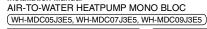
Panasonic

Installation Manual



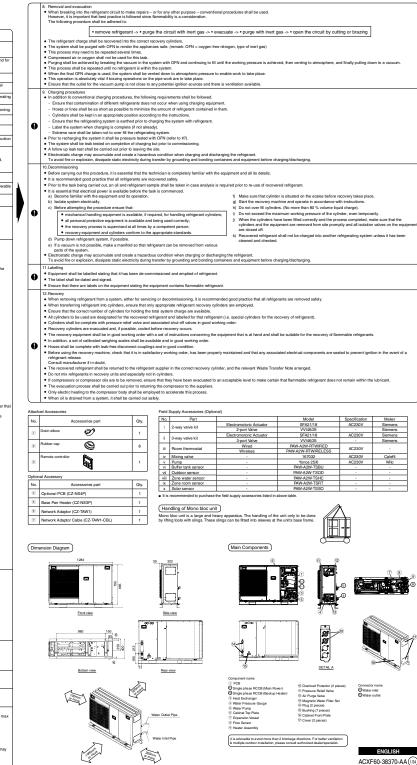
	Philips screw driver 8 Megameter 2 Level gauge 9 Multimeter
R32 REFRIGERANT	3 Electric drill 10 Torque wrench 4 Spanner 117 R vm (11.6 Kg/m) 5 Knife 11 Vacuum pump 6 Gas leak detector 12 Gauge manifold 7 Measuring tape
This AIR-TO-WATER HEATPUMP MONO	Explanation of symbols displayed on the indoor unit or outdoor unit.
BLOC contains and operates with refrigerant R32.	WARNING This symbol shows that this equipment uses a flammable refrigerant. If the refrigerant is leaked, together with an extern
THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED BY QUALIFIED PERSONNEL.	ignition source, there is a possibility of ignition.
Refer to National, State, Territory and local legislation, regulations, codes, installation & operation manuals, before the installation, maintenance and/or service of this product.	CAUTION This symbol shows that the Installation Manual should be real carefully.
	CAUTION This symbol shows that a service personnel should be handli this equipment with reference to the Installation Manual.
	This symbol shows that there is information included in the Operation Manual and/or perturbition Manual

0 0 SAFETY PRECAUTIONS Read the following "SAFETY PRECAUTIONS" carefully before installation of (Mono bloc) Air-to-Water Heatpump system (hereafter referred to as "Mono bloc unit"). Electrical works and water installation works must be done by licensed electrician and licensed water system installer respectively. Be sure to use the correct rating and main circuit for the model to be installed The caution is the index to be nature
To caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below.
Incomet installation due to journance or negligence of the instructions will cause harm or damage, and the seriousness is classified by the following indications. WARNING This indication shows the possibility of causing death or serious injury. CAUTION This indication shows the possibility of causing injury or damage to properties only. 0 The items to be followed are classified by the symbols: \otimes Symbol with white background denotes item that is PROHIBITED vicing 00 Symbol with dark background denotes item that must be carried out 2-1. Service personnel · Carry out test run to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated in instructions. Pleas emind the customer to keep the operating instructions for future reference . If there is any doubt about the installation procedure or operation, always contact the authorized dealer for advice and information This appliance is not intended for accessibility by the general public. Please leave this installation manual to the user after / WARNING Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. Any unfit method or using incompatible material may cause product damane, but and version information 2-2. Work terial may cause product damage, burst and serious injury. Do not install More bloc unit near handsail of veranda. When installing More bloc unit at veranda of high rise building, child may climb up to Mone bloc unit at coss over the handsail and causing accident. Do not use unspecified cord, modified cord, joint cord or extension cord for power supply cord. Do not share the single outlet with other electrical appliances. Po contact, poor insulation or over current will cause electrical shock or fire. O Do not tie up the power supply cord into a bundle by band. Abnormal temperature rise on power supply cord may happen. 2-3. Checking for presence of refrigerant Do not insert your fingers or other objects into the unit, high speed rotating fan may cause injury. Do not sit or step on the unit, you may fall down accidentally. Keep plastic bag (packaging material) away from small children, it may cling to nose and mouth and prevent breathing O Do not purchase unauthorized electrical parts for installation, service, maintenance and etc.. They might cause electrical shock or fire. 2-4. Presence of fire extinguisher Do not pierce or burn as the appliance is pressurized. Do not expose the appliance to heat, flame, sparks, or other sources of ignition. Else, it may explode cause injury or death. Could in the second state of the second s 2-5. No ignition sources Do not modify the winning of Mono bloc unit for installation of other components (i.e. heater, etc). Overloaded winning or wire connection points may cause electric A shock or fire. O Do not add or replace refrigerant other than specified type. It may cause product damage, burst and injury etc. eased to the surrounding space. For electrical work, follow the national regulation, legislation and this installation instructions. An independent circuit and single outlet must be used. If elec circuit capacity is not enough or defect found in the electrical work, it will cause electrical shock or fire. 0 "No Smoking" signs shall be displayed. 0 x water circuit installation work, follow to relevant European and national regulations (including EN61770) and local plumbing and building regulation of 2-6. Ventilated area 0 Engage authorized dealer or specialist for installation. If installation done by the user is incorrect, it will cause water leakage, electrical shock or fire. Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire. 2-7. Checks to the refrigerating equipment Only use the supplied or specified installation parts. Else, it may causes Mono bloc unit vibrate, fall, water leakage, electrical shock or fire. 0 stall at a flat, strong and firm location which is able to withstand the Mono bloc unit's weight. If the location is slanting, or strength is not enough the set wil Wire routing must be properly arranged so that control board cover is fixed properly. If control board cover is not fixed perfectly, it will cause fire or electrical shock This equipment is strongly recommended to be installed with Residual Current Device (RCD) on-site according to the respective national wiring rules or co specific safety measures in terms of residual current. 0 2-8. Checks to electrical devices The unit is only for use in a closed water system. Utilization in an open water system may lead to excessive corrosion of the water piping and risk of in 0 cteria colonies, particularly Legionella, in water. A If there is any doubt about the installation procedure or operation, always contact the authorized dealer for advice and inform Select a location where in case of water leakage, the leakage will not cause damage to other properties. When installing electrical equipment at wooden building of metal lath or wire lath, in accordance with electrical facility standard, no electrical contact
equipment and building is allowed. Insulator must be installed in between. This installation may be subjected to building regulation approval applicable to respective country that may require to notify the local authority before inst Any work carried out on the Mono bloc unit after removing any panel which is secured by screws, must be carried out under the super and located installation contactor. d licensed installation contractor. Be aware that refrigerants may not contain an odour. This equipment must be properly earthed. Earth line must not be connected to gas pipe, water pipe, earth of lightning rod and telephone. Otherwise, it may c electrical shock in case of equipment breakdown or insulation breakdown. 0 azardous situation A CALITION Do not install the Mono bloc unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the Mono it may cause fire. A Ensure that apparatus is mounted securely.

O Do not release refrigerant during piping work for installation, re-installation and during repairing a refrigeration parts. Take care of the liquid refrigerant, it may cause froatbite. Nake sure the insulation of power supply cord does not contact hot part (i.e. refrigerant piping, water piping) to prevent from insulation failure (melt). Do not touch the sharp aluminium fin, sharp parts may cause injury. (A) Do not apply excessive force to water pipes that may damage the pipes. If water leakage occurs, it will cause flooding and damage to other properties Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water leakage may happen and may cause damage to prop-the user. 0 The piping installation work must be flushed before the Mono bloc unit is connected to remove contaminants. Contaminants may damage the Mono bloc unit is connected to remove contaminants. 0 Select an installation location which is easy for maintenance. Incorrect installation, service or repair of this Mono bloc unit may increase the risk of rupture and the may result in loss damage or injury and/or property. 0 nsure the correct polarity is maintained throughout all wiring. Otherwise, it will cause electrical shock or fire 0 ower supply connection to Mono bloc unit. Power supply point should be in easily accessible place for power disconnection in case of emergency. 0 Must follow local national wiring standard, regulation and this installation instruction. Strongly recommended to make permanent connection to a circuit breaker. It must be a double pole switch with a minimum 3.0 mm gap. Power supply 1: Use approved 30A circuit breaker
Power supply 2: Use approved 30A circuit breaker insure the correct polarity is maintained throughout all wiring. Otherwise, it will cause electrical shock or fire. A Alter installation, the installer is obliged to verify correct operation of the Mono bloc unit. Check the connection point for water leakage during test run. If leakage cours, it will cause damage to other properties. Keep any required ventilation openings clear of obstru Putatilation work. Four or more people are required to carry out the installation work. The weight of Mono bloc unit might cause injury if carried by less than four people.

The basic installation work procedures are the same as conventional refrigerant (R410A, R22) models. However, pay careful attention to the following points: / WARNING ince the working pressure is higher than that of refrigerant R22 models, some of the piping and installation and service tools are special. specially, when replacing a refrigerant R22 model with a new refrigerant R32 model, always replace the conventional piping with the R32 and R4 10A piping on the outdoor unit side or R32 and R410. He same pipe can be used. 0 i naz and ner ton, are same pape can be used. e mixing of different refigerants within a system is prohibited. Models that use refrigerant R32 and F410A have a different charging port thread diameter to prevent erroneous charging with refrigerant R22 and 0 erefore, check beforehand. [The charging port thread diameter for R32 and R410A is 12.7 mm (1/2 inch).] 0 Ensure that foreign matter (oil, water, etc.) does not enter the piping. Decision maintenance, repairing and refrigerant recovery should be carried out by trained and certified personnel in the use of flammable refrigerants and as 0 Opfantör, maneratiko, nyaking an ortingrafin covery stroug te culled out by fallned and centrale plada hile in if ned of offantalis, organing and refinitional conducting and pertaintin, service of manination of the strong of maintenance on a system or assistem or assis The user/owner or their authorized representative shall regularly check the alarms, mechanical ventilation and detectors, at least once a year, where as requ A logbook shall be maintained. The results of these checks shall be recorded in the logbook. In case of ventilations in occupied spaces shall be checked to confirm no obstruction Before a new refigerating system is put into service, the person responsible for placing the system in operation should ensure that trained and certified operating personnel are instructed on the basis of the manual about the construction, supervision, operation and maintenance of the refigerant used. Instanta action the constructions, supervisors, speciators are interestinated or any entrestinate posent (in the general requirement of tained and constituted posential posential or state salely in the general requirement of tained and constituted posential and tained set leads relating to filementable refrigenents; and, 8) Extealed involved position (in regulations and standards relating to filementable refrigenents; and, 5) Estatiel involved position (in regulations) and standards relating to filementable refrigenent; ending estimated and to apply in practice the requirements in the national legislation, regulations and Standards; and, 6) Continuously undergo regulariand full refraining on market methods the coeperise. ant leakage prevention, handling of cylinders, charging, leak detection, re Protect the refrigerating system from accidental rupture due to moving furniture or reconstruction activities. To ensure no leaking, refrigerant joints shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0,25 times the maximum alloward pressure (>1.04MPa, max 4.15MPa). No leak shall be detected. A CAUTION Mark correctly with individual part equivalence table marked part laboration of the second part of the Always contact to local municipal offices for proper handling. 21. Service parameters in the service parameters of the service par (22. work) Pior to beginning work on systems containing flammable religionsite, safety checks are necessary to ensure that the risk of ignition is minimised. For spatial to be affigionaling system, the proceduation R22 is R24 must be followed before conducting work on the system. Work and be underlated much are controlled procedure so as to minimate the risk of all another guesters within the twork is being performed. • All maintenance staff and others working in the local area shall be instructed and supervised on the name of work being cannot be used as a staff and others working in the local area shall be instructed and supervised on the name of work being cannot be used as a staff and others are any first sonzers, the staff and performed of the space area of all least 2 meter in radius. • Working all sources of systems and for instructions workers. • Keep all sources of systems and functions sample. The standard and standard If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available at hand Have a dry powder or CO₂ fire extinguisher adjacent to the charging area. No person carrying out work in relation to a refrigerating system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that if any leads to the risk of life or explosion. HoSNe must not be anxioing when carrying out such work. All possible jointion courses, including ogneties emskings, should be explored to the rest of the Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks . Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere. When a devised acceptonets are being changed, they also be tife of the purpose and to the correct specification. A still sime the menufacturer's instrument and graving adjustes shall be followed. If obtained to creat the manufacturer's instrument for assistance. The belowing does also be particular department for the assistance. The vertifiation machinery and outlets are opening dequality and a mot obtained. Marking is the experiment contrast to be verifies and department and the assistance. Marking is the experiment contrast to be verifies and depart and any ordentiation of the demands enfortements. 28. Checks to destrict advices.) Pager and maintenance to destination components shall include initial safety checks and component inspection procedures. Initial safety checks shall include initial safety checks and component inspection procedures. Initial safety checks shall include initial safety checks and component inspection procedures. Initial safety checks shall include initial safety checks and component inspection procedures. Initial safety checks and bording. Initial safety checks and compare shall include initial safety checks. Initial safety checks and compare shall include initial safety checks. I all times the maintacturer's includes initial safety checks. I all times the maintacturer's includes initial safety checks. I in bold consult the maintacturer's includes initial safety checks. I in bold consult the maintacturer's includes initial safety. I in bold consult the constraint department for sastance. I in bold consult the constraint department for sastance. I in bold constraint the constraint department for sastance. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. The owner of the equipment must be informed or reported so all parties are advised thereinafter. Repairs to sealed components During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially nazarous susania. Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seats, incorrect fitting of glands, etc. Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres eplacement parts shall be in accordance with the manufacturer's specifications. NOTE: The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them. Repair to intrinsically safe components components see tinductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment of the Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphe The lest apparatus shall be at the correct rating. · Replace components only with parts specified by the manufacturer. Unspecified parts by manufacturer may result ignition of refrigerant in the atmosphere from a leak Cabing Check that cabing will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans. Detection of flammable refrigerants Under no circumstances shall potential sources of ignition be used in the searching or detection of refrigerant leaks A halds for the (are synther director using a naked famp) and not be used. The following later synther director using a naked famp) and not be used. The following later director networks are exceeded for the grant of the synthese synthese in the information processor are exceeded for the grant of the synthese synthese in the information processor are exceeded for the synthese synthes Decision is add decisions may to equal to instant flammable ordigenetities, but the sectionity may not be adequate, or may need re-calibration. Decision equipment and the calibration in a indepresenties areas. Ensure that the detector is not a patential source of gradions and is subble for the refregenet used. Lask detection equipment that be esting at an ensuring of the LTC the refrequent used.

PRECAUTION FOR USING R32 REFRIGERANT



 Lask-detection fluids are also suitable for use with most retrigerants, for example, bubble method and fluorescent method agents. The use of detergents containing citizine shall be avoided as the chlorine may mask with the refigerant and controls the copper pie-work.
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I alw is alway controls the mixed with retrigerant is alway to appreciate the mixed with retrigerant is found which requires barary, all of the refigurant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.
The procusions is the mixed because the mixed with the refigurant shall be recovered from the system.

