

ACXF60-47060

ENGLISH



### INSTALLATION INSTRUCTIONS OUTDOOR UNIT

Model No.: U-18PZ\*\*\* U-21PZ\*\*\* U-24PZ\*\*\*

## CAUTION R32 REFRIGERANT

This Air Conditioner contains and operates with refrigerant R32. THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED BY QUALIFIED PERSONNEL. Refer to National, State, Territory and local legislation, regulations, codes, installation & operating instructions, before the installation, maintenance and/or service of this product.

Refer to the indoor unit installation instruction manual for the indoor unit installation.

Note: Ensure to hand over this installation instruction manual to the person performing the installation and inform the customer to keep it properly stored.

### Required tools for Installation Works

Table with 5 columns of tools: 1 Phillips screw driver, 2 Level gauge, 3 Electric drill, hole core drill (ø70 mm), 4 Hexagonal wrench (4 mm), 5 Spanner, 6 Pipe cutter, 7 Reamer, 8 Knife, 9 Gas leak detector, 10 Measuring tape, 11 Thermometer, 12 Megohmmeter, 13 Multimeter, 14 Torque wrench, 15 Vacuum pump, 16 Gauge manifold, 100 N•m (10.2 kg•m), 42 N•m (4.3 kg•m), 55 N•m (5.6 kg•m), 65 N•m (6.6 kg•m).

- Refer to the caution items listed in "3. REFRIGERANT INSTALLATION" for the installation of the refrigerant piping and maintain strict control concerning the prevention of mixing impurities (water and mineral oils such as Suniso oils) with R32.
The indoor unit to be connected must be R32 compatible and be sure to check the catalogue, etc. for available models.
Panasonic will not be responsible for any accident or damage due to improper installation in any way not described in the detailed manuals.

### SAFETY PRECAUTIONS

- Read the following "SAFETY PRECAUTIONS" carefully before installation.
Electrical work must be installed by a licensed electrician.
The caution items stated here must be followed because these important contents are related to safety.

Table with 2 columns: Symbol and Description. Includes WARNING (causing death or serious injury) and CAUTION (causing injury or damage to properties only). Also includes a table for prohibited and carried-out items.

- Carry out test running to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated in instructions. Please remind the customer to keep the operating instructions for future reference.

Table with 2 columns: Symbol and Description. Contains various warnings such as 'Do not use means to accelerate the defrosting process', 'Do not install outdoor unit near handrail of veranda', 'Do not use unspecified cord', 'Do not tie up the power supply cord', 'Do not insert your fingers or other objects into the unit', 'Keep plastic bag away from small children', 'When installing or relocating air conditioner, do not let any substance other than the specified refrigerant, air, etc. mix into refrigeration cycle', 'Do not pierce or burn as the appliance is pressurized', 'Do not add or replace refrigerant other than specified type', 'Engage authorized dealer or specialist for installation', 'For refrigeration system work, install according to this installation instructions strictly', 'Use the attached accessories parts and specified parts for installation', 'Install at a strong and firm location which is able to withstand weight of the set', 'For electrical work, follow the national regulation, legislation and this installation instructions', 'Do not use joint cable for indoor / outdoor connection cable', 'Wire routing must be properly arranged so that control board cover is fixed properly', 'This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD)', 'During installation, install the refrigerant piping properly before running the compressor', 'During pump down operation, stop the compressor before removing the refrigeration piping', 'Tighten the flare nut with torque wrench according to specified method', 'After completion of installation, confirm there is no leakage of refrigerant gas', 'Ventilate if there is refrigerant gas leakage during operation', '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.'

Table with 2 columns: Symbol and Description. Contains various cautions such as 'Do not install the unit in a place where leakage of flammable gas may occur', 'Prevent liquid or vapor from entering sumps or sewers since vapor is heavier than air and may form suffocating atmospheres', 'Do not overcharge the unit, refer to gas charge specification', 'Do not release refrigerant during piping work for installation, re-installation and during repairing refrigeration parts', 'Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.', 'Do not touch the sharp aluminium fin, sharp parts may cause injury', 'Carry out drainage piping as mentioned in installation instructions', 'Select an installation location which is easy for maintenance', 'Power supply connection to the room air conditioner', 'Installation work', 'Keep any required ventilation openings clear of obstruction.'

### PRECAUTION FOR USING R32 REFRIGERANT

- The basic installation work procedures are the same as conventional refrigerant (R410A, R22) models. However, pay careful attention to the following points:

Table with 2 columns: Symbol and Description. Contains various warnings such as 'The appliance shall be stored, installed and operated in a well ventilated room with indoor floor area larger than A\_min (m²)', 'The mixing of different refrigerants within a system is prohibited', 'Ensure that foreign matter (oil, water, etc.) does not enter the piping', 'Operation, maintenance, repairing and refrigerant recovery should be carried out by trained and certified personnel', 'Any part of refrigerating circuit (evaporators, air coolers, AHU, condensers or liquid receivers) or piping should not be located in the proximity of heat sources', 'The user/owner or their authorized representative shall regularly check the alarms, mechanical ventilation and detectors', 'A logbook shall be maintained', 'In case of ventilations in occupied spaces shall be checked to confirm no obstruction', 'Before a new refrigerating 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 instruction manual', 'The general requirement of trained and certified personnel are indicated as below: a) Knowledge of legislation, regulations and standards relating to flammable refrigerants; and, b) Detailed knowledge of and skills in handling flammable refrigerants, personal protective equipment, refrigerant leakage prevention, handling of cylinders, charging, leak detection, recovery and disposal; and, c) Able to understand and to apply in practice the requirements in the national legislation, regulations and Standards; and, d) Continuously undergo regular and further training to maintain this expertise.', 'Air-conditioner piping in the occupied space shall be installed in such a way to protect against accidental damage in operation and service.', 'Precautions shall be taken to avoid excessive vibration or pulsation to refrigerating piping.', 'Ensure protection devices, refrigerating piping and fittings are well protected against adverse environmental effects (such as the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris).', 'Expansion and contraction of long runs piping in refrigerating systems shall be designed and installed securely (mounted and guarded) to minimize the likelihood hydraulic shock damaging the system.', 'Protect the refrigerating system from accidental rupture due to moving furniture or reconstruction activities.', 'To ensure no leaking, field-made refrigerant joints indoors 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 allowable pressure (>1.04 MPa, max 4.15 MPa). No leak shall be detected.'

Table with 2 columns: Symbol and Description. Contains various cautions such as '1. General: Must ensure the installation of pipe-work shall be kept to a minimum. Avoid use dented pipe and do not allow acute bending.', '2. Servicing: 2-1. Qualification of workers: Any qualified person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.', '2-2. Checks to the area: Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised.', '2-3. Work procedure: Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapour being present while the work is being performed.', '2-4. General work area: All maintenance staff and others working in the local area shall be instructed and supervised on the nature of work being carried out.', '2-5. Checking for presence of refrigerant: The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.', '2-6. Presence of fire extinguisher: 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.', '2-7. No ignition sources: 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 it may lead to the risk of fire or explosion.', '2-8. Ventilated area: Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.', '2-9. Checks to the refrigerating equipment: Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. In case of leakage/spillage happened, immediately ventilate area and stay upwind and away from spill/release. In case of leakage/spillage happened, do notify persons down wind of the leaking/spill, isolate immediate hazard area and keep unauthorized personnel out.'

Table with 2 columns: Symbol and Description. Contains various cautions such as '2-10. Checks to electrical devices: Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. Initial safety checks shall include but not limit to: That capacitors are discharged; That there is no live electrical components and wiring are exposed while charging, recovering or purging the system.', '3. 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 hazardous situation.', '4. Repair to intrinsically safe components: Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.', '5. Cabling: Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.', '6. Detection of flammable refrigerants: Under no circumstances shall potential sources of ignition be used in the searching or detection of refrigerant leaks. Halide torch (or any other detector using a naked flame) shall not be used.', '7. Removal and evacuation: When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used.', '8. Charging procedures: In addition to conventional charging procedures, the following requirements shall be followed.', '9. Decommissioning: Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details.', '10. Labelling: Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant.', '11. Recovery: When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely. When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.'

