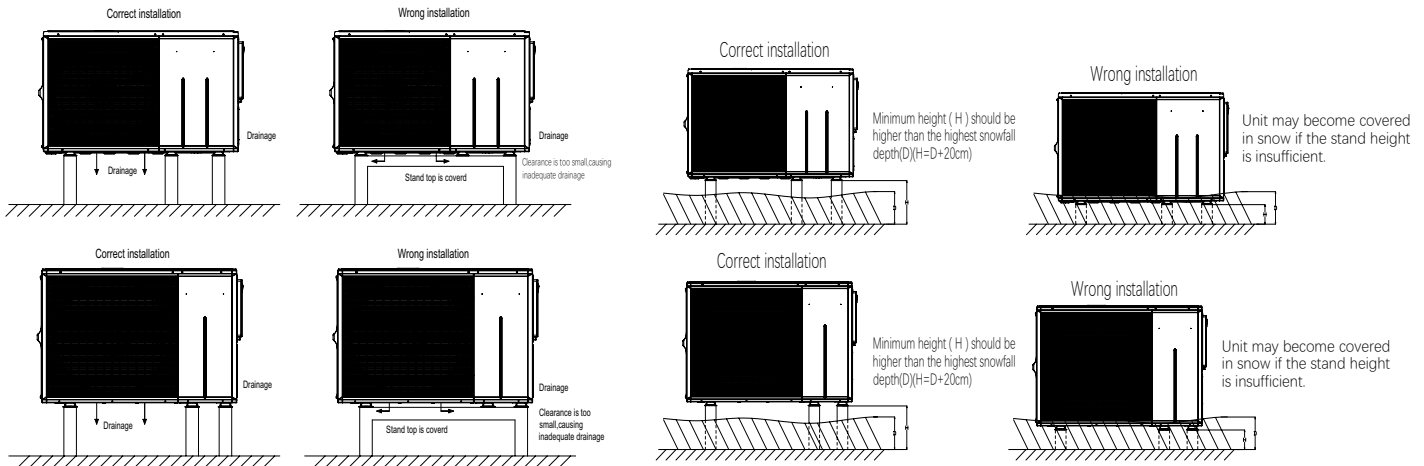
Installation Instruction

Note:

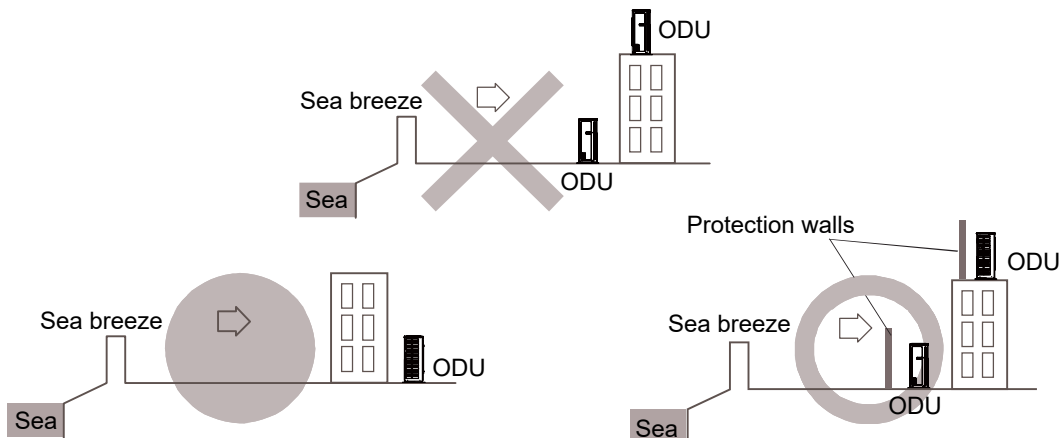
1. In snowy area, install the unit under the bracket or the snow-proof cover against the accumulative snow on the unit.
2. Do not install the unit at the place where the flammable gas will leak.
3. Install the unit at the strong enough place.
4. Install the unit at the flat place.
5. When being installed at the place with strong wind, set the air outlet of the unit and the wind direction vertical.
6. The installation site should be far away from the place where the noise is higher. At the same time for the noise of higher places should ensure that the outdoor machine vibration and wall insulation measures to prevent vibration caused by thin wall or acoustic noise problems.
7. Aluminum foil fin is very sharp, pay attention to prevent scratches.
8. In addition to the maintenance of the roof, or the installation of outdoor machines, other people can not contact the outdoor machine.
9. Set the unit on mounting brackets or pad. To avoid the adverse effects of snow, ice and defrosting issues, install the unit on heat pump risers to ensure a sufficient height from the ground. In all cases, refer to local code for correct riser height.

Make sure the outdoor unit is installed level and is stable.

Install snow protection hood as necessary.



10. For seacoast applications, block the unit from direct exposure to sea breeze by installing the unit behind a structure (such as a building) or a protective wall that is 1.5 times higher than the unit, leaving 700 mm of space between the wall and unit for air circulation. Consult an installation expert about taking anti-corrosion measures, such as removing salinity on the heat exchanger and applying a rust inhibitor more frequently than once a year.

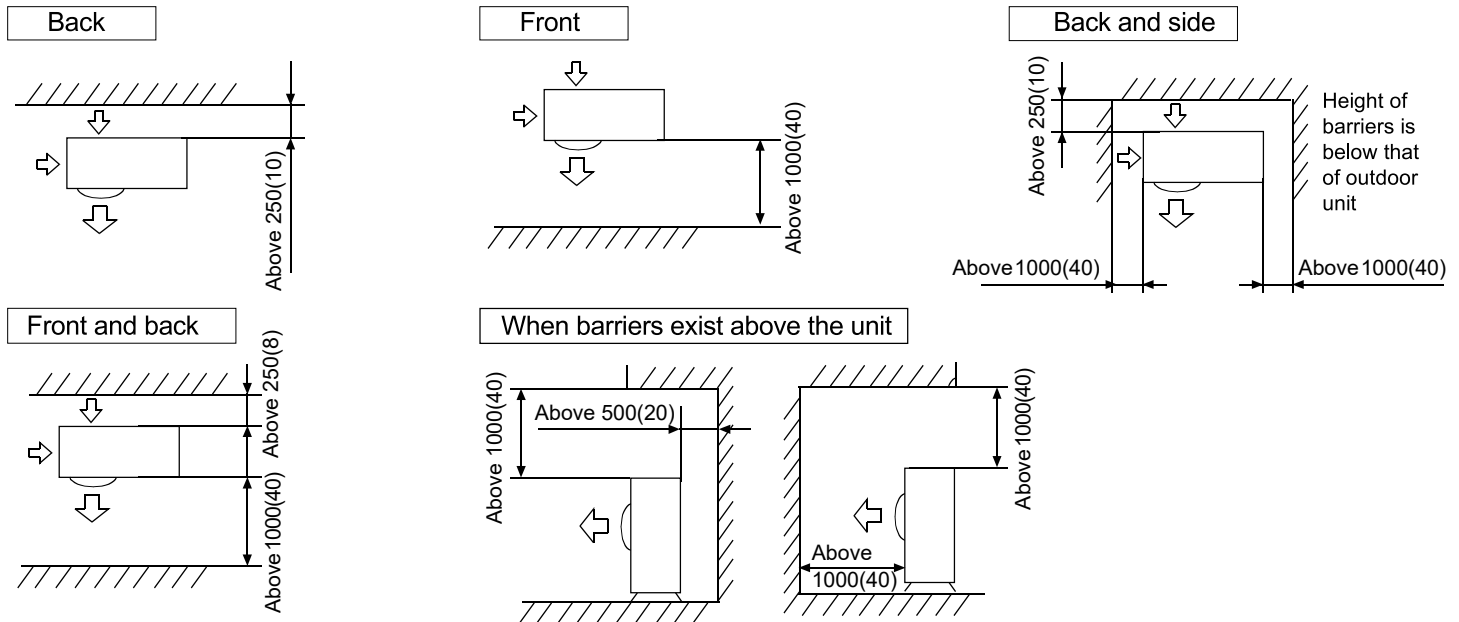


Installation Instruction

(2) Installation and maintenance space

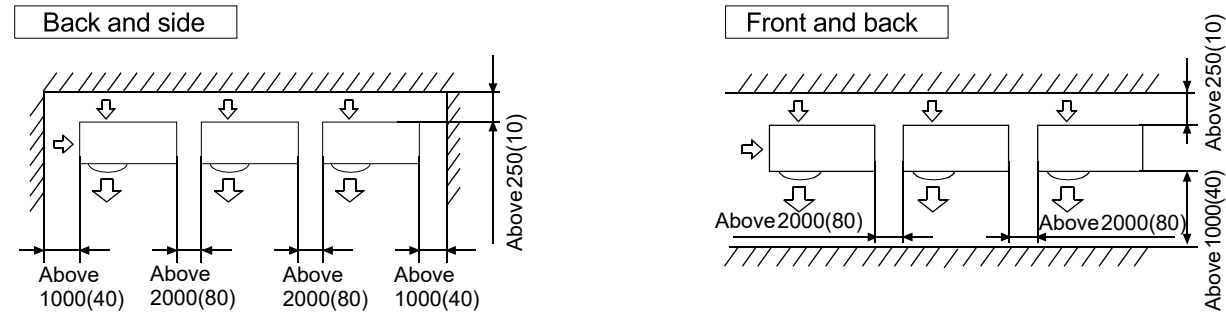
Selection of installation location of outdoor

(1) Single-unit installation (unit: mm(in.))



The top and two side surfaces must be exposed to open space, and barriers on at least one side of the front and back shall be lower than the outdoor unit.

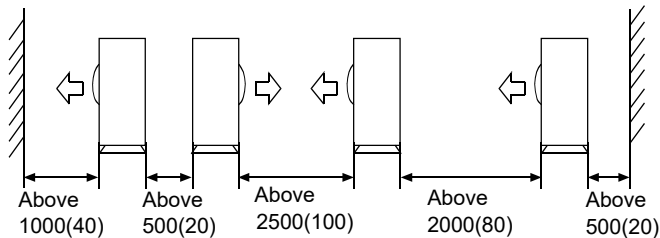
(2) Multi-unit installation (unit: mm(in.))



Height of barriers is below that of outdoor unit

(3) Multi-unit installation in front and back (unit: mm(in.))

Standard



The top and two side surfaces must be exposed to open space, and barriers on at least one side of the front and back shall be lower than the outdoor unit.

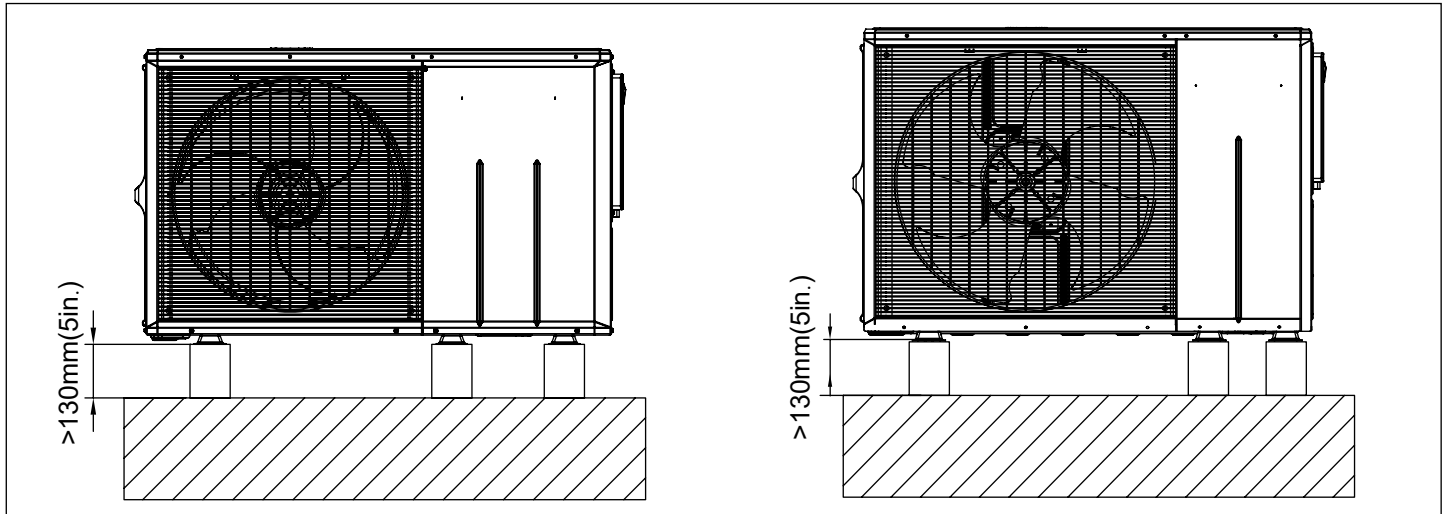
- The installation service spaces shown in the illustrations are based on an air intake temperature of 95°F(35°C)(DB) for COOL operation. In regions where the air intake temperature regularly exceeds 95°F(35°C)(DB), or if the heat load of outdoor units is expected to regularly exceed the maximum operating capacity, reserve a larger space than that indicated at the air intake side of units.
- Regarding the required air outlet space, position the units with consideration to the space required for the onsite water pipe work as well. Consult your dealer if the work conditions do not match those in the drawings.

Installation Instruction

(3) Precautions on installation

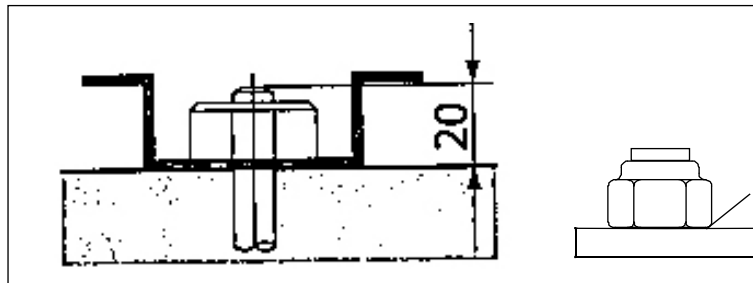
NOTICE

If drain holes of the outdoor unit are covered by a mounting base or by floor surface, raise the unit in order to provide a free space of more than 130mm(5in.) under the outdoor unit.



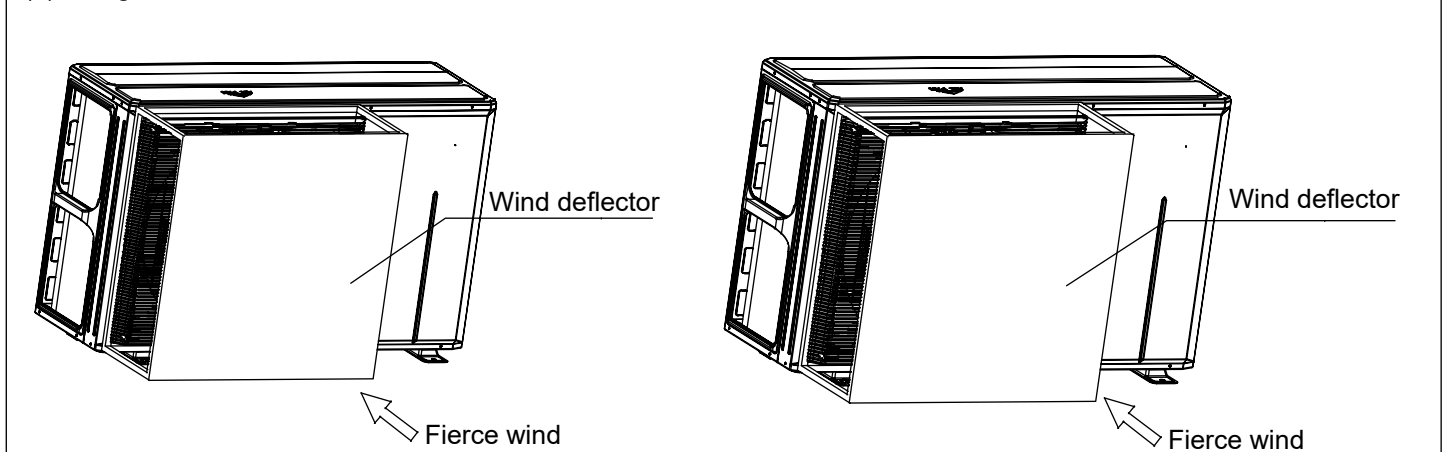
Foundation work

- Check the strength and level of the installation ground so that the unit will not cause any operating vibration or noise after installation.
- In accordance with the foundation drawing in the figure, fix the unit securely by means of the foundation bolts.
- It is best to screw in the foundation bolts until their length are 20mm(0.8in.) from the foundation surface.



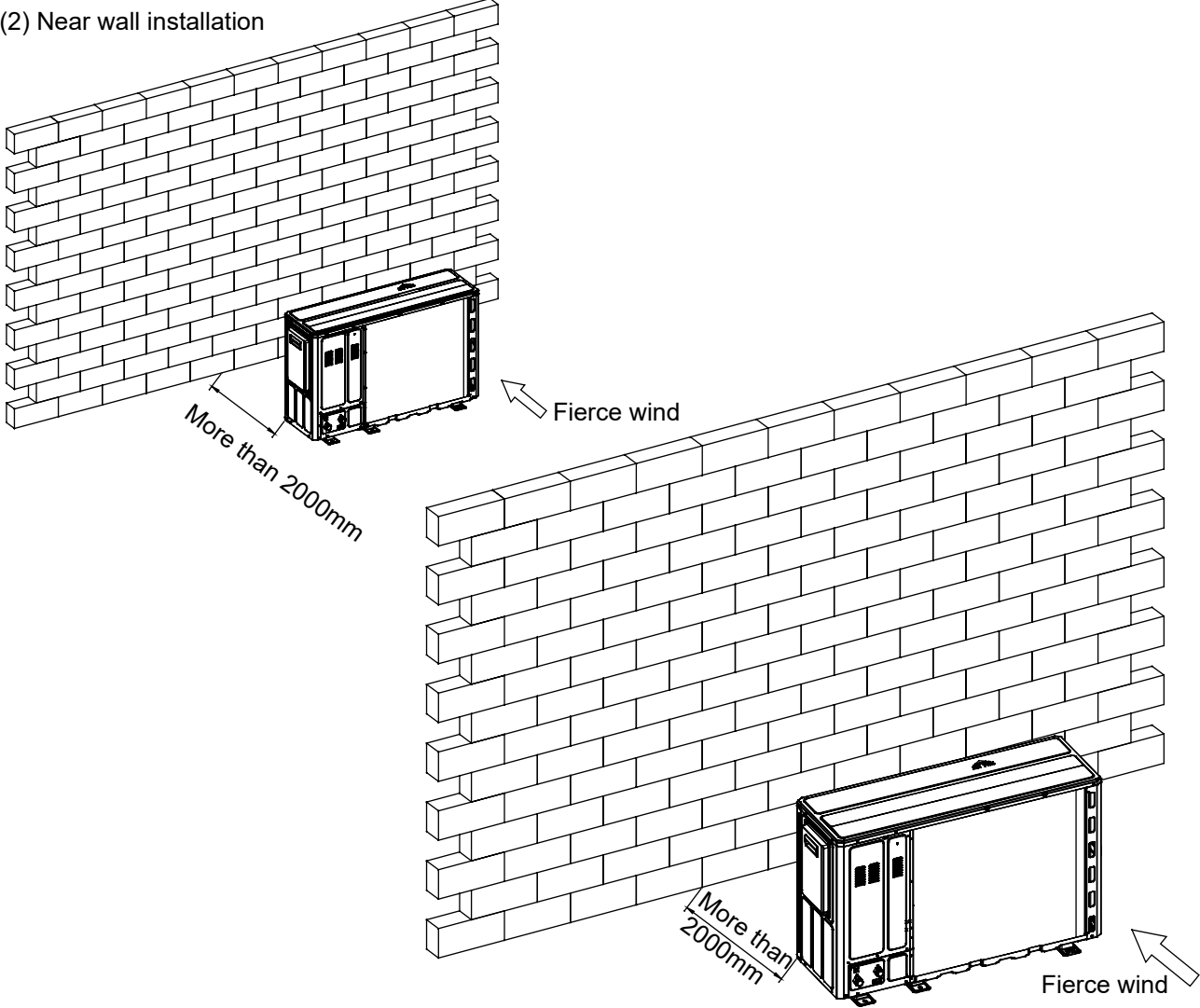
- Fix the outdoor unit to the foundation bolts using nuts with resin washers(1) as shown in the figure.
- If there is no need to install the outdoor machine in the open space of the building or the enclosure, the following two ways can be used to avoid the fan reversal or damage caused by strong wind blowing.

(1) Using the windshield



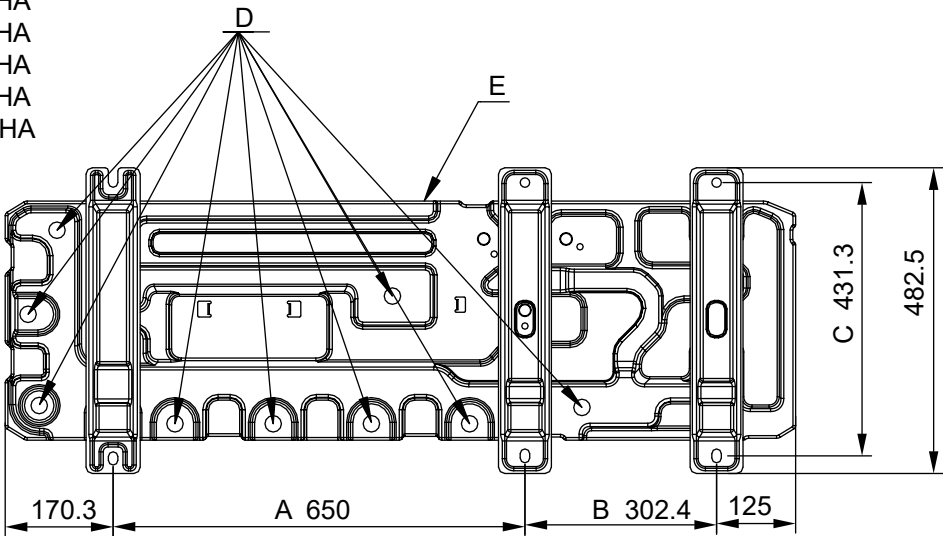
Installation Instruction

(2) Near wall installation



If the coating on the fastening area is stripped off, the nuts rust easily.
Dimensions (bottom view) (unit of measurement: mm)

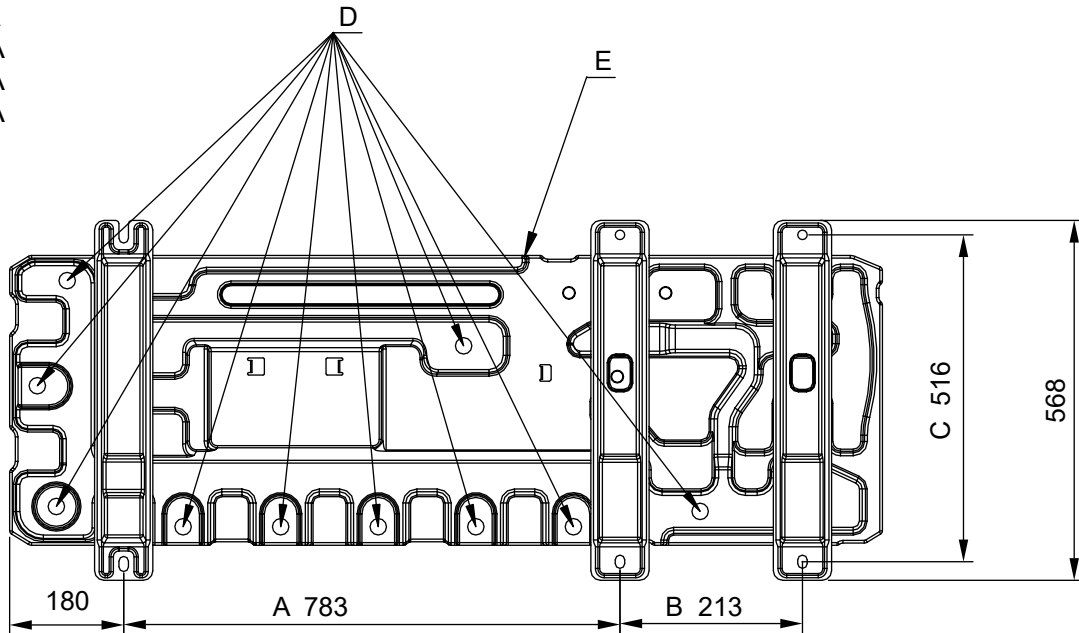
AW042HUGHA
AW062HUGHA
AW082HUGHA
AW102HUGHA
AW10NHUGHA



A leg pitch1
B leg pitch2
C leg pitch3
D Drain hole
E Bottom frame

Installation Instruction

AW122HVGHA
AW142HVGHA
AW162HVGHA
AW12NHVGHA
AW14NHVGHA
AW16NHVGHA



A leg pitch1
B leg pitch2
C leg pitch3
D Drain hole
E Bottom frame

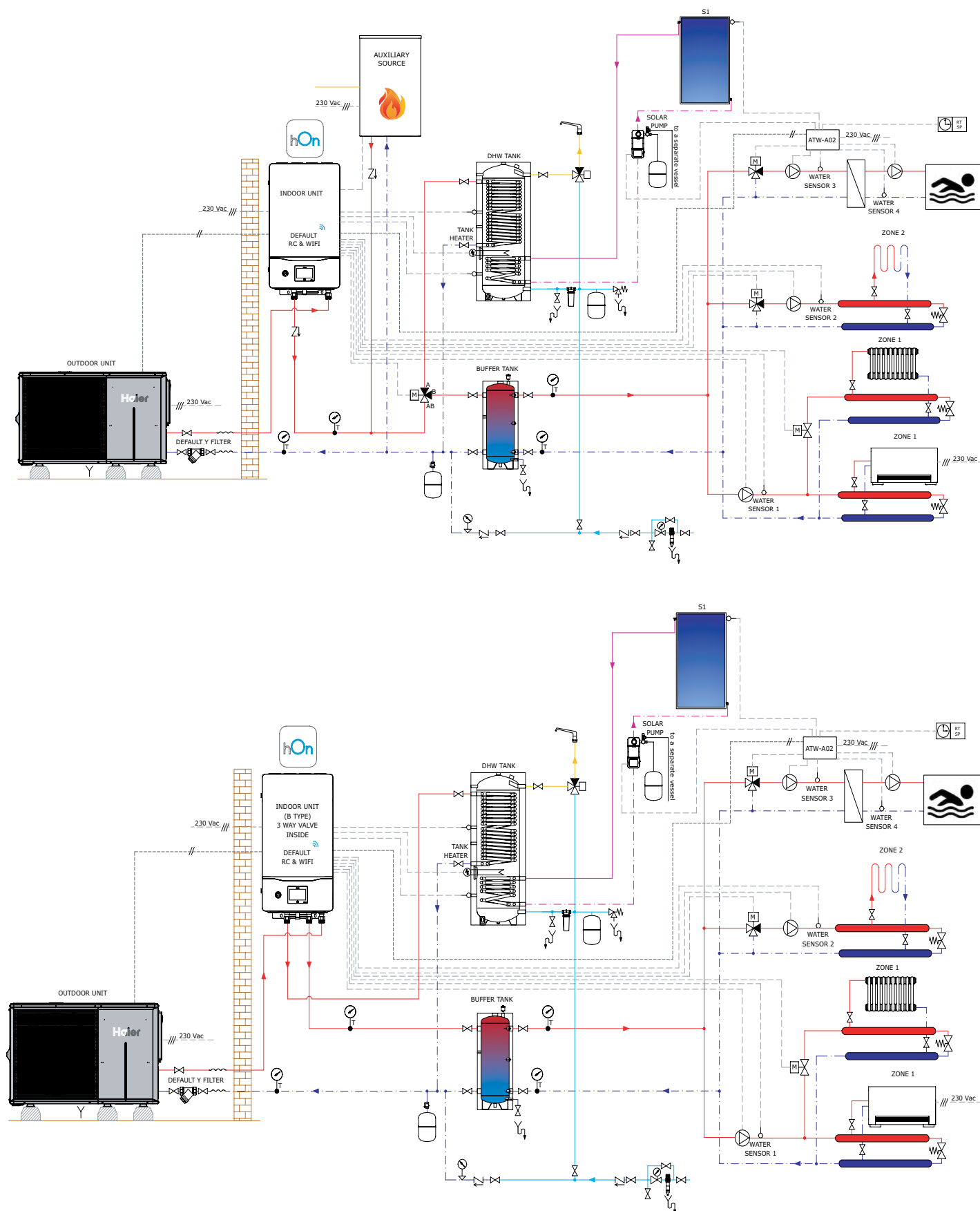
(4) Drain work of the outdoor unit

In case drain work on your outdoor unit is necessary, follow the guidelines below.

- One drain outlets are provided in the bottom plate of unit (drain plug and drain hose are field supply).
- In cold areas, do not use a drain hose with the unit. Otherwise, drain water may freeze and block the drain. In case the use of a drain hose is unavoidable for one reason or another, it is recommended to install a heater tape in order to protect drain from freezing.
- Make sure the drain works properly.

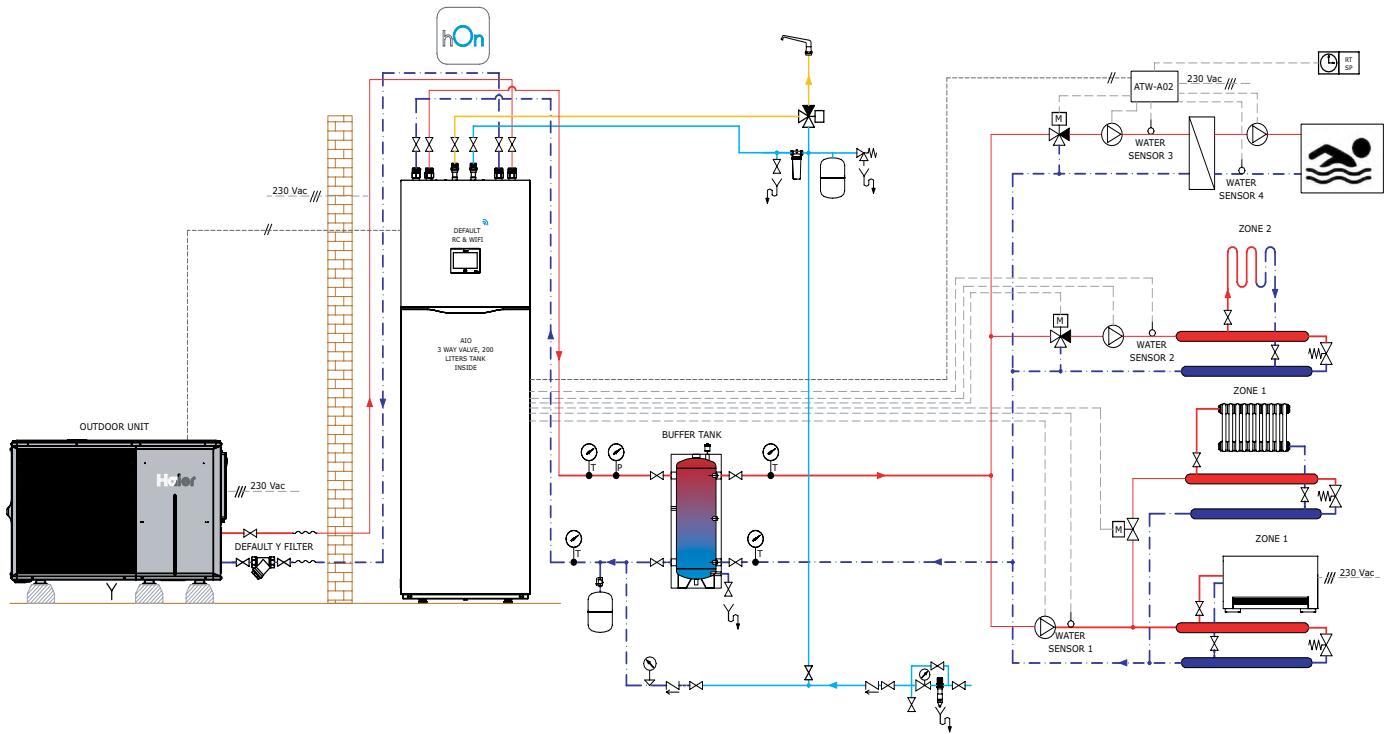
Installation Instruction

(5) Requirements and recommendations for the hydraulic circuit



Installation Instruction

(5) Requirements and recommendations for the hydraulic circuit



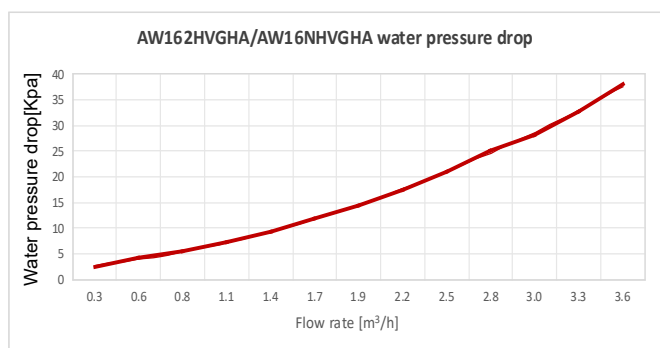
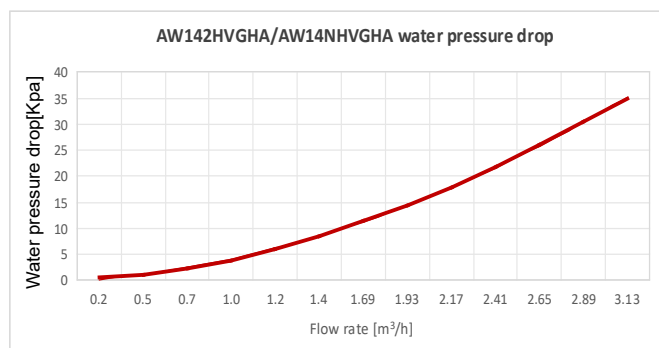
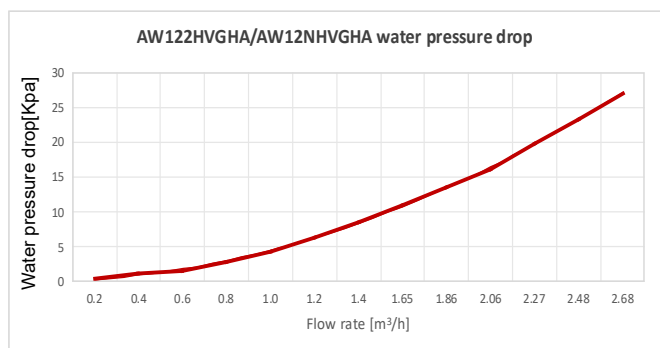
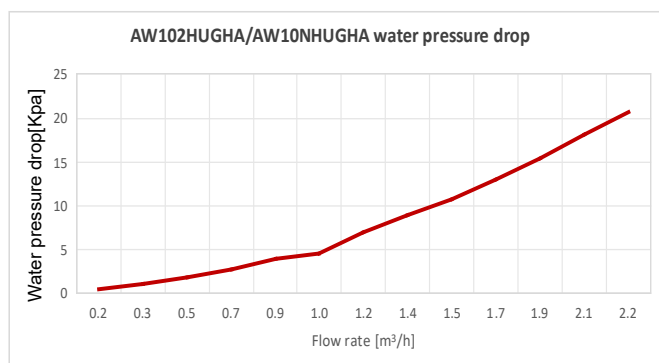
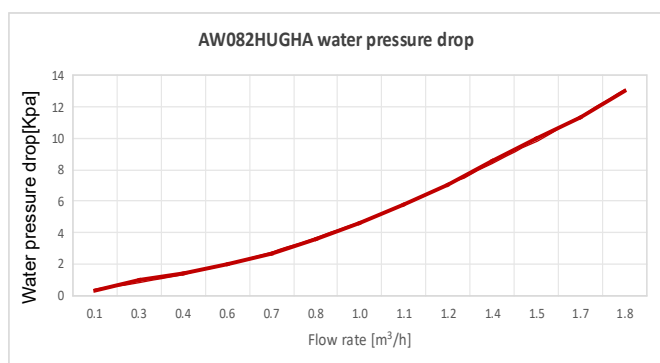
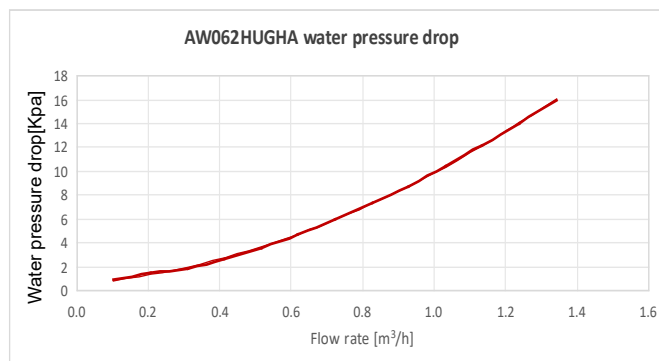
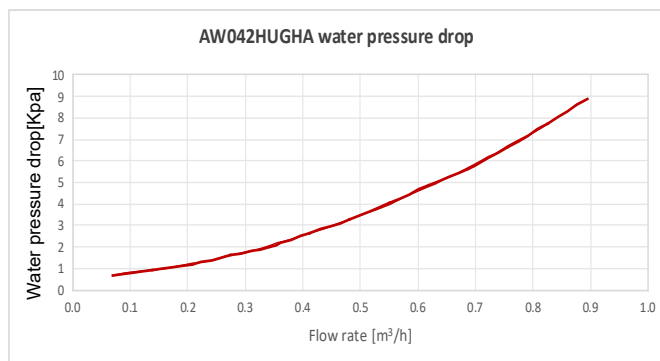
If Zone 1 (radiators, fan coil) and Zone 2 (floor heating) are installed simultaneously, or if only Zone 1 (radiators, fan coil) is installed, the shut-off valve for the floor heating should be positioned in front of the radiators in Zone 1.

If Zone 1 (fan coil) and Zone 2 (floor heating) are installed, the shut-off valve for the floor heating should be placed in front of Zone 2 (floor heating).

Installation Instruction

Hydraulic circuit

The maximum piping length depends on the maximum pressure availability in the water outlet pipe. Please check the pump curves.



Anti- freezing

- When the unit is stopped during shut-off periods and the ambient temperature is very low, the water inside the pipes and the circulating pump may freeze, thus damaging the pipes and the water pump. In these cases, the installer shall ensure that the water temperature inside the pipes does not fall below the freezing point. In order to prevent this, the unit has a self-protection mechanism which should be activated.

Installation Instruction

- Frost can damage the system. To prevent the hydraulic components from freezing, the software is equipped with special frost protection functions such as water pipe freeze prevention and drain prevention (see the installer reference guide) that include the activation of pump in case of low temperatures.
However, in case of a power failure, these functions cannot guarantee protection.
Do one of the following to protect the water circuit against freezing:
 - Add glycol to the water. Glycol lowers the freezing point of the water.
 - Install freeze protection valves. Freeze protection valves drain the water from the system before it can freeze. Insulate the freeze protection valves in a similar way as the water piping, but do NOT Insulate the inlet and outlet (release) of these valves.
- Additionally, in cases where water drainage is difficult, an anti freeze mixture of glycol (ethylene or propylene) should be used (content between 10% to 40%). The performance of the unit working with glycol may decrease in proportion to the percentage of glycol used, since the density of glycol is higher than that of the water.

Minimum flow rate

- Check that the water pump of the space heating circuit works within the pump operating range and that the water flow is over the pump's minimum. If the water flow is below lower than the minimum water flow, alarm is displayed on the unit.
- If 08E error code occurs during the first-time installation or restart after an extended shutdown with no water in the system, please refer to the Service Manual for 08E troubleshooting.
- If the system has not been used for an extended period, ensure that the system remains filled with water and that the power stays on (the system owns anti freezing function during shutdown). In the event of a drainage requirement, it is advised to replenish the water as soon as possible after the drainage process. Failure to do so might result in a potential risk of the water pump's rotor getting locked. In the meanwhile, it is also advised to perform pipeline insulation and add antifreeze after the system is replenished with full water to avoid pipeline break due to low ambient temperature.

Model	Nomal water flow rate (L/min)	Minimum water flow (L/min)
AW042HUGHA	11.5	4.6
AW062HUGHA	17.2	6.9
AW082HUGHA	22.9	9.2
AW102HUGHA	28.7	11.5
AW122HVGHA	34.4	13.8
AW142HVGHA	40.1	16.0
AW162HVGHA	45.9	18.4
AW10NHUGHA	28.7	11.5
AW12NHVGHA	34.4	13.8
AW14NHVGHA	40.1	16.0
AW16NHVGHA	45.9	18.4

Filter

- The type of filter that is recommended is the magnetic type. An additional special water filter is highly recommended to be installed on the space heating (field installation), in order to remove possible particles remaining from brazing which cannot be removed by the unit water strainer. Water filter need to be bought and installed by installer. Number of water filter meshes is not less than 40.

DHW Tank

- When selecting a tank for DHW operation, take into consideration the following points:
The storage capacity of the tank has to meet with the daily consumption in order to avoid stagnation of water.
Fresh water must circulate inside the DHW tank water circuit at least one time per day during the first days after the installation has been performed. Additionally, flush the system with fresh water when there is no consumption of DHW during long periods of time.

Heat loss

- Try to avoid long runs of water piping between the tank and the ODU installation in order to decrease possible temperature losses.
- When necessary, put insulation on the pipes in order to avoid heat losses. The thickness of insulation is not less than 30mm.

Installation Instruction

Piping

- The maximum water pressure is 3 bar (nominal opening pressure of the safety valve). Provide adequate reduction pressure device in the water circuit to ensure that the maximum pressure is NOT exceeded.
- Make sure that all field supplied components installed in the piping circuit can withstand the water pressure and the water temperature range in which the unit can operate.
- HAIER units are conceived for exclusive use in a closed water circuit.

Model	Inlet/Outlet(inch)
AW042HUGHA	R1
AW062HUGHA	R1
AW082HUGHA	R1
AW102HUGHA	R1
AW122HVGHA	R1
AW142HVGHA	R1
AW162HVGHA	R1
AW10NHUGHA	R1
AW12NHVGHA	R1
AW14NHVGHA	R1
AW16NHVGHA	R1

Minimum water volume description

The following part shows how to calculate the minimum water volume in the system for product protection (anti-hunting) and temperature drop at defrosting.

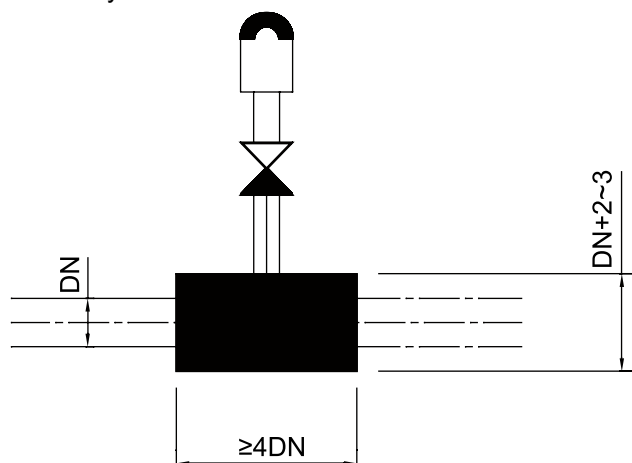
1 Protective water volume for product

Ensure that the water volume is equal or greater than those shown below, in order to lower ON/OFF frequency of HAIER unit at no load or extreme light load. When water volume is less than the volume indicated(minimum water volume), compressor operation frequently stops at light load, which should result in shorter life or failure.

Model	AW042HUGHA	AW062HUGHA	AW082HUGHA	AW102HUGHA	AW122HVGHA	AW142HVGHA
Minimum water volume(L)	20	30	40	50	60	70
Model	AW162HVGHA	AW10NHUGHA	AW12NHVGHA	AW14NHVGHA	AW16NHVGHA	
Minimum water volume(L)	80	50	60	70	80	

Air purging

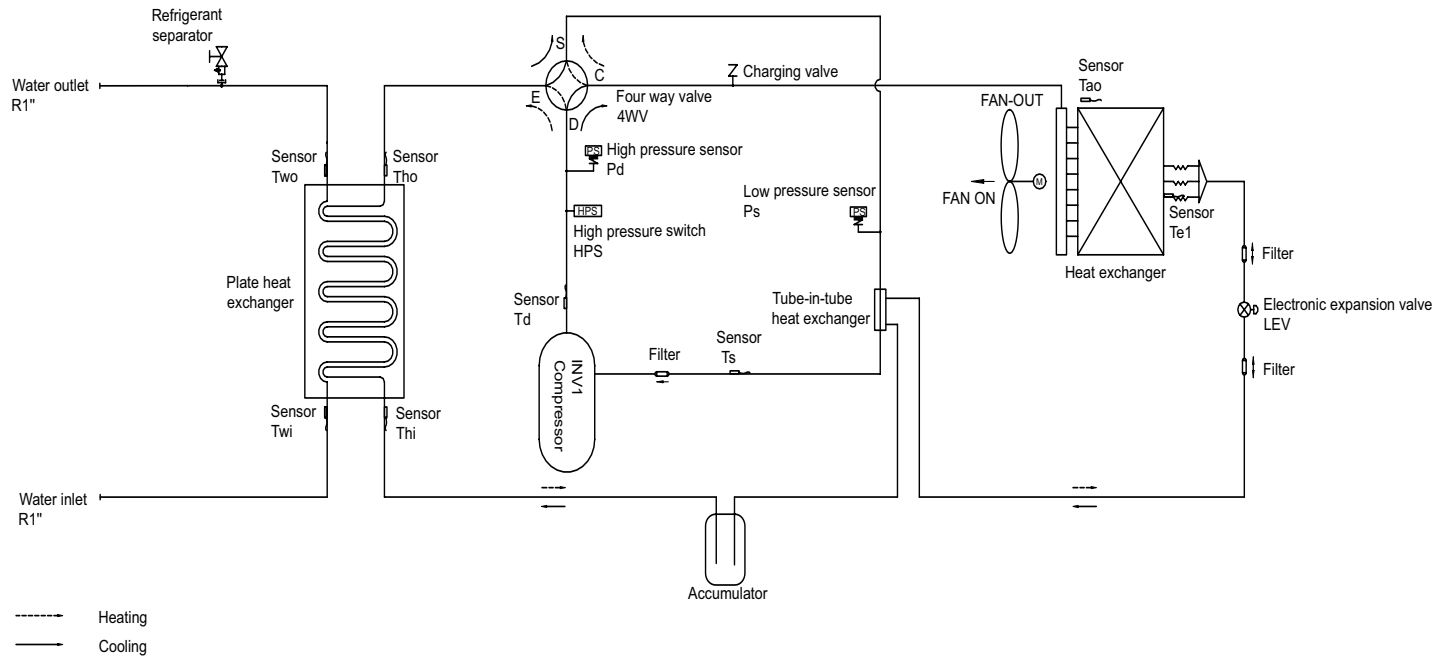
The hydraulic system should be equipped with air purgers at the highest locations of the system. Without them, air might be trapped inside the water pipes and cause system malfunction. In this case, install all the additional air purgers (not supplied with the product) needed in the hydraulic circuit to ensure no air enters. The installed position of the air purger should be as below:



- For the heating floor system, the air should be purged by means of an external pump to avoid airbags.

Installation Instruction

System flow chart



Water control

It is necessary to analyze the quality of water by checking pH, electrical conductivity, ammonia ion content, sulphur content, and others. The following is the recommended standard water quality.

Content		Unit	Value
Standard Quality pH(25°C)			7.5-9
Electrical conductivity {2}		μS/cm	10-500
Alkalinity	HCO ₃ ⁻	mg/l	70-300
Sulphate	SO ₄ ²⁻	mg/l	<70
Alkalinity/Sulphate	HCO ₃ ⁻ /SO ₄ ²⁻	mg/l	>1
Ammonium	NH ₄	mg/l	<2
Free chlorine	Cl ₂	mg/l	<1
Hydrogen sulfide	H ₂ S	mg/l	<0.05
Free carbon dioxide(aggressive)	CO ₂	mg/l	<5
Nitrate	NO ₃ ⁻	mg/l	<100
Iron	Fe	mg/l	<0.2
Aluminium	Al	mg/l	<0.2
Manganese	Mn	mg/l	<0.1
Chloride content	Cl ⁻	mg/l	≤50
Total Hardness	CaCO ₃	mg/l	≤70

Electric Wiring and the Application

General check

- Make sure that the following conditions related to power supply installation are satisfied: The power capacity of the electrical installation is large enough to support the power demand of the HAIER system.
The power supply voltage is within $\pm 10\%$ of the rated voltage. The impedance of the power supply line is low enough to avoid any voltage drop of more than 15% of the rated voltage.
- Following the Council Directive 2004/108/EC, relating to electromagnetic compatibility, the table below indicates the Maximum permitted system impedance Z_{max} at the interface point of the user's supply, in accordance with EN61000 3 11.

Model	Power supply	$Z_{Max}(\Omega)$
AW042HUGHA	1PH, 220-240V~, 50Hz	0.3
AW062HUGHA		0.3
AW082HUGHA		0.3
AW102HUGHA		0.3
AW122HVGHA		0.3
AW142HVGHA		0.3
AW162HVGHA		0.3
AW10NHUGHA	3N~, 380-415V, 50Hz	0.3
AW12NHVGHA		0.3
AW14NHVGHA		0.3
AW16NHVGHA		0.3

The cord of the H07RN-F type or the electrically equivalent type must be used for power connection and interconnection between outdoor unit and indoor unit.

⚠ WARNING

- Switch off the main power switch of the indoor and outdoor machine for more than 1 minutes before the wiring or regular inspection.
- To prevent the destruction of wires and electrical components by rats or other animals. Serious, it may lead to the occurrence of fire.
- To avoid damage to the wire, avoid contact with refrigerant pipes, steel edges and electrical components. Serious, it may lead to the occurrence of fire.

⚠ CAUTION

- Secure the power cord with a wire tie in the machine.

Note:

when the wiring of the outdoor machine is not using the wire, it should be fixed with the rubber ring.

Inspect

- To ensure that the electrical equipment used on the installation site (main power switch, circuit breaker, wire, conduit and wiring terminals, etc.) have been selected according to current data, to ensure that the device in line with national standards.
- Check the power supply voltage in the range of 10% of the rated voltage and the ground wire is included in the power supply line. Otherwise, electrical parts will be damaged.
- Check whether the power supply is satisfied. Otherwise, the compressor will not start when the voltage is too low.
- By measuring the insulation resistance between the ground and the electrical device terminals, to ensure that more than 1 M Ω . Otherwise, the system can not be started until the cause of leakage and maintenance.

Connection

- Connect the power cord to the terminal of the indoor unit and the outdoor mechanical and electrical gas box, connect the ground wire to the grounding bolt of the outdoor machine and the indoor mechanical and electrical air box.
- Connect the external and internal communication lines to the 1 and the 2 terminals on the terminal. If the power cord is connected, the printed circuit board will be damaged. And the use of shielded twisted pair wire.
- Do not connect the fastening screws on the front of the cover.
- The power cord must be made of copper wire, and the power supply must be in line with IEC 60245 requirements. If the power cord length exceeds 20m, the need to increase the size.
- The power supply line is fixed with a round connection terminal with an insulating protective sleeve. Not with sheet metal contact and extrusion, in order to avoid the cut line of skin caused by fire.

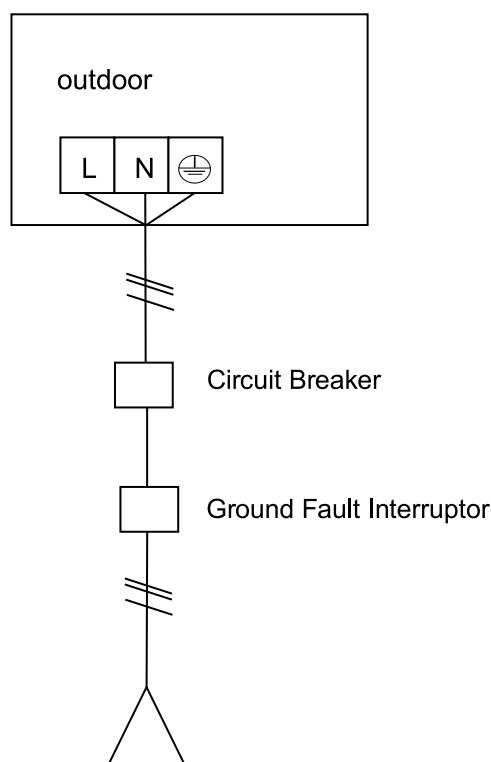
Circuit filling

- Fill the product with heating water through the return pipe. Slowly increase the filling pressure until the desired operating pressure— Operating pressure: 0 to 0.3 MPa (0 to 3 bar)
- Activate the venting program on the indoor unit control unit.

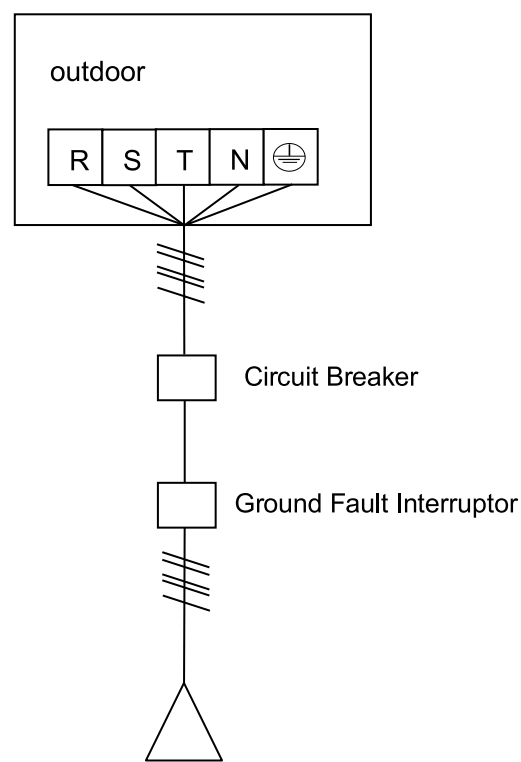
Note: Check the system pressure during the venting process. If the pressure drops, top up the heating water until the desired operating pressure is reached again.

Electric Wiring and the Application

Power wiring figure



power source: 1PH, 220-240V~, 50Hz



power source: 3N~, 380-415V, 50Hz

Outdoor power source and power cable

Item Model		Power source	Power cable section (mm ²)	Circuit breaker (A)	Rated current of residual circuit breaker (A) Ground fault interruptor (mA) response time (S)	Ground wire	
						Section (mm ²)	Screw
Individual power	AW042HUGHA	1PH, 220-240V~, 50Hz	4	16	16A 30mA 0.1S	4	M4
	AW062HUGHA		4	16	16A 30mA 0.1S	4	M4
	AW082HUGHA		6	20	20A 30mA 0.1S	6	M4
	AW102HUGHA		6	20	20A 30mA 0.1S	6	M4
	AW122HVGHA		10	32	32A 30mA 0.1S	10	M6
	AW142HVGHA		10	32	32A 30mA 0.1S	10	M6
	AW162HVGHA		10	40	40A 30mA 0.1S	10	M6
	AW10NHUGHA	3N~, 380-415V, 50Hz	4	16	16A 30mA 0.1S	4	M4
	AW12NHVGHA		4	16	16A 30mA 0.1S	4	M4
	AW14NHVGHA		4	16	16A 30mA 0.1S	4	M4
	AW16NHVGHA		4	16	16A 30mA 0.1S	4	M4

- Power cable must be fixed firmly.
- To avoid electrical shock, make sure to disconnect the power supply 1 minute or more before servicing the electrical parts. Even after 1 minute, always measure the voltage at the terminals of main circuit capacitors or electrical parts and before touching, make sure that those voltages are 50VDC or less.
- To persons in charge of electrical wiring work: Do not operate the unit until the water pipe is complete. (Running it before the piping is ready will break the compressor)

Electric Wiring and the Application

- Each outdoor must be earthed well.
- The appliance shall be installed in accordance with national wiring regulations.
- All wiring must be performed by an authorized electrician.
- Be sure to install an earth leakage circuit breaker in accordance with applicable legislation. Failure to do so may cause electrical shock.

Outdoor power input

Model	COOLING(1)kW	HEATING(2)/kW	MAX/kW
AW042HUGHA	0.73	0.90	2.9
AW062HUGHA	1.12	1.39	2.9
AW082HUGHA	1.50	1.83	4.0
AW102HUGHA	1.96	2.41	4.0
AW122HVGHA	2.35	2.80	6.6
AW142HVGHA	2.83	3.37	6.6
AW162HVGHA	3.23	3.94	7.5
AW10NHUGHA	1.96	2.41	4.0
AW12NHVGHA	2.35	2.80	6.6
AW14NHVGHA	2.83	3.37	6.6
AW16NHVGHA	3.23	3.94	7.5

(1) Water 12/7°C - Outdoor 35°C

(2) Water 40/45°C - Outdoor 7°C DB/6°C WB

Communication wire to HU indoor unit

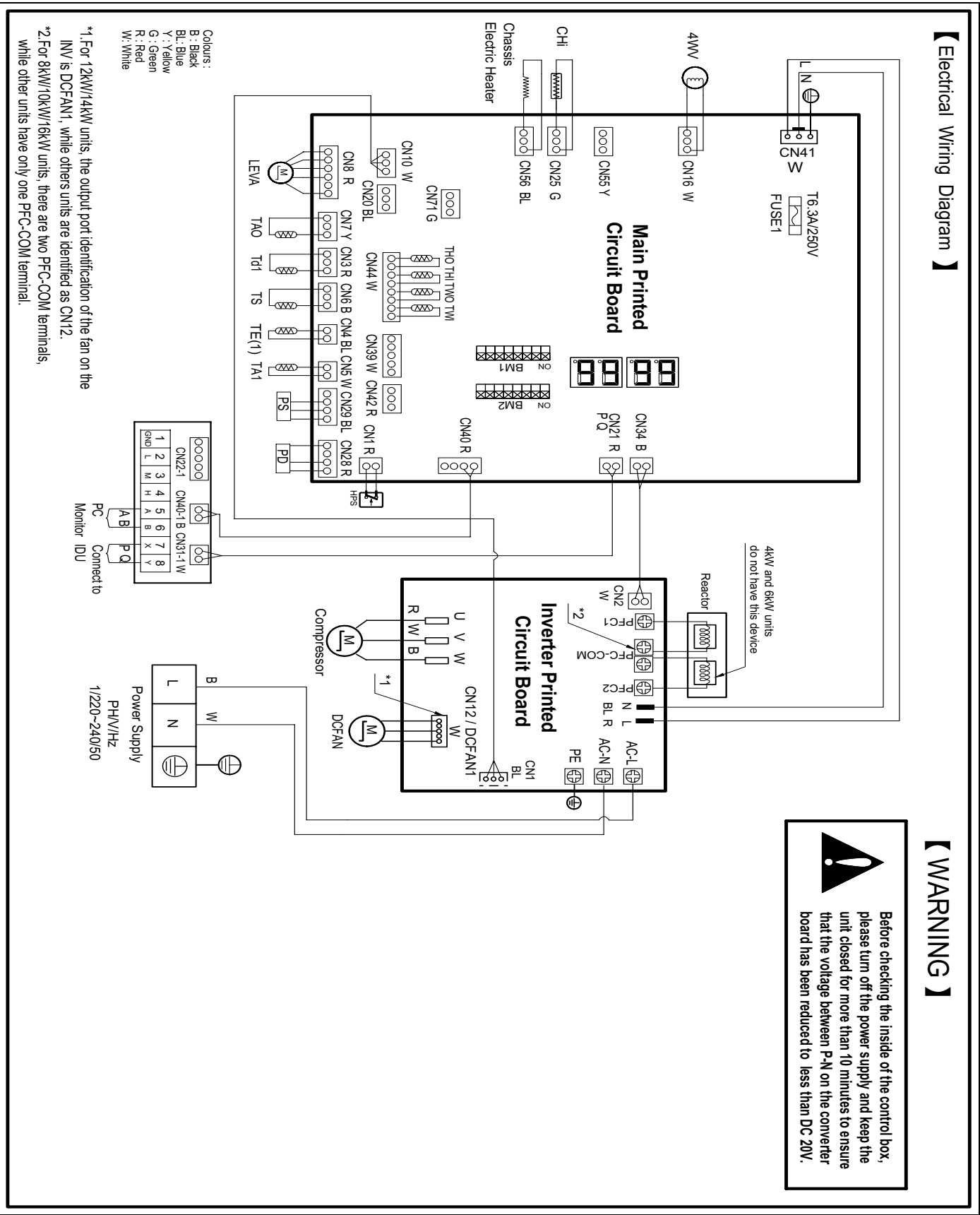
Length of Signal Line (m)	Wiring Dimensions
≤1000	0.75mm ² × 2 core shielding line

- The shielding lay of the signal line must be grounded at two side.

Electric Wiring and the Application

Wiring connection

AW042HUGHA/AW062HUGHA/AW082HUGHA/AW102HUGHA/AW122HVGHA/AW142HVGHA/AW162HVGHA



Wiring connection

Electrical Wiring Diagram



Before checking the inside of the control box, please turn off the power supply and keep the unit closed for more than 10 minutes to ensure that the voltage between P-N on the converter board has been reduced to less than DC 20V.

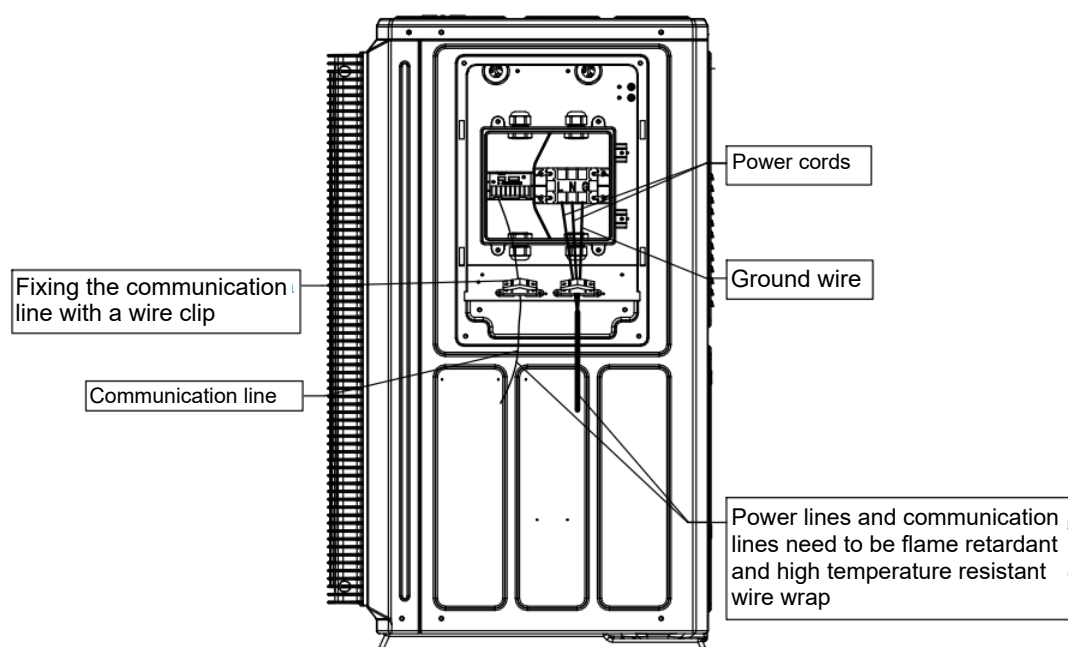
Electric Wiring and the Application

Port	Port Definition	Function Description
CN41	Power Input	220V/50Hz Input
CN28	PD	High pressure sensor
CN29	PS	Low pressure sensor
CN1	HPS	High pressure switch
CN7	TAO	Ambient temperature sensor
CN3	Td1	Compressor discharge sensor
CN6	TS	Compressor suction sensor
CN4	TE(1)	Defrost detection sensor
CN20	CT1	Input current detection(Three phase unit)
CN44	TWO	Water outlet sensor of Plate heat exchanger
	TWI	Water inlet sensor of Plate heat exchanger
	THI	Liquid tube of Plate heat exchanger
	THO	Gas tube of Plate heat exchanger
CN5	TA1	Internal temperature sensor of electric cabinet
CN39	FM	Flowmeter
CN71	DCPUMP	Built-in water pump control signal
CN10	INV-COM	INV module communication port(Single phase unit)
CN40	PC A/B	PC communication interface
CN21	PQ	Internal and external communication lines
CN34	low-power consumption	low-power consumption(Single phase unit)
CN8	LEVA	Electronic expansion valve control
CN16	4WV	Four-way valve
CN25	HEATER1	Compressor electric heating belt
CN56	B-HEATER	Anti-freezing electric heating of chassis
CN55	Pump2	Built-in water pump power
CN42	Wateroutlet	Water Pressure Sensor
CN76	DCFAN	Fan power output

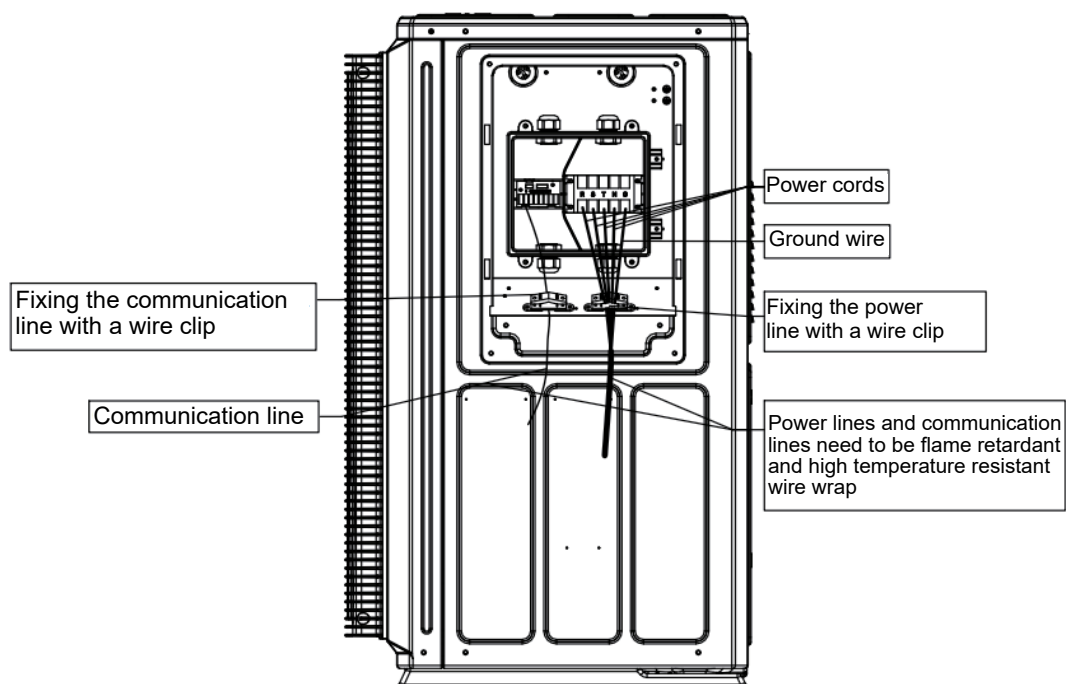
Electric Wiring and the Application

Outdoor unit electrical wiring diagram

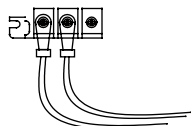
AW042HUGHA/AW062HUGHA/AW082HUGHA/AW102HUGHA/AW122HVGHA/AW142HVGHA/AW162HVGHA



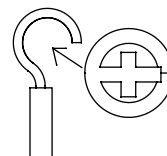
AW10NHUGHA/AW12NHVGHA/AW14NHVGHA/AW16NHVGHA



Terminal installation example



If multi strand flexible wires are used, crimp the O-type terminal during installation. Otherwise, it will cause abnormal heating of terminal crimping part. If a single core wiring is used in the wiring, it can be connected directly in the manner shown in the diagram.



Installation and Debugging

1. Outdoor unit PCB dipswitch setting, attention the different PCB version.

In the following table, 1 is ON, 0 is OFF.

BM1 introduction

BM1_1	Reserved	[1]	Performance control mode selection			
		0	General control (default)			
		1	IO PCB:0-10V control			
BM1_2 BM1_3 BM1_4 BM1_5	Outdoor unit Model selection	[2]	[3]	[4]	[5]	Outdoor unit Model selection
		0	0	0	0	40 Model
		0	0	0	1	60 Model
		0	0	1	0	80 Model
		0	0	1	1	100 Model
		1	0	0	0	120 Model
		1	0	0	1	140 Model
		1	0	1	0	160 Model
BM1_6	Power selection	[6]	Power selection			
		0	Single phase (default)			
		1	Three phase			
BM1_7 BM1_8	Running mode selection	[7]	[8]	Running mode selection		
		0	0	Normal mode (default)		
		0	1	Powerful mode		
		1	0	Silent mode		
		1	1	Performance test mode		

BM2 introduction

BM2_1 BM2_2 BM2_3	Outdoor unit type selection	[1]	[2]	[3]	Outdoor unit Type
		0	0	0	MONOBLOC
		0	0	1	hydro split (default)
		0	1	0	hydro allinone
		0	1	1	split
		1	0	0	split allinone
BM2_4	Refrigerant type selection	[4]	Refrigerant type selection		
		0	R290 (default)		
		1	R32		

Failure Code

Outdoor Digital Display Tube	Indoor Wired Controller	Error Code Definition	Remarks
1	E01	Water Inlet Temperature Sensor Twi Abnormality	Automatic
2	E02	Water Outlet Temperature Sensor Two /Tout2 Abnormality	Automatic
3	E03	Liquid Pipe Temperature Sensor Thi Abnormality	Automatic
4	E04	Gas Pipe Temperature Sensor Tho Abnormality	Automatic
5	E05	EEPROM Abnormality	Manual
6	E06	Communication error with outdoor unit	Automatic
7	E07	Communication Error between Remote Wired Controller and Indoor Unit	Automatic
8	E08	Flow Switch/ Flowmeter Abnormality	Automatic (less than three alarms within 60 mins); otherwise, Manual
9	E09	Duplicate Indoor Unit address	Manual
10	E10	DHW tank temperature sensor T_tank up/T_tank down abnormality	Automatic
11	E11	ATW-A02 Communication Abnormality	Automatic
12	E12	Zone2 mixing valve temperature sensor Twzone_2 abnormality	Automatic
13	E13	Water Leakage (reserved)	Manual
14	E14	Low Pressure Switch Abnormality (reserved)	Automatic
15	E15	Anti-freeze Abnormality	Automatic (less than three alarms within 60 mins); otherwise, Manual
16	E16	Water Inlet/Outlet Temperature Over High	Automatic
17	E17	Zone1 indoor ambient temperature sensor abnormality (reserved)	Automatic
18	E18	Zone2 indoor ambient temperature sensor abnormality (reserved)	Automatic
19	E19	Pool mixing valve water outlet/pool water temperature sensor abnormality (optional)	Automatic
20-0	E20-0	Defrosting temperature sensor Te(1) abnormality	Automatic
21	E21	Outdoor ambient temperature sensor Tao abnormality	Automatic
22	E22	Suction temperature sensor Ts abnormality	Automatic
23	E23	Discharge temperature sensor Td abnormality	Automatic
26	E26-0	Communication error with HU/ATW-A03N	Automatic
28	E28	Compressor Discharge Pressure Sensor Pd Abnormality	Automatic
29	E29	Compressor Suction Pressure Sensor Ps Abnormality	Automatic
30	E30	High Pressure Switch HPS Abnormality	Automatic (less than three alarms within 60 mins); otherwise, Manual
33	E33	Outdoor Unit PCB EEPROM Abnormality	Manual
34	E34	Compressor Discharge Temperature Over High Protection(Td)	Automatic (less than three alarms within 60 mins); otherwise, Manual
35	E35	Four Way Valve Reversing Abnormality	Automatic (less than three alarms within 60 mins); otherwise, Manual
38	E38	High pressure Pd too low	Automatic (less than three alarms within 60 mins); otherwise, Manual
39-0	E39-0	Low pressure Ps too low	Automatic (less than three alarms within 60 mins); otherwise, Manual
39-1	E39-1	Compression ratio ϵ too high	Automatic
40	E40	High pressure Pd too high	Automatic (less than three alarms within 60 mins); otherwise, Manual

Failure Code

Outdoor Digital Display Tube	Indoor Wired Controller	Error Code Definition	Remarks
43	E43	Discharge temperature Td too low	Automatic (less than three alarms within 60 mins); otherwise, Manual
46	E46	Communication error with inverter PCB	Automatic
51-0	E51-0	LEVa overcurrent	Automatic
52-0	E52-0	LEVa open circuit	Automatic
53	E53	CT current too low or CT sensor abnormality	Automatic
64	E64	CT current too high	Automatic (less than three alarms within 60 mins); otherwise, Manual
65	E65	Internal temperature sensor of the electronic control box T_b abnormality	Automatic
71-0	E71-0	Upper DC Fan Motor Abnormality	Automatic (less than three alarms within 60 mins); otherwise, Manual
74	E74	System Emergency Stop Abnormality	Automatic
78	E78	Lack of refrigerant	Automatic
81	E81	Inverter PCB temperature too high	Automatic (less than three alarms within 60 mins); otherwise, Manual
82	E82	Compressor overcurrent	Automatic (less than three alarms within 60 mins); otherwise, Manual
83	E83	Incorrect outdoor unit capacity DIP switch setting	Manual
87	E87	Defrosting with over low water temperature	Automatic
110	E110	Inverter PCB error — Compressor module hardware overcurrent	Automatic (less than three alarms within 60 mins); otherwise, Manual
	E110-4	Inverter PCB error — Fan motor module hardware overcurrent	
111	E111	Inverter PCB error — Compressor loss of synchronism	Automatic
	E111-4	Inverter PCB error — Fan motor loss of synchronism	
112	E112	Inverter PCB error — Heat sink temperature too high	Automatic
114	E114	Inverter PCB error — DC bus output undervoltage	Automatic
116	E116	Inverter PCB error — Communication error with main PCB	Automatic
117	E117	Inverter PCB error — Compressor module software overcurrent	Automatic
	E117-4	Inverter PCB error — Fan motor module software overcurrent	
118	E118	Inverter PCB error — Compressor start-up abnormality	Automatic
	E118-4	Inverter PCB error — Fan motor start-up abnormality	
119	E119	Inverter PCB error — Current sensing circuit abnormality	Automatic
121	E121	Inverter PCB error — Power supply input abnormality	Automatic
122	E122	Inverter PCB error — Heat sink temperature sensor abnormality	Automatic
124	E124	Inverter PCB error — Three-phase power supply abnormality	Automatic

Trial Operation and the Performance

5-minute delay function

- If starting up the unit after being powered off, the compressor will run about 5 minutes later against being damaged.

Defrosting in heating mode

- In heating mode, outdoor defrosting will affect the heating efficiency. The unit will defrost for about 2~10 minutes automatically, at this time, the condensate will flow from outdoor, also in defrosting, the vapour will appear at outdoor, which is normal.

The unit operation condition

- To use the unit properly, please operate the unit under the allowed condition range. If operating beyond the range, the protection device will act.

Protection device (such as high pressure switch)

- High pressure switch is the device which can stop the unit automatically when the unit runs abnormally. When the high pressure switch acts, the cooling/heating mode will stop but the running LED on wired controller will be light still. The wired controller will display failure code.
When the following cases occur, the protection device will act:
In cooling mode, air outlet and air inlet of outdoor are clogged.
When protection device acts, please cut off the power source and re-start up after eliminating the trouble.

When power failure

- When power is failure in running, all the operations will stop.
- When abnormal occurs in running because of the thunder, the lightning, the interference of car or radio, etc, please cut off the power source, after eliminating the failure, press "ON/OFF" button to start up the unit.

Heating capacity

- The heating mode adopts the heat pump type that absorbs outdoor heat energy and releases into indoor. So if outdoor temperature goes down, the heating capacity will decrease.

Trial operation

- Before trial operation
Before being electrified, measure the resistor between power terminal block (live wire and neutral wire) and the earthed point with a multimeter, and check if it is over 1MΩ. If not, the unit can not operate. Confirm the compressor bottom getting hot.
- Trial operation
In trial operation, refer to the information of performance section. The installing technician should carry out a trial running to confirm there is no abnormality about the system after completing the installation.

Move and Scrap the Heat Pump

- When moving, to disassemble and re-install the heat pump, please contact your dealer for technical support.
- In the composition material of heat pump, the content of lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers are not more than 0.1% (mass fraction) and cadmium is not more than 0.01% (mass fraction).
- Please recycle the refrigerant before scrapping, moving, setting and repairing the heat pump; for the heat pump scrapping, should be dealt with by the qualified enterprises.

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